

BEFORE THE NATIONAL GREEN TRIBUNAL  
SOUTHERN ZONE, CHENNAI

ORIGINAL APPLICATION No. 85 OF 2015 (SZ)

&

MA No. 174/2016 & 232/2016 (SZ)

IN THE MATTER OF:

Dr.Lubna Sarwath

....

Applicant(s)

Versus

State of Telangana & Others

....

Respondent(s)

JOINT COMMITTEE REPORT

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Place: Hyderabad

Date: 08-06-2021.



BEFORE THE NATIONAL GREEN TRIBUNAL (SOUTHERN ZONE), CHENNAI

Original Application No. 85 of 2015, (SZ) &

M.A. No. 174/2016 & 232/2016 (SZ)

**Report of the Joint Committee in compliance with the Order dated 28/01/2021 of Hon'ble NGT (SZ), Chennai in the O.A. No.85 of 2015(SZ) &M.A. No.174/2016 & 232/2016 (SZ) in the matter of Lubna Sarwath Vs State of Telangana & Ors.**

**1. Introduction:**

In compliance with the Order dated 22/01/2020 of Hon'ble National Green Tribunal (Southern Zone), Chennai in the Original Application No. 85 of 2015 (SZ), a Joint Committee was constituted and the Committee already submitted its report to the Hon'ble Tribunal based on the meeting and site visit held on 16.03.2020 and 17.03.2020. In the said report, the Joint Committee submitted their observations, conclusions and recommendations in accordance with the Terms of Reference (ToR) to the Committee referred therein the Order dated 22/01/2020. Hon'ble NGT after examining the Joint Committee report and the objections filed by the applicant an Order dated 14/9/2020 was passed in the above matter and directed the same committee constituted for further report and also to ascertain the objection raised by the applicant. The joint committee submitted the report on 21/01/2021 to Hon'ble NGT, the Tribunal after examining the joint committee report issued directions to concerned respondents as well as to joint committee to submit further report on or before 26.03.2021. The operative part of the NGT order dated 28/01/2021 is as follows:

*"11. The joint committee is directed to conduct the study which has been mentioned in the recommendation by co-opting any suitable persons whose help is required for the purpose to conduct a detailed study and to submit a report to this Tribunal, so as to mitigate the situation and give proper direction to the persons who are responsible to carry out such recommendations for protecting the water body free from pollution".*

*12. We direct the committee to give notice to her in advance about the date of inspection so that she can be present and give her suggestions which can also be considered by the committee and incorporate the same while compiling the report".*

**2. Joint Committee meeting with applicant:**

In compliance with the Hon'ble NGT order dated 28/01/2021, joint committee had a meeting with the applicant and officials of TSPCB, HMDA, HMWS&SB Irrigation department of March 3, 2021. The officials present for the meeting is attached as *Annexure I*. During the meeting, applicant made presentation on the objections filed by her for the joint committee report dated 21/01/2021 and also detailed discussion was held about the actions to be initiated for mitigation of pollution in Hussain Sagar Lake.

**3. Reply of the Joint Committee for the objections raised by the applicant dated February 8, 2021**

It was informed by the applicant that as per the direction of Hon'ble NGT an objection was filed at NGT for the Joint Committee report dated January 21, 2021. However the Joint Committee had no knowledge about the objections and requested the applicant to provide a copy so that the reply can be made.

The point wise reply of the Joint Committee for the objection raised by an applicant is depicted in the table below:

<b>S. No.</b>	<b>Objection raised by applicant</b>	<b>Reply by Joint Committee</b>
1	While the NGT order cited by the Joint Committee of 21 January 2020 permitting the Committee 'to co-opt any expert member whom they feel necessary for the purpose of undertaking this aspect.', and TSPCB as the nodal agency, the Committee report has committed contempt of the Tribunal's order as follows: 'The second Committee meeting and site inspection was held on 15.12.2020 and 16.12.2020 respectively, comprising the following Committee members with officials from TSPCB, HMDA & HMWSSB'. Hence, the site visit and report borne out of this visit and meeting is not within ambit of NGT order and appears seriously influenced.	The Hon'ble NGT in its order dated January 21, 2020 constituted joint committee and given liberty to co-opt any expert member whom they feel necessary for the purpose of undertaking any study.  The Joint Committee did not feel necessary for co-opting any expert member as no detailed study was undertaken.
2	In spite of the Applicant raising objections of not being informed of the site visit in march 2020 by the Committee and not being called to take her observations/suggestions, in her reply dated 25 August 2020, yet again the Committee visits on 15 and 16th of December 2020 without calling the Applicant and without taking her objections, while the NGT order directs the Committee to ascertain the objections raised by the applicant, the Committee demonstrated that they are not serious about the objections raised by Applicant nor about the NGT order of 14 September 2020.	The Hon'ble NGT in its order dated January 21, 2020 and September 14, 2020 directed the Joint Committee constituted to ascertain the objections raised by the applicant and did not direct to involve in inspections and call for the meeting.  Hence the joint committee acted according to the direction of the Hon'ble NGT.
3	The Committee has been appraised about the illegality involved in the contract to M/s Matrix Environment Llc, with substantiations, through the applicant's reply of 25 August 2020 from item number 13(a) to (f), 14, 15, 16, 17 and 30. It is pertinent to note that the Committee in its report of 17 August 2020 stated at item 6(ii) ' <i>But, the Committee did not receive any technical documents about this work.</i> ' While, corruption is writ large in the 'M/s Matrix Environment INC, Bahadupura, Hyderabad' affair as corroborated from the detailed digital and on-ground research findings stated in the reply of 25 August 2020. It	The bio-remediation work of Hussain Sagar Lake allocated to M/s Matrix Environment INC, Bahadupura, Hyderabad is an State affair. The Joint Committee has no role in questioning the work of the State Government. The Joint Committee was constituted to consider the objections raised by the parties to the earlier report of 2015 and to submit the consolidated report on the ToR given by the Tribunal in the order dated 26 <sup>th</sup> May, 2015.

