

REPORT OF THE JOINT INSPECTION COMMITTEE CONSTITUTED BY THE HON'BLE NATIONAL GREEN TRIBUNAL (SOUTHERN ZONE) IN RESPECT OF O.A NO.273 of 2017 FILED BY SARVAMANGALANAGAR RESIDENT'S ASSOCIATION AGAINST THE SECRETARY TO GOVERNMENT, PUBLIC WORKS DEPARTMENT & ORS. REGARDING INDISCRIMINATE DUMPING OF MUNICIPAL SOLID WASTE AND ALSO DISCHARGE OF UNTREATED MUNICIPAL SEWAGE INTO THE SEMBAKKAM LAKE.

1. ORDERS OF THE HON'BLE TRIBUNAL

It is respectfully submitted that the Hon'ble National Green Tribunal (SZ), Chennai in its order dated 7.2.2020 in the matter of O.A. No. 273 of 2017 inter alia stated that:

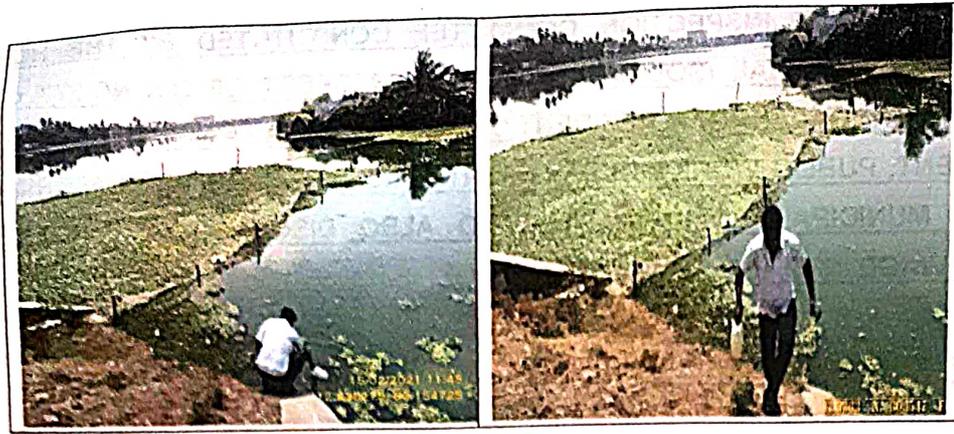
16. So under such circumstances, we feel it appropriate to constitute a joint committee comprising of District Collector, Chengalpattu, Tamil Nadu State Pollution Control Board, Superintending Engineer, Public works Department and Water Resource Organization, Commissioner of Municipal Administration, Chennai and the respective Commissioners namely Sembakkam, Tambaram and Pallavaram Municipalities and Executive Officer of the Chittlapakkam Selection Grade Town Panchayat to inspect the area in question and submit the present status including the encroachment into the water bodies and dumping of waste and discharge of untreated sewage including the condition of sewage system in these municipalities which is being discharged into the Sembakkam Lake. The committee may further look into the condition of STP if any established by them and its functioning if there is any violation what is the action taken and also the stage of the implementation of Solid Waste Management Rules, 2016 as directed by the Principal Bench of National Green Tribunal, New Delhi in O.A.No.606 of 2018 and if there is any violation affecting the ecology of the lake, then assess the environmental compensation to be recovered from the persons who are responsible for the same and submit a factual and action taken report in this regard to this Tribunal within a period of two months.

17. Superintending Engineer, PWD, Chengalpattu will be the nodal agency for coordination and also for providing necessary logistics for this purpose.

18. The Commissioner, Municipal administration, Chennai shall supervise the progress of the functioning of the committee and provide all necessary assistance for submission of their report".

2. COMPLIANCE OF THE DIRECTION

In due compliance of the said Hon'ble National Green Tribunal direction, surface water sample from the Sembakkam Lake was collected on 15.02.2021 so as to ascertain the present water quality of the said water body



The water sample collected from the said water body was sent to the TNPCB laboratory to analyze for the parameters viz. pH, Total Suspended Solids, Total Dissolved Solids, BOD, COD, Copper as Cu, Zinc as Zn, Cadmium as Cd, Lead as Pb, Nickel as Ni, Total Chromium Cr, Hexavalent Chromium Cr⁶⁺, D.O, Total Coliform and Faecal Coliform.

