BEFORE THE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION No. 426 OF 2018

IN THE MATTER OF:

Mohammed Nayeem Pasha & Anr .... Applicant(s)

Vs

The State of Telangana & Ors .... Respondent(s)

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Place: Hyderabad

Date: 20-01-2021.

First Report

of the

Monitoring Committee

(constituted by the Hon'ble National Green Tribunal, New Delhi in OA No. 426 of 2018 in the matter of Pollution of River Musi)

In compliance to the Order dated 21.09.2020

In

OA No. 426 of 2018

Dated : 19.01.2021

Contents

1. Background

i. Details of OA No. 426/2018 on Pollution of River Musi:

Mohammed Nayeem Pasha & another, R/o. Hyderabad has filed an Original Application before the Hon'ble NGT, New Delhi against the discharge of Sewage and Industrial Effluents into the River Musi in gross violation of the constitutional protection given to Rivers and causing Air, Soil and Water pollution problems in the surrounding areas thus resulting the ecological destruction of the River System.

Prayer:

i. Direct the respondent authorities to maintain River Musi from any contamination or pollution.

ii. Direct the respondent authorities to maintain River Musi free from any encroachments.

iii. Direct the respondent authorities to take all steps to ensure that the upstream course of the River Musi is restored and the flow of fresh water is maintained.

iv. Issue an order in the nature of a continuing mandamus, and Constitute a High Level Empowered Committee consisting of Experts from Judicial, Environmental (Civil society citizens group), Urban Development, among others, to monitor river Musi and other water Bodies in Hyderabad which have connectivity to Musi River system and submit periodical reports to this Hon'ble Tribunal regarding the clean-up work taken and steps taken to prevent future contamination and pollution of river.

v. The Hon'ble NGT issued directions to the Government of Telangana, the status of the directions issued in different orders is as follows:

ii. Constitution of the Monitoring Committee:

The Hon'ble NGT in OA No. 426 of 2018 in the matter of Pollution of River Musi vide **Order dated 21.09.2020 (corrected on 08.10.2020)** constituted a Monitoring Committee with the following Members: -

1.	Justice Vilas V.Afzulpurkar, Former Judge, A.P & Telangana High Court.	--	Chairman
2.	A representative of CPCB	--	Member
3.	A representative of State PCB	--	Member
4.	District Magistrate	--	Member

iii. Terms of Reference for the Committee:

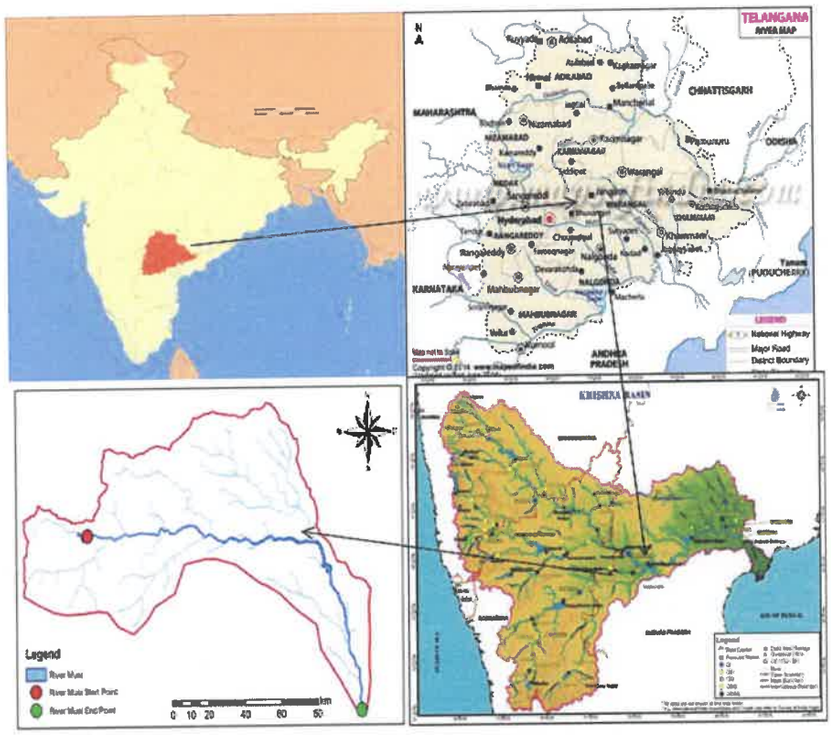
- The Committee will be at liberty to co-opt any other Expert / Institution.
- Explore possibility of contribution of CSR Funds by any Corporate Entity, for adopting any particular part of the Polluted River stretches for remediation and restoration.
- The activities for remediation may include setting up of bio-diversity parks and constructed artificial wet lands.
- The Committee may take into account reports of the Committees constituted for certain polluted river stretches, including Yamuna, Ghaggar, Sutlej, etc., available on the website of CPCB to the extent relevant.
- The 1st meeting of the Committee may be held within one month and the Committee may complete its work tentatively within one year.
- The TSPCB and the District Magistrate shall provide all logistics and other support to the Committee. Telangana State PCB is the Nodal Agency.
- The Committee may give its 1st report within four months to the Hon'ble NGT.

A Committee was constituted under the Chairmanship of Justice Vilas V.Afzulpurkar, Former Judge, A.P & Telangana High Court in compliance to the Hon'ble NGT orders and the details of the members are as follows:

- Collectors & District Magistrates of Hyderabad, Ranga Reddy and Medchal-Malkjgiri Districts
- Sri C.Y.Nagesh, CEE, Telangana State Pollution Control Board.
- Smt.Poornima, SEE, Central Pollution Control Board, Regional Office-Chennai.

2. River Musi

2.1 Details of the River Stretch: River Musi also called as Musinuru is a tributary of the River Krishna flowing through Telangana State in India. The Musi river gets its names from two streams namely Moosa and Esi which converge at the Tipu Khan bridge in the Golconda area. River Musi divides the city into new city and old city. The river originates from Anantagiri Hills near Vikarabad District and joins River Krishna at Wadapally in Nalgonda District. It has an aggregate length of 250 kms and it passes through Hyderabad city. In the year 1920 and 1927, two lakes Osman Sagar and Himayat Sagar were built, respectively, to prevent the city from flooding. As per classification by CPCB, River **Musi is placed under Priority-I (BOD >30mg/L) of polluted river stretches**.



(2.2) River water quality:

Telangana State Pollution Control Board (TSPCB) has been monitoring the river water quality at twelve locations along the river stretch from Osman Sagar to Nalgonda (Wadapally), where it finally meets River Krishna. The River Musi water quality data during 2017-till date suggest that all the analysed parameters were not meeting the permissible limits as prescribed for class B for bathing standards.

The river water quality is as follows:

Water Quality of Musi river along the stretch from Osman Sagar to Wadapally

Parameters	Year	Sampling locations											
		1	2	3	4	5	6	7	8	9	10	11	12
DO (mg/L)	2017	5.2	<0.1	<0.1	0.4	1.0	<0.1	3.0	7.0	-	5.7	-	7.6
	2018	5.5	1.6	<0.1	<0.1	0.8	1.0	1.4	5.7	6.3	6.5	7.0	7.2
	2019	5.7	<0.1	2.0	<0.1	1.5	1.7	2.9	6.5	6.8	6.2	6.4	6.7
	2020 upto Nov	6.0	0.3	0.2	0.3	0.4	1.5	2.8	5.6	5.7	5.8	6.3	6.2
BOD (mg/L)	2017	2.0	26.0	37.0	31.0	19.0	27.0	15.0	6.0	-	6.0	-	3.0
	2018	3.0	21.0	40.0	33.0	31.0	21.0	21.0	4.0	3.4	5.0	4.1	3.0
	2019	2.5	30.0	44.0	30.0	30.0	24.0	27.0	3.2	4.0	3.5	4.3	2.4
	2020 upto Nov	2.4	14	15	17	16	15	13	4.5	4.5	3.4	2.9	2.5
Total Coliform (MPN/ 100ml)	2017	41.0	6050.0	4230.0	514.0	6840.0	1445.0	1010.0	1040.0	-	954.0	-	642.0
	2018	83.0	400.0	710.0	1124.0	278.0	1128.0	190.0	100.0	48.0	134.0	90.0	108.0
	2019	32.0	808.0	751.0	737.0	803.0	949.0	779.0	66.0	77.0	52.0	69.0	28.0
	2020 upto Nov	26	1036	1090	1600	1002	782	648	123	81	38	27	175

	Station Name
1.	U/s of Musi at Gandipet (Osmansagar lake)
2.	Musi sample at Bapughat Sangam U/s of Musi
3.	River Musi at Moosarambagh bridge, Hyderabad
4.	River Musi at Nagole Bridge
5.	River Musi at Peerjadiguda
6.	D/s.of Musi at Pratapasingaram
7.	River Musi at Pillaipalli
8.	River Musi at Rudravelly bridge
9.	River Musi at Valigonda bridge, Nalgonda Dist.
10.	River Musi at Kasaniguda
11.	Bheemaram bridge, Nalgonda Dist.
12.	River Krishna at Wadapally

(2.3) Sources of River Musi Pollution

The main source of pollution of River Musi is the influx of untreated domestic sewage. Even treated industrial effluents from CETPs finally join River Musi. In addition to pollution, encroachments also has become a sensitive issue over the years.

Major sources of pollution and management:

a. Sewerage status and Treatment

HMWSSB engaged M/s Shah Technical Consultants to prepare Comprehensive Sewerage Master Plan in Hyderabad Urban Agglomeration (HUA) upto ORR. The projected sewage generation for the year 2021 is 1960 MLD out of which the existing treatment capacity available is 772.3 MLD. The gap of 1187.7 MLD of sewage flows through 185 drains and joins various water bodies which in turn joins river Musi and Nakkavagu.

Polluted River Stretch	Million Litres per Day (MLD)				Funding / implementing agency
	Sewage Generation	Existing STPs Capacity	Gap of sewage to be treated	Proposed STPs no & (MLD)	
Musi (P-I)	1960	772.3	1187	31 (1259.5)	Admn. sanction for 17 STPs with 376.5 MLD given under HAM

a. Details of Existing STPs:

The following existing STPs are being maintained by HMWSSB and are in operation. The O&M of the plants is entrusted to an agency for a period of 5 years.

S.No	Name of the STP	Capacity (MLD)
1	Amberpet	339.00
2	Nagole	172.00
3	Nallacheruvu	30.00
4	Attapur 1	51.00
5	Attapur 2	23.00
6	Pedda Cheruvu, Nacharam	10.00
7	Miralam Tank 1	10.00
8	Miralam Tank 2	5.00
9	Durgam Cheruvu, SLP	5.00
10	Patel Cheruvu, Nacharam	2.50
11	Saroor Nagar	2.50
12	Langer House	1.20
13	Noor Mohammad Kunta	4.00
14	Safilguda, Malkajgiri	0.60
15	Khajakunta, Metro, KKP	12.00
16	Khajaguda, Gachibowli	7.00
17	Nanakramguda, Gachibowli	4.50
18	JVR Park, Nagarjuna Circle	0.50
19	Lingam Kunta, BHEL	30.00
20	Gopanapally, SLP	4.50
21	Khairathabad	20
22	Patigadda	30
23	Ragadhamuni cheruvu	5
24	Kishnakanth park	0.5
25	Pragathi nagar	2.5
	Total	**772.30**

b. Status of treated sewage in STP

The inlet and outlet of STPs are monitored regularly by TSPCB for the parameters such as pH, Dissolved oxygen, Total Suspended Solids (TSS), Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD), total coliforms, and faecal coliforms. The quality of treated sewage of all the STPs are meeting the standards except on few occasions, BOD and COD values of treated sewage at Nagole STP and Attapur STP are marginally exceeding the standards.

c. Treatment & disposal of Industrial Effluent

No of Industries	in Million Litres per Day (MLD)			Remarks
	Effluent generation	Captive ETP Industries / MLD	Common ETP Industries / MLD	
520	9.65	194 Ind /5.65MLD	326 Ind -4.0 MLD	84 Industries have Zero Liquid Discharge (ZLD) 191 Ind. connected with OCEMS Treated Waste water from CETP is discharged into River MUSI through Amberpet STP

d. Common Effluent Treatment Plants (CETPs):

In order to treat effluents of various industries in watershed of Musi, four common effluent treatment facilities viz., MANA CETP, IDPL, JETL, PETL have been operating to cover different industrial clusters in the Hyderabad city. The details of the treatment facilities are given below. The CETPs have installed the OCEMS and are connected to the CPCB and TSPCB servers.

S. No.	Name of the Facility	Type of Treatment	Capacity	Member industries	Status
1	M/s.Jeedimetla Effluent Treatment Plant, Jeedimetla, Hyderabad.	LTDS- Chemical followed by biological treatment HTDS-MEE	LTDS-1500 KLD HTDS-200 KLD	300 Nos.	In operation Meeting the discharge standards.
2	M/s.Indian Drugs and Pharmaceuticals Ltd, Balanagar, Hyderabad.	Waste water of industries from Food Processing, Formulation Units, Oil Extraction Units etc. located in Hyderabad and Mahaboobnagar Districts and sewage generated from IDPL Hostel and township.	700 KLD	83 Nos.	In operation Meeting the discharge standards.

S. No.	Name of the Facility	Type of Treatment	Capacity	Member industries	Status
3	M/s.MANA Treatment Plant Ltd., / M/s Indwa Technologies Pvt. Ltd., Mallapuram (V), Uppal (M), Medchal District.	The CETP receiving the Low TDS industrial and domestic effluents from 48 member industries from IDA Mallapur, 37 member industries from IDA Nacharam and 48 member industries from other areas.	2000 KLD	137 Nos.	In operation Meeting the discharge standards.
4	M/s.Patancheru Effluent Treatment Plant, Patancheru, Hyderabad.	LTDS effluent is treated by Chemical methods followed by Membrane bio-reactor	LTDS-3000 KLD	135 Nos.	In operation Meeting the discharge standards.