	<p>is appalling that the Committee did not raise any question on the findings and did not seek any documentary evidence from the respondents.</p>	
4	<p>The Applicant submits that the Committee disregarded the industrious labour put in by the applicant on the crux issue of this petition that is to clean Hussain Sagar and the respondents were gaming around by giving contracts to companies that does not even figure on website of HMDA or on the website of the 'M/s Matrix Environment INC, Bahadurpura, Hyderabad' and does not give any document to the Committee. This Tribunal may proceed against the respondents for the corruption and for the silence/endorsement on the corruption respectively.</p>	<p>Not applicable to Joint Committee, HMDA may reply for this.</p>
5	<p><b>WHAT THE JOINT COMMITTEE FAILED TO ELICIT FROM THE HMDA:</b></p> <p>Current online findings regarding 'M/s Matrix Environment INC, Bahadurpura, Hyderabad' are as follows:</p> <p>a) An online search (<a href="http://www.matrixenviro.com">www.matrixenviro.com</a> and <a href="http://www.matrixenvironment.com">http://www.matrixenvironment.com</a>) reveals two websites when searched for M/s Matrix Environment INC, Bahadurpura that HMDA claims to have used bio remediation methods to clean hussain sagar. Further, the website <a href="http://www.matrixenvironment.com">http://www.matrixenvironment.com</a> reveals a page <a href="http://www.matrixenvironment.com/Cleaning-up-Hussain-Sagar-Lake.html">http://www.matrixenvironment.com/Cleaning-up-Hussain-Sagar-Lake.html</a> where it is observed that all previous information furnished by the Applicant is not available on the website now. Only general information of EzOx system is provided.</p> <p>B) Even the youtube link on this Hussain sagar lake.html shows 'Video unavailable'.</p> <p>C) What is mentioned as part of tender notice is that the company should have proven expertise and experience with various other conditions. Below extract from tender notice of 28.10.2019 and 7.12.2020:</p> <p><i>'3. The agency shall have demonstrated experience of pollution elimination or abatement projects by remediation techniques with a proven track record of using their patented technology with official demonstration and the site references. In addition to this, the bidders shall submit CV of the principle investigators who has developed the remediation process and its success at various projects completed along with sustainability of</i></p>	<p>The joint committee inspected the site in order to submit report on the ToR given to the Committee. The Joint Committee no where recommended the work to M/s Matrix Environment INC. Further, the Committee is not having any role to play on examining the tenders floated by the State Authority. The State Authority concerned may submit detailed reply in this regard to <del>the</del> Hon'ble Tribunal, serving a copy to all the concerned.</p>

*intervention by the bidder.'*

D) The Committee has not done the preliminary research even during its second visit in spite of applicant appealing and industriously giving all details of fraud of HMDA Matrix Environment Inc links. Whereas a preliminary investigation, if done sincerely would have revealed that from October 2017 to March 2018, all the waste waters were allowed directly into Hussain Sagar. Further, from April 2018 to June 2019 NACOF, a Bengaluru based company has used EM spray solution and EM Bokashi balls in Hussain sagar which as per media reports was not satisfactory. Further, HMDA states 'in continuation', a Canadian company was given bioremediation contract from March 2020 to August 2020. This is surprisingly being mentioned only in the tender notice issued on 07.12.2020, i.e., ten days before the Committee makes its second visit to the site.

E) In the earlier objections to Committee report of 25 August 2020, it was submitted that a page on the website has a tab 'Hussain Sagar Lake' <http://www.matrixenvironment.com/Cleaning-up-Hussain-Sagar-Lake.html> with the following claim: 'HMDA had **expressed satisfaction with the implementation of the free pilot project for improvement of quality of the lake water with Canadian innovative technology**', the same page when viewed on 4 February 2021 does not carry the name of Hussain sagar in its entire website.

