

Just what is Project Bangalore? It is an attempt by DNA to look at Bangalore's key issues and focus on outcomes instead of highlighting problems

EVERY THURSDAY

# NEXT TIME YOU SEE A LAKE, PLEASE THINK OF SAVING IT

262 THAT'S THE NUMBER OF LAKES THAT EXISTED IN GREATER BANGALORE WAY BACK IN 1961

91 IT'S TRUE. ONLY THOSE MANY LAKES HAVE SURVIVED TILL TODAY

33 THIS FIGURE INDICATES THE CITY'S LAKES THAT ARE BARELY VISIBLE THROUGH SATELLITE IMAGERY

**How can we preserve lakes? Do we hand them over to private players? Should we look at public-private partnership to save them? DNA's PK Surendran scans all the issues and the outcomes**



MY WORD

## LET'S START THINKING OF ZERO TOLERANCE

A lake can be rejuvenated but sustaining it is critical. We have to start thinking of lake development 24/7

There is a need to reclaim and revitalise the city's water bodies on a sustainable basis. From my experience during BDA's efforts at reviving lakes at Lalbagh, Benigenahalli and Agara, there were quite a few takeaways.

For starters, you need to be aware that Bangalore's lakes are part of a composite ecosystem where water bodies located at higher levels feed downstream lakes.

Sewage and waste inflow into lakes is a chronic problem; planning lake rejuvenation without diverting sewage into treatment plants is pointless. That, of course, brings in multiple government agencies and a whole host of coordination challenges.

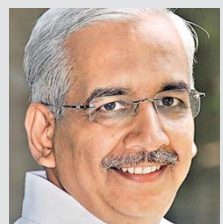
The lake area and the feeds into it (including rainwater) need to be cleared of all encroachments. Unless we develop a zero tolerance to such encroachments, reclaiming water bodies will remain a mirage. Desilting is absolutely necessary.

A dredging option, whereby the extracted water is retracted into the lake on a continuous basis as opposed to dry dredging, is more eco-sensitive and preferable though it is more expensive.

Tank bunds need to be strengthened to take the increased water pressure after desilting is done. Wet wiers also need to be appropriately planned to allow overflows into lakes.

A lake can be rejuvenated but sustaining it is absolutely critical. We have to start thinking of lake development and maintenance, 24/7. This is best done by involving local communities, who are the biggest stakeholders in the ecosystem, and often know how to maintain vibrant

V RAVICHANDAR



CIVIC EXPERT AND CMD, FEEDBACK CONSULTING



**ECO ENTERTAINMENT:** By transforming a lake into a leisure zone, we might just be able to give Bangalore's vanishing species a new lease of life

IT'S A SMALL NUMBER, BUT THOSE ARE THE LAKES THAT COME IN THE BANGALORE MAHANAGAR PALIKE LIMITS

17

Bangalore's lakes, considered essential to the ecosystem, have been disappearing at a fast pace due to rampant land filling and sewage disposal

250

THE HIGH NUMBER INDICATES THE ACRES OF WETLAND FILLED WITH MUD NEAR VARTHUR LAKE

**H**ighballing towards a megapolis status, Bangalore faces an acute shortage of water in its path. And, if the most important reason for all this is to be singled out, it is the wanton destruction of our once bountiful water-body network.

Scores of eco-lovers and limnologists (experts on fresh water bodies) say the vanishing of Bangalore's lakes began in the early 1980s.

Of the many reasons, anti-malarial action, spraying toxic chemicals to kill mosquito larvae, was the beginning.

A swelling population following industrial growth, leading to exponential rise in realty price, made it worse. Unreal property prices made encroachment and waste dumping sickeningly profitable. The trend continues till date.

As per civic records, Bangalore had 262 lakes and tanks in 1961.

Today, the city has only 91 lakes in Greater Bangalore, and just 17 in the erstwhile Bangalore Mahanagar Palike (BMP) limits. Of these, only 33 are barely visible via satellite imagery, and most of them are in an unhealthy condition.

"We have lost some 50 lakes in recent years. Where will the rainwater go?," bewails Bharat Lal Meena, commissioner, Bruhat Bangalore Mahanagar Palike (BBMP), in an answer to the outcry after the rain havoc in Bangalore earlier this year. The heavy rain, which drowned two children in separate incidents, created a public outcry.

"Ad hoc solutions are harming the city in every sphere of planning," says Rajiv Chandrasekhar, MP and Agenda Bangalore and Infrastructure Development (ABIDE) convenor.

"The vast wetlands and waterbodies make Bangalore city airconditioned," writes a German, Bjorg Houssong, in his travel magazine. But that was 1978.

With realty prices going through the roof, water bodies have been converted to housing colonies and dumping grounds. Surviving lakes like Varthur and Bellandur are being killed with untreated sewage and chemical effluents.

And Varthur valley, which the comprehensive development plan (CDP) 2015 expressly states as an ecological buffer zone, is witnessing rampant land-filling by the builders in the city.

"Already 250 acres of wetlands near Varthur Lake are filled with mud, obviously for construction," points out MA Khan, an ecologist who has braved death threats from land grabbers. What goes on, he says, is the "cruel rape of Bangalore's lakes."