The treated wastewaters from CETPs are further being treated along with domestic sewage in STPs. The treated sewage from STPs (Amberpet and Nalla Cheruvu) is being disposed into Musi River, after meeting the standards.

e. Waste Management Details

The waste management viz., solid waste, bio-medical waste, e-waste, plastic waste, hazardous waste for the watershed of Musi river stretch is given in the Table below.

S. No	Type Of Waste	Generated TPD	Collected TPD	Mode Of Disposal
1	Solid waste	6100	6100	The solid waste is being segregated at the household level into wet waste and dry waste. The wet waste is converted into compost. The solid waste generated is treated in the integrated solid waste processing facility at Jawaharnagar. Dry waste is segregated into recyclable waste and inert waste. The recyclable wastes are disposed to the authorised recyclers.
2	Bio Medical Waste (B(iii))	10.128	10.128	Common biomedical waste treatment facility: The incinerator ash from CBMWTF is disposed to TSDF, Dundigal (Land fill facility). Autoclaved sharps are stored in impermeable sharp pits. Autoclaved and shredded plastic material is sold to authorised

S. No	Type Of Waste	Generated TPD	Collected TPD	Mode Of Disposal
				recyclers. ETP sludge is stored in lined pits and disposed to TSDF, Dundigal (Land fill facility).
3	E-Waste (B(i))	18.980	18.980	The e-waste generated from households being segregated by the local bodies and being disposed to the authorised e-waste dismantlers / recyclers.
4	Plastic waste	-	-	The plastic waste from households is being segregated by the urban local authority and disposed to authorised recyclers / cement plants for co-processing.
5	Hazardous waste (B(ii))	312.0	312.0	The hazardous waste generated by the industries are segregated into landfilable waste and incinerable waste based on the calorific value of the waste. The landfillable waste is being disposed to TSDF, Dundigal, Hyderabad and incinerable waste is disposed to common incinerator at TSDF / authorised alternative fuel resource facilities / cement plants for incineration / co-processing.
6.	Construction & Demolition Waste	1000	11,58,000 tons collected & stored since April, 2018	The C&D waste is processed in the recycling facility located at Jeedimetla with a capacity of 500TPD. Another facility at Fathalluguda of capacity 500TPD is under construction.

f. Flood plain zone

Hyderabad is divided into 16 storm water zones by Greater Hyderabad Municipal Corporation (GHMC). Among the storm water zones, Kukatpally, Alwal and Begumpet zones are major flood prone areas. Hyderabad city has witnessed major floods in the year 2000 and 2008 with annual rainfall of 800mm. The latest floods of August to October of 2020 was 460 mm and the floods actually washed off the pollutants and garbage from the Musi River which has since been collected, segregated and used for the embankment within the river bed. The highest contour along the River stretch is 660 m. As per the data received from Irrigation Department, there is no flood plain zone for River Musi. The state government is in the process of demarcating the flood plain zone.

(iv). Action Plan for the restoration of River Musi

River Rejuvenation Committee is constituted under the chairmanship of the Chief Secretary, GoT as per the directions of the Hon'ble NGT in OA No. 673/2018. The action plan has been approved by the CPCB and submitted to the Hon'ble NGT. A copy of the Action Plan for rejuvenation of River Musi is annexed as **Annexure-I.**

3. Meetings of the Monitoring Committee & Field Visits with State Level Officers of State of Telangana regarding restoration of River Musi:

i. Details of meetings held by the Monitoring Committee

The Committee held its first meeting within one month of issuance of the Hon'ble NGT orders on 20th October, 2020. During the first meeting the committee deliberated on the present status, key issues and the way forward. The committee decided to call all the stake holder department representatives for the subsequent meetings for understanding the progress and the tentative actions along with the timelines. The minutes of the First Meeting are placed at **Annexure-II.**

The Second Meeting was held on 16-11-2020. The MD, HMWS&SB made a detailed presentation on the Sewage generation, present sewage management, interim measures taken up and the tentative action plans. The committee noted that the 100% sewage treatment cannot be executed within the timelines given by the Hon'ble NGT. The committee suggested to expedite and to submit the status of other activities with regards to the encroachments, biodiversity, etc. It was suggested to TSPCB for holding a meeting with the concerned for tapping the CSR funds for sewage management. The minutes of the Meeting is placed as **Annexure-III.**

The Third meeting was held on 29-11-2020. The details of the CSR meeting held by TSPCB was detailed and the minutes of the meeting were shared with the committee (**Annexure-IV**). The CE, MRDCL made a detailed presentation on the activities taken up in the 55Kms length of River Musi in their jurisdiction. The cadastral maps were provided. The minutes of the Meeting is placed as **Annexure-V.** It was decided for a field visit of the committee to understand the progress of the works. Please find enclosed herewith the River Musi plan showing the sample collection points for analysing the quantum of pollution in different stretches. The map is placed as **Annexure-VI**. The field visit referred below identifies various collection points within the river stretch

Field Visits:

i. The Monitoring Committee has visited the Musi River from Nagole (point no.4 of the map) to Babughat (point no.2 of the map) to ascertain the various measures taken up by the Musi River Development Corporation Limited on 12.01.2021.

ii. During the inspection, committee noticed that maximum flood level occurred in the month of August to October, 2020 was marked along the river stretch. The green walkways and cycling pathways are more than 10 mtrs away from maximum flood levels. The river front activities taken up by MRDCL does not appear to affect the width of the river bed in any manner and no external soil dump is used for the purpose of the river front activities.

iii. At Nagole(point no.4 of the map), the committee observed that desilting work was taken up to ensure free flow of water in the River. The desilted material is being used for embankment. Green walkways and Cycling Paths which are being laid by using paver blocks are removable.

iv. The committee found that the Nagole stretch (Point No. 4 of the map) has much cleaner and clearer water flowing through the river.

v. These bio restoration systems root zone treatments & reed- bed management systems help in purifying the polluted water by breaking down the pollutants and preventing soil erosion.

vi. The Committee has visited the places where MRDCL has taken up works such as Nagole Bridge(Point No. 4 of the map), Moosarambagh(Point No. 3 of the map), Chaderghat, MGBS to High Court and witnessed the progress of works taken up after the October flood devastation.

The Photograph of the visit of the Monitoring Committee

4. Observations of the Committee :

i) Mitigation Measures on ground :

a) Sewage Treatment Plants

A total of 25 STPs with a capacity of 772.3 MLD is available and the utilization capacity is greater than 90%. HMWS&SB has awarded O&M contract to a single agency for a period of 5 years to all the STPs located within the GHMC area to ensure effective functioning and optimum utilization. The details of the STPs along with the capacities are as follows :

S.No	Location of the STP	Capacity (MLD)
1	Amberpet	339.00
2	Nagole	172.00
3	Nallacheruvu	30.00
4	Attapur 1	51.00
5	Attapur 2	23.00
6	Pedda Cheruvu, Nacharam	10.00
7	Miralam Tank 1	10.00
8	Miralam Tank 2	5.00
9	Durgam Cheruvu, SLP	5.00
10	Patel Cheruvu, Nacharam	2.50
11	Saroor Nagar	2.50
12	Langer House	1.20
13	Noor Mohammad Kunta	4.00
14	Safilguda, Malkajgiri	0.60
15	Khajakunta, Metro, KKP	12.00
16	Khajaguda, Gachibowli	7.00
17	Nanakramguda, Gachibowli	4.50
18	JVR Park, Nagarjuna Circle	0.50
19	Lingam Kunta, BHEL	30.00
20	Gopanapally, SLP	4.50
21	Khairathabad	20
22	Patigadda	30
23	Ragadhamuni cheruvu	5
24	Kishnakanth park	0.5
25	Pragathi nagar	2.5
	Total	**772.30**

TSPCB is monitoring all the 25 STPs on monthly basis. The quality of treated sewage of all the STPs are meeting the standards except on few occasions, BOD and COD values of treated sewage at Nagole STP and Attapur STP are marginally exceeding the standards.

Co-treatment of Septage at existing STPs for the Peripheral / ORR areas:

HMWSSB has taken up co-treatment of septage from the Septic Tanks of individual and community septic tanks at the existing STPs by setting up co-treatment facilities in the year 2018 itself at the following STPs locations of

i. Amberpet,
ii. Nallacheruvu,
iii. Peddacheruvu,
iv. Miralam
v. Khajaguda
vi. Nanakramguda

So far 6 Co-treatment plants are established and functioning. About 26 million liters of septage has been treated so far at these co-treatment plants, thereby preventing the pollution of lakes to that extent. So far, 87 Septic Tank cleaning vehicles with operators are enlisted and the septic tank workers are provided training for co-treatment and also safety measures. They are provided with safety equipment for desludging of septage.

C) Industrial Waste Water Management:

No of Industries	in Million Litres per Day (MLD)			Remarks
	Effluent generation	Captive ETP Industries / MLD	Common ETP Industries / MLD	
520	9.65	194 Ind /5.65MLD	326 Ind -4.0 MLD	84 Industries have Zero Liquid Discharge (ZLD) 191 Ind. connected with OCEMS Treated Waste water from CETP is discharged into River MUSI through Amberpet STP

The committee noted that there is adequate capacity for the treatment of the Industrial effluents and the monitoring facilities.

D) Solid Waste Management

Tons Per Day (TPD)				Hazardous Waste- Tons Per Annum**	Existing facility capacity
Municipal Solid Waste	**Existing processing facility capacity***	**Bio-Medical Waste**	**Existing facility capacity**		
6100	6500	10.1	5 facilities-1.2T/Hr	1,20,000	TSDF, Co-processing, recycling

E) River front activities:

- The Government created Musi River Front Development Corporation Limited to act as a Nodal Agency (copy of the GO is placed at **Annexure-VII**) for preparation and execution of Comprehensive plan for abatement of Pollution of Musi River and River Front Development. After the field visit by the committee and after seeing the work done so far by the MRDCL, the committee is of the view that the said corporation is required to be co-opted as the member of the committee.

- Demarcation of River boundary of 55KMs length on either side(50mtrs) of Musi from Gandipet to ORR-East (Gowrelli) and Himayathsagar to Bapughat.

- Cleaning and clearance of Juliflora, Shrubs etc. and removal of silt for free flow of River without stagnation and 3 Nos. Mosquito killing machines are erected to bring down the mosquito menace. Also 10 Nos Fogging Machines are procured and fogging operations are being taken up daily along the banks of Musi River.

- To prevent further dumping of C&D waste material on either side of Musi Bund, the MRDCL has installed Surveillance Cameras and also engaged 50 security guards to keep watch and ward (patrolling 24/7) to avoid further encroachments of Musi River.

- MRDCL is being engaged 2 nos. of long boom excavators, 2 nos. excavators and 1 phantoon excavator for cleaning of River Musi on continuous process throughout the year as a part of Cleaning & Clearing of Musi River.

- 40 Spraying machines are procured for spraying pyrolysis for prevention of mosquito menace all along the Musi Course is being taken up today.

ii) Actions under progress

a) Sewage Treatment Plants

i) The STPs are being established monitored and maintained by HMWSSB and their MD also participated in the second meeting of the monitoring committee. The committee feels that HMWSSB also be co-opted as a member of the committee.

ii) The Government has accorded administrative sanction for one package for construction of 17 STPs with a capacity of 376.5 MLD vide GO Rt.No.374, MA&UD, dt: 11.09.2020 under HAM mode of contract to be implemented in the Hussain Sagar Lake - Kukatpally Nala Catchment area. The online e-Tenders were invited vide EP No.06/CGM(E)/PCC-II/ STPs Hussain Sagar lake, Kukatpally Nala Catchment/2020-21, dt: 23.09.2020 with due date on 5.12.2020. Further as per bid conditions, a pre-bid meeting was convened on 24.11.2020 which was attended by 17 Nos of prospective bidders. During the pre-bid meeting various clarifications sought by the bidders were clarified orally and in writing. Further as per the request of the bidders, the last date for submission of bids was extended upto 16.12.2020. It is to submit that as per schedule, the online Technical Bid under e-Procurement platform is opened on 16.12.2020 and found that no bids were received for the above tender. The bids are re-called. The proposed 17 STPs are as follows :

Sl.No.	Location of the proposed STP	Capacity (in MLD)
1	Ambar Cheruvu, Pragathi Nagar	37.00
2	Chinna Maisamma Cheruvu	14.50
3	Nalla Cheruvu, Kukatpally	15.00
4	Khajakunta	22.00
5	Yellammakunta Lake, Jaya Nagar	13.50
6	Fathe Nagar	100.00
7	Vennelagadda	5.00
8	Gayatri Nagar, Chintal	5.00
9	Fox Sagar Lake	14.00
10	Shivalaya Nagar Cheruvu	14.00
11	Pariki Cheruvu, Kandri Gutta	28.00
12	Miyapur Patel Cheruvu	7.00
13	Gangaram Cheruvu	20.00
14	Mullakathuva Cheruvu	33.50
15	Kamuni Cheruvu	20.00
16	Durgam Cheruvu	7.00
17	Khajaguda	21.00
	Total	**376.5**

b) In-situ Treatment:

For the present gap of 1174 MLD of sewage flowing through 185 drains to water bodies was identified. HMWS&SB has issued work order to M/s.NEERI, Hyderabad for preparation of DPR for in-situ remediation of drain leading to river Musi. HMWSSB has submitted a proposal of Rs.528.30 Crores for taking up in-situ remediation of 1174 MLD sewage at Rs.45 Lakh per MLD to Government. Waiting for financial approval. 27 drains are identified on River Musi. NEERI has submitted DPR for one drain i.e., Kokapet drain, for which phyto remediation work has already started. Preparation of DPR for the balance 4 drains is in progress by NEERI.