F) On 21 August 2020, web page <http://www.matrixenvironment.com/Information.html> carried names of Hassan Ahmed and Naseer Mehdi Khan among others; the same page when viewed on 4 February 2021 does carry any name except the name as 'CEO, Mr. Robert Boivin'. No contact tab on website. No contacts on webpage except that of 'robert@robertboivin.com'.

G) Such a company is again mentioned by the Committee in the latest report of 22 January 2021 at Item No. 3 para 1 as '*M/s Matrix environment (INC that was stated in first report of the Committee is missing) commenced the work in the month of March 2020 and continued till august 2020. The bio-remediation of Hussain Sagar has been stopped. HMDA has again prepared a new RFP for remediation of lake and global tenders are invited.*' The Tribunal may direct the Committee to submit what are the documents and field survey done to ascertain the claims above

regarding bioremediation of Matrix environment, which the applicant claims as dubious in her reply dated 25 August 2020 itself.

**HUSSAIN SAGAR WATERS A PLAYGROUND FOR CORRUPTION CONTRACTS:**

H) Upon further findings, it is revealed that HMDA called for global tenders on 28.10.2019 and 7.12.2020 as evidenced in [https://hmda.gov.in/pdf/six\\_tender.pdf](https://hmda.gov.in/pdf/six_tender.pdf) and <https://hmda.gov.in/pdf/tender/Tender%20notice%20Dt.07-12-2020%20Modified.pdf>. As per tender notice of 28.10.2019, it is mentioned that *'Due to operational issues and repairs in the trunk sewers from October 2017 to March 2018, the sewage was discharged into the lake from Balkapur Nala and Banjara Nala resulting in the reduction of DO and increase of BOD values.'*

Further the tender notice also details that *'On completion of the repairs and rectifications of the pipeline sewage was diverted. HMDA has issued RFP to Design, Procure, implement proven technological interventions to arrest odour nuisance, algal blooms and to improve water quality and on receipt of the proposals and on recommendations of the Expert Committee awarded the work to an agency with objective and scope of work mentioned for one year. The agency has carried out the treatment process (Bioremediation intervention using EM Technology products) for the period from 30-04-2018 to 30-06-2019. During the intervention, the agency has sprayed EM solution concentrate of microbes in the lake and Bokashi Balls (EM Mud Balls)'*

I) Further, as per the Tender notice dated 7.12.2020, it is understood that 'EM technology was used from 30.4.2018 to 30.6.2019 and another Canadian based company was selected for *'remediation of lake using energy waves from march 2020 to august 2020.'* Earlier, HMDA has issued RFP to Design, Procure, implement proven technological interventions to arrest odour nuisance, algal blooms and to improve water quality with objective and scope of work mentioned for one year. In this regard, the agency selected carried out the Bioremediation interventions that are based on EM Technology products, for the period from 30-04-2018 to 30-06-2019. In continuation, a Company based in Canada was also selected for implementing remediation of lake using energy waves during the

*period from March 2020 to August 2020.'*

Through media reports of 16 November 2019, 'Last year, HMDA gave the contract to NACOF, a Bengaluru-based company. However, it was learnt the work was not up to its satisfaction as recent heavy downpour brought the condition of lake back to square one.' A similar operation was taken up in 2013 and 2016 and the water quality improved, added executive engineer.

J) It is further known from the HMDA website that 'Modern food court' and 'Japanese food courts' are the latest permissions inside Hussain Sagar FTL boundary at geo coordinates 17°24'37.4"N 78°28'21.9"E. Links below:

<https://www.hmda.gov.in/pdf/tender/Modern%20Food%20court%20at%20Lumbini%20Park.pdf>

<https://www.hmda.gov.in/pdf/tender/Japanese%20Model%20Food%20Court%20at%20Peoples%20Plaza.pdf>

K) Further, HMDA called for tenders for 'Hussain Sagar Lake Master Plan and Landscape Re-development'. A master plan of Hussain Sagar is not known to the Committee in spite of two visits so far.

<https://www.hmda.gov.in/pdf/tender/Tender%20notice%20for%20HSL.pdf>

HYDERABAD METROPOLITAN DEVELOPMENT AUTHORITY Office of the Chief Engineer block-C, 2ndFloor, HMDA Complex, Tarnaka, Secunderabad -500 007 Tender Notice No. HMDA/DEV/CE/ 28/2019-20 Date: 02-03-2020 Hyderabad Metropolitan Development Authority invites Invitation for Request For Proposal (RFP) for Providing Consultancy Services for Hussain Sagar Lake Master Plan and Landscape Re-development from the reputed National agencies in single stage three over system (Cover-I-Eligibility Criteria, Cover-II-Technical Proposals, Cover-III-Financial Proposals). The detailed scope of work, eligibility criteria and other details can be seen in RFP on website <https://tender.telangana.gov.in>.

L) The HMDA issues tender notice on 2.11.2020 for Lake Front Night Bazaar across lengthy shoreline of Hussain Sagar, a source of pollution, concretisation and that which is prohibited for healthy lake environment.

