

IN THE HIGH COURT OF KARNATAKA AT BENGALURU

WRIT PETITION No.58668/2015 (GM TEN)

BETWEEN:

Mr. D.Kupendra Reddy

:: PEITITONER

AND:

State of Karnataka
And others

:: RESPONDENTS

MEMO FOR PRODUCING FIRST STATUS REPORT

It is submitted that this Hon'ble Court vide Order dated 09.01.2017, was pleased to appoint the Principal Secretary, Department of Urban Development, Government of Karnataka, Bengaluru and the Principal Secretary, Department of Forest, Ecology and Environment, Government of Karnataka, Bengaluru as Special Officers to look into the present Status of Lake and take all remedial measures to restore and rejuvenate the Bellandur Lake, by four weeks.

It is submitted that in pursuance to the order of this Hon'ble Court, the Additional Chief Secretary to Government, Urban Development Department and Additional Chief Secretary to Government, Forest, Ecology and

Environment Department have conducted two Meetings on 20.01.2017 and 27.01.2017. The action plan of short term and long term basis with time line is prepared and the same is appended to this Memo for the kind perusal and record of this Hon'ble Court.

The Documents appended along with this Memo are as follows:-

- 1) First Status Report of Bellandur Lake
(2 pages) as on 04.02.2017 (DOCUMENT NO.1).
- 2) Recommendation of the Expert Committee and action taken report dated 04.02.2017 (11 pages) Document No.2.

The Hon'ble Court be pleased to accept the status report on record in the interest of justice and equity.

Place: Bengaluru
Date: .02.2017

(SREENIDHI.V)
ADDITIONAL GOVT. ADVOCATE
AND
ADVOCATE FOR RESPONDENTS

FIRST STATUS REPORT ON BELLANDUR LAKE AS ON 04.02.2017

The Hon'ble High Court of Karnataka in its order dated 09.01.2017 in W.P. No. 58668/2015, appointed the Principal Secretary, Department of Urban Development, Government of Karnataka and Principal Secretary, Department of Ecology and Environment, Karnataka as Special Officers to look into the present status of Bellandur lake and to take all remedial measures to restore and rejuvenate the lake by four weeks.

In this connection two meetings were held under the chairmanship of the Additional Chief Secretary, to the Government, Department of Forest, Ecology and Environment, Government of Karnataka on 20.01.2017 and 27-01-2017, in which the officers of Urban Development Department, Karnataka State Pollution Control Board, Bangalore Water Supply and Sewage Board (BWSSB), Bangalore Development Authority (BDA), Karnataka Lake Conservation and Development Authority were present. The Additional Chief Secretary, Department of Forest, Ecology and Environment, Government of Karnataka perused the affidavit filed by Urban Development Department and also the report of the Committee on Bellandur and Varthur Lake rejuvenation. After discussion, the Additional Chief Secretary, Department of Forest, Ecology and Environment has directed the different Government agencies to submit short term and long term remedial measures with timelines as per the Affidavit filed before the Hon'ble High Court of Karnataka on 06.01.2017 and as per the report of the Expert Committee headed by the Additional Chief Secretary, Urban Development Department. Further, agency wise or department wise actions taken on the short term measures were also reviewed in the meeting.

As per the recommendations of the expert committee report BDA, KSPCB and BWSSB have submitted their short term and long term remedial measures with timelines for restoration and rejuvenation of Bellandur lake.

Salient Features of Bellandur Lake:

The Bellandur Lake is situated in Dakshina Pinakini sub basin of South Pinakini river basin. It has total catchment area of 284 Sq. km and has independent catchment area of 14.49 Sq.km. It has a water spread area of 318,255 Ha and length of the main bund is 1.486 km. The area of the lake is 370.30 Ha. Gross storage of the lake is 388.28 Mcft and net storage of the lake



is 323.57 Mcft. Maximum flood discharge is 28850 cusecs. Length of the right bank canal is 14.70 km and left bank canal is 8.60 km. The tank is full throughout the year. Length of shoreline is around 11.900 Km.

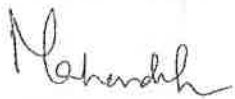
The lake is surrounded by high rise buildings, residential developments, defence and other establishments on the North, residential developments and defence land on the South. Main bund of the lake is on the East and there are residential development and partly defence land on the West. There are four inlets; one from the outlet of Ulsoor lake on North-West side, one from the outflow of Agara lake on South – West side, another from the K.R Market and Koramangala side on the Western side and one from the Ibbaluru lake on South – East side. There are two outlets; one on the North –East side (Yemaluru) other on the South East side (Bellandur).