Rain guard / wet land construction on Kukatpally nala (treats approx. 150 MLD) which joins Hussainsagar lake pilot project is taken-up by HMDA. For a length of 300 RMT and the work is in progress.

C) Co-treatment of Septage at existing STPs for the Peripheral / ORR areas:

HMWSSB has taken up co-treatment of septage from the Septic Tanks of individual and community septic tanks at the existing STPs by setting up co-treatment facilities. So far 6 Co-treatment plants are established and functioning and 2 more are in progress which will be completed in 2 months. The details are as follows :

i. **Nagole**
ii. **Khajakunta**

D) Feacal Sludge Treatment Plants (FSTPs) at the newly proposed STP sites:

i) As newly proposed STPs are taking time to implement, HMWSSB has proposed 6 FSTPs as an interim measure to avoid pollution of lake bodies. As such HMWSSB has taken up construction of one FSTP of 40 KLD capacity at Navakunta, under CSR funding and executed by ASCI, Hyderabad which will be completed within 3 months. 5 more FSTPs will be taken up and will be completed in another 5 months. The septage in areas where there are no STPs will get treated to lake water standards. Out of 5 FSTP location sites, the proposal at Injapur & Nagaram for construction of FSTPs, are under tender stage.

ii) As recorded in the minutes of the meeting the committee has examined possibility of securing the CSR funds from the industries/corporate sector. The committee is of the view that CSR funds can be better utilized for

FSTPs in order to arrest the contamination of the River on account of Feacal sludge.

E) Installation of OCEMS at all existing STPs:

Online Continuous Effluent Monitoring System (OCEMS) equipments to monitor pH, TSS, BOD and COD at all 20 STPs under HMWSSB are proposed for installation. The agency is finalized and work will be grounded.

F) River front activities:

- Development of Green walk-ways and removal of debris along the Musi River Edges from Bapughat to Nagole at five locations covering **Nine bridges** for a total length of about 16 kms under Ecological Restoration of River Musi is taken up.

- Development of Green Walk Ways and Wet Land constructions along with the River Musi edges throughout the entire stretch under the Ecological Restoration of Musi River.

Status of various measures taken for the rejuvenation of River Musi is annexed as **Annexure - VIII**

iii) Actions yet to be initiated :

a) Sewage Treatment Plants :

As per the Comprehensive Sewerage Master Plan (CSMP) prepared by M/s.Shah Technical Consultants, Mumbai, the DPR for the following STPs project is formulated and submitted to the Government.

Sl.No.	Location of the proposed STP	Capacity (in MLD)
1.	New Alwal Lake	15.50
2.	R K Puram Lake, Mukkiddi cheruvu	5.50
3.	Banda Cheruvu	15.00
4.	Rama Cheruvu	30.00
5.	Kapra Lake	20.00
6.	Peddacheruvu	17.50
7.	Amberpet	212.50
8.	Nallacheruvu	86.50
9.	Miralam-I	11.50
10.	Miralam-II	30.00
11.	Kokapet	15.00
12.	Bapughat STP at Attapur	48.00
13.	Ibrahim Cheruvu	56.00
14.	Nagole	320.00
	Total	**883**

For the balance two STP project packages, DPRs and site for establishment of the STP is available, the administrative sanctions from the Government is under process i.e. one package with 8 Nos STPs of 402.50 MLD capacity and second package with 6

Nos with 480.50 MLD capacity i.e. for total capacity of 883 MLD with 14 STPs in 2 packages. The project implementation period is two years from the date of grounding of works.

vii. In-situ Treatment:

For the present gap of 1174 MLD of sewage flowing through 185 drains to water bodies was identified. HMWS&SB has issued work order to M/s.NEERI, Hyderabad for preparation of DPR for in-situ remediation of drain leading to river Musi. HMWSSB has submitted a proposal of Rs.528.30 Crores for taking up in-situ remediation of 1174 MLD sewage at Rs.45 Lakh per MLD to Government. Waiting for financial approval. 27 drains are identified on River Musi. NEERI has submitted DPR for one drain i.e., Kokapet drain, for which phyto remediation work has already started. Preparation of DPR for the balance 4 drains is in progress by NEERI.

Rain guard / wet land construction on Kukatpally nala (treats approx. 150 MLD) which joins Hussainsagar lake pilot project is taken-up by HMDA. For a length of 300 RMT and the work is in progress.

The total encroachment along the River Musi as reported by Revenue Dept. are 6218 structures spread over 3 Districts of Hyderabad, Rangareddy and Medchal – Malkajgiri for the length of 55 Kms. Immediate action may be taken for removal of recent encroachments.

During the Field visit by the Monitoring Committee, MRDCL provided the following details on encroachment which were removed.

Removal of Encroachments in the year 2018

Details of removal of Encroachments Removal in the year of 2018					
Sl. No.	**Name of the Mandal**	**Type of Encroachment**	**No. of Encroachment**	**No. of Encroachment**	**Classification**
1.	Golconda	Bapughat	Stopped construction of Religious Structure in river course (Sangam)	1 Religious Structure	Permanent
2.	Himayath Nagar	Putlibowli Road	Removal of Private property boards and erected Govt. Land board	2 Private Property boards	Permanent
3.	Charminar	MGBS (Near Darbar Maissamma Temple)	Removal of Temporary Huts	16 Huts	Temporary

4.	Amberpet & Charminar	Chaderghat Bridge	Removal of Commercial Car Shed	14 Commercial Car Sheds	Temporary

Removal of Encroachments in the year 2019

Details of removal of Encroachments Removal in the year of 2019					
Sl. No.	**Name of the Mandal**	**Type of Encroachment**	**No. of Encroachment**	**No. of Encroachment**	**Classification**
1.	Bhadurpura & Nampally	Under Muslimjung Bridge	Removal of Commercial Activity	3 vents & 10 huts cleared	Temporary
2.	Nampally	Under Salarjung Bridge	Removal of Commercial Activity	4 Sheds	Temporary
3.	Nampally	Under Salarjung Bridge	Removal of Commercial Activity	3 vents & 12 huts cleared	Temporary
4.	Nampally	Nayapool Bridge Opp Osmania Hospital	Removal of Commercial Activity	15 huts along with hospital wastage (debris) were removed & illegal parking of 1500 rickshaws were cleared and fenced with blue sheets	Temporary
5.	Nampally	MGBS Metro Station	Removal of C&D Waste	Removal of C&D waste by HMRL in co-ordination with MRDCL	Temporary
6.	Nampally	Infront of State Central Library	Removal of Sheds	97 Commercial Sheds removed & fenced the area (Ac 6.17 Gts)	Temporary

Removal of Encroachments in the year 2020

Details of removal of Encroachments Removal in the year of 2020					
S. No.	**Name of the Mandal**	**Type of Encroachment**	**No. of Encroachment**	**No. of Encroachment**	**Classification**
1.	Uppal	KTR Nagar	Removal of Religious Structure & Illegal construction in Buffer area	1 Chilla removed along with compound wall	Temporary
2.	Amberpet	Moosarambagh	Removal of Compound wall in river bed	Removal of illegal wall construction in river bed (Proposed for commercial)	Temporary

Total	1 religious structure and 2 commercial activities were removed.	

The Committee requests the Hon'ble NGT for appropriate directions in the following areas :

- The total sewage joining River Musi is 1960 MLD. Presently, 25 STPs with a capacity of 772.3 MLD are in operation. The gap is 1187 MLD and 31 STPs with capacity of 1259.50 MLD in 3 packages were proposed. DPRs for all the proposed STPs are prepared and administrative sanctions was accorded for 17 STPs with a capacity of 376.5MLD. Tenders have been called for 17 STPs under HAM model. The construction of the 17 STPs shall be taken up immediately and the process for the remaining STPs in Package No. 1 & 2 shall also be expedited. However, the installation of the STPs involve finances which have to be made available by the Government of Telangana. The setting up of the STPs as early as possible would fulfill the gap of the 1187 MLD which will cover the present short fall.

- The fecal sludge is collected from the septic tanks located from the areas without sewerage network. HMWS&SB has constructed 6 co-treatment facilities and another 2 are under process for treating the fecal sludge in the existing STPs. Additional 7 co-treatment facilities are being proposed. The same shall be completed within three months. HMWSSB need to speed up the establishment of the co-treatment facilities in the additional proposed 7 STPs.

- HMWSSB has proposed 6 FSTPs for treatment of fecal sludge from the septic tanks in the areas not having sewerage network. HMWSSB has taken up construction of one FSTP of 40 KLD capacity at Navakunta, under CSR funding and executed by ASCI, Hyderabad which will be completed within 3 months. 5 more FSTPs will be taken up and will be completed in another 5 months. The HMWS&SB has also proposed another 10 FSTPs of capacity 20 KLD each. CSR Funds may be explored for FSTPs and co-treatment facilities.

- The committee suggested to District Magistrates of Rangareddy, Medchal – Malkajgiri and Hyderabad, during the committee meetings that the encroachments may be classified as old encroachments and recent encroachments. They may be further classified as permanent structures and temporary structures. An expeditious action for removal of recent encroachments and temporary structures be initiated under the Telangana land encroachment act.

- Paving Blocks being used for Green walkways and Cycling Paths may be from the recycled materials recovered from C&D and Plastic waste.
- GHMC, Urban biodiversity informed that 527 parks are developed in GHMC area. The committee considers appropriate to co-opt GHMC, Urban Biodiversity Board and the Telangana State Forest Department for the purpose of ensuring development of Bio-diversity park along the Musi River.

Justice Vilas V.Afzulpurkar (Retd.,)
Chairman of the Monitoring Committee
on behalf of the Committee

Annexure-I

Action Plan for Rejuvenation of River Musi:

S.No.	Action Plan	Organization responsible for implementation of action plan
Industrial Pollution		
1.	Actions against the identified industries in operation without consents under air and water acts	TSPCB
2.	Action against Industries not installed ETPs or ETPs exist but not operating or ETP outlet or treated is not complying to the effluent discharge standards or norms	TSPCB
3.	Directions to all industries which are observed to be not in operation or closed or temporarily closed to remain close till further orders of TSPCB	TSPCB
Sewage Treatment Plan and Disposal Plan		
1.	District wise estimation of total sewage generation, existing treatment capacities, quantum of disposal of sewage presently through drains and the gaps in sewage treatment capacity	MA&UD, HMWSSB, PHED (Urban areas)
2.	To undertake the measurement of flow of all the drains presently contributing to pollution load in river and to formulate DPR for each drain and corresponding town and submission of DPR to TSPCB	State I&CAD, HMWSSB, GHMC, PHED (Urban areas)
3.	Proper design, execution of STPs	HMWSSB, GHMC, PHED (Urban Area)
4.	Channelization including diversion of sewage generated from villages/towns etc through I&D of all the drains presently carrying sewage and for ensuring proper treatment of the upcoming STPs	HMWSSB, GHMC, PHED (Urban Areas)
5.	Set up of new STPs at the desired locations and follow up of the same	HMWSSB, GHMC, PHED (Urban Areas)
6.	Treatment and disposal of septage and controlling open defecation	ULB / PHED
Groundwater Quality		
1.	Supply of potable water to the affected communities in the identified critical blocks	HMWSSB, GHMC, Rural Water Supply and Sanitation

S.No.	Action Plan	Organization responsible for implementation of action plan
		Department
2.	Carrying assessment of groundwater survey for quality and to identify over exploited zones and critical zones in the city	SGWB
3.	To ensure rain water harvesting by the Industrial, commercial and other Institutions and groundwater recharging with only clean water be encourages by TSPCB/State Groundwater Board	TSPCB / SGWB
4.	Periodical ground water quality assessment and remedial actions in case of contaminated GW / TW / BW / HP and assessment of the need for regulating use of ground water for irrigation purposes	TSPCB / SGWB / State I & CAD
Flood Plain Zone		
1.	Plantation in flood plain zone	State I & CAD, HMWSSB, GHMC, Rural Water Supply and Sanitation Department
2.	Checking encroachments in the flood plain zone	State I & CAD, GHMC, Revenue Department
3.	Prohibition of disposal of municipal, bio-medical in drains	TSPCB, GHMC
4.	Prohibition of disposal of Plastic, Hazardous and E-waste in drains	TSPCB / State I & CAD
5.	Notification of Flood Plain Zone	State I & CAD
Environmental Flow (E-flow)		
1.	Measurement of flow of all the drains meeting the river and maintenance of all records	CWC / State I & CAD
2.	Water and Irrigation practises and organization of awareness programmes for the farmers	State I & CAD, GHMC, Revenue Department

PERT Chart with timelines for Action Plan Implementation from 0th month after implementation of action plan

Action Plan	0-3	3-6	6-9	9-12	12-15	15-18	18-21	21-24	24-27	27-30	30-33	33-36
Preparation of DPR												
Identification of location for proposed STPs												
Tender finalisation and award of work												
Set up of STPs												
Water Quality sampling after set up of STPs												
Flow measurements of all the drains and calculation of E-flow												
Preparation of final report after the implementation of the action plan												

The above action plan and the time lines mentioned would be contingent on the availability of land for construction of STPs at the identified locations, the delays involved in the process of removal of encroachments, land acquisition procedures and litigation thereon. Allocation of finances to the various components of the action plan involves legislative and administrative actions and predicting their timeliness accurately may not be feasible.

Annexure- II

Minutes of the first meeting of the Monitoring Committee held on 20-10-2020 constituted as per orders of the Hon'ble National Green Tribunal in O.A.No.426 of 2018 dated 21-9-2020 under the Chairmanship of Hon'ble Mr.Justice Vilas V.Afzulpurkar, former Judge, High Court of Judicature at Hyderabad for the State of Telangana and the State of Andhra Pradesh.