HYDERABAD METROPOLITAN DEVELOPMENT AUTHORITY Office of the Chief

	<p>Engineer 7th floor East Wing, Swarna Jayanti Complex, Ameerpet, Hyderabad -500038 Tender Notice No.HMDA/DEV/CE/13/2020-21Date:02-11-2020 Hyderabad Metropolitan Development Authority is issuing the Request for Proposal (RFP) for "Grant of License for Design, Procurement, Development, Operation and Maintenance of Lake Front Night Bazaar along the shoreline of Hussain Sagar Lake between Sanjeevaiah Park and Buddha Bhavan, Hyderabad, Telangana". The detailed scope of work, eligibility criteria and other details can be seen in RFP on website (<a href="https://tender.telangana.gov.in">https://tender.telangana.gov.in</a>.)</p>	
<p>6</p>	<p>The Committee ought to have prudently questioned the science and sense of 'erecting concrete barriers built in nallahs to prevent sewage'. The Applicant has been repeatedly citing about handling treating sewage/industrial pollutants at source and in the vicinity and not to transport it across terrain through kilometers of pipelines. Unsustainability and unscientific approach of piped transportation of waste waters but the same has not been considered by respondents. The Figure I should be given in full size format for full understanding. The present figure is not at all readable. Purpose of such unreadable submission of an important figure is beyond comprehension. Suggestions can be given only after studying the figure.</p>	<p>The figure 1 of the Joint Committee report dated January 21, 2021 is the map showing the proposed project plan by HMDA and HMWS&amp;SB.</p> <p>The copy of the Figure 1 (Map) was provided by the HMDA.</p>
<p>7</p>	<p>Point 7 and 8 of the Applicant's reply dated 25 August 2020, the applicant had submitted that out of 9 locations mentioned by the Committee, the 'outflow channel that flows right through the respondent GHMC office was not surveyed/sampled'. Even the geo coordinates and geo tagged picture were provided to substantiate the objection.</p>	<p>The Hussainsagar Lake has two outlets, one at Near Viceroy Hotel and another one at GHMC Office. The joint committee decided to collect the sample at the Viceroy Hotel since the flow was moderate and that point is also included in the National Water Quality Monitoring Programme by Telangana State Pollution Control Board.</p>
<p>8</p>	<p>At item 12, the Applicant sought for re-use of the treated waste waters as emphasized by Supreme Court Monitoring Committee. Treating and re-using the waters is the only way to stop piping of waste waters and obtaining clean lakes. The reply of the Applicant dated 25 August 2020 and the reply of the Applicant to the reports filed by the State on 12 September 2020 and 23 September 2020 may be taken on record for suggestions/alternatives.</p>	<p>The Joint Committee in its report dated January 21, 2021 has already recommended that treated sewage shall be reused for other purposes than discharging into lake.</p>
<p>9</p>	<p>The Applicant reproduces below the objection and concern raised at point 23 regarding Secretariat debris. There is not a single proof that the debris</p>	<p>Regarding the demolition of Secretariat building, the matter is being separately dealt by the Hon'ble NGT in the O. A.</p>

<p>of the Secretariat of more than 10 lac sq ft would need around 30,000 sq mtrs of land when piled up to a height of five to six meters, has been actually transported from demolished site to Jeedimetla plant as being claimed. No picture of the estimated 5000 trucks told to having carried debris is available in the entire media nor given by government. This should definitely have been done by issuing a contract to shift the debris to the plant as claimed by government. The issue that was raised by the Applicant is that all the debris has been dumped in the Hussain sagar the waters of which are on the borders of secretariat. Committee did not address the serious issue raised by Applicant. OA 107/2020 pointed out by Committee does not raise this issue at all.</p> <p><i>'MAMMOTH VOLUME OF DEBRIS DUMPED IN HUSSAIN SAGAR</i></p> <p><i>23. It is submitted that there is no plan as to where the debris would be taken. Debris of more than 10 lac sq ft would need around 30,000 sq mtrs of land when piled up to a height of five to six meters. It is very pertinent to note here that from July 7 till date there is not a single picture that has been given either by the state government through press release or did any journalist get any picture of any vehicle carrying the debris of the secretariat outside the demolition site. It is submitted that nobody knows where the debris is dumped as there is no official document release on the demolition and construction of the Secretariat. Even the official page of Telangana CMO from where there are communications on daily basis contain any information where the demolition waste has been taken. Whereas, on 27.07.2020, prominent newspapers carried the news that more than 4500 truckloads of debris could be generated and more than 2000 truckloads of debris has been removed from the debris site. With no site mentioned officially and with no picture from any news agency regarding disposal of construction waste, it is apprehended that the debris could has been dumped in the Hussain sagar lake, which would be an illegal act and highly unethical on part of the state government'</i></p>	<p>No. 107 of 2020 in the matter of Anumula Revanth Reddy Vs. Union of India&amp; Ors., wherein the Joint Committee already submitted the report and the matter is still pending before the Hon'ble Tribunal.</p>
<p>10</p> <p>Figure 1 annexed shows the official geo coordinates and kml drawn on google earth satellite imagery depicting the site area of 'Secretariat Complex' brazenly cuts through the official FTL boundary given to the applicant and is a permanent source of pollution, and another high rise structure 'Telangana martyr' under construction right inside the FTL barely few</p>	<p>The Joint Committee requested Irrigation department to clarify/ provide information about the FTL of the Lake, however no information has been provided by the irrigation department till now.</p>