3. REPORT OF THE PUBLIC WORKS DEPARTMENT:

1. The Sembakkam Tank was an irrigation Tank with an Ayacut of 61.94 Ha. and Water Spread Area of 26.00 Ha. Due to urbanization of its Ayacut area and foreshore area, this tank is now functioning as an urban water body for ground water recharge, flood mitigation and ecological needs. The hydraulic standards of this tank is given below,

Tanks Catchment Area	:	4.37 Sq.Km.
Water Spread Area	:	61.94 Ha.
Top Bund Level (TBL)	:	(+) 9.755m.
Full Tank Level (FTL)	:	(+) 7.850m.
Waterway of the Flood Regulator	:	2 Vents (2.70m each)
Length of Surplus Weir / No. of Sluices	:	44.50m / 2 nos.
Capacity	:	0.25 Mcft.
Length of Tank Bund	:	1611m.

2. The southern part of the Sembakkam Tank was used as Solid Waste Compost Yard by the Sembakkam Municipality and this Compost Yard was closed since 04.09.2015. The legacy waste was removed by the Sembakkam Municipality through M/s. Zigma Global Environ Solution (P) Ltd., At present the site is free from the legacy waste
3. As per the site inspection / assessment made by the Field Engineer, there are 15 major storm drainage outlets draining into this Sembakkam Tank bringing in about 7.00 MLD of Sullage / Sewage mixed water to the tank. The tank water is being polluted due to this inflow of sewage mixed storm water. The polluted rate will be higher during dry weather period and it is being naturally diluted during the rainy period.
4. The residential colonies are Chitlapakkam Town Panchayat located at west and south – western side of the lake. The sewage from these colonies are entering the lake from 6 storm drain outlets located at Avvaiyar Street, Balaji Avenue, Balaji Avenue near Temple, Savamangala Nagar, Sarvamangala 7th Street & 2nd Street, Vagai Street. The Chitlapakkam Town Panchayat does not have Under Ground Sewage Scheme (UGSS) and have only one defunct Sewage Treatment Plant (STP) located along the Balaji Avenue storm drain. This plant is not functioning now and even if repaired it will not be in the position to handle the

- present volume of sewage entry into the Sembakkam lake from the Chitlapakkam Town Panchayat area.
5. The Sembakkam Municipality is letting sewage through 4 storm drains located at Iyyappa Nagar 5th Street, 7th Street, V.O.C Street and Vigneshwara Avenue (mixing of Chitlapakkam also). The Sembakkam Municipality have prepared a Under Ground Sewage Scheme (UGSS) and send it to the Commissioner of Municipal Administration which in turn send it to Chennai Metropolitan Water Supply & Sewerage Board (CMWSSB) for preparation of Detailed Project Report (DPR).
 6. The residential layout of Pallavaram Municipality is located at North – Western side of the Sembakkam Tank. This Municipality also letting sewage through their 5 storm drainage outlet points at T.V.K. Nagar, Sarvamangala Nagar (2 points), Mahalakshmi Nagar 1st & 2nd Street. This area of Pallavaram Municipality is also not being covered by Under Ground Sewage System (UGSS). The Pallavaram Municipality is drawing ground water from Sembakkam Tank foreshore area for their Public Water Supply.
 7. The Tambaram Municipality Residential layout located in the foreshore of Chitlapakkam Tank for which the Under Ground Sewage System (UGSS) works are under progress is also sending down the sewage through the storm drains of Chitlapakkam Town Panchayat. The Commissioner, Tambaram Municipality have informed that Under Ground Sewage System (UGSS) for West Tambaram will be completed within 3 months and will be commissioned at earliest. Hence, the possibility of the sewage flow from Tambaram Municipality will be averted in the near future.
 8. Meanwhile, the W.R.D., P.W.D., has taken special initiatives to bring in “**The Nature Conservancy (India)**” and “**Care Earth Trust**” a NGO for eco-restoration of the Sembakkam Tank with technical support of IIT-Madras, Chennai and Financial Assistance from **Corporate Social Responsibility Fund (CSR Fund)**. As per the assessment report carried out by the IIT-Madras, the flow rate of waste water from 22 inlet points is about 7.14 MLD (average). The NGO with Water Resources Department’s technical guidance and in consultation with IIT-Madras has taken up the following components of works,
 - Clearing of Solid Waste
 - De-weeding – Clearing of invasive terrestrial and aquatic plant species.
 - Removal of accumulated silt from the lake
 - Cleaning and rehabilitation of clogged connecting channels
 - Strengthening the embankments.
 - Construction of Flood Regulator.
 - Eco-friendly treatment of incoming wastewater.
 - Eco sensitive landscaping with plantation of native species around the lake.
 - Building community engagement in lake restoration activities.
 9. The above works are in progress. The ecological imbalance of the Sembakkam Tank will be restored to normal by the present work carried out by the present Corporate Social Responsibility Fund (CSR) eco-restoration works by the “**Nature Conservancy**” and “**Care Earth Trust**”. The present works carried out at Chitlapakkam tank which is located in the upstream will also mitigate the ill efforts of

