EMERGING PRACTICES AND STRATEGIES FOR SUSTAINABLE WATER MANAGEMENT

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Abstract *: The objective of this paper is to focus on the concept of water management. The Water Resources of the country constitute one of its vital assets. Water is the key to the development and sustenance of all communities under conditions of increased stress on this essential renewable but scarce resource, effective and efficient management of water is emerging as an urgent contemporary issue. Water sustains aquatic biodiversity economic development and ecological integrity of the environment. Water conservation means protecting our water from pollution and being wasted. Water conservation encompasses the policies, strategies, and activities to manage fresh water as a sustainable resource, to protect the water environment, and to meet the current and future human demand. There is an urgent need to adopt innovative water conservation technologies such as sprinkle and drip irrigation in the agriculture ecosystem, Rainwater harvesting system, Bio drainage to check water logging and salinity, soil moisture-based control technologies, etc.*

Keywords*: Biodiversity, Conservation, Sustainable resource, Soil moisture.*

Introduction :

All living organisms need water to survive. Water quality is one of the most important characteristics of a healthy ecosystem. Clean water supports a diversity of plants and wildlife. In turn, our actions on land affect the quality of water. The Development of water supplies should however be undertaken in such a way as to preserve the hydrological balance and the biological functions of our ecosystems. Consequently, the human endeavour in the development of water sources must be within the capacity of nature to replenish and to sustain. If this is not done costly mistakes can occur with serious consequences. The application of innovative technologies and the improvement of indigenous ones should, therefore, include the management of water sources to ensure sustainability and to safeguard the sources against pollution. As land pressure rises cities are growing vertical and in countryside more forest areas are encroached and being used for agriculture. In India, small farmers depend on monsoon the most there rainfall is from June to October and much of precious water is soon lost as surface runoff. While irrigation may be the most obvious response to drought it has proved costly and can only benefit a fortunate few.

Water Conservation :

Water conservation encompasses the policies, ways and activities to manage water as a property resource, to safeguard the work surroundings and to full fill this and future human demand. Population home size and growth and richness all result what quantity water is employed. Factors like temperature change can increase pressures on natural water resources, specially in producing and agricultural irrigation. The goals of conservation efforts include: To confirm availableness for future generations, Withdrawal of water from associate in nursing scheme shouldn't exceed its natural replacement rate.

Techniques and Trends all over world to conserve water

1. Water Recycling-

Water usage consistent with 2012 UN world development report eightieth of the globe waste water isn't recollected or treated. but severe fresh shortage in some space is driving go up to develop water usage programs that produces water that's clean enough to drink. Singapore AC water usage program used advanced techniques that produces water clean enough to be bottled.

2. Efficient Technology for Home Water Conservation

For home conservation though home water use accounts for little share of total conservation , New shopper tools for saving water square measure perpetually being introduced to recently free the Thomas carlyle II one G bathroom that uses only one gallon of water per flush. The ob syst shower saves over ninetieth of water by purifying the water that falls into the drain so pumping it back through the shower head.

2. Overuse Fines :

California created headline in 2014 after they started imposing valuable fines to public caught wasting water. Offence like permitting landscape watering to flow into streets and hosing drive ways were subject to $500 fines. As water resources become a lot stressed, more native governments might begin imposing fines to discourage waste water.

3. Implementing Water Conservation Principles :

1. Any helpful reduction in water loss, use and waste of resource.
2. Avoiding any harm to water quality.
3. Improving water management practices that scale back or enhance the help full use of water.
4. The elementary conservation goal is universal metering.
5. The prevalence of residential water metering varies considerably world wide.

Water Economical Technologies : Water Economical Technologies program offers monetary incentives to Business and multifamily property house owners United Nations install water economical devices and technologies. Earn money for implementing new water saving technologies.

Water Sense Tagged Irrigation Controllers : Water sense labels weather-based irrigation controllers, a type of "smart" irrigation management technology that uses native weather information to workout once and the way abundant water. Water sense tagged irrigation tagged controllers will prevent water, time, and cash when put next to standard models.

Soil Wetness Sensors : Soil wetness based mostly management technologies water plants supported their desiress by activity the amount of wetness with in the soil and craft the irrigation schedule consequently. Water sense has issued a notice of intent to label soil moisture based mostly management technology. Rain sensors-Rain sensors will facilitate decrease water wasted within the landscape by turning off the irrigation system once it 's descending.

Sprinkler Heads Bounds forms of mechanical device heads apply water a lot of with efficiency than others. Rotary spray delivers water during a thicker stream than mist spray heads, making certain a lot of water reaches plants and less is lost to evaporation and wind. Water sense has issued a Notice of Intent to label landscape irrigation sprinklers.

Micro Irrigation-Small Irrigation or drip systems square measure usually a lot of economical than typical sprinklers, as a result of they deliver low volumes of water on to plants roots, minimizing loss to wind, evaporation, runoff, or overspray. Drip irrigation system use twenty to fifty percent less water than typical pop-up mechanical device systems and may save to thirty thousand gallons each year. Contemplate putting in drip around trees, shrubs, and gardens in situ of standard system. For a lot of data on drip system or Micro-irrigation see this drip irrigation installation from our partners at Cascade Water Alliance.

Conclusion :

Water conservation should not be considered an option any longer.The Current circumstances require our full attention if we hope to thrive as a civilization. If these statements sounds dramatic, it is because much of the world is currently suffering due to lack of clean water. Statistics around reveal that our fresh water supply is practically nonexistent. That is why it is so important to seek out, find and start using all the innovative water conservation solutions and methods that are available today. Whether we live in Australia or china or the US, it is time to wake up and take responsibility. It is easy to practice water conservation at home, but there is more to be done. Our world needs help on a commercial level as well so that our waste can be controlled in such areas as agriculture and irrigation. Water Conservation ideas are cropping up in exciting legislation. That's why our participation in the voting process is so important. Let's act now, so our future generation will have brighter and greener future.

References :

- www.rainwaterharvesting
- www.seametrices.com/blog/waterconservationtrends
- www.conserveenergyfuture.com
- https://www.seametrics.com/blog/water-conservation-trends/
- https://www.researchgate.net/publication/312525328_WATER_CONSERVATION_STRATEGIES_AND_SOLUTIONS
- https://www.snwa.com/business/rebates/index.html
- http://epubs.nsla.nv.gov/statepubs/epubs/384860-2010-11.pdf