	meters from 'Secretariats complex' just across the eastern road.	
11	The Committee report states that repair works to surplus weir will be completed by this year-end to bring total weir portion to its original level. The question about the lowered weir has not been answered by the Committee. The very FTL of Hussain Sagar has been tampered by the respondents due to lowering of the weir. The lake bed was exposed and further dumped near the Kukatpally nalla side and thus 10 acres had been plotted right inside the FTL of Hussain sagar.	The Joint Committee requested Irrigation department to clarify/ provide information about the FTL of the Lake, however no information has been provided by the irrigation department till now.
12	Once again Matrix Environmental Inc is cited as example to have done bio remediation without any proof. See above all findings from 3, 4(a) to 4(m) and findings in the reply filed by the Applicant on 25 August 2020, from item number 13(a) to (f), 14, 15, 16, 17 and 30. Item numbers from 48 to 57 in the reply of the Applicant dated 25 august 2020 to Committee report dated 17 august 2020 may be referred by the Committee along with item numbers 4 to 39 in the reply of the Applicant dated 12 Sep 2020 to report filed by the State dated 20 August 2020 and item numbers 1 to 14 in the reply filed by the Applicant dated 22 Sep 2020 to report filed by the State dated 12 Sep 2020.	The Joint Committee nowhere recommended the work to M/s Matrix Environment INC. Further, the Committee is not having any role to play on examining the tenders floated by the State Authority.

**4. Progress of action taken by HMWSSB to prevent the untreated sewage into Hussain Sagar Lake**

Reportedly HMWSSB had engaged M/s Shah Technical Consultants to prepare Comprehensive Sewerage Master Plan in Hyderabad Urban Agglomeration (HUA) up to Outer Ring Road (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.

The Telangana Government has accorded administrative sanction for constructions of 17 STPs (Package I) with a capacity of 376.5 MLD vide GO Rt.No.374, MAUD, dt: 11.09.2020 under HAM mode of contract with 40% fund by State Government & 60 % by the contractor 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 and was attended by 17 Nos of prospective bidders and various clarifications sought by bidders were clarified. As per the request of the bidders, the last date for submission of bids was extended up to 16.12.2020. The online Technical Bid under e-Procurement platform was opened on 16.12.2020 and found that no bids were received for the above tender. The bids were re-called and tender process was successfully completed and HMWSSB has submitted to Telangana Government

for issue of work order. It was informed by HMWSSB that 2 year's time is required for the construction of STPs.

HMWSSB has proposed laying sewer collection network to convey sewage to proposed 17 STPs in the Kukatpally catchment area i.e. upstream of the Hussain Sagar Lake catchment and proposals submitted to Telangana Government for approval.

The proposed 17 STPs are as follows:

<b>S. No.</b>	<b>Location</b>	<b>Capacity in MLD</b>
1	Ambar Cheruvu (Pragathi Nagar)	37.00
2	Chinna Maisamma	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	Durgam Cheruvu	7.00
13	Khajaguda	21.00
14	Miyapur Patel Cheruvu	7.00
15	Gangaram Cheruvu	20.00
16	Mullakathuva Cheruvu	33.50
17	Kamuni Cheruvu	20.00
	<b>Total</b>	<b>376.5</b>

#### **4.1 Progress of action taken by HMDA for the Bio-remediation of Hussain Sagar Lake**

HMDA had invited Global Invitation for Request for Proposals (RFP) to "Design, Procure, Implement Proven Technological interventions for odour nuisance, algal blooms and to improve the water quality of Hussain Sagar Lake". The Expert Committee was constituted as per the orders of the Prl. Secy. To Govt., MA & UD Dept. comprising of Environmental Scientist from TSPCB, Professor IITH, Professor & Head Micro Biological JNTU, Special Advisor Projects, Chief Scientist EPTRI and CGM HGCL. It was informed that the committee was constituted for the purpose of short listing, and to evaluate for calling bidders to present their technology by way of presentation before the Committee so as to select the bidders based on the technology suitable for Hussain Sagar Lake. Following six (6) agencies submitted the proposals and made presentation on their technological interventions before the Committee and the finalization of tender is under progress. HMDA provided the copy of RFP to the Joint committee members and is enclosed as *Annexure 2*.