The present condition of the lake:

The lake is highly polluted due to sewage entry into the lake as the surroundings area is full of builtup area. Agricultural activity is still observed on the eastern down- stream side of the lake. The lake is partially covered with weeds due to waste water entry from all the inlets. There is abnormal levels of pollution in terms of septicity, obnoxious odour, aerosols with toxic volatile organic compounds, due to eutrophication condition in the lake. Due to disappearance of native fish species, lot of algal bloom is observed. There is also profuse growth of invasive exotic aquatic macrophytes, endangering the local planktons causing loss of aquatic animals leading to profuse Mosquito breeding.

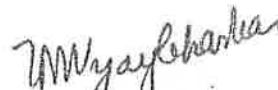
Short term and Long term action plan:

As per the recommendations of the Expert Committee report and the discussions held in the meeting under the chairmanship of the Additional Chief Secretary, Forest, Ecology and Environment Department, the Government agencies such as BDA, BWSSB and KSPCB have submitted their action plan on short term and long term basis with timeline. The action taken report as stated above is enclosed as Annexure to this report.



(Mahendra jain)

Additional Chief Secretary to Govt.,
Urban Development Department.



(T.M. Vijay Bhaskar)

Additional Chief Secretary to Govt.,
Forest, Ecology and Environment Department.

RE. VENATION OF BELLANDUR LA. E:

RECOMMENDATIONS OF THE EXPERT COMMITTEE & ACTION TAKEN REPORT DATED 04.02.2017

1. Short term Remedial Measures- within 6 months.

Cause	Recommendations	Agency	Action taken so far	Action to be taken	Time required for completion.
1. Poor water quality - untreated sewage inflow	1.Regular harvesting of macrophytes - helps in curtailling nutrients accumulation	BDA	BDA has published a short term tender notification through "e-procurement" - inviting applications for the work of "Deweeding and Installation of Aerators in Bellandur lake" from the interested agencies / companies. Last date for receipt of applications is on 04-02-2017 And Opening of tender is on 07-02-2017.	After completion of tender process action will be taken to harvesting the macrophytes.	Another 3 months may be required to commence the work
	2. Stop dumping of municipal solid waste	BBMP	Stringent action has been taken against the dumping of solid waste in the lake body. The BBMP is watching the movements in this behalf.	It is an ongoing process	
	3. Evict all waste processing units (in the vicinity of lakes and lake bed)	BBMP & Revenue Dept	Action is being taken to evict all waste processing units in the vicinity of lakes and lake bed.		
	4. Stop dumping of construction and demolition (C & D) wastes in	UDD	Action is being taken by the BBMP. Necessary force has been appointed to watch dumping of (C&D) wastes.	It is an ongoing process	

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Rajakaluve, Valley zones and Lake beds				
5. Ensure that all apartments let only treated water to the lake. Implement mechanisms such as separate electric meters (net metering) and updating of details at respective resident association websites (including a copy at BWSSB web site)	KSPCB and BWSSB	BWSSB has issued notices to all the apartments who have not installed STP's in their premises as per the Forest, Ecology and Environment Notification Dated 19-01-2016. Penalties are being imposed for not installing the STP's.	Direction has been given to KSPCB and BWSSB to ensure separate water meter at the outlet of the STP and also separate electricity meter for STP.	6 months for existing apartments. It is mandatory for newly constructed apartments.
6. Providing water quality details (each apartment discharge) – inflow to the lake at respective resident association websites (including a copy at BWSSB web site)	KSPCB	KSPCB will take action as per feasibility.		
7. Installation of online water quality monitors at the treated water outlets from K&C valley 250MLD STP, and up-linking of the monitoring data to a public website.	BWSSB	BWSSB will take action to install online monitoring system for treated water quality leading to Bellandur lake.	Directions have been issued to install online water quality monitoring system, to the outlet of STP's leading to Bellandur Lake.	9 months

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<p>8. Installation of surveillance cameras at the outlet of BWSSB STP (inlet of the lakes) and availability of electricity consumption details and surveillance camera streaming details to the public (through cloud sourcing or any other efficient and optimal mechanisms)</p>	<p>WSSB</p>	<p>Since action is being taken to ins. online water monitoring system, this may not required.</p>	<p>-----</p>
<p>9. Functional ETP's to ensure zero untreated effluent discharges by industries. KSPCB to ensure zero untreated effluent discharges.</p>	<p>KSPCB</p>	<p>This will be regularly monitored by KSPCB</p>	<p>Zero untreated effluent discharges will be get installed wherever possible.</p>
<p>10. Evolving surprise environment audit mechanisms to ensure zero untreated effluent discharges to storm water drains (and lakes). Vetting of inspection report by the respective resident lake association.</p>	<p>KSPCB and Lake Monitoring Committee</p>	<p>KSPCB will take action.</p>	<p>-----</p>

