

# S E C T I O N - I V

Lake specific findings of  
12 test - checked lakes



## Chapter VII

### Lake specific findings of 12 test-checked lakes

Unplanned rapid urbanisation in Bengaluru and other CCs in Karnataka witnessed large scale conversion of catchment areas of the lakes to residential and commercial layouts that altered the hydrological regime and enhanced silt movement in the catchment area. In this section, an overview of twelve lakes test-checked by Audit in Bengaluru and other ULBs are highlighted indicating the present status of these lakes.

#### 1. Bellanduru Lake

The lake is situated in south eastern part of Bengaluru in Koramangala-Challaghatta valley. It is one of the biggest lakes (919 acres) in Bengaluru and forms part of the Varthuru lake series. The lake is at present under the custody of BDA. The lake received around 400 MLD of the waste water generated from the above valleys.

- ❖ The area of the lake was only 597 acres as per the satellite map of KRSRAC (2011). Thus, there was a reduction in lake area as per the revenue records.
- ❖ The lake area was fenced partially, incurring an expenditure of ₹3.31 crore due to non-removal of encroachments.
- ❖ At Kempapura village side, SWD alignment was seen diverted by private parties resulting in encroachment and reduction in lake area.
- ❖ KSPCB categorised the water quality in the lake as 'E'. Discharge of polluted water with obnoxious odour and foam formation was observed in the waste weir region of the lake and the lake was also covered with hyacinth, which resulted in polluted water.

		
A view of lake from south-west side	Illegal diversion of SWD	Contaminated water with foam formation in waste weir

## 2. Horamavu-Agara Lake

The lake is located on the eastern part of Bengaluru and is under the custody of BDA.

- ❖ The survey map of 2006 indicated that an area of 5 acres 0.25 gunta<sup>51</sup> was under encroachments. The lake was not demarcated and did not have a waste weir.
- ❖ During JPV, it was observed that the lake area was filled with construction debris and fencing was damaged.
- ❖ A residential apartment was pumping untreated sewage generated from the houses directly into the lake, causing pollution.
- ❖ Lake area was encroached upon for construction of bus-stand near north-west inlet. Several apartments and other residential houses had breached the buffer zone. This indicated implementing agencies were not taking measures to safeguard the buffer zone.
- ❖ The pollution level was not being monitored by any of the agencies and no works were taken up during 2009-14.

		
<p>A tractor driver filling the lake bund with construction debris</p>	<p>Bus stand construction in lake area</p>	<p>An apartment complex pumping raw sewage</p>

## 3. Chikka Bellanduru Lake

The lake is located in Bengaluru (East) Taluk and at present is under the custody of BDA.

- ❖ As per 2006 Revenue Department survey, an extent of 10 acres of lake area was encroached upon. During JPV, it was observed that the lake area was also encroached upon by slum dwellers.

<sup>51</sup> Gunta is a unit of measurement of area. 40 guntas is one acre.

- ❖ The village map and other records revealed that the adjoining Survey.No.63 of Mullur village which was part of the lake is now shown as private land in the latest certified revenue survey map (2010).
- ❖ BBMP had planted trees in the lake bed area and no restoration works were taken up either by BBMP or BDA to revive the lake as a fresh water body.
- ❖ There were no inlets to the lake and thus, the entire lake bed had dried up.
- ❖ Lake was polluted with solid waste and construction debris and the pollution level was also not being monitored by any of the agencies.






#### 4. Vengaihanakere

The Vengaihanakere is situated in Bengaluru (East) taluk with an area of 64.89 acres. The lake was developed by the LDA during 2002-03 using NLCP grants and was leased to M/s. PAR.C, Bengaluru since 2005 for a period of 15 years.