the sewage inlet into this tank. Even though this tank is likely to take up Eco-friendly treatment facility for incoming waste water and 1 MLD Sewage Treatment Facility at Chitlapakkam by the W.R.D., P.W.D., under the EMAT Scheme, it is imperative to provide a Comprehensive Under Ground Sewage Scheme (UGSS) for Sembakkam, Chitlapakkam and this part of Pallavaram, Besides this the Tambaram Municipality also completed and to commission their Under Ground Sewage Scheme (UGSS) at earlier to avert the sewage inflow into both Chitlapakkam and Sembakkam Tanks.

4. REPORT FROM THE COMMISSIONER, SEMBAKKAM MUNICIPALITY

In due compliance of the said Hon'ble National Green Tribunal direction, the Commissioner, Sembakkam Municipality who is also the member of the committee furnishes the following detailed report:

Sembakkam Municipality is a Second Grade Municipality. It consists of three revenue villages viz., Rajakilpakkam, Sembakkam and Gowrivakkam. The population as per 2011 census is 45356. This municipality consists of 15 wards and located adjoining to Greater Chennai Corporation. The coverage area of this municipality is 6.25 sq.km with rapid urbanisation area. The sembakkam lake is maintained and controlled by the Public Works Department.

1. THE PRESENT STATUS WITH REGARD TO DISPOSAL OF SOLID WASTE BY BIO MINING PROCESS.

The garbage collected in Sembakkam Municipality (erstwhile Town Panchayat) was dumped on the bank of Sembakkam Lake. Dumping of waste in sembakkam lake, is banned by the National Green Tribunal. The National Green Tribunal directed the municipality to submit a report in consultation with Anna University with regard to removal and clearing the legacy solid waste dumped on the sembakkam eri. Based on the report received from the Anna university Administrative sanction was accorded by the Commissioner of Municipal Administration for the removal of legacy waste through bio mining process under the Swatch Bharat Mission Scheme with grant assistance of Rs.163.00 Lakhs and from the Municipal General Funds a sum of Rs.50.00 lakhs (Total of Rs.213.00 Lakhs). The work has been handed over to M/s. Zigma Global Environ Solutions Private Limited and executed under the supervision and guidance of Anna University, Chennai. The work has been fully completed and the total quantity of 38026 m³ of legacy waste was disposed scientifically. The Anna University, Chennai has inspected the above site on 18.6.2019 and issued final completion certificate. At present there is no legacy waste in the above said area.