- i. M/s Vasathi Housing Ltd.
- ii. M/s Randhawa Brosons Enterprises
- iii. M/s NACOF
- iv. M/s K.N Bio-Science (India) Pvt. Ltd.
- v. M/s Cleantec Infra Pvt. Ltd.
- vi. M/s Aria Palley Infrastructure

## 5. Conclusions of Joint Committee

Following conclusions are based on the discussion held and documents provided by concerned departments:

- i. HMWSSB has completed tender process for the construction of 17 STPs in the Hussain Sagar Lake - Kukatpally Nala Catchment area.
- ii. HMWSSB has proposed laying sewer collection network to convey sewage to proposed 17 STPs in the Kukatpally catchment area and waiting for the approval from the State Government.
- iii. HMDA had invited Global tender for Request for Proposals (RFP) to improve the water quality of Hussain Sagar Lake through Bio-remediation. The finalization of tender is under progress.

## 6. Recommendations of the Joint Committee

After discussion & reviewing of the progress of action taken by the concerned departments viz. HMDA, HMWSSB and irrigation department, the Joint Committee request the Hon'ble NGT to issue suitable directions to concerned departments for submitting the time bound action plan to comply with the following directions to improve the water quality of the Hussain Sagar Lake.

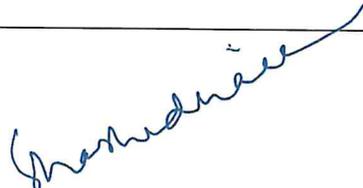
- i. The GHMC which is responsible for the sewage management and solid waste in the Hyderabad has not attended any of the meeting conducted by the Joint Committee in spite of informing the meeting schedules.
- ii. GHMC to quantify the sewage generated in the entire city and submit a time bound action plan for the treatment of the entire sewage generated in the Hyderabad city limits.
- iii. To ensure full-fledged operation of Solid waste management system including door to door collection with segregation of wet and dry waste. To ensure that no solid waste/ garbage find its way to water bodies either by dumping/throwing in the vicinity of water bodies.
- iv. HMDA has once again called a global tender for the Bio-remediation of Hussain Sagar Lake, without tapping the pollution at the source a fruitfull result cannot be borne. The reply may be given for the queries raised by applicant regarding the bio-remediation carried out by M/s Matrix Environmental Inc, Hyderabad and the tender issued for Modern food court' and 'Japanese food courts' at the boundary of the Hussain Sagar Lake.
- v. HMDA to ensure the regular operation of STPs maintained by them and to reuse the entire treated sewage than discharging into the Lake/ water bodies.

- vi. To submit a time bound action plan for the construction & operation of the proposed 17 STPs at the Kukatpally catchment area. To ensure that laying sewer collection network to convey sewage to proposed 17 STPs is completed at par with the proposed STPs, a time bound action plan may also be provided.
- vii. The irrigation department may provide the requested information about the Full Tank Level (FTL) and repair of the surplus weir near the Viceroy Hotel..
- viii. After discussing with the concerned departments of the State Government, it was learnt that the FTL, Sluice gates in the Lake & Surplus weirs comes under Irrigation department; the maintenance of Lake, STPs around the lake and the I&D structure built at the mouth of the Hussain Sagar lake come under the HMDA. The drains carrying the sewage to the water bodies comes under the purview of GHMC and the construction of STPs to treat the sewage generated by the city is with the HMWSSB.
- ix. The concerned departments shall upload the work carried by them to improve the water quality of the Lake in their respective website for the public access.

**7. Submission of Joint Committee**

The Joint Committee (JC) constituted by the Hon'ble NGT humbly prays that this JC has regularly filed their report in regular intervals and assisting this Hon'ble Tribunal for giving directions to the concerned Party/ Authority in the proceedings. Further this Hon'ble Tribunal may give directions to respective departments for improving the water quality as suggested by this JC. Hence it is prayed that this Hon'ble Tribunal may discharge the Joint Committee by considering the report.

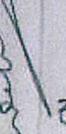
**Signature of Joint Committee Members:**

 <b>Dr. Y.R.S. Rao,</b> <b>Scientist-G,</b> <b>Deltaic Regional Centre, Kakinada,</b> <b>National Institute of Hydrology,</b> <b>Kakinada</b>	 <b>Dr. Shashidhar,</b> <b>Professor,</b> <b>IIT, Hyderabad</b>
 <b>Dr. M.T. Karuppiah</b> <b>Scientist -E</b> <b>MOEF&amp;CC, Regional Office,</b> <b>Chennai</b>	 <b>Smt. Poornima B M,</b> <b>Scientist-D</b> <b>CPCB, Regional Directorate,</b> <b>Chennai</b>

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NAS Joint Committee meeting held at TSPCL on 31/01/2018 at 10:30 am. in OM NO ES of 2018

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S.NO	NAME	Department	SIGN	phone number	mail ID.
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7	D. Krishnamoorti	TSCCE TSPCL			
8	Prof. Shomik Chak	Enviloy Dept, IITM		9849907811	sc_1@iitmda.gov.in
9	Ch. Param Jyothi	SE, HMDA			
10	Ch. Renuka Devi	EE, HSLD, Buddhan, Bhogam		6309920606	eehsls2010@yahoo.in