- ❖ The lessee was operating motor boats, violating the agreemental clause and polluting the lake. The LDA stated (April 2015) that lessee had been directed not to use motor boats in the lake.
- ❖ The Bengaluru-Kolar National Highway was formed on the main bund of the lake. On the eastern side of the lake, a vast area was being filled with earth for formation of a road inside the lake area. The LDA stated (April 2015) that the Hon'ble High Court had given permission to utilise lake land for constructing National Highway. The reply is not acceptable as the road passing over this lake was not raised on pillars and slabs, which contravened the directions of the Hon'ble High Court.
- ❖ BWSSB's UGD line inside the lake bed was seen overflowing into the lake area. The treated water from STP and untreated sewage was mixed and was entering the lake. The water quality of the lake was not being monitored by any of the agencies. The LDA stated (April 2015) that BWSSB had been directed to make provision for diversion of sewage and lay down separate pipeline for entry of treated water into the lake.

- ❖ A walkway bridge (near Tambuchettypalya Road) was seen damaged, posing danger to the lake users. The LDA replied (April 2015) that walkway bridge had been repaired.

		
Lake area with solid waste	Motor boats in lake area	Inlet from STP side bringing polluted water

## 5. Allalassandra Lake

Allalassandra Lake forms part of the Yellamallappa Chetty Lake Series and is at present under the custody of BBMP.




- ❖ Residential quarters for the staff of Forest Department were provided inside the lake area and a vast area of lake was also occupied by slum dwellers.
- ❖ The lake rejuvenation works carried out (2010-13) incurring an expenditure of ₹7.58 crore were mainly non-core works as detailed below.
  - Rejuvenation of lake was focused mainly on beautification works such as landscaping along the ring bund, gazebo and resting place, etc.
  - Boat jetty was non-functional without boats.
  - Island constructed was without plants.
  - During JPV, it was observed that only four play stations had been installed in childrens' play area inside the lake bed though payment of ₹36.80 lakh had been made for seven play stations. This had resulted in excess payment of ₹15.76 lakh.

		
Island seen without plantation	Children's play area erected in lake bed	Residential quarters of Forest Department inside lake area

## 6. Rachenahalli Lake

Rachenahalli Lake is in the custody of BDA. The lake rejuvenation works were carried out incurring an expenditure of around ₹14 crore and the lake was not maintained thereafter.

- ❖ Restoration works carried out without removal of encroachments.
- ❖ BDA had formed a residential layout in the lake area. It also irregularly diverted 11 acres of lake for formation of park as part of rejuvenation works in violation of rules.
- ❖ Fencing was breached and left open in many stretches to provide access roads to the nearby residential areas.
- ❖ The level of pollution was not assessed by any agency. BWSSB laid UGD network very close to the water spread area with the approval of LDA and BDA.
- ❖ The treated water flowing from Jakkur Lake was not entering the lake as the inlet was connected to sewage diversion channel and wetland remained dry.

		
BWSSB trunk sewer chamber close to the water spread area	Lowered waste weir without flow	Constructed wetland without any water

## 7. Nagavara Lake

Nagavara Lake is situated in Bengaluru (East) taluk and the outer ring road had been constructed on one side of the lake. The lake was developed by LDA during 2002-03 with NLCP grants. The lake was given on lease to M/s. Lumbini Gardens in 2004.

- ❖ There was no demarcation of lake area and a portion of lake area on the south east corner was diverted for providing connectivity to the upcoming Special Economic Zone. LDA stated (April 2015) that letters had been addressed to BBMP and BDA to stop the road formation in the lake area. It was further stated that a police complaint had been lodged as BBMP was in the process of laying sewage pipeline and connecting it to SWD of Nagavara Lake.




- ❖ The lessee had provided restaurants, party halls, amusement and water theme parks, motor boats *etc.*, thereby polluting the lake area. Due to sewage ingress, the entire wetland region was covered with water hyacinth and floating debris. The level of pollution was not assessed by any agencies. LDA replied (April 2015) that action would be taken to improve the ecological health of the lake.

		
Sewage with floating debris from SWD entering the lake	Formation of Special Economic Zone in the Buffer zone	Wetland fully covered with water hyacinth and weeds

## 8. Chokkanahalli Lake

Chokkanahalli Lake forms part of Yellamallappa Chetty Lake Series. The lake is at present under the custody of BBMP.