At present the municipality is generating 24.00 MT of solid waste every day. Out of 24.00 MT of solid waste 12.00 MT is wet waste and 12.00 MT is dry waste. The wet waste is processed in Micro Composting Centre constructed at VGP Ponn Nagar with capacity of 5.00 MT each block. A block – 5.00 MT, B Block - 5.00 MT and further 6 Nos of OCC's constructed at six places with a capacity of 4.00 MT. The recyclable wastes are collected once in a week and sold out to local vendors. The sale cost is distributed to the workers involved in this work.

The daily generated plastic and combustible wastes are collected and stored at Resource Recovery Collection centre and the same is transferred to UltraTech Cement Factory, Ariyalur, Trichy twice a week.

2. THE PRESENT STATUS OF DISCHARGE OF WASTE WATER INTO SEMBAKKAM LAKE.

The Sembakkam Municipality is not having Under Ground Drainage System. The total households are 16585 and the commercial establishment are 925. The generated waste water from these households and commercial establishments are collected in the septic tanks and disposed to CMWSSB at Perungudi with private septic tank cleaning Lorries. The proposal has been submitted to the Commissioner of Municipal Administration with a council resolution for the preparation of DPR for UGD scheme integrating 13 ULB's located around sembakkam on cluster basis with grant from Project Development Fund.

The kitchen and bathroom waste water from the below households are alone discharged in to the lake.

Sl. No	Ward No	Name of the Streets	No. of households	Discharging of Waste water in (L)
1	12	Maruthi Nagar Main Road	47	16920
2	12	VOC Street	44	15840
3	14	Iyyappa Nagar 5 th Street	14	5040
4	14	Iyyappa Nagar 7 th Street	14	5040
5	14	Iyyappa Nagar 9 th Street	4	1440
6	14	Iyyappa Nagar 10 th Street	11	3960
		Total	134	48240

The septic tank water of the above households are collected through private septic tank cleaning lorries and disposed to CMWSSB Perungudi. However certain households/ commercial establishment let out the sewage/sullage into Sembakkam Lake

It is submitted that, to prevent the discharge of sullage water from the households necessary common soak pits are to be installed by the municipality on short term basis. The erection of common soak pit work will be completed within 120 days. Further, the owners of these households are instructed to make necessary arrangements for erection of soak pits individually within their compound for the discharge of sullage water from houses.

Further, It is submitted that to prevent discharge of all kinds of sullage and sewage waters on long term basis, the proposal has been submitted to The Commissioner of Municipal Administration with a council resolution for the preparation of DPR for UGD scheme integrating 13 ULB's located around sembakkam on cluster basis with grant from Project Development Fund. After the completion of the above project, there will be permanent solution for the preventing the discharge of sullage and sewage water into the sembakkam tank.

5. REPORT FROM THE COMMISSIONER, TAMBARAM MUNICIPALITY

In due compliance of the said Hon'ble National Green Tribunal direction (273 of 2017(SZ)), the Commissioner, Tambaram Municipality who is one of the member of the committee furnishes the following detailed report:

1.	Total Area of the Tambaram Municipality	20.72 Sq Km
2.	Total Population of the Tambaram Municipality:	174787
3.	The Ward No.11,12 & 13 of East Tambaram	1. Anthoni pillai street,

	<p>areas of Tambaram Municipality which contributes sewage in flow into the Sembakkam Tank through storm water drains of Chitlapakkam Town Panchayat.</p>	<p>2. Ambedkar street, 3. Erikkarai street, 4. Barathamadha sreef, 5. Lalbagathur sasthiri street in ward No.11, 6. Andal street, Periyazvar street, Kulasekaran street, Namazvar street, Thirumizhasai street in ward No.12. 7. Kannagi street, MGR street and Tiruvalluvar street in ward No.13</p>
4.	<p>Household in the above said area:</p>	<p>1181 Nos.</p>
5.	<p>Total Generation of sewage in the said areas:</p>	<p>0.51 MLD</p>

I. SOLID WASTE MANAGEMENT

Generation of total Solid Waste in the Municipality (Ward 11,12 & 13):

2.188 MT/day (Biodegradable waste -1.094 MT and Non Biodegradable waste - 1.094 MT)

Present status of collection and disposal of solid waste:

Presently in the said area, Tambaram Municipality carries out door-to-door collection of solid waste of 2.188 T/day deploying 2nos of Light Commercial vehicle(LCV), 1 no of Battery Operated vehicle (BOV) and with 8 sanitary Workers. Out of 2.188 T/day solid waste, biodegradable solid waste is 1.094T/day and the non biodegradable wastes is1.094 MT/day.