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**HYDERABAD METROPOLITAN DEVELOPMENT AUTHORITY  
OFFICE OF THE CHIEF ENGINEER**

7<sup>th</sup> Floor, East wing, Swarnajayanthi Commercial Complex, Ameerpet, Hyderabad – 500 082

**BIO-REMEDIATION OF HUSSAIN SAGAR LAKE**

**Global Invitation for Request For Proposal(RFP) for Reinstating natural conditions of Hussain Sagar Lake using Bioremediation processes.**

**Tender Notice No. HMDA/DEV/CE/ 15 /2020-21**

**Date : 07-12-2020**

Hussain Sagar Lake situated in the heart of the Hyderabad Metropolitan Area, Telangana State, India is manmade lake built in 1562 utilized for drinking water facility for the city till 1930's. The lake is spread over 4.7 Sq. Kms and volume of 27 million cum approximately connected with 4 major drains that discharge the storm water and untreated sewage into the lake. The total catchment area of the lake is 240 Sq km that contributes inflows into the lake. With the rapid residential and industrial growth in the catchment area, the sewage and industrial effluents was flowing into these nalas that essentially feed the lake, leading to its contamination and Eutrophication. Due to input of nitrogen and phosphorus the eutrophic lake has become a breeding ground for production / growth of the blue algae and the nuisance feeds making it unfit for use in any human activity.

The Hyderabad Metropolitan Development Authority (HMDA) the premier agency of the Government of Telangana has taken up the Hussain Sagar Lake and Catchment Improvement Project (HCIP) with financial assistance of JICA in order to bring the lake to its original/ natural glory. As a part of the Project, the HMDA has completed a number of activities Viz., Diversion of sewage inflows, STP's to discharge high quality of treated effluent in the lake, Nala improvements in the catchment, etc. after completion of HCIP in the year 2013, the lake water quality is consistently improving and shows a significant change in the improvement of DO. The BOD values are also shown a considerable improvement after completion of the above interventions.

Earlier, HMDA has issued RFP to Design, Procure, implement proven technological interventions to arrest odour nuisance, algal blooms and to improve water quality with objective and scope of work mentioned for one year. In this regard, the agency selected carried out the Bioremediation interventions that are based on EM Technology products, for the period from 30-04-2018 to 30-06-2019. In continuation, a Company based in Canada was also selected for implementing remediation of lake using energy waves during the period from March 2020 to August 2020.

During the interventions, there is a significant and consistent improvement in the water quality of the lake in addition to the reduction of the foul smell to a great extent and DO is ranging to 3.6 to 6.4 mg/l and BOD is ranging from 30 to 36 mg/l. It indicates that bioremediation based technologies may aid in improving the water quality of the lake. Therefore, present Request for Proposal is aimed at identification and implementation of bioremediation techniques for minimizing algal bloom formation and odour in the Hussain Sagar Lake.

### **Scope of the Work**

Eco-friendly bioremediation approaches are vital in reinstating the natural conditions of the water bodies including Lakes. In this context, it is intended to implement microbial based bioremediation process to reinstate the natural conditions in the Hussain Sagar Lake. HMDA invites/ Requests for Proposal on proven technologies with regard to *in-situ* treatment of Hussain Sagar Lake using Bioremediation or equivalent technology to remove algal blooms and minimize the odour generated from the Lake. The major objective of the project is to reinstate the natural ecosystem with an emphasis on reduction of algal blooms thereby minimizing odour by improving the water quality in terms of increasing the Dissolved Oxygen (DO) level. Physical cleaning of floating material/weeds is the responsibility of the bidder prior to the installation/ implementation of *in situ* Bio-remediation process in the Lake. Besides cleaning of the Lake water, the process must aid in restoring the natural ecological balance of the water body. The process adopted for remediation of the water body must be a biological method or blend of biological process with mechanical / chemical processes.

Removal and prevention of algal blooms and odour in the lake using *in-situ* bio remediation or equivalent technology may have systems based on the aerobic / oxygenation and bio-augmentation. The conditions for onset of the reversing eutrophication process as well as odour minimization may be specified for the proposed *in-situ* biological treatment/ method. Accordingly, the window period required for reduction of the algal blooms and odour must be specified. It is desirable that the characterization and quantitative assessment of bottom sludge in the lake as a result of the bio-remediation process during the contract period may be documented by the Bidder and report to the authority concerned.

HMDA accordingly invites Proposals in single stage three cover system (Cover-I – Eligibility Criteria, Cover-II – Technical Proposals for the interventions / technology process of this Project, Cover-III – Financial Proposals) from reputed National and International Agencies who have proven experience in dealing with projects of similar nature or any other proven technology and have designed appropriate systems to avert the pollution of water bodies.