Vide orders of the Hon'ble National Green Tribunal, the Monitoring Committee comprises of:

1. Hon'ble Mr.Justice Vilas V.Afzulpurkar – Chairman.
2. A representative of the Central Pollution Control Board – Member.
3. A representative of the State Pollution Control Board – Member
4. Collector and District Magistrate – Member.

The Telangana State Pollution Control Board nominated Mr.C.Y.Nagesh, Joint Chief Environmental Engineer as its nominee Member and the Central Pollution Control Board nominated Smt.Poornima B.M., Scientist 'D' as its nominee Member.

Dr.Vasam Venkateswarlu, IAS., Collector and District Magistrate, Medchal-Malkajgiri District, Ms.Sweta Mohanty, IAS., Collector and District Magistrate, Hyderabad District and Mr.D.Amoy Kumar, IAS., Collector and District Magistrate, Ranga Reddy District attended the first meeting of the Monitoring Committee apart from Mr.C.Y.Nagesh, Joint Chief Environmental Engineer, Telangana State Pollution Control Board. The nominee Member of the Central Pollution Control Board Smt.Poornima, B.M., sent an email in the fore-noon of 20-10-2020 informing the Chairman and Members of the Committee that she is stationed at Bangalore and unable to attend the meeting physically but will be willing to participate through Video Conference.

The Committee discussed various issues.

1. The JCEE, TSPCB has briefed the Committee about the details of OA No. 426 and Hon'ble NGT orders. Further, the committee was informed that CPCB identified 351 pollution stretches in the country and out of this, 8 stretches are from the Telangana State. River Musi is one of the polluted river stretch identified under priority-I. The Government submitted an Action Plan for rejuvenation of the PRS prepared by NEERI and approved by the River Rejuvenation Committee constituted under the Chairmanship of Chief Secretary, GOT. The Hon'ble NGT is reviewing the implementation of Action Plan of these polluted river stretches in OA No 673 of 2018.

2. The Chairman informed the committee members that the Hon'ble NGT orders are meant for restoration of the River Musi and hence committee members shall actively participate and relevant inputs along with the interventions that are to be taken are to be prioritized for implementation of the action plan. As per the Terms of Reference given in the order, an expert / institution may be co-opted and hence invited suggestions from the members.

3. The District Collector, Hyderabad suggested for including the representatives of stakeholder departments as the committee members. The Chairman emphasized that the committee is to oversee the implementation activities of the stakeholder departments and hence they may be asked to attend subsequent meetings to present the progress before the committee.

4. JCEE, TSPCB suggested involving the experts from the NEERI/ BITS /ASCI who have conducted studies and prepared reports on River Musi in the past. The committee opined that already two studies have been conducted and reports are on board and any further studies will delay the implementation and hence the committee should focus on the implementation of the action plan that is already approved. However, if required they may be invited for participation in the subsequent meetings with permission of the Chair.

5. The committee perused details of the existing STP, monitoring points of TSPCB and noted that at some of the stretches the pollution is in the class 'E' and hence the committee is of the opinion that necessary interventions in terms of constructing of the STPs shall be taken at those points on priority to reduce the BOD load.

6. The committee was informed that recently 17 STPs are approved by the Government and other proposals are under examination.

7. The Collector, Ranga Reddy district informed that Musi River development Corporation is established for beautification and cleaning of the River Musi and hence they also need to be invited for the subsequent meetings.

8. The Collector Hyderabad informed that the major activities that collectors can monitor are to redress the encroachments related issues in the Musi floodplain zone. The chairman of emphasized that while this may need to be addressed, the present focus should be towards the sewage treatment as per the Hon'ble NGT orders as sewage is the main contributor for the river pollution. For the present, the Committee should focus on establishing STPs. The issue with respect encroachment will be deliberated by the Committee in due course after the works relating to STPs are grounded for execution.

9. The Chairman on perusal of the timelines given by Hon'ble NGT as well as the time Lines committed by the Government opined that tangible progress has to be made on ground for Hon'ble NGT to consider the extension of timelines.

10. The committee was also briefed that a Central monitoring committee was constituted under the Chairmanship of the Secretary, Jalshakthi, GoI as per the Hon'ble NGT orders in OA No.673 of 2018. The Central Monitoring Committee is reviewing the progress of the Action Plan on monthly basis on the progress of implementation. Further, Government is also submitting the Monthly Progress Reports in which all the actions initiated by the respective stakeholder departments are consolidated and submitted to the Central Monitoring Committee, which in turn will consolidate the reports for onward submission to Hon'ble NGT.

11. The Chairman suggested to outline the roles and responsibilities of the CMC as well as that of the present committee for avoiding unnecessary duplication.

It was felt desirable to notify the Musi River Development Corporation and Metropolitan Water Works and Sewerage Board to compile Status Report as on 10th November, 2020 and circulate the same to the Monitoring Committee in advance so as to examine the same in the next meeting of the Monitoring Committee scheduled to be held on 16-11-2020 at 4.00 PM in the Conference Hall of the District Collectorate, Ranga Reddy District, Lakadikapul, Hyderabad. All the stake holder departments notified shall send their representatives to attend the meeting scheduled as above.

The Joint Chief Environmental Engineer, Telangana State Pollution Control Board shall send notices to all Members of the Monitoring Committee as well as the Musi River

Development Corporation and Hyderabad Metropolitan Water Works and Sewerage Board to depute their representatives. Along with the notices, a copy of these minutes may be communicated inviting attention of the Musi River Development Corporation and Hyderabad Metropolitan Water Works and Sewerage Board to the penultimate paragraph above for compliance.

Justice Vilas V.Afzulpurkar,
Chairman

Annexure-III.

MINUTES OF THE SECOND MEETING OF THE MONITORING COMMITTEE HELD ON 16-11-2020 IN THE MEETING HALL, COLLECTORATE, RANGA REDDY.

Present
Justice Vilas V.Afzulpurkar (Retd),
Chairman

The following members and officials were present during the meeting:

1.	Ms.Sweta Mohanty, I.A.S., Collector and District Magistrate, Hyderabad & Medchal-Malkajgiri Districts	Member
2.	Sri.D.Amoy Kumar, I.A.S., Collector and District Magistrate, Rangareddy District	Member
3.	Smt.B.M.Poornima, Scientist B & SEE, CPCB, RD, Chennai	Member
4.	Sri.C.Y.Nagesh, Joint Chief Environmental Engineer	Member Convener
5.	Sri.M.Dana Kishore, I.A.S., MD, HMWS&SB	Official
6.	Sri.M.Satyanarana, ED, HMWS&SB	Official
7.	Sri.J.Mohan Naik, Chief Engineer, MRDCL	Official
8.	Sri.R.Sathyalingam, OSD HMWS&SB.	Official

The Member Convener with the permission of the Chair welcomed all the members and officials to the second meeting. The Member Convener briefed about the details of NGT case with respect to OA No. 426 of 2018 and OA No.673 of 2018. Further, details on the present sewage generation, treatment capacity and the existing gap are elucidated to the members. TSPCB made a brief presentation on the different activities proposed by the Government in the Action Plan and their status to the Committee. The presentation also covered on the total waste water management (sewage and industrial), solid waste management (Hazardous Waste, Municipal Solid Waste & Biomedical Waste) in the River Musi catchment.

CLEANING OF RIVER MUSI:

The Chief Engineer, Musi Riverfront Development Corporation Limited (MRDCL) has detailed about the activities that are initiated by MRDCL. On perusal of the details the Chairman of the Monitoring Committee suggested the following:

- To circulate the map of the floodplain zone for the 55 km length to all the members immediately
- Details of the encroachments and the proposed actions along with the timelines
- To increase the number of excavators for cleaning of the River Musi and to make use of the opportunity which flushed the river with the recent heavy rains.
- To submit the details of the activities along with timelines that are proposed to be taken for rejuvenation of the river Musi.

The Chairman of the committee suggested that the development of the river Musi may be examined in lines with the River Sabarmati.

The discussions in the meeting thus pointed out that as the river Musi is not perennial, the absence of fresh water flow makes it difficult and technically unfeasible to achieve the bathing standard of the river water. It appears this aspect was already brought to the notice of the Hon'ble National Green Tribunal and till the Hon'ble National Green Tribunal takes an appropriate decision, the Chairman directed that we need to first address and reduce the sewage generation gap as best as possible which will clean up the river.

In the first meeting of the Committee, the Collector and District Magistrate, Hyderabad had drawn the attention of the Committee that the issues relating to encroachments into river Musi also needs to be addressed by the Committee. In the said first meeting, however, the Chairman was of the opinion that the issue of encroachments being time consuming, we should first concentrate on sewage treatment and river pollution. As per the discussion in the second meeting, since the pollution issue is more or less streamlined, the other issue of encroachments needs to be addressed now. Since the Chief Engineer, MRDCL was already requested to circulate the map of Flood Plain Zone for the 55 kilometer length and details of encroachments and proposed action along with the time lines, the Collector and District Magistrates of Hyderabad, Ranga Reddy and Medchal Districts are also requested to share any data on encroachments available with them. The Chairman also suggested to the Collector and District Magistrates that so far as removal of encroachments is concerned, they have powers under the Telangana Land Encroachment Act which is more expeditious. The actual road map relating to encroachments however, will be finalised after the Committee examines the map of Flood Plain Zone and details of encroachments as already directed above.

The Managing Director, Hyderabad Metropolitan Water Supply and Sewerage Board (HMWS&SB) made a detailed presentation on the sewage management including the existing and proposed sewer network and STP capacity including the demographic challenges. Also, the efforts of the Government in alternate treatment technologies using Fecal Sewage Treatment Plants and in-situ remediation efforts were detailed.

The MD, HMWSSB mentioned that the proposals were made into three packages and at present the package number three with 17 STPs (376.5MLD capacity) received administrative sanction from the Government and the other two packages are under consideration. It was informed that it will take at least two years for the completion of the STPs. The Chairman of the committee has enquired whether the proposed STPs are coming in the banks of the River Musi at the points where the River Stretch is under Class E as discussed during the first meeting.

The MD, HMWSSB informed that the package number three is focusing on the water bodies that are present within GHMC. At present sewage is being discharged into these water bodies and the over flow and ultimately joining the River Musi. These 17 STPs will help in reducing the pollution load in the River as treated water finally joins Musi.

The MD, HMWSSB informed the Committee that tenders under Package III having already been invited, the final decision regarding awarding of works will be shortly taken and the work would immediately commence on the site. The Chairman pointed out that the Hon'ble National Green Tribunal has given time lines up to 31st March, 2021 and it is apparent that construction of 17 STPs under package III would at best be started before 31st March, 2021, but the completion thereof must be within the time lines set by the Hon'ble National Green Tribunal. It would thus be necessary for the Government of Telangana to apprise the Hon'ble National Green Tribunal for revised time lines keeping in view the pace of the work.

EXPLORING CSR FUNDS:

In the presentation by TSPCB in the second meeting of the Committee it was shown that there are 520 industries along the Musi river stretch. Regarding the industrial waste water management, the Committee was informed that the present effluent generation is 9.65 MLD and the captive ETP of the industries treats 5.65 MLD and the common ETP treats 4 MLD. Thus the 84 industries have zero liquid discharge and 191 industries connected with OCEMS treated waste water from the common effluent treatment plant is discharging into river Musi through Amberpet STP. Consequently, therefore, the industries appear to be treating the waste water and effluent generation through the captive ETPs of the industries and common ETPs effectively. It appears that the pollution from the industries is arrested. The Chairman however pointed out that irrespective of the steps taken by the industries, the several corporate entities running these industries and other activities like I.T. Companies etc., can be requested to contribute through mandatory CSR Funds so as to augment the resources required for the purpose of making the river water pollution free. The MD HMWWSB suggested that many corporates are participating in CSR activities and that can be effectively tapped by approaching the bulk drug manufacturing associations and I.T companies for securing CSR funds. The MD HMWWSB also informed that the STPs being expensive requiring huge funds, the CSR funds may be used for SFTPs which would cost about Rs.1.8 crores. The Chairman requested the Joint Chief Environmental Engineer of TSPCB to invite them for a meeting and discuss with them the feasibility of securing CSR funds from the industries. The Committee therefore, authorises the Joint Chief Environmental Engineer, TSPCB to discuss with the corporates as mentioned above so as to explore the possibility of securing CSR Funds.

BIO DIVERSITY MEASURES:

The member from CPCB informed that the construction of the biodiversity parks and wetland is also under the purview of the committee. The MD, HMWSSB informed that Government of Telangana has taken up extensive development of urban forest blocks under the Haritha Haram and the details may be obtained from GHMC, and urban forestry wing of HMDA and Forest department as significant work is being carried out in the catchment area. The Member, CPCB has informed that the committee has to submit a report within 4 months i.e., before 21st January, 2020 to the Hon'ble NGT.

The Joint Chief Environmental Engineer, TSPCB shall notify the GHMC, HMDA and the department of Forests to submit the status reports for the work done by them on the bio diversity parks and wet lands as informed to the Committee. All the issues mentioned herein will be taken up for further discussion and follow up action in the next meeting of the Committee. The GHMC, HMDA and the State Forest Department be also notified to depute one responsible official along with the status report for the third meeting of the Committee as proposed on 29th December, 2020.

The Chairman has also received an individual representation by Registered Post from Mr.G.R.Karunakar of Plot No.56, Lakshmi Mega Township, Ragannaguda, Abdullapurmet, Ranga Reddy District. The said representation encloses several representations made earlier including a Public Interest Writ Petition said to have been filed by Mr.G.R.Karunakar before the Hon'ble High Court of Judicature at Hyderabd for the State of Telangana and the State of Andhra Pradesh, which is stated to be pending. The issues raised in the representations are already under consideration of the Hon'ble National Green Tribunal and this Committee and various steps are already being taken

up. Further, this Committee not being an adjudicatory Committee, no further action is called for on the said representation. Mr.G.R.Karunakar will accordingly be informed.