Action Plan for Solid Waste Management

Short Term

1. The Tambaram Municipality has proposed to carry out composting of the biodegradable waste at Micro Compost centre and to dispose the non biodegradable waste dispose at Kodungaiyur compost yard..
2. The Tambaram Municipality has proposed to issue notice to the public and to the households not to dump the waste on the road sides and to issue pamphlets regarding the source segregation of the solid waste.
3. Persons dumping solid waste in the road side will be identified and fine will be imposed as per the provisions of the Local Body Act.

Long Term :

- 1 Door to Door Collection of segregated solid waste from the households of the Tambaram Municipality will be made 100%
- 2 2nos of Light Commercial Vehicle (LCV), 1 no of Battery Operated vehicle (BOV) and with 8 sanitary Workers will be deployed for the collection of solid waste from the said 1181 households.
- 3 Micro composting centre has been created Selaiyur and Onsite compost yard at Gandhi park to compost the segregated Biodegradable wastes of 1.094 MT/day and non degradable waste of 1.094 MT/day including plastic waste will be collected and will be sent to cement factories for co processing

4. The Tambaram Municipality has proposed to carry out composting of the biodegradable waste at Micro Compost centre and to dispose the non biodegradable waste through the Venkadamangalam incineration facility.

II. SEWAGE GENERATION AND SEWERAGE SYSTEM:

Generation of sewage in the Ward 11,12 & 13 of Tambaram Municipality area i.e. from the said 1181 households in 3 wards: 0.51 MLD.

Present method of collection and mode of disposal of sewage:

The generated waste water from the households and commercial establishments in ward nos. 11, 12 & 13 are disposed through individual septic tank arrangements and the above 3 wards are having 2201 nos of Assessment, it is covering 965 no. of House service connection including Flats, Out 965 nos of connection 447 nos of UGSS House service connections are given to 1020nos of Assessments, balance work is in progress. In addition implementation of UGSS internal plumbing House service connection was in progress. When both these schemes are completed in another three months the flow of sewage from Tambaram Municipality to Sembakkam Lake through Chitlapakkam town panchayat storm water drain will be completely averted.

Action Plan for Sewage Management

Short Term

The Tambaram Municipality to remove the blockage in the existing sewer line using mechanical jet rodding machine to provide smooth flow of sewage.

Long Term

Tambaram Municipality now, implementing of UGSS scheme, The scheme is nearly completion, When both these schemes are completed in another three months the flow of sewage from Tambaram Municipality to Sembakkam Lake through Chitlapakkam town panchayat storm water drain will be completely averted.

6. REPORT FROM THE COMMISSIONER, PALLAVARAM MUNICIPALITY

Pallavapuram is a Special Gade Municipality with an extent of 18.01 Sq.kms. There are about 75,000 households in the municipality. According to the 2011 census, the total population was 2,15,452. The sewerage system was in operation in all areas since 10.01.2019 with the installation of pipes, pumps, sewer pits and roadside sewerage station at 8 locations.

Sembakkam lake is located in the Pallavapuram Municipal area adjacent 20 wards. The lake is located near the V.V. Nagar, Maheswari Nagar, Manimekalai street and vivekanda cross street, A field survey was conducted by municipal staff on the mixing of sewage from tense residential areas. Out of 43 number of houses located at Vivekanda cross street, 8 houses have sewer line connection and the remaining houses collect sewage and dispose through sewage tanker lorries. Out of 30 number of houses located on Manimekalai street, 20 houses have sewer line connection and the remaining houses collect sewage, dispose through sewage tanker lorries. Out of the 30 houses located at Maheswari Nagar, 8 houses have the sewer connection and the remaining 22 houses collect sewage and dispose through sewage tanker lorry.