**Eligibility Criteria:**

1. A single entity company incorporated in any country ( certificate of Incorporation shall be enclosed)
2. The bidder shall submit proposal for carrying out the *in situ bioremediation of the Hussain Sagar Lake* in writing along with their Organization/ Company profile, Experience in restoring water bodies including similar nature of works based on *in-situ* treatment of lake/pond water bodies.
3. The proposal shall also indicate/ suggest proven technologies based on *in-situ* microbial remediation including their approach/ design, relevant calculations, strategies for implementation of such methods to remove algal blooms and minimizing odor in the lake (as per the prescribed standards). However, the care must be taken to exclude the application/ use of harmful chemicals/ pathogenic microbes / genetically engineered microbial systems in the treatment/ bioremediation process.
4. The agency shall have National / International accreditation in handling and facilities to manufacture the Microbial cultures, media for pollution preventions, patent and licenses to operative Innovative Technology.
5. The agency shall be recognized by National / International reputable organization in the field relating to Biochemical / Microbiological or any other proven technology with reference to mitigation of pollution of water bodies / lakes.
6. The agency may also have to arrange for the Field Visit of the evaluation experts to the earlier projects successfully completed in the similar field , considered for the eligibility criteria in finalization of the bids.
7. Proposals that are selected based on the above criteria may be short listed and will be invited for presenting their proven technologies. The presentation shall include the following;
  - a. Principle of the Intervention
  - b. Detailed methodology
  - c. Operation and Maintenance
  - d. Scope of Services
  - e. Expected Deliverables with timeline
  - f. Case studies of similar intervention/ systems/techniques.
8. The company/ agency shall demonstrate the proven track record that they have full scale production facility to produce approved Microbial cultures / material / equipment without any contamination of pathogenic organisms which will be used in the bioremediation project. In addition, the agency does not have any past /

pending / ongoing legal issues with the Government (both Indian and International) with regards to application of Bioremediation methods for pollution control.

**Financial Criteria:**

The agency shall have minimum annual turnover of *INR 10.00 crores* or equivalent in Foreign currency for each of the last three years in the fields of their business. The documentary proof in the form of certificate from the statutory auditor of Bidder's company duly signed and stamped by the statutory auditor for Indian Firms and for International Firms the certificate from Client's authorized representative notarized by the authorized active notary public needs to be submitted as proof for the above in English Language.

**Instructions:**

The interested agencies shall note that the prime objective of the intervention is to arrest & eliminate foul smell emissions, growth of algal blooms and improvement of water quality. The interested agencies shall verify the water quality of the lake, sediment quality, scope of the project and submit all the particulars mentioned in the Request for Proposal such as eligibility criteria, financial criteria and technical proposals duly showing the treatment process with the level of degree of improvement of water quality and sustenance of the lake remediation along with the infrastructure facilities, logistics proposed for the treatment, etc. The Financial proposals shall also be submitted in a separate sealed cover which would be considered for opening after the selection of the agency based on the eligibility criteria, credentials, technical proposals suitability to the project. All the documents submitted in support of proof of experience in India shall be issued by an authorized signatory of the client. In case of experience in foreign countries the proof of experience shall be either issued by client or must be a notarized document. If required, the agency shall make a detailed presentations to HMDA of their technical proposals i.e. the Engineered Bioremediation process, approach in design, implementation, program and deliverables, etc, in improving the Lake water quality at their own cost.

Based on the technical proposals given for the project to attain the prime objectives mentioned and on guarantee of achieving, the agency will be considered and their financial bid will be opened.

The applicants shall submit the proposals with all the requisite information along with a **Demand Draft of INR 50,000/-** (Indian Rupees Fifty Thousand only) (refundable) drawn in favour of Metropolitan Commissioner, HMDA from any Nationalized Bank, payable at Hyderabad or online payment shall be made in any currency of equivalent value in INR.

A Pre-Bid Meeting is scheduled on **18-12-2020 at 15.00 Hrs (IST)** in the Office of the Chief Engineer, 7<sup>th</sup> Floor. Swarnajayanthi Commercial Complex, Ameerpet, Hyderabad-500082. Any queries shall be communicated through Email id : [ce@hmda.gov.in](mailto:ce@hmda.gov.in) till **17.12.2020**. The replies shall be posted on website [www.hmda.gov.in](http://www.hmda.gov.in) common to all the bidders after the pre bid meeting. Last date for submission of the proposal complete in all aspects shall reach the office at the address give below by **29-12-2020 upto 15.30 Hrs (IST)**.

The agency who submits the improper and inconsistent documents shall be summarily rejected without any further correspondence. HMDA reserves the right to reject any or all the tenders at any stage without any reason whatsoever. HMDA also reserves the right to hold, modify, withdraw or cancel the tender process without any reason and the decisions taken by HMDA shall be final and binding on the agencies at all the stages of selection of the agencies and award of work.

Address :  
Office of the Chief Engineer,  
7<sup>th</sup> Floor, Swarnajayanthi Commercial Complex,  
Ameerpet, Hyderabad-500082.

Contact : Superintending Engineer  
Cell : 9849909811

Sd/-  
Chief Engineer,  
HMDA