The third monitoring Committee meeting is scheduled on 29th December, 2020 from 4.00 PM onwards at the Collectorate, Ranga Reddy District, Lakadikapul, Hyderabad. All the stake holder departments referred to above and the Joint Chief Environmental Engineer, TSPCB shall submit report on his discussion with the representatives of the industries with regard to CSR funds as well as the progress made by GHMC, HMDA and the Telangana State Forest Department with regard to bio-diversity work. The status report as on 20th December, 2020 shall be filed by all concerned stakeholders and departments noted above.

Justice Vilas V.Afzulpurkar (Retd.,)
Chairman

Annexure-IV

Minutes of the meeting held on 09.12.2020 on contribution of CSR funds for restoration activities of River Musi as per the directions of the Hon'ble NGT in O.A. No. 426 of 2018.

The list of officials and participants attended the meeting are annexed.

The Member Secretary, TSPCB welcomed the representatives of Bulk Drug Manufacturing Association (BDMA), Jeedimetla Industrial Association and other corporate entities. The Member Secretary explained the significance of the meeting and informed that, the Hon'ble NGT in OA No 426 of 2018 constituted a Monitoring Committee with Justice Vilas V.Afzalpurkar, former Judge, AP and Telangana High Court as Chairman of the Committee and the officials of CPCB, State PCB and District Collectors as the members. The Hon'ble NGT directed the Committee to explore the possibility of contribution of CSR funds by any corporate entity, for adopting any particular part of the polluted river stretch of river Musi for remediation and restoration.

The Chairman of the Monitoring Committee during the second meeting held on 16.11.2020 asked TSPCB, to hold a meeting with a concerned as directed by the Hon'ble NGT to discuss and secure contribution through mandatory CSR funds, so as to take up remedial measures for restoration of River Musi.

The Member Secretary informed that the Government of Telangana has already taken-up initiation for the restoration of the river and submitted an action plan for providing STPs in the catchment area of River Musi and also to take up insitu -remediation in the drains as interim measure to treat the sewage.

The Member Secretary informed that the Government has already proposed to take up STPs which are costing higher compared to FSTPs and suggested that the corporate entities may atleast take up FSTPs on their own or collectively, otherwise, can contribute for being taken up by the concerned executive agency as it is a noble cause and would help in improving the environment and water quality of the river.

The representative of BDMA informed that, they are representing the Bulk Drug Manufacturing Industries. The issues discussed in the meeting will be informed to the member industries and would come back with the proposals. However, he requested that, as the matter pertains to the CSR funds, the Board may directly address to the individual major industries for taking up the works.

The representative of Tata consultancy services informed that as per the suggestions of the government they have already taken up some of the works under CSR activities and requested the Board to give the list of proposals, so that, they will forward to their management for consideration.

The representatives of BHEL and other corporate entities like Infosys who were also present in the meeting requested that the details of proposals along with financial implication may be shared so that the same can be placed before their managements.

During the meeting, it was also discussed that the CSR funds can be used for various activities related to Medical, Health, Environment etc. The present activities pertains to the restoration of water quality of the Musi river, the same will also be covered under CSR criteria.

The representative from M/s.HMWS&SB informed that they will furnish the details of various FSTPs and insitu remediation proposed along with financial proposals to the Board. The Member Secretary informed that after obtaining the details, the same will be shared with all the participants.

The Member Secretary requested all the participants to come forward positively to contribute generously towards the above works for restoring the water quality of the river as it is a collective responsibility in the interest of the society as it would benefit the city.

Meeting ended with vote of thanks.

MEMBER SECRETARY
TSPCB

Annexure-V

MINUTES OF THE THIRD MEETING OF THE MONITORING COMMITTEE HELD ON 29-12-2020 IN THE MEETING HALL, COLLECTORATE, RANGA REDDY.

Present
Justice Vilas V.Afzulpurkar (Retd),
Chairman

The following members and officials were present during the meeting:

1.	Ms. Sweta Mohanty, I.A.S., Collector and District Magistrate, Hyderabad & Medchal-Malkajgiri Districts	Member
2.	Ms. Prateek Jain, I.A.S., Addl.Collector (LB), Rangareddy District	Member
3.	Smt. B.M.Poornima, Scientist B & SEE, CPCB, RD, Chennai	Member
4.	Sri. C.Y.Nagesh, Joint Chief Environmental Engineer	Member Convener
6.	Sri. M.Satyanarana, ED, HMWS&SB	Official
7.	Sri. D.Sridhar Babu, Director, HMWS&SB	Official
8.	Sri. J.Mohan Naik, Chief Engineer, MRDCL	Official
9.	Sri. D. Nagi Reddy, Director, GHMC	Official
10.	Smt. Ch. Paramjyothi, SE, HMDA	Official

The Member Convener with the permission of the Chair welcomed all the members and officials to the Third meeting. The Member Convener briefed about the details of NGT case with respect to OA No. 426 of 2018 and OA No.673 of 2018.

The Member Convener informed that, as per the Minutes of the 2nd meeting, the Member Secretary, TSPCB has conducted a meeting with representatives of Bulk Drug Manufacturing Association (BDMA), Jeedimetla Industrial Association and other corporate entities on 09.12.2020 on contribution of CSR funds for restoration activities of River Musi. Accordingly, the minutes along with the proposals of HMWS&SB were circulated to the BDMA and other corporate entities for contribution towards CSR Funds. A reply from BDMA and other corporate entities is awaited. However, the meeting also discussed that the setting up FSTPs with the contributions likely to be made by corporates under CSR funding is more feasible as the cost of each STP is very high.

The Chief Engineer, Musi Riverfront Development Corporation Limited (MRDCL) has made a detailed presentation about the activities that are initiated by MRDCL.

He informed that, the MRDCL is looking after the development of River for a length of 55 km i.e., from ORR-(West) to ORR- (East) 49.9 kms, Osmansagar (Gandipet) to ORR (West) 4.6 kms and Himayatsagar to ORR (West) 0.5 kms.

A topographic survey of 55 km of River Musi corridor was carried out by drown technology. The survey includes the total details for a width of 1 km i.e., 500 mtrs on either side of river bed from the centre for the length of 55 km. it includes identification

of the river boundary, existing features through a video, auto-cad drawings, digital surface models, elevation, models and orthophotos etc. He informed that, 42 nallahs are flowing into the Musi River along the 55 km stretch.

The project main objectives includes ecological restoration / conservation, stream recovery, continuous public realm, transport link, enhance economy, resurrects, heritage & culture, define cadastral boundaries, mitigate flood and Musi River as a new identity.

The demarcation of boundaries and buffer zone of River Musi for the length of 55 km was carried out with the help of Revenue Survey officials. The above stretch of River Musi falls in 3 Districts & 14 Mandals.

He also made a presentation on the details of encroachments in 3 District for the length of 55 km.

He informed that, the Musi River Rejuvenation is proposed through various systems such as Development of Wet Land Eco Systems, Bio-Restoration Systems, Root Zone Treatment Systems and REED Bed Management Systems.

In Phase-I, cleaning & clearing of Musi River by removal of Juliflora, shrubs and removal of slit from Bapu Ghat to Nagole (20 Km) work was started and completed with two excavators.

In Phase-II, formation of walkway on Musi edges and repairs to the existing promenades were taken-up. Providing of landscape works on either side of the Musi River was also taken-up and the works are in progress.

He further informed that, MRDCL are invited tenders for supply, installation and maintenance of Floating Trash Barrier (FTB) including removal and disposal of collected trash from the Musi River to the designated dumping yard. They will install the FTBs within 15 days in the River where major nallahs are joining.

The Chairman, Monitoring Committee informed that, the encroachments shall be segregated into temporary and permanent. The encroachments may be 30 to 40 years old or there may be encroachments happened during the recent times. It was instructed that, action may be taken for removal of recent encroachments and the report on the action taken may be submitted.

The Executive Director, HMWS&SB informed that, E-Tenders were invited on 23.09.2020 with due date on 5.12.2020 for establishment of 17 STPs on HAM mode. Pre-bid meeting was convened on 24.11.2020 which was attended by 17 No.s of prospective bidders. On the request of the bidders, the last date for submission of bids was extended upto 16.12.2020. Online Technical Bid under e-Procurement platform is opened on 16.12.2020 and found that no bids were received for the above tender. The bids are being recalled with last date for submission of tenders as 31st Dec'2020.

He further informed that, Online Continuous Effluent Monitoring System (OCEMS) equipments to monitor pH, TSS, BOD and COD at all 20 STPs are proposed for installation. The agency is finalized and work will be grounded by 31.12.2020.

The Director, Urban Bio-Diversity, GHMC informed that, 527 Parks have been developed in the GHMC limits. The Chairman requested that the GHMC may furnish action taken so far to develop Bio-Diversity Parks and propose to do with specific reference to River Musi.

The SE, HMDA informed that 3 STPs are established and being operated by HMDA in the catchment area of Hussain Sagar and they propose to double the capacity for treating the sewage.

The Chairman, Monitoring Committee instructed that the GHMC & HMDA shall provide action taken report on the details of Bio-Diversity Parks and Wet Lands developed.

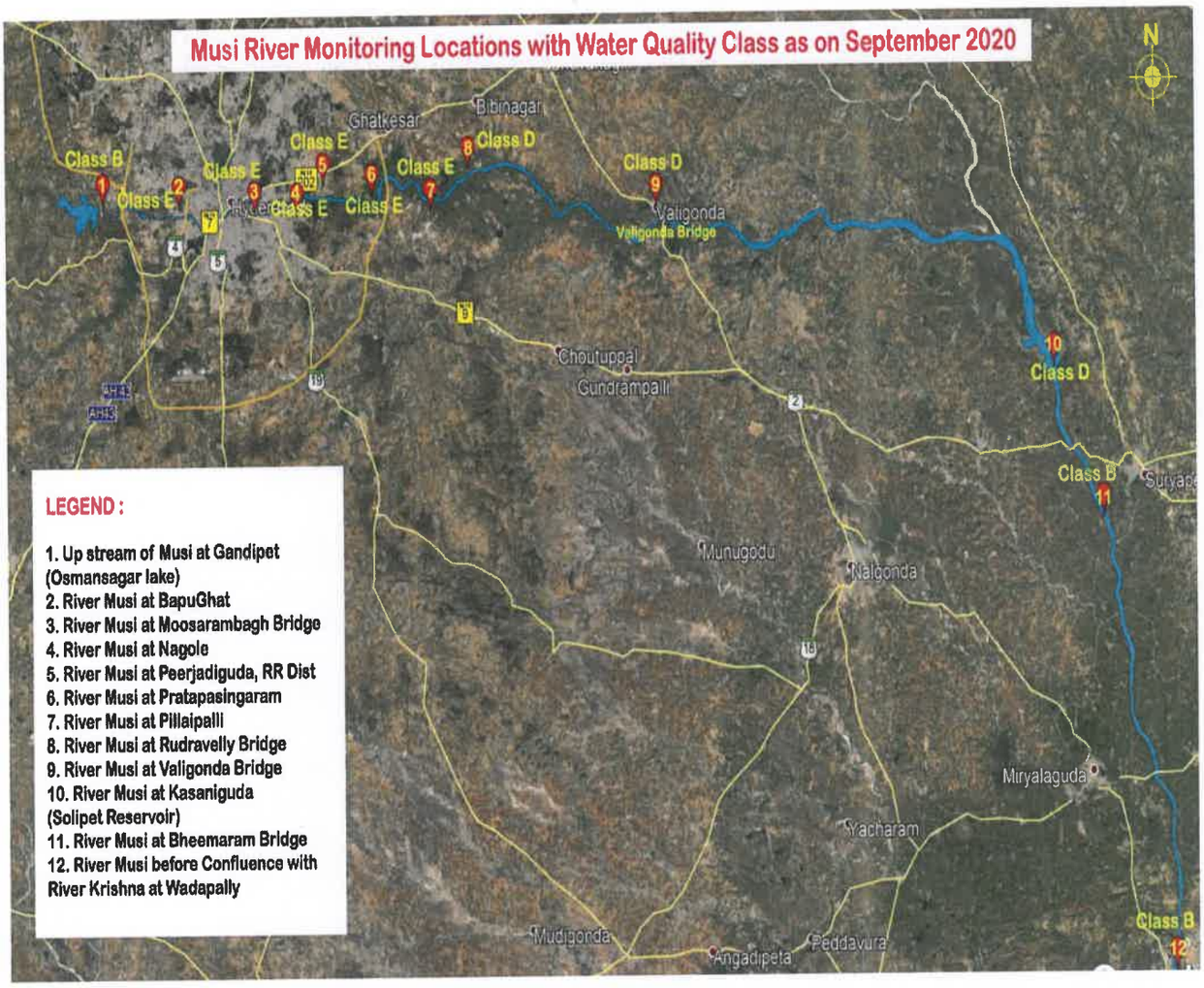
The Committee also proposed and discussed that it would be appropriate for the Committee to visit and personally inspect the developments made so far on and around river Musi. The personal inspection was therefore, proposed to be held on 8th January, 2021 at 11.30 AM. However, on account of recent communication of inconvenience to a Member/official, the personal inspection is likely to be preponed or postponed.

The Member Convener informed that, the 1st status report has to be filed before the Hon'ble NGT by the Monitoring Committee before 21.01.2021. The Chairman instructed that, the draft report shall be prepared by 1st week of January and a meeting with the members of the Committee may be convened on 11th January, 2021 at 11.30 AM for finalization of the report.