In order to overcome the shortage of drinking water, during the drought in the city, the open well has been set up at sembakkam lake by the District Collector's verbal order.

Further more, the people in the areas surrounding the Sembakkam Lake discharge the sewage from their homes through storm water drain reaching the lake.

7. REPORT FROM THE EXECUTIVE OFFICER, CHITLAPAKKAM TOWN PANCHAYAT:

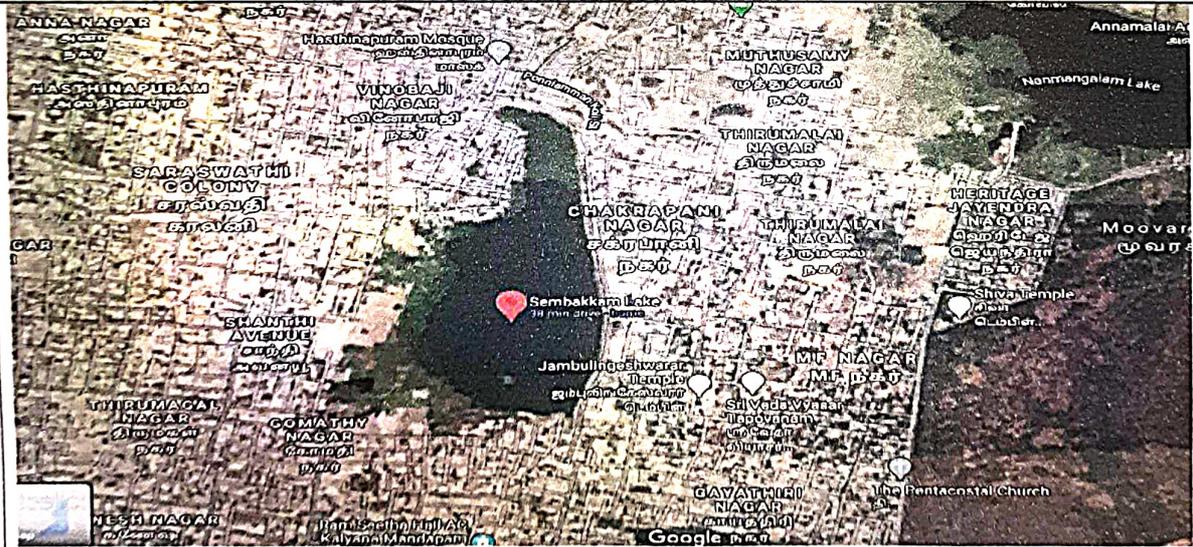
Chitlapakkam Town Panchayat is located adjacent to Sembakkam Lake is a population of 37906 as per 2011 census with 18 wards, 10660 households is generating around 2.24MLD of sewage and reaches Sembakkam Lake through Shanthy Avenue, Balaji Avenue and GT Naidu street.

The Town Panchayat has proposed as set up a Modular STP with an investment of 30 Lakhs to handle the sewage generated from its local body area. Further the STP operated earlier in the Town Panchayat to handle the sewage was demolished to facilitate the storm water drain by the PWD.

8. JOINT INSPECTION OF THE COMMITTEE

The members of the joint committee have carried out the inspection in the area in question on 23.07.2020 & 15.02.2021.

Photographs taken during the inspection



Over view of Sembakkam Lake

9. OBSERVATIONS BY THE COMMITTEE

During the time of inspection, the committee observed the following

1. Sembakkam Lake is located at Survey No.1/1, Sembakkam Village and Survey No.56, of Hastinapuram Village, Tambaram Taluk, Chengalpattu District with combined water spread area to an extent of 61.94 Ha.