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Froth Reduction	1. Reduce the velocity of the flow at the waste weirs and the extent of drop by constructing ramps at the waste weirs (1 out of 2 weirs, since 1 ramp is already in existence),	FSSB	Already constructed ramp to waste weir of Bellandur Lake adjacent to Bellandur Village. Now after observing the result, directions have been issued to construct one more ramp to waste weir near Kempapura village.	Action will be taken to construct another 1 ramp by BWSSB.	9 months required
	2. Ensure free passage of water (by restoring storm water drains, waste weirs, freeing of all debris)	BBMP	Debris are cleared at required places in Bellandoor lake Storm Water Drain leading to Vartur lake and free flow of water is ensured. Sprinklers are being installed near Bellandoor Waste weir to avoid froth. RCC Bridge has been constructed for free flow of water near Bellandoor waste weir.	Proposal is under consideration for Remodeling of Storm Water Drain from Bellandoor lake to Vartur lake.	
	3. Move MoEFCC Government of India to ban phosphorous use in detergents or regulate detergent with phosphorous in market	KSPCB and UDD	Action is being taken to correspond with GOI.		1 week
Improving Oxygen	Improve aeration - (i) installing fountains, removing	BDA	Action is being taken by the BDA to install Aerators to improve the	Tender has been notified. Work will be executed	After completion of tender process,

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Levels	all blockages, (ii) widening and increasing number of channels / outlets		oxygen levels in lake area.	shortly.	action will be taken shortly.
Physical integrity of lakes and storm water drains	<p>1. Surveying and mapping of water body (including flood plains) and buffer zones (30 m as per BDA; 75 m as per NGT)</p> <p>Surveying and mapping valley zones (eco-sensitive zone as per RMP 2015, and green belt as per CDP 2005).</p> <p>Remove all encroachments (lake bed, Raja kaluves, storm water drains) to prevent calamities related to floods.</p>	Revenue Department	Survey has been conducted and encroachments of the lake bed area have been identified.	Direction has been issued to BDA for fencing south side of the Bellandur lake after removal of encroachment and fixing of boundaries by Revenue Department.	3 months required to commence the work
	<p>2. Identify the common lands, kharab lands, streams, drains, tracks and paths (as per cadastral / revenue maps) in K and C Valley and on priority between the Agara, Bellandur and Varthur Lakes. This land would be useful to setup waste water treatment plants (STPs) and constructed wetlands.</p>	Revenue Department	No government land is available in the lake valley of Bellandur upstream.	The land coming under buffer zone will be identified and it will be used to set up waste water treatment plants, subject to approval by competent authorities.	2 months required.

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2. Long Term Remedial Measures

Current Status	Recommendations	Agency	Action taken	Action to be taken	Time required for completion.
Untreated Sewage	<p>BWSSB has committed to the following measures:</p> <ul style="list-style-type: none"> 90 MLD STP at Ammanikere (upstream of Varthur lake), to which 60MLD will be pumped from Agara pumping station [to be completed by March 2017] 60 MLD STP at K&C Valley plant, to which 60 MLD will be pumped from Agara pumping station [to be completed by March 2017] 150 MLD STP at K&C Valley plant to treat sewage from Koramangala Valley - Ejipura drain [to be completed by March 2020] 	BWSSB	<p>The construction work of 90 MLD STP at Bellandur Ammanikere is nearing completion.</p> <p>The construction work of 60 MLD STP at K & C Valley has been completed. Trial run is under progress.</p> <p>Tenders for the construction of 150 MLD STP at K & C Valley has been invited. Last date for receipt of the tender is 31-01-2017.</p>	<p>The plant will be commissioned during July 2017</p> <p>Plant will be commissioned in February 2017.</p> <p>In all, probability the construction work will be commenced by April 2017. It is planned to be commissioned by 31st March 2020.</p>	<p>6 months required</p> <p>1 month required</p> <p>31st March 2020.</p>