The Fourth Monitoring Committee meeting is scheduled on 1st February, 2021 at 4.00 PM onwards at the Collectorate, Ranga Reddy District, Lakadikapul, Hyderabad.

Justice Vilas V.Afzulpurkar (Retd)
Chairman

Annex-VI


Musi River Monitoring Locations with Water Quality Class as on September 2020
N
Class B
Class E
Class E
Class E
Class E
Class E
Class D
Class D
Class D
Class B
Ghatkesar
Bibinagar
Valigonda
Valigonda Bridge
Choutuppal
Gundrampalli
Munugodu
Nalgonda
Miryalaguda
Yacharam
Mudigonda
Angadipeta
Peddavura
Class B
LEGEND :
1. Up stream of Musi at Gandipet (Osmansagar lake)
2. River Musi at BapuGhat
3. River Musi at Moosarambagh Bridge
4. River Musi at Nagole
5. River Musi at Peerjadiguda, RR Dist
6. River Musi at Pratapasingaram
7. River Musi at Pillaipalli
8. River Musi at Rudravelly Bridge
9. River Musi at Valigonda Bridge
10. River Musi at Kasaniguda (Solipet Reservoir)
11. River Musi at Bheemaram Bridge
12. River Musi before Confluence with River Krishna at Wadapally

Annex-VII

GOVERNMENT OF TELANGANA
ABSTRACT

Municipal Administration and Urban Development Department – Creation of Special Purpose Vehicle (SPV) by name Musi Riverfront Development Corporation Limited for Abatement of pollution of River Musi and River Front Development – Orders – Issued.

MUNICIPAL ADMINISTRATION & URBAN DEVELOPMENT (I1) DEPARTMENT

G.O.Ms.No.90, Dated: 25.03.2017
Read:-

Note No. 408/M(MA&UD)/2016, dt: 28.12.2016 from Hon'ble Minister (MA & UD)

****

ORDER

To prevent the pollution in River Musi, Hyderabad Metropolitan Water Supply & Sewerage Board, has executed, completed and commissioned the project of 'Abatement of Pollution of River Musi' (Phase-I) under National River Conservation Plan (NRCP). This project was contemplated for the sewage flows from erstwhile MCH area only. But due to merging of adjoining Municipalities in to erstwhile MCH limits and also due to additional water supply by commissioning new source augmentation schemes, the additional sewage flows are being generated in the service area resulting in further sewage run off in to the Musi River. Therefore, to improve the hygienic conditions and environs all along the Musi River, Hyderabad Metropolitan Water Supply & Sewerage Board, has proposed to take up Phase-II of 'Abatement of Pollution of River Musi' Project with a project cost of Rs.923 crores and the project components include construction of Sewage Treatment Plants (STPs), laying of conveying mains upto STPs and construction of Interception & Diversions (I&Ds) for diversion of sewers into new conveying mains.

2. Further Hyderabad Metropolitan Development Authority has also proposed to take up the Modernization of Musi River under National River Conservation Plan and prepared detailed Project Report. The project components include river cleaning &bank stabilization, development of bicycle tracks, jogging tracks, city level civic amenities, knowledge park, eco-tourism, games and recreational facilities, water pools with rubber dams, road connectivity &construction of bridges, sewerage system for diversion of dry weather flows to a centralized Sewage Treatment Plant (STP) & reduction of water pollution.

3. After careful examination of the matter Government felt that there is a need to create a Special Purpose Vehicle (SPV) under Companies Act to prepare a comprehensive scheme and to execute the same involving various Departments / agencies for abatement of Pollution of Musi River and River Front Development. Accordingly, Government hereby constitute a SPV named as Musi Riverfront Development Corporation Limited (MRDCL) under Companies Act and nominate the following Senior Officers as initial Directors of the Musi Riverfront Development Corporation Limited.

1	Chief Secretary	...	Chairman
2	Principal Secretary/ Secretary, MA&UD Department	...	Managing Director
3	Principal Secretary /Secretary Finance Department	...	Director
4	Commissioner, Greater Hyderabad Municipal Corporation	...	Director
5	Managing Director, Hyderabad Metropolitan Water Supply & Sewerage Board	...	Director
6	Metropolitan Commissioner, Hyderabad Metropolitan Development Authority	...	Director
7	Additional Commissioner of Police, Traffic, Hyderabad	...	Director
8	Managing Director, Tourism Development Corporation	...	Director
9	Engineer-in-Chief, Irrigation & Command Area Development	...	Director

.....2

4. The Musi Riverfront Development Corporation Limited will act as a Nodal Agency for preparation and execution of comprehensive plan for abatement of pollution of Musi River and River Front Development and will monitor and coordinate the activities of various Departments / agencies like Hyderabad Metropolitan Water Supply & Sewerage Board, / Hyderabad Metropolitan Development Authority / Greater Hyderabad Municipal Corporation etc in this regard.

5. The Musi River front Development Corporation Limited is authorized to raise the loans to take up the projects for abatement of Pollution of Musi River and River Front Development and all the Government lands adjoining the Musi River will be transferred to the Musi Riverfront Development Corporation Limited for raising loans and for River Front Development.

6. The authorized share capital of the MRDCL shall be as decided by the Government with equity shares as may be decided by the Government from time to time.

7. Apart from transfer of Government lands adjoining the Musi River to MRDCL, the rights over water (waste or treated) which is coming to Musi are assigned to MRDCL. Further any impact fee or cess on property tax levied on properties adjacent to roads existing or proposed along the Musi River (within a distance of 200 mts from road or up to entire depth of the property, whichever is higher) or in the influence zone of the project as notified by the Government from time to time are assigned to the Musi Riverfront Development Corporation Limited to generate revenue to enable raising loans.

8. These orders are issued with the concurrence of Finance Department vide their U.O.No.9944/66/A2/EBS.VIII/2017, Dated: 23.2.2017.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF TELANGANA)

S.P. SINGH
CHIEF SECRETARY TO GOVERNMENT

To
The Finance Department (in name cover)
The Commissioner, Greater Hyderabad Municipal Corporation, Hyderabad.
The Managing Director,
Hyderabad Metropolitan Water Supply & Sewerage Board, Hyderabad.
The Metropolitan Commissioner,
Hyderabad Metropolitan Development Authority, Hyderabad.
The Additional Commissioner of Police, Traffic, Hyderabad.
The Engineer-in-Chief, Irrigation & Command Area Development.
The P.S. to Chief Secretary to Government.
The P.S. to Secretary to MA&UD Department ,
The P.S. to Principal Secretary to Chief Minister.
The OSD to Minister (MA & UD)
SC/SF.

//FORWARDED ::BY:: ORDER//

SECTION OFFICER

Annex-VIII

REJUVENATION – PHASE I

S. No	Name of the Work	Estimate Amount in Lakhs	Present Status
1	Cleaning and clearing of Musi River by removal of Juliflora, shrubs & removal of silt from river course from Bapughat u/s to Ziaguda Slaugther house (4.04 km)	50	Completed
2	Cleaning and clearing of Musi River by removal of Juliflora, shrubs & removal of silt from river course from Ziaguda Slaugther house to Muslimjung Bridge(3.9 kms)	47	Do
3	Cleaning and clearing of Musi River by removal of Juliflora, shrubs & removal of silt from river course from Muslimjung Bridge to Chaderghat cause way (3.58 Kms)	46	Do
4	Cleaning and clearing of Musi River by removal of Juliflora, shrubs & removal of silt from river course from Chaderghat cause way to Shalivahana Nagar Park (3.81 km)	46	Do
5	Cleaning and clearing of Musi River by removal of Juliflora, shrubs & removal of silt from river course from to Shalivahana Nagar Park to Nagole Bridged/s (4.35 kms)	50	Do
6	Engaging of 2 Nos Pontoon Mounted Excavators for cleaning of Musi River Course between Baoughat u/s to Puranpool and between Nayapool to nagole Bridge.	25	Do
7	Cleaning and clearing of Musi River by removing Juliflora, shrubs and debris along River course from Osmansagar to Bapughat and painting to bridges all along river course under flood restoration.	50	Do
8	Cleaning and clearing of Musi River by removing Juliflora, shrubs, carting of debris and painting to bridges along River course from Himayat sagar to Chaderghat under flood restoration.	50	Do
9	Cleaning and clearing of Juliflora, shrubs, and debris in Musi River course from Nagole Bridge to ORR East (15.650km) under flood restoration.	78	Do

Note:

1. Bapughat to Nagole(20 kms) work has been started from July'2020 and completed in November'2020 with 20 no's of Excavators.

2. Because of the above work taken up by the MRDCL we could able to mitigate the major loss to the city other wise major area would have been inundated.

Removing Juliflora, Shrubs and silt for free flow of River without stagnation

Musi Riverfront Development Corporation Ltd.

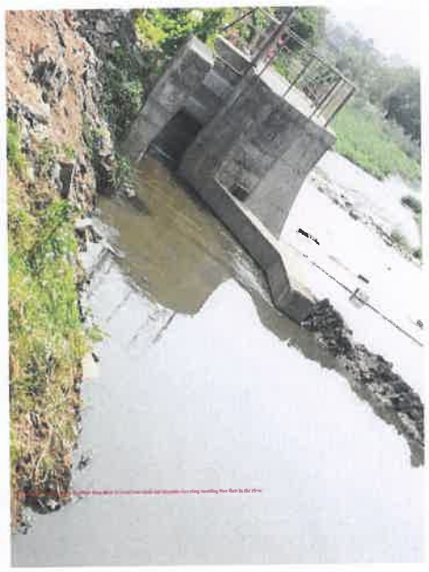
At Salarjung Museum

BEFORE

At Nagole Bridge

AFTER

Removing Shrubs and Debris for free flow of River



Note: 1. Clearing of Debris & Shrubs between Salarjung Bridge to Chaderghat bridge - due to the above work intensity of flooding during Oct'2020 floods was mitigated.

2. Opening of Scour gate of Rubber dam at High Court to reduce foul smell & Mosquito menace.

Removal of water Hyacinth at Ziaguda

Before

After

REJUVENATION – PHASE II

S. No	Name of the Work	Estimate Amount in Lakhs	Status of work	Timelines
1	Formation of Walk way on Musi Edges of Chaderghat Bridge under Ecological Restoration of River Musi, Hyderabad.	89.00	Work in progress	30.01.2021
2	Formation of Walk way on Musi Edges and Repairs to existing promenade from Muslim Jung to Salarjung Bridge under Ecological Restoration of Musi River Hyderabad.	115.00	Do	28.02.2021
3	Formation of walkway on Musi edges at Moosorambagh bridge under ecological restoration of River Musi, Hyderabad	44.50	Do	30.01.2021
4	Formation of walk way on Musi River Edges on either side between Nagole Bridge and KTR Colony under Ecological Restoration of Musi River, Hyderabad.	372.00	Do	28.02.2021
5	Providing of land scape works at Chaderghat bridge under ecological restoration of river Musi.	89.00	Do	30.01.2021
6	Providing Land Scape works on either side between nagole Bridge and KTR Colony under ecological restoration of River Musi Hyderabad.	264.00	Do	28.02.2021
7	Providing of landscape works at Moosoram bagh bridge under ecological restoration of river Musi.	48.50	Do	30.01.2021
8	Providing of landscape works at Muslimjung bridge under ecological restoration of river Musi (2nd call)	115.00	Do	28.02.2021

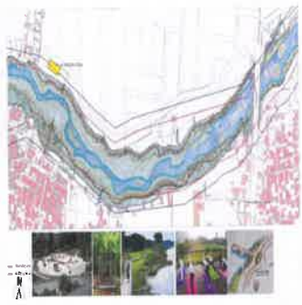
Note: Remaining 35 kms works are in progress and the same will be completed as indicated in the above table.

REJUVENATION

Ecological restoration on either side of Musi River at 5 Locations.

1. At Nagole – 4 kms
2. At Moosarambagh – 1km
3. At Chaderghat – 1.5 kms
4. Near High Court – 2.5 kms
5. Bapughat – 1 km

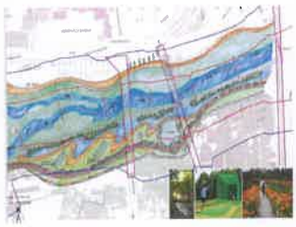
AT NAGOLE



Ecological restoration Design of Embankment edges on either side of Musi River at Moosarambagh Bridge Phase - II

Work in Progress

Ecological restoration Design of Embankment edges on either side of Musi River under the Chaderghat Bridge



Ecological restoration Design of Embankment edges on either side of Musi River under the Salarjung Bridge

REJUVENATION – PHASE III

S. No	Name of the Work	Estimate Amount in Lakhs	Status of work	Timelines
1	Cleaning and clearing of Musi River by removing Juliflora, shrubs and debris along River course from Osmansagar to Bapughat and painting to bridges all along river course under flood restoration.	50.00	Work in progress	28.02.2021
2	Cleaning and clearing of Musi River by removing Juliflora, shrubs, carting of debris and painting to bridges along River course from Himayat sagar to Chaderghat under flood restoration.	50.00	DO	28.02.2021
3	Cleaning and clearing of Juliflora, shrubs, and debris in Musi River course from Nagole Bridge to ORR East (15.650km) under flood restoration.	78.00	DO	28.02.2021
4	Engaging of 2 Nos of Brand-New Hydraulic Excavators for cleaning of Musi River on Hire basis for a period of One Year and extendable to further Two years	195.00	DO	28.02.2021

Ecological restoration Design of Embankment edges on either side of Musi River under the Nagole Bridge

Note: Work is in progress

ANNEXURE - IX

Abbreviations :

NGT – National Green Tribunal

TSPCB- Telangana State Pollution Control Board

MRDCL – Musi River Front Development Corporation limited

HMWS&SB-Hyderabad Metropolitan Water Supply & Sewerage Board

HMDA - Hyderabad Metropolitan Development Authority

GHMC- Greater Hyderabad Municipal Corporation

I&CAD – Irrigation & Command Area Development

RRC- River Rejuvenation Committee

BOD- Biological Oxygen Demand

DO - Dissolved Oxygen

OCEMS – Online Continuous Effluent Monitoring System

HUA – Hyderabad Urban Agglomeration.