TV Ramachandra, head of Centre for Ecological Studies (IISC), calls it a catastrophe. "Wetland is an ecosystem that keeps the city's groundwater cleansed and recharged. Tampering with it would be not just foolish but also dangerous."

In his report to the high court in June 2008, director-general of forests P J Dilip Kumar termed lake management wholly misconceived. "It is not engineering

what a lake needs, but ecological preservation. The city's lakes and tanks are not just water bodies but thriving ecosystems that are playing host to a variety of birds and animals."

All city lakes ought to be protected by the forest department as ecological assets, says Leo Saldhana, eco-activist and founder of Environment Support Group (ESG).

"From 114 lakes and tanks under its charge, the forest department has only 55 today, and the civic authorities are presiding over the auction of lakes," bemoans a senior forest official who'd opposed the privatisation of lakes.

As if that's not enough, the city's water bodies are overseen by various authorities at different levels of control. What is left of the lakes and tanks is being apportioned among half-a-dozen disparate governmental authorities. "Why wonder at the miserable state of lakes today?" asks environmentalist PS Ananthram.

Sewage water is proving to be another killer act. This mainly happens in Tamil Nadu's Krishnagiri district, where Pennar River and spillover from Varthur Lake provide the drinking water source. Frequent outbreak of cholera and other water-borne diseases among people living on the lake's fringes reveal that sewage-mixed water is the culprit.

The water board data says the city supplies 800 million litres per day (MLD) from Cauvery

River, and another 500 MLD from groundwater (the city is perilously close to a water calamity as it sports some five lakh borewells draining out underground water for daily use). Of the total water supplied, 80 per cent is rendered sewage, which makes it 1,040 MLD. The city has just six sewage treatment plants that treat 408 million litres per day (MLD). Obviously, nearly 60 per cent sewage goes to the water bodies.

"The only solution is decentralizing treatment plants ward-wise and reusing treated water to meet the non-potable needs of people. If this is done, and wetlands are protected, Bangalore could be a Singapore in hygiene, and a Dubai in riches. If not, it will be a ghost town by 2030," points out Ramachandra, the head of IISC's Centre for Ecological

Studies. "As far as civic planning is concerned, it has been a lost decade for Bangalore," says environment engineer RK Chari. "Most lakes should be opened to public. With modern technology, it is possible to keep big lakes lively and revenue-yielding. Water sport, gardens and amusement parks could be built around large lakes," he says.

Problems do exist as far as lakes are concerned. But merely depending on the political will may not suffice. For Bangalore, once a City of Lakes, must regain its huge network of water bodies to create a healthy ecosystem. But that responsibility has been thrust on Bangalore's custodians—you and me.

SOLUTION 2

Most lakes should be opened to the public. It's also possible to make big lakes revenue propositions, with the help of technology. Water sport, gardens, amusement parks could be built around large lakes. If anything, this would help maintain Bangalore's lakes.



RK CHARI ENVIRONMENT ENGINEER, PRESIDENT, KRAUSE & JAVER, INC

I FEAR THE DAY WHEN THE GROUND WILL YIELD NOT A DROP, AND EVERY LAKE WILL BE A STINKING SLUSH. ONLY THEN WILL THEY UNDERSTAND THAT WE CANNOT EAT MONEY. —MA KHAN, ECOLOGIST AND PRINCIPAL OF KK SCHOOL, VARTHUR.

IF THEY COULD, WHY CAN'T WE?

HOW TWO LAKES GOT A FUTURE

Two lakes. Two ways of making them vibrant. Sankey Lake, in Sadashivnagar, and Ulsoor Lake, in the city's centre, showcase the will of Bangaloreans to revive and maintain lakes. Sankey Lake has been beautified by BBMP with a walkway along its perimeter and a garden at the main entrance. This is attracting hordes of walkers and joggers. The effort bore fruit in 2005 after several attempts by developers were repelled by citizen-activists. A water hyacinth-filled Ulsoor Lake was rejuvenated in the late 1990s by Madras Engineering Group. Today the lake is a tourist attraction once again.

SPEAKUP

## We have ideas. Will anybody care to listen?

Bangaloreans are deeply concerned about the vanishing lakes. Here, they point out what civic bosses should do to protect and maintain the city's remaining water bodies

V JAYAPAL



As water resources are important to Bangalore, the government should restrict the number of constructions on lakebeds as the lakes have dried up. Of primary concern are the encroachments on these lakebeds.

SHANTHI S



Among the lakes, Ulsoor lake is the only one with recreational facilities. BBMP must set up amusement parks near lakes. If this is done, lakes can transform into tourist destinations. This is the only way to preserve lakes.

KIRAN JAIN



The authorities should prevent encroachments in, and around, lakes. They must provide facilities for water activities, sport and recreation as it would help maintain lakes, but public pressure should be there constantly, as well.

VIJAY KRISHNA



Proper coordination between private players and the public is essential to beautify lakes. It is not enough to beautify them; they should be maintained as well. The authorities should also think of different ways to rejuvenate lakes.