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<p>2 MLD STP at Ulsoor lake (upstream of Bellandur) and 55 MLD capacity 4 treatment plants at Hulimavu, Chikkabegur, Sarakki and Agara lakes upstream of Bellandur expected to be completed by the end of 2018 completion of sewers in all parts of the catchment, new (110 villages &erstwhile CMCs) and Core area by March 2020.</p>	<p>Work of construction of 2 MLD STP at Ulsoor lake has started.</p> <p>Tenders for the construction of 4 STP's on the upstream side of Bellandur lake have been invited and the last date for receipt is 17-02-2017.</p>	<p>It is proposed to be commissioned by June 2017.</p> <p>It is proposed to start the work during April 2017. The plants are proposed to be commissioned as follows.</p> <p>Sarakki -- 31-03-2018</p> <p>Chikkabegur 31-03-2018</p> <p>Hulimavu 31-10-2018</p> <p>Agaram 31-03-2019</p> <p>Sewage network in erstwhile Bommanahalli CMC are will be completed by March 2017.</p> <p>Sewage network in 110 village area is proposed in two</p>	<p>6 months required</p>
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				phases viz. (1) Conveyance system under JICA funding and (2) Project is being posed for additional financial assistance from funding agencies. It will take 3 years to complete the project once funding is finalised.	
	Cancelling of allotment made by KIADB of land between Agara lake and Bellandur lake (40 acres) to be pursued legally to enable establishment STP (40 acres as per RMP 2015) in the region between Agaram and Bellandurlakes to enable establishment of 210 MLD STP at that location itself, to treat sewage locally and to prevent unnecessary waste of electricity for pumping 60 MLD to K&C valley and 90 MLD to Annankere STP	UDD	The Additional Chief Secretary, Commerce and Industries Department has been requested to initiate necessary action in this regard.		
	Independent audit of existing STP operation	KSPCB	Direction is being issued to have independent audit of existing STP operation.	Regular process	--

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<p>Install additional decentralised STPs along with constructed wetlands along the lakes in the catchment and if required acquire necessary lands for this public purpose</p>	<p>BDA BWSSB</p>	<p>4 treatment plants at Hulimavu, Chikkabegur, Sarakki and Agara lakes upstream of Bellandur lake are expected to be completed by the end of 2018 and March 2019. Completion of sewers in all parts of the catchment, (new 110 villages and erstwhile CMC's) and core area by March 2020.</p> <p>Action will be taken to develop constructed wetland treatment system based on the availability of land, wherever required.</p>	<p>---</p>
<p>One-time cleaning of the lake, especially removal of accumulated silt (enriched with nutrients), to be initiated by (i) April 2017 or (ii) after the inflow of untreated sewage reduces to 100 MLD or below, whichever is earlier.</p>	<p>BDA</p>	<p>An estimate is being prepared by the BDA for one time cleaning of the lake by creation of diversion channels i.e., one for sewage water and another for treated water.</p>	<p>For one time cleaning of lake it is proposed for formation of two diversion channels i.e., one for sewage water and another for treated water.</p> <p>This work will be taken based on the technical feasibility,</p>

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				desirability and budgetary provisions at appropriate time.	
	The problem of sewage reaching SWDs from slums and houses unable to connect to UGDs would be addressed.	BWSSB	Action has been taken to connect slum outlets to the BWSSB sewer.		
	Slum board should relocate the settlement that is in the Bellandur Varthur catchment.	Slum Board		Action is being taken to issue directions to Revenue Department and Slum Board to identify the extent of land encroached for slum and to relocate the settlement i.e., in the Bellandur-Varthur catchment area.	
	Identification of Disposal points for sludge and silt with chemical analysis for appropriate end uses	BDA	Action will be taken by BDA in due course.		
	Developing Bellandur and Varthur lakes as secondary water supply source for Bengaluru. It may use as a source of additional revenue to supply the treated water to large construction projects.	BWSSB	Proposal is under examination.		
Strengthening Bio remediation capability of	A Natural Treatment system (Constructed wetlands and algae ponds; similar to treatment systems at Jakkur lake) to be developed to augment the existing and	BWSSB , KSPCB and	Proposal is under examination.		

Lakes	proposed STPs in order to lower nutrients (Nitrates and Phosphates) there by providing relatively safe water to Kolar, Anekal, etc.	Minor Irrigation	Action is being taken by BDA- as stated at SI.No.1	
Macrophytes harvesting at regular interval	BDA			

Mahendra Jain

(Mahendra jain)
 Additional Chief Secretary to Govt.,
 Urban Development Department.

T.M. Vijay Bhaskar

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