HAM – Hybrid Annuity Mode

FSTP – Feacal Sludge Treatment Plant.

ANNEXURE-X

Corrected on 08.10.2020

Item No. 05 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Original Application No. 426/2018

(With report dated 15.09.2020)

Mohammed Nayeem Pasha & Anr. Applicant(s)

Versus

The State of Telangana & Ors. Respondent(s)

Date of hearing: 21.09.2020

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE S. P. WANGDI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Respondent(s): Mr. Raj Kumar, Advocate for CPCB
Mr. P. Venkat Reddy, Advocate for State of Telangana
Mr. Dhananjay Baijal, Advocate for TSPCB

ORDER

1. The issue raised in this application relates to remedial action against pollution of river *Musi* at Hyderabad (Telangana) which is contaminated due to industrial and domestic sewage discharged into the river or into the drains connected thereto. The industries in the catchment areas are bulk drug and pharmaceutical units. Further allegation is that the flood plain zones are encroached and there is also dumping of Construction and Demolition Waste ("C&D Waste") and solid waste. Water quality is not even fit for irrigation as per water quality

criteria of Central Pollution Control Board ("CPCB"), as per reports of samples of water.

2. The proceedings were initiated by way of *O.A. No. 426/2018* filed on 05.07.2018. Notice was issued on 06.07.2018. The Tribunal noted that as per water quality assessment report of the State Pollution Control Board ("SPCB") during 2014-18, water was not fit even for irrigation (Class-E). The matter was then considered on 05.04.2019 in the light of pleadings on record. The Tribunal noted the stand of the Municipal Administration/Urban Development Department of the State that steps taken included construction of Sewage Treatment Plants ("STPs") and laying of sewer lines but the existing capacity of the STPs was inadequate. There was plan to set up more STPs. Detailed Project Reports ("DPRs") were being prepared for the purpose which will control of pollution of 23 lakes in the area. The Telangana High Court has also dealt with the matter. The observations of this Tribunal are:

> *"With regard to sewage treatment and disposal which is the main cause of pollution of river Musi it is to be noted that total sewerage generated is about 1400 mld which is being discharged in the catchment area of Musi river from either of the banks through Nalas. Already 592 mld capacity sewerage treatment plant have been built along the river Musi.* ***DPRs are also prepared at a cost of Rs. 1200 crores for creation of additional STPs at 10 locations, to treat total sewage so as to prevent pollution into river Musi. Since there is no regular sever network system, the board is said to have undertaken a survey with a technical expertise and prepared the DPRs for sewerage system of the peripheral areas.***
>
> *According to MAUD, HMWSSB has appointed Shah Technical consultant to prepare a detailed Project Report (DPR) for the master sewage plan, duly reviewing the available DPRs for integration covering the entire GHMC area up to ORR plus 4 IT hubs. The consultants are preparing DPRs for 27 STPs at 23 lakes in the GHMC area for the combined capacity of 450 mld under Phase-I, along the Musi river and further upgradation of the existing STPs will be taken up in Phase-III. The Phase-I STPs are planned to be taken up in 4 month's time, depending upon the funds availability and Phase-II in one year time. The up- gradation of STPs from the secondary level to the tertiary level 3 in one year time including the policy on recycling of water for the usage for the purpose of non-*

drinking, construction activity, gardening, industrial etc. ***Due to financial constraint, the possibility of private investments through the transaction advisor under PPP mode is being explored.*** *The HMWSSB is planning to implement the comprehensive sewage master plan within one and half year time.*

In view of the aforesaid facts and circumstances, we order that as has been made clear in the order dated 19.12.2018 passed in OA no. 673/2018 BOD will not be the sole criteria to determine whether a particular river stretch is a polluted one. Other parameters including Faecal Coliform (FC) bacteria will also be the criteria for classifying a stretch as polluted or otherwise. CPCB may devise within two weeks a mechanism for classification wherein two criteria pollutants that is BOD and FC shall henceforth be the basis of classification in priority classes.

Therefore, we direct CPCB and Telangana Pollution Control Board to carry out a quick hygienic survey of the River by engaging Professor Suman Kapur, Dean, International Programmes and Collaborations and Senior Professor, Department of Biological Sciences, BITS- Pilani, Hyderabad Campus, Jawahar Nagar, Shameer Pet, Hyderabad-500078, skapur@hyderabad.bits-pilani.ac.in and submit a report for river Musi and any other clean river in the state falling in the category of 'A' and or 'B.' For this survey we request Professor Suman Kapoor to execute the survey at a cost 9.5 lakhs which will be paid by CPCB out of its environment compensation fund. The scientist of CPCP and TSPCB will be associated during the survey and field testing of pathogenic bacteria."

3. The matter was thereafter considered vide order dated 06.12.2019 in the light of report of the CPCB dated 28.06.2019 noticing the violation of environmental norms and suggesting remedial action. The Tribunal also referred to the report filed by the CPCB with regard to 351 polluted river stretches which include River *Musi* at Hyderabad and it was observed:

"6. ***The report of CPCB dated 28.6.2019 clearly indicates that only 49% of the sewage generated in the city is treated and remaining 51% of untreated sewage is discharged directly into the River Musi. The STPs are not granted with the Consents under the Water Act and the 5 STPs are found to be not complying with the discharged norms out of 20 operational STPs. The STPs need up-gradation as applicable to meet with the standards with reference to faecal coliform and the treated water will have to be utilized for the non-portable use.***

The report of CPCB dated 18.11.2019 describes about the Quick Hygienic Survey carried out by engaging Birla Institute of Technology and Science (BITS). The purpose of the survey was to design quick method of detection of pathogenic bacteria as the existing methods are time consuming and also involves, long transportation distances in many cases. The method developed by BITS which has been witnessed by Scientists of CPCB and Telangana SPCB, may now further workout appropriate mechanism to adopt the Method and widely practice to carry out such survey of Indian Rivers following the standardized protocol and its procedures which may remain inconsonance and matchable with the Internationally adopted Standard Methods.

7. *We have heard the matter along with O.A. No. 673/2018. While general directions to the extent relevant for the above case will govern the present matter as river Musi is one of the 351 polluted river stretches and for this purpose this matter need not be heard along with O.A. No. 673/2018 henceforth, the individual issue relating to Musi River raised in this application is being dealt with by this separate order without prejudice to the general order in O.A. No. 673/2018. Relevant part of the directions in the said case is as follows:*

"47. We now sum up our directions as follows:

i. 100% treatment of sewage may be ensured as directed by this Tribunal vide order dated 28.08.2019 in O.A. No. 593/2017 by 31.03.2020 atleast to the extent of in-situ remediation and before the said date, commencement of setting up of STPs and the work of connecting all the drains and other sources of generation of sewage to the STPs must be ensured. If this is not done, the local bodies and the concerned departments of the States/UTs will be liable to pay compensation as already directed vide order dated 22.08.2019 in the case of river Ganga i.e. Rs. 5 lakhs per month per drain, for default in in-situ remediation and Rs. 5 lakhs per STP for default in commencement of setting up of the STP.

ii. Timeline for completing all steps of action plans including completion of setting up STPs and their commissioning till 31.03.2021 in terms of order dated 08.04.2019 in the present case will remain as already directed. In default, compensation will be liable to be paid at the scale laid down in the order of this Tribunal dated 22.08.2019 in the case of river Ganga i.e. Rs. 10 lakhs per month per STP."

8. ***In view of status report of CPCB dated 28.06.2019, let necessary remedial steps be taken by the Urban Development Department, Telangana, Municipal Corporation, Hyderabad and the TSPCB. The nodal agency***

will be TSPCB for the purpose. The CPCB may itself validate the Right Biotic system for Quick Hygienic Survey of rivers by seeking opinion of experts on the subject rather than referring it to the Department of Science and Technology, Government of India for its adoption in the country.

9. Further reports may be filed by CPCB and TSPCB in above terms before the next date by e-mail at judicial-ngt@gov.in."

4. The matter was thereafter considered on 29.06.2020 in the light of the report of the CPCB dated 19.06.2020 and it was found that the steps taken were not adequate and is only at proposal stage. The Tribunal observed:-

> "5. It is clear from the above that no concrete step has been taken on the ground to stop pollution and all steps are merely proposed action which means that violation of law continues, without any preventive or punitive action as per law. Mere proposal without resulting in stoppage of pollution or punishing the polluters is failure of law, calling for accountability of the authorities either on account of lack of concern for public duty to enforce right to clean environment and access to water and health or collusion. Excuse of Covid is lame excuse as pollution is continuing since long as noticed in earlier orders. The situation remains where it was. It is also not shown that prosecution has been initiated as per directions of the Hon'ble Supreme Court in (2017) 5 SCC 326 which fixed deadline of 31.3.2017, nor compensation recovered for continued pollution. This may call for action against the State and the regulators unless they discharge their duties as per law.
>
> 6. Let remedial action be taken in the light of further orders of this Tribunal today in *O.A. No. 673/2018* and a compliance report filed on or before 15.09.2020 by e-mail at judicial-ngt@gov.in (preferably in the form of searchable/OCR PDF and not image PDF). A copy of the report may be placed on the website of the CPCB for comments, if any, by the affected parties within two weeks thereafter."

5. Accordingly, the State PCB has filed its report dated 15.09.2020 *inter-alia* stating as follows:-

> ***"I. Compliance status on the suggestions made by CPCB in its status report dated 28.06.2019 filed before Hon'ble NGT:***

The point wise actions initiated on the suggestions of CPCB furnished by the HMWS&SB and HMDA are submitted as follows: -

1. ***HMWSSB & HMDA shall enhance the existing treatment capacity to treat the 100% of sewage generated in the city.***

HMWS&SB informed as follows: -

- *HMWSSB has engaged M/s Shah Technical Consultants, Mumbai for preparation of Comprehensive Sewerage Master Plan. As per the Master Plan submitted by the consultants the total sewage generated upto ORR for the year 2018 is about 1782 MLD and projected sewage generation for the prospective year 2036 is 2815 MLD. The present installed treatment capacity of existing STPs is 772 MLD. As per CSMP, it is proposed 62 Nos of STPs with a capacity of 2057 MLD for 2036 requirement.*

- *Out of 62 STPs of CSMP, the prioritized 31 STPs proposals are formulated into three packages under HAM Model and submitted to the Government, vide Lr.No.211 & 212 dated 19.08.2020 as below.*

i) *It is proposed to take up 8 STPs with a capacity of 402.5MLD at an estimate cost of Rs.1230.21 Crores including O&M for 15 years as Package-1.*
ii) *It is proposed to take up 6 STPs with a capacity of 480.5MLD at an estimate cost of Rs.1355.13 Crores including O&M for 15 years as Package-2.*

iii) *It is proposed to take up 17 STPs with a capacity of 376.5MLD at an estimate cost of Rs.1280.87 Crores including O&M for 15 years as Package-3.*

- *Approval received from the Government for construction of 17 STPs with a capacity of 376.5 MLD at a cost of Rs. 1280.87 Crores including O&M for 15 years, under Hussain Sagar Lake Catchment. The tenders will be invited in September-2020 with a construction period of 2 years.*

HMWSSB informed that approval received from the Government of Telangana vide GO Rt. No. 374 dt: 11.09.2020 for construction of 17 STPs with a capacity of 376.5 MLD. A copy of the GO Rt No. 374 is enclosed as ***Annexure-III.*** *The total cost of the project including O&M is 1280.87 Crores. The detailed project report along with site locations are ready. It is proposed on Hybrid Annuity Mode (HAM) model wherein 40% of the cost is to be borne*

by the State Government and the balance will be met by the concessionaire agency. The administrative sanction towards the 40% of Government share i.e., 512.35 crores to be provided in two years i.e., Rs.256.175 Crores each from Hyderabad Urban Agglomeration budget.

