Original Article

Water: Lifeblood of every civilization

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Abstract

Water is the basic need and necessity of every individual on earth whether they are plants, animals or human beings. Plants and animals require water on a regular basis for their growth and development. As far as humans are concerned, they require water for drinking, cooking food, bathing, washing clothes and utensils etc. Water is required by all of us on a regular and daily basis. As per the growing population in both urban and rural areas the demand for water is rising continuously. There is a great need for a clean water supply in various localities. But due to industrialization and rising water pollution the water is being contaminated. It has been observed that the waste from industries as well as household wastes are being dumped into rivers, lakes, dams and various water sources. Due to this surface water pollution the fertility of the soil decreases leading to barren lands. To resolve the issue and to minimize risk of water pollution multifold steps are required form the policy makers, awareness from locals, advancements in the field of science and technology to identify the contaminants, source of contaminants, to restrict the contaminants from being drained in the water bodies.

Keywords: Water sources; Challenges: Population; Water Management; India

Introduction

Water is an important natural resource and necessary ingredient of life. India has more than 17.5 % of the world's population, but has only 4% of world's renewal water resources and 2.4% of the world's total land area under its belt. There are further limitations of usage of water taking into consideration time and space. In addition to this there are challenges in the country such as drought, floods in various parts of the country. As per drastic rise in population in various parts of the country leading to conflicts on water amongst different groups in the country. Urbanization and industrial development is also causing shortage of clean water supply in various parts of the country. It has also been observed that due to lack of awareness among citizens regarding conservation and recycling of water, water is being wasted in many parts of the country. So, to minimize wastage of water and taking into account the need for water in various parts of the country as well as tasking into consideration the future of water supplies, the Ministry of Water Resources has drafted National Water Policy.

National Water Policy (NWP) 1987,2002,2012

National Water resource council (NWRC ,1983) chaired by Prime minister, has adopted National Water Policy in 1987, which was further updated in 2002,2012.[3]

The objective of National Water Policy is to analyze the current situation, propose a road map for creation of laws and to build a plan of action as per national perspective.

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To overcome these challenges the following points needs to be implemented at various levels of hierarchy in the country right from gram panchayat to cities to districts to various blocks of the country.

1. There must be a system to evaluate benchmarks for usage of water for different purposes and water auditing should be done for implementing efficient use of water.
2. Environment impact assessment for water use mainly for industrial projects should be done along with water quality testing in areas near industries.
3. Project financing should be done in consideration with efficient and economic use of water.
4. Recycling, reusing along with rain water harvesting technique should be implemented as a general norm.
5. Water saving in irrigating the fields should be prioritized.
6. There should be efficient mechanism to test the quality of water.
7. Emphasis should be done on conservation of ponds, rivers, dams and other water bodies.

Major sources of water in India

India has diverse landforms. The rivers in India have been the breathe, heart and soul of the country, it is life support system of people. Among them, major rivers contributing to major water sources are Ganga, Brahmaputra, Sabarmati, Mahi, Narmada, Tapi, Brahmani, Mahanadi, Godavari, Krishna, Pennar and Cauvery. Many of them have tributaries and form branches, some of them may be seasonal. Apart from rivers there are numerous reservoirs, tanks, ponds, lakes and dams which cover almost 7 mha of area.

Monsoon play an important role in India as far as agriculture is concerned as it refills its water resources. Around 50% of the total rain water flows into the rivers and other water bodies, out of this only 40% is being utilized for various purposes. Ground water is renewable source. Water is required in various agricultural, industrial and domestic sectors. The main source of ground water is recharged from seasonal monsoon.[5]

Problems identified

Out of the total population of 1.4 billion population around 35 million people lack access to safe water in India and around 678 million people lack access to safe toilet. Current challenges include utilizing water to stress levels, contamination of surface water and lack of access to channel water supply. The effect due to climate change such as drought, floods etc. also affect access to safe water and proper sanitation for people living in India.[2]Water crisis in India is a major concern taking into account ever increasing population. Rapid urbanization of cities, industrialization and rural agricultural practices has raised the water demand. Improper water management, inadequate infrastructure and increasing population play a major role in making water scarcity a global concern.[6]

Possible solutions

After identifying the major point of concerns there are possible solutions too. Taking into consideration the ever-increasing population, the monthly average water consumption of a defined areas with a definite population can be calculated and further supply of water should be done in coordination with the data obtained. Thus proper management of water resources can be done in an effective way. [4]The surface water contamination can be minimized by blocking the waste obtained from households and industries from draining into the rivers, lakes and other water sources. This can be done by using water treatment plants and by the use of proper drainage system.[1]Further rain water harvesting must be done for long and effective use of stored water sources.[7]

Conclusion

As discussed above, that the population is increasing day-by-day and the water sources are limited in India, so there is an urgent need to conserve, reuse and prevent surface water contamination. Efforts should be made from personal level to panchayats in villages to Nagar Nigam in cities to various blocks/districts to the state level authorities and further to central level to reform water policies in India and implementing it form central level to state level to blocks. Personal involvement of each and every individual is required in preserving our precious resource, a livelihood of each and every individual – water.

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