

# Devarabisanahalli Lake: A victim of unplanned urbanisation

## Rampant pollution, encroachment choking the water body



**WHITHER PLANNING?** There has been little effort to protect the lake despite the presence of several custodians. DH FILE PHOTO

Naveen Menezes

**BENGALURU:** Located to the south of Bellandur Lake on the Outer Ring Road, Devarabisanahalli Lake is spread over 13.45 acres (5.45 hectares). Strikingly similar to the city's other water bodies, the lake embodies the effect of unpremeditated urbanisation and concentrated developmental activities.

A research team led by Prof T V Ramachandra of the Indian Institute of Science has prepared the technical report 'Devarabisanahalli lake: Path towards ecological restoration', that calls for immediate action and underlines the issue of encroachment and pollution.

The latest study report consists of data from the field, sur-

veys, physico-chemical analysis of water and bathymetric analysis and goes on to highlight the present status of Devarabisanahalli lake.

"The lake has an area of 5.45 hectares (revenue map) with a water spread of 4.4 hectares. At least 1.31 acres of the lake has been encroached upon," the study reveals.

Based on the field data, it was found that the current depth of the lake varies from nearly 0 metre (near the upstream) to about 1.6 metres near the outlet.

The current storage capacity of the lake is about 48,863 cubic metres. However, the survey of the topographic map illustrated that the maximum depth of the lake in the 1970s was more than 2.5 metres near the outlet and the full storage capacity of the lake was about

72,588 cubic metres.

The study not only found the water to be highly polluted, but also found that a large quantity of silt or sediment was deposited in the lake. The report puts the economic value of the sediment between Rs 5.93 and 13 crore.

The study recommends the removal of the sediment deposited in the lake through desilting by means of wet dredging.

It also suggests that the sludge from the inlets (with a nutrient ratio of C: 23.77% and N: 2.38%) could be used as manure in floriculture, horticulture or agriculture.

Despite the lake having too many custodians (BBMP, BDA, Lake Development Authority...), very little effort has been made to protect these lakes. The report observes that the

### Problems

- Sustained inflow of untreated sewage
- Encroachment
- Loss of interconnectivity
- Sedimentation (Due to silt transport with land cover changes in the catchment)
- Invasive macrophytes

### Solutions

- Removal of accumulated sediment
- Mapping of lake boundary and removal of all encroachments
- Sludge (at inlets) has nutrient value - use it as manure
- Let out only treated sewage to the lake
- Restoration of wetlands
- Introduction of native species of fish
- Regular monitoring of lake water quality
- Regular harvesting of macrophytes
- Ban on introducing exotic fish species in the lake
- Restrictions on solid waste disposal on the lake bed
- Installation of water fountains
- Introducing ducks

### Benefits

- Groundwater recharge
- Meeting water demand of surrounding residential colony
- Clean groundwater
- Maintaining green cover in the lake catchment

uncoordinated pattern of urban growth has resulted in the loss of ecologically-sensitive wetlands.

"The principal reason is lack of good governance and irresponsibility of decision makers," it states.

Across four decades (1973 to 2013), the urban areas of the city have undergone a growth of 925%. This has resulted in a sharp decline of natural resources - 78% decline of trees and 79% of water bodies, which indicates unplanned urbanisa-

tion in the city, the study notes.

The latest field survey of 105 wetlands reveals that 98% of the lakes have been encroached by illegal buildings (high rise apartments, commercial buildings, slums etc).

A field survey of all lakes conducted in 2014 -15 shows that nearly 90% of the lakes are sewage-fed, 38% are surrounded by slums and 82% showed a loss of catchment area, the study states.

**DH News Service**