

Our city's kidneys are failing, but does anyone care?

By Jayanthi Madhukar, Bangalore Mirror Bureau | Feb 3, 2015, 04.00 AM IST



Did you know it was World Wetlands Day yesterday? And just in case it feels like an event that has nothing to do with Bengaluru, think again.

According to Dr T V Ramachandra, Centre of Ecological Sciences (IISc), the city had the distinction of having hundreds of water bodies over the centuries.

The undulating terrain in the Bengaluru region facilitated the creation of a large number of tanks providing for the traditional uses of irrigation, drinking, fishing, and washing. In 1961, the number of lakes and tanks stood at 262 (spatial extent of Bengaluru: 112 sq km) but in 1985 the number was already a mere 81 (spatial extent: 161 sq kms).

"Wetlands are the kidneys of the city's landscape," Dr Ramachandra says. Consider an inverted umbrella: While the centre of the canopy is the lake, the sides are the wetlands that will help water drain into the lake. So its loss is of concern to the health of the city. He has recently published a paper about wetlands in the Environmental Law Institute, using the city as a case study.

In the course of the study, several alarming facts have emerged. The paper states that the loss of ecologically sensitive wetlands is due to the uncoordinated pattern of urban growth happening in Bengaluru. Failure to deal with water as a finite resource is leading to the unnecessary destruction of lakes and marshes that provide the city with water.

"There has been a 632% increase in built-up area from 1973 to 2010," Dr Rama-chandra says, "leading to a sharp decline of 79% area in water bodies in the city."

Dress for floods

The major implications of urbanization in Bengaluru, Ramachandra lists out are; loss of wetlands, floods, decline in groundwater table, formation of heat islands and increased carbon footprint. The dire warning for the city is already evident. There are 1.5 million trees servicing 9.5 million people, indicating one tree for seven people.

Then there were the interconnected water bodies that were once present in the city. Conversions of wetlands to residential layouts have compounded the problem by removing the interconnectivity of an undulating terrain. Encroachment of natural drains, alteration of topography involving the construction of high-rise buildings, removal of vegetative cover, and reclamation of wetlands are the prime reasons for frequent flooding even during normal rainfall post-2000.

The removal of wetlands has led to the decline in the groundwater table. The city's groundwater table has declined to 300 m from 28 m "over a period of just 20 years" after the reclamation of lakes with its catchment for commercial activities. "In intensely urbanized areas, such as Whitefield, the groundwater table has now dropped to 400-500m," he says.

City planners have to address these warnings on a war footing. Dr Ramachandra says, "There can be a decrease in the incidence of frequent floods and the associated loss of human life and properties if there is the restoration of interconnectivity among wetlands, restoration of wetlands (removal of encroachments), conservation, and sustainable management of wetlands." If not, by 2025 one can expect the city to be a desert, he warns. Are city authorities listening?

WHAT IS WWD?

February 2 marks the 44th year since the signing of the Ramsar Convention on Wetlands and World Wetlands Day. It was adopted in the Iranian city of Ramsar in 1971 and came into force in 1975. The treaty was negotiated through the 1960s by countries and non-governmental organisations concerned about the increasing loss and degradation of wetland habitat for migratory water birds.

Under threat

Three lakes are soon to dry out, given the encroachments around them and the loss of the wetlands. Bellandur Lake which is the largest lake is connected to Varthur Lake which in turn is connected to Kaikondranahalli Lake. The last mentioned lake drains into Varthur which in turn provides water to Bellandur. With encroachments and buildings coming all around these lakes, their interconnectivity is under threat making their very existence precarious.

Parched city

** Bengaluru is located at an altitude of 920 m above mean sea level, delineating three watersheds - Hebbal, Koramangala-Challaghatta, and Vrishabhavathi watersheds*

** The number of wetlands in the city has declined from 207 (1973) to 93 (2010). Many lakes (54%) were encroached for illegal buildings.*

** Field survey (2007) of all lakes in the city shows that nearly 66% of lakes are sewage-fed, 14% surrounded by slums, and 72% showed loss of catchment area. Lake catchments were used as dumping yards for either solid waste or building debris.*

What are wetlands?

Wetlands are the regions around the lake which native flora and fauna. They are the reasons why water gets drained to the lakes. Wetlands also act as sieves in separating the waste products and letting the filtered water go into the underground aquifers or recharging the water bodies. They support large biological diversity, and enhance the aesthetics of the landscape.