HMDA has informed that they have initiated the following measures for enhancement of the existing treatment capacity of the STPs presently under control of HMDA to treat 100% of the sewage generated. The augmentation details are as under.

a. Augmentation of 5 MLD at Rangadhamini Lake:

- *As per the Technical report 5 MLD can be augmented to 10 MLD capacities with additional tertiary treatment facility treatment of 10 MLD Ultra Filtration.*
- *Few additional constructions required for intake system like pumping stations.*
- *The said capacity increase can be done using the existing civil structures for major components like aeration system by using MBBR technology.*
- *Construction of 10 MLD Ultra Filtration to be added.*
- *The proposed technology is proven and implemented across INDIA to meet the CPCB guidelines/existing Discharge parameters.*
- *M/s Aquatech has proposed the complete project on Hybrid Annuity model (HAM) for implementation of the total project along with 15-20 yrs of O&M.*

b. Augmentation of 20 MLD at Khairtabad:

- *As per the Technical report 20 MLD can be augmented to 40 MLD capacities with additional tertiary treatment facility treatment of 20 MLD Ultra Filtration.*
- *Few additional constructions required for intake system like pumping stations.*
- *The said capacity increase can be done using the existing civil structures for major components like aeration system by using MBBR technology.*
- *Construction of additional treatment of 20 MLD Ultra Filtration to be added to the existing CMF unit.*
- *The proposed technology is proven and implemented across INDIA to meet the CPCB guidelines/existing Discharge parameters.*
- *M/s Aquatech has proposed the complete project on Hybrid Annuity model (HAM) for implementation of the total project along with 15-20 yrs of O&M.*

c. Augmentation of 30 MLD at KIMS Hospital:

- *As per the Technical report 30 MLD can be augmented to 60 MLD capacities with additional tertiary treatment facility treatment of 60 MLD Ultra Filtration.*
- *Few additional constructions required for intake system like pumping stations.*
- *The said capacity increase can be done using the existing civil structures for major components like aeration system by using MBBR technology.*
- *Construction of 60 MLD Ultra Filtration units to be added.*
- *The proposed technology is proven and implemented across INDIA to meet the CPCB gridlines/existing Discharge parameters.*
- *M/s Aquatech has proposed the complete project on Hybrid Annuity model (HAM) for implementation of the total project along with 15-20 yrs of O&M.*

2. *HMWSSB & HMDA shall prepare an time bound action plan for collection and treatment of 100% sewage generated in the city.*

HMWS&SB informed as follows:-

- *The jurisdiction of HMWSSB comprises of Core city which has 90 % Sewerage network and with an area 172.92 Sq.Kms, Peripheral circle with in GHMC administrative area of 483 Sq.Kms has around 50% - 60% of Sewerage network. The extended area beyond GHMC boundary and within ORR(service area of HMWSSB) with an area of 795 Sq.Kms is not totally developed it comprises of 190 villages and 6 Municipal bodies. This area has almost negligible sewerage network.*
    - *To develop the 100% sewer collection system, the Sewer Network Project for collection, diversion and conveyance of sewage flows to the proposed STPs as per the Sewerage Master Plan covering the peripheral circles & core city are formulated in four packages for a total length of 2676.15 Km at a cost of Rs.4783.78 Crores. Accordingly, the Sewer Network Project proposals are submitted to the Government for sanction, as below.*

1. ***Package-1:*** *Sewer Network Project for Uppal, Kapra, Malkajgiri, Alwal & Serilingampally Circles of total 759.41 Km length at a cost of Rs.1271.80 Cr.*

2. ***Package-2:*** *Sewer Network Project for Rajendranagar & L.B.Nagar Circles of total 643.86 Km length at a cost of Rs.1219.99 Cr.*

3. ***Package-3:*** *Sewer Network Project for Kukatpally & Quthubullapur Circles of total 832.51 Km length at a cost of Rs.1231.04 Cr.*

4. ***Package-4:*** *Sewer Network Project for Core City (Zone-I to VI and Cantonment) of total 444.23 Km length at a cost of Rs.1060.95 Cr.*

3. Seventeen STPs shall obtain consent for operation from Telangana State Pollution Control Board (TSPCB)

HMWS&SB informed that, out of 20 STPs, being maintained by HMWSSB, 4 STPs already have CFO for operation. For 5 STPs CFO will be obtained in September-2020. Balance CFOs will be obtained in October 2020.

4. All STPs should ensure 100% treatment of designed capacity and operated scientifically to ensure compliance to discharge norms.

HMWS&SB informed as follows:-

- *HMWSSB is maintaining 20 STPs with a capacity of 714 MLD, which is being operated with full capacity with a variation of 5% during maintenance of the units or power breakdowns.*
- *The maintenance of all the STPs is entrusted to single MoM agency through tender process for a period of 5 years with a view to ensure maintenance of the STPs professionally with technically qualified personnel.*
- *HMWSSB has engaged the services of Environment Protection Training and Research Institute (EPTRI), a Government organization as 3rd party for evaluation of effluent parameters.*
- *Further the effluent samples are also evaluated by TSPCB and HMWSSB officials every quarter at all the STPs. A Third Party consultant was engaged for performance evaluation of all STPs.*

5. All STPs should install flow measuring devices at inlet and outlet and maintain the log records.

HMWS&SB informed that proposals are prepared for Supply, Installation and Maintenance of Flow measuring devices for all the STPs. Tenders will be invited and the installation of flow meters will be completed by end of Nov'2020.

6. All STPs should install OCEMS in compliance to NGT order in the matter O.A.No.593 of 2017 Paryavarn Suraksha Samiti Vs. Uol.

HMWS&SB informed that proposals are prepared for Supply, Installation and Maintenance of OCEMS systems for all the STPs. Tenders will be invited and the installation of OCEMS will be completed by end of Nov'2020.

7. ***HMWSSB shall prepare action plan for utilization of treated sewage and utilize the treated sewage to the maximum extent instead of discharging into River Musi.***

HMWS&SB informed as follows: -

- *HMWSSB at present is supplying treated waste water to Gardens being maintained by Forest Department and Shilparamam.*
- *The treated waste water from STP at Khairatabad is being supplied to Raj Bhavan through a pipe line for the purpose of gardening.*
- *Request are received from Golf Course at Boulder Hills for supply of 200 KLD of treated waste water from Nankramguda STP for which pipe line will be laid with the funds deposited by them.*
- *Dr. Reddy Labs have also establishing an RO Plant of 400 KLD capacity at Khajakunta STP for utilization of treated waste water in their plants.*
- *HMWSSB has engaged a consultant for identification of potential users / bulk consumers for reuse of treated waste water from STPs in Hyderabad Urban Agglomeration (HUA) area. The consultant will conduct demand survey for use of treated waste water by construction industry, Industries, Horticulture Dept., GHMC and HMDA for their uses. It is also proposed to make it mandatory for use of treated waste water for non-consumptive purposes by the above users.*

8. ***Most of the STPs are operated by untrained officials. HMWSSB shall ensure capacity building programmes to all STP operators on scientific operation and maintenance of STPs.***

HMWS&SB informed that the maintenances of the STPs is entrusted to exclusive Circles and Divisions headed by Chief General Managers(Engg.) and General Managers(Engg.) and assisted by DGM(E)s and Managers(E) who are qualified Engineers. Further, they are being given training in STP operations and also capacity building from time to time. Further the operators of the STPs

are also given the training on scientific maintenance of the STPs.

9. ***Telangana State Pollution Control Board shall ensure the compliance of all STPs to operate with valid consents, installation of OCEMs and utilization of treated sewage."***

HMWS&SB informed that out of 20 STPs, being maintained by HMWSSB, 4 STPs already have CFO for operation. HMWS&SB informed that for 5 STPs, CFO will be obtained in September-2020. Balance CFOs will be obtained in October 2020.

HMWS&SB informed that, the supply and fixing of OCEMS will be completed by the end of November-2020. Regarding utilization of treated waste water HMWSSB is perusing with various organization and bulk users to utilize the treated waste water in lieu of bore water / protected water for non-domestic purposes. A Consultant is appointed for conducting demand survey and identification of potential users of treated waste water.

The status of functioning of STPs are monitored on monthly basis by the Telangana State Pollution Control Board and the STPs are complying the standards. The copy of the analysis results are placed as ***Annexure-IV.***

II. <u>Status on the directions at para 7 of Hon'ble NGT Order dated 29.11.2019 (uploaded on 06.12.2019) in OA No. 673/2018:</u>

The HMWS&SB informed that the Government has approved the project for construction of 17 STPs with a capacity of 376.5 MLD including O&M of 15 years, at an estimated cost of 1280.87 Crores in the 1st phase. Tenders will be invited in September-2020 and will be completed in 2 years period. Construction of the balance 14 STPs with a capacity of 883 MLD will be taken up in 2nd phase which are under sanction at Government level.

HMWSSB further informed that they have taken up feacal sludge treatment plants and other interim measures to reduce the pollution loads on water bodies.

a. ***Phyto remediation:*** *Work order was issued to M/s.NEERI, Hyderabad for preparation of DPR for in-situ remediation of drains leading to River Musi. The proposal for Rs.528.30 Crores for taking up in-situ remediation of 1174 MLD sewage at Rs.45 Lakh per MLD. 27 drains are identified on River Musi. NEERI has submitted DPR for one drain i.e., Kokapet drain, for which phyto remediation work has*

already started. Preparation of DPR for the balance 4 drains is in progress by NEERI and it will be completed in 3 months.

b. ***Fecal Sludge Treatment as interim measure (FST):*** *In peripheral areas of the city where there are no STPs and sewerage coverage, to prevent water pollution, Fecal Sludge Treatment is taken up. The septage from households is carried through septic tanks and brought to FSSM and FST Plants and treated there to reduce BOD of septage. So far, 85 Septic Tanks are enlisted and with this treatment the Fecal sludge that would eventually end up in water pollution gets treated, the septic tank workers are provided training for co-treatment and also safety measures. They are provided with safety equipment for desludging of septage.*

Co-Treatment (at Existing STPs): *The HMWSSB has informed that they have taken up Fecal Sludge and Septage Management (FSSM) and so far constructed 6 co-treatment facilities at the existing STPs for treatment of Fecal Sludge with a capacity of 60 KLD. So far, 22 million liters of septage has been treated at these co-treatment facilities, thereby preventing the pollution of lakes to that extent. 4 more co-treatment facilities with a capacity of 70 KLD are in progress which will be completed in 4 months.*

Fecal Sludge Treatment Plant (FSTP) (at proposed STPs): *HMWSSB has informed that they have taken up construction of 1 standalone FSTP of 40 KLD capacity at the site of one proposed STP, which is under construction and will be completed within 3 months. 5 more FSTPs will be taken up and will be completed in another 5 months. With these FSTPs, septage in areas where there are no STPs will get treated to lake water standards.*

It is to submit that Government of Telangana vide GO Rt No. 374 dt: 11.09.2020, accorded administrative sanction towards the 40% of Government share i.e., 512.35 crores against an estimate of Rs. 1280.87 Crores for construction of 17 STPs with a capacity of 376,5 MLD on Hybrid Annuity Mode (HAM).

HMWSSB has taken up other interim measures, which include phyto remediation, FSTP and others to reduce the BOD load are under implementation. To ensure the 100% utilization efficiency the maintenance of all the STPs is entrusted to single MoM agency through tender process for a period of 5 years with a view to ensure maintenance of the STPs professionally with technically qualified personnel."

6. The matter has been considered today along with O.A. No. 673/2018. A separate order has been passed in OA 673/2018. As far as general directions therein with regard to remedial action for 351 river stretches are concerned, the same will apply to the present case as river *Musi* at Hyderabad is one of the 351 polluted river stretches.

7. The same need to be supplemented by a separate order having regard to the magnitude of the problem. The report shows that phyto-remediation is proposed at the cost of Rs. 528.30 Crores @ Rs. 45 Lakh per MLD. We are informed by the Executive Director, NMCG, present in person that as per his information, the above rate is about 20 times higher than the normal rate for such work. This aspect may be looked by the concerned State Authorities. We also find that the steps so far taken are highly inadequate in dealing with the prevention and remediation of the pollution of river *Musi* at Hyderabad, in violation of constitutional guarantee of clean environment. During the hearing, attention of learned counsel for the State PCB was drawn to the successful models including one set up at Haridwar by the NMCG which will start working from 29.09.2020, as stated by the NMCG.

8. Taking into account overall unsatisfactory state of affairs, we consider it necessary to constitute a Monitoring Committee for the remedial action for the steps to be taken in respect of river *Musi* at Hyderabad on the pattern of Monitoring Committees set up by this Tribunal for certain polluted river stretches, including Yamuna[1], Ghaggar[2] and Satluj[3] and a Committee constituted today in respect of the river Tapi at Sooraj in O.A. No. 50/2018(WZ), *Nav Yuva Sanghatan &*

[1] At Delhi comprising of Ms. Shailaja Chandra, former Chief Secretary, Delhi and Mr. B.S. Sajwan former Expert Member of this Tribunal vide order dated 26.07.2018 in O.A. No. 67/2012
[2] Headed by Justice Pritam Pal, former Judge of P & H High Court (with a former Chief Secretary of the State as member) vide order dated 07.08.2018, O.A. No. 138/2016 (TNHRC)
[3] Justice Jasbir Singh former Judge of P & H High Court (with a former Chief Secretary of the State as member) vide order dated 01.10.2019, O.A. No. 138/2016(TNHRC)

Ors. v. The Secretary, Narmada, Water Resources, Water Supply & Kalpsar Department & Ors. (headed by Justice BC Patel, former CJ Delhi, who is also heading some other Committees, including river Kharicut canal at Ahemdabad in O.A. No. 105/2019 in terms of order dated 01.09.2020 and river Bhadar in O.A. No. 616/2019 in terms of order dated 22.06.2020). The River Rejuvenation Committees (RRCs) constituted in the State of Andhra Pradesh in pursuance to order passed in O.A. No. 673/2018 can continue in tandem with the Monitoring Committee which we are constituting for the present river stretch as follows:-

1. Justice Vilas Afzalpurkar, former Judge, AP & Telangana High Court, Chairman
2. A representative of CPCB, Member
3. A representative of State PCB, Member
4. District Magistrate, Member

9. The Committee will be at liberty to co-opt any other expert or institution and also explore possibility of any corporate entity contributing CSR funds for adopting any particular part of the polluted river stretches for remediation and restoration. As already mentioned in the earlier orders, the activities for remediation may include setting up of bio-diversity parks and constructed artificial wet lands. The Committee may take into account reports of the above Committees available on the website of the CPCB to the extent found relevant. The first meeting of the Committee may be held within one month from today and the Committee may complete its work tentatively within one year. The Committee may be provided all logistics and other support by the State PCB and the District Magistrate. The honorarium to be paid to the Chairman of the Committee will be decided by the Chief Secretary of the State, in

consultation with the Chairman. The payment will be made out of the consent funds available with the State PCB. **Telangana PCB will be the nodal agency**. The Committee may give its first report within four months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF.

A copy of this order be forwarded to Justice Vilas Afzalpurkar, former Judge, AP & Telangana High Court, Chief Secretary, Telangana, CPCB, State PCB and District Magistrate by e-mail.

List for further consideration on 16.02.2021.

Adarsh Kumar Goel, CP

S. P. Wangdi, JM

Dr. Nagin Nanda, EM

September 21, 2020
Original Application No. 426/2018
A