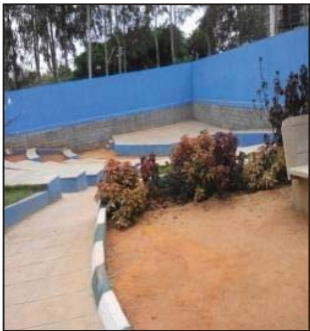


- ❖ The *atchcut* area across the main bund had been demarcated for residential site formation.
- ❖ The lake bund was used as a road to provide connectivity to the nearby areas.
- ❖ During JPV, a graveyard was noticed inside the lake area. Local people were fishing in the lake.
- ❖ The constructed inlet was defective as the opening of inlet was below the existing waste weir. The inlet provided with silt trap, screen barrier *etc.*, was clogged and the excess water was not flowing into the lake.
- ❖ The pollution level was not being monitored by any of the agencies.

		
Fishing in the lake	Graveyard inside the lake	Inlets opening to the lake below the level of waste weir

### 9. Kaigondanahalli Lake

Kaigondanahalli Lake is part of Varthuru Lake series and the lake is at present under the custody of BBMP.

- ❖ The Sarjapura main road is passing through the lake bund, thereby reducing the lake area.
- ❖ Natural flow of rain water/storm water had been restricted to flow through pipeline due to the formation of ring bund.
- ❖ Sewage diversion line was laid inside the water spread area by cutting trees.
- ❖ The foreshore area on the southern part of the lake was being developed into residential complex, breaching the buffer zone.
- ❖ An open amphitheatre was constructed in the lake bed, reducing the lake area.
- ❖ KSPCB (November 2013) classified the quality of water of lake as “E” category, which was below the prescribed standard “B” for outdoor bathing in developed lakes.
- ❖ An NGO (MPSMAS) had taken up the responsibility to maintain the lake.

		
Amphitheatre inside the lake	Diversion pipeline laid inside lake	Loss of foreshore area due to formation of ring bund in the lake




### 10. Kowdenhalli Lake

Kowdenhalli Lake is located adjacent to the Indian Telephone Industries (ITI) factory in Ramamurthynagar. The lake is at present under the custody of BBMP.

- ❖ The natural wetland was encroached by the ITI factory and a road was formed in the centre as a connecting route to K.R. Puram.
- ❖ The lake is spread over 55 acres 5 guntas and half of the lake area had been encroached upon by a college, slum, residential layouts, road, market, *etc.* The conservation and restoration works were, therefore, carried out only in the remaining area of 20 acres and 35 guntas.
- ❖ The lake was full of weeds which was removed and dumped alongside the pathway.



- ❖ The silt traps/sedimentation tanks were blocked, thus disallowing any inflow into the lake and instead the *Raja Kaluve* (SWD) with sewage and solid waste was flowing from the surrounding settlements into the lakes, thereby polluting the lake.
- ❖ The pollution level was not being monitored by any of the agencies.

		
<p>Removed weeds dumped alongside the pathway</p>	<p><i>Raja Kaluve</i> with sewage and solid waste</p>	<p>Blocked silt traps/sedimentation tanks without water entering the lake</p>

### 11. Bhishma Lake

Bhishma Lake with an area of 103 acres (41.70 hectare) is the only water body in Gadag-Betageri City and the lake is under the custody of Forest Department.

- ❖ The lake has been de-watered for restoration work and for erection of the statue of Lord Bashweshwara. The lake area where the statue was erected had dried up as indicated in the photograph below.
- ❖ The inflow of sewage from one inlet had stagnated on one side of the lake as indicated in the photograph below.
- ❖ The pollution level was not being monitored by any of the agencies.

	
<p>Sewage being collected at one side</p>	<p>Dried up area near statue</p>

## 12. Akkamahadevi Lake in Haveri

Akkamahadevi Lake is a major water body of Haveri City with an area of 13.70 acres. The lake is under the custody of CMC, Haveri. Restoration of the lake was carried out under NLCP during 2004-12 by incurring an expenditure of ₹2.64 crore.

- ❖ Due to non-maintenance, the lake periphery and the bund were full of bushes/weeds as shown in the photograph below.
- ❖ Open defecation was prevalent and clothes were being washed in the lake polluting the lake. This was shown in the photograph below.
- ❖ KSPCB categorised the water quality as “D” which did not conform to the required standard of “B” class.

