



URBANIZATION AND REVAMPING OF WETLANDS

"Water is life for us, it is also faith and it is also a stream of development. Water is more important than 'Paras' in a way. It is said that by the touch of 'Paras', iron can be converted into gold. In the same way, the touch of water is necessary for life".

- **Shri Narendra Modi**

Indeed, people think of wetlands as the wasteland and not more than that because no developmental activities can occur in wetlands. In real scenario, wetlands act like the sponges which stores water and help it to remain saturated. Eventually it helps in reducing the floods by retaining water and slowly releasing it. Wetlands are also known as 'Kidneys of the earth' due to their capacity and ability to filter out the waste and lock the pollutants in the vegetation and sediments. It is home to rich variety of birds, animals and plants. Wetlands have regulating, provisional, cultural and supporting significance to the millions of life. It is one of the most productive ecosystems on the earth. A mangrove is a wetland type which provides the physical buffering to climate change impacts or natural disasters.



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Wetland ecosystem being the victim to climate change and other detrimental effects is under the major threat of declining. A big question that arises is how to conserve wetlands; the solution to this is probably the treaty of Ramsar Convention back in 1971 and enforced in 1975. This convention sends out the message to make the sustainable use of the wetlands. The Ramsar Convention encourages the designation of sites containing representative, rare or unique wetlands, or wetlands that are important for conserving biological diversity. Wetlands include swamps, marshes, lakes, salt marshes, mudflats, mangroves, coral reefs, fens, peat bogs and water bodies. A total of 75 wetlands have been declared as the Ramsar sites in India which is highest in South Asia. Nation is honored to reach 75 while commemorating 75 years of Independence by adding 11 more wetlands to the list [6].



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Urbanization in India has risen steadily over the past years. With an increase in the demand for housing and commercial space in cities, green and blue areas have been progressively disappearing. According to studies by SACON, India lost 38% wetlands during the decade of 1991-2001 [5]. Urban wetlands, like many other natural sites, are often on the losing end of a never-ending tug-of-war between development and conservation. Current causes of wetlands destruction include encroachment, drainage, and landfilling as well as the release of industrial and domestic effluents into water bodies and over-exploitation. This widespread loss of wetlands is not due to physical draining or pollution, but rather due to lack of awareness and knowledge of wetlands and their ecological functions.



Neela Hauz Constructed Wetland

Even while some countries have had experience integrating wetland and water resource management at the local site or sub-basin level, scaling up these techniques to the basin level has been challenging, if not impossible. Implementing wetland management plans is typically difficult when higher level water resource planning, management, and allocation issues are not appropriately addressed prior to design and implementation. Degradation of water quality or changes in flooding patterns might result from a failure to effectively recognize the relevance of wetland ecosystems in early river basin planning. Implementing



Neela Hauz Lake



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Without an iota of doubt, there is an urgent need to revamp and revive the degraded wetlands and improve the declining groundwater level. Government is taking lot of initiatives and framing schemes to restore the wetlands. ISRO Ahmedabad has carried out a study to find wetlands using remote sensing techniques in Chhattisgarh under the mandate of Government of India to identify wetland throughout country and the count appear to be 35,534 wetlands [7]. According to the State Forest Minister of Chhattisgarh, a phase wise development of wetlands is being planned to improve the ground water level as well to conserve environment and wetland. The project aims to give a boost to develop, conserve and manage the wetlands in a proper manner to reduce the pollution and contamination of water. Recently, Delhi Jal Board has declared the rejuvenation of Timarpur lake and surrounding wetland park is about to complete which will purify around 2.5 crore litres of water [1]. Delhi Jal Board has approved a technique called engineered ecological system of treatment of wastewater for the revival of dying oxidation ponds.

Similarly, constructed wetlands is the another natural method of cleaning wastewater using the natural resources, like flora, fauna, stones, soil and pebbles. We should not forget about the exemplary model of urban rejuvenation of wetland in South Delhi i.e. Neela Hauz Constructed Wetland present along the Sanjay Van. Earlier, Neela Hauz Lake was used to supply drinking water to entire South Delhi but due to urbanization and construction work, it is diminished. 'Constructed Wetland System' is the proper setup for filtering out wastewater through the divisions of treatment process. The constructed wetland is a two step treatment process which treats sewage through bioremediation. In the first step, wastewater is kept in a vacant land for one day to allow oxidation and aerobic decomposition. The second step involves the storing of water in a pond where twenty varieties of aquatic plant species cleanses the toxins from the water and channels them into the lake. The constructed wetlands are very efficient, economical and easy to maintain consuming zero electricity.

Above mentioned rejuvenation methods or practices are vital to sustain a wetland. Otherwise, it will be very difficult to revive it from the scratch. We must strictly regulate the anthropogenic activities in a sustainable manner to help wetland survive against the harsh environmental conditions. Proudly, India is doing better in changing the statistics from shrinking wetlands to the reviving wetlands. But, there is a need to educate and provide knowledge to the common man about the importance of wetland for the life and the planet across the country. Human use has changed the landscape, but human efforts can help restore natural features. Networking and collaborating with different stakeholders of nation for the revival of water bodies and coming up with better urban management practices can do wonders in revamping and managing wetlands.

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