2. Sembakkam Lake is bounded by Chitlapakkam Town Panchayat area in the west and south – western side, Sembakkam municipal area in the South and the Eastern side, Pallavaram Municipal area in the Northern side.
3. Sembakkam Lake is fed by surplus overflow from Selaiyur, Rajakeelpakkam and Chitlapakkam Tanks and also from open catchment area of 4.37 sq.km. The capacity of the Lake is 0.25 million cubic feet (Mcft).
4. The Sembakkam Lake is a PWD tank. It has lost its irrigation potential long back due to agglomeration of Chennai City and its suburb over the period of time. Now, the tank serves mostly as a natural aquifer.
5. Surplus overflow from Sembakkam Lake flows into the Nanmangalam Lake, which then leads to Pallikaranai Marshland through Keelkattalai Surplus course.
6. Encroachments were noticed along a portion of the bund in the Northern side and Western side of the water spread area of the lake. It is ascertained that 191 encroachments were found in the year of 2012.
7. There are 15 major storm drainage outlet and 7 street drains, draining into this Sembakkam Tank bringing in about 7.00 MLD of Sullage / Sewage mixed water to the tank. The tank water is being polluted due to this inflow of sewage mixed storm water from Chitlapakkam Town Panchayat area, Sembakkam Municipal area and from a portion of Pallavaram & Tambaram Municipal area.
8. There is no underground sewerage system in the Sembakkam Municipality, Chitlapakkam Town Panchayat areas and in the portion of Pallavaram Municipality. Individual houses/ commercial establishments in the above areas have their individual septic tank, soak pit arrangements. However, certain households/ commercial establishments dispose the sewage/sullage through storm water drains which reaches Sembakkam Lake. Further since the Tambaram Municipality has not completed the implementation of the UGSS, certain households/ commercial establishments from a portion of the said Municipality reaches the Sembakkam Lake through Storm water drains.
9. There is no dumping of solid waste in the Lake and the legacy waste which was dumped earlier by the Sembakkam Municipality was found completely removed and the W.R.D., P.W.D., has taken special initiatives to bring in “The Nature Conservancy (India)” and “Care Earth Trust” a NGO for eco-restoration of the Sembakkam Lake.
10. The said NGO is in the process of carrying out the following works with technical support of IIT-Madras, Chennai and Financial Assistance from **Corporate Social Responsibility Fund (CSR Fund)** by obtaining permission from the PWD.
 - Clearing of Residual Solid Waste
 - De-weeding – Clearing of invasive terrestrial and aquatic plant species.
 - Removal of accumulated silt from the lake
 - Cleaning and rehabilitation of clogged connecting channels
 - Strengthening the embankments.
 - Construction of Flood Regulator.
 - Eco-friendly treatment of incoming wastewater.
 - Eco sensitive landscaping with plantation of native species around the lake.

Of the above, the said NGO has completed the above said works except the installation of Eco-friendly treatment of incoming wastewater and providing of Eco sensitive landscaping with plantation of native species around the lake.

11. Water sample was collected from the Sembakkam Lake sent for analysis to ascertain the water quality.

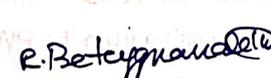
10. RECOMMENDATIONS:

Based on the above observation, the joint committee submits the following recommendation before the Hon'ble National Green Tribunal (Southern Zone)

01. The Commissioner of Sembakkam, Pallavaram and Tambaram Municipalities and Executive Officer of Chitlapakkam Town Panchayat shall identify the households/commercial establishments in their local body area letting out sullage/sewage into the storm water drain reaching the Sembakkam Lake and shall take action to plug the same and shall levy fine on the violators under the provisions of the Local Body Act within three months time
02. The said local bodies shall identify and provide community soak pit arrangement at vulnerable locations within three months time.
03. The said local bodies shall furnish action plan to intercept, transport, treat and dispose the sullage/sewage entering the Sembakkam Lake within three months and implement the same within six months time.
04. The said local bodies shall ensure 100% collection of solid waste being generated within its jurisdiction with proper segregation, door to door collection, processing and disposal of the same by complying with the provisions of the Solid Waste Management Rules 2016 within three months and shall ensure that no dumping of solid waste happens in the Sembakkam Lake by deploying security guards.
05. The said local bodies shall levy fine on the violators dumping solid waste and disposing sewage into the water body under Local body Acts.
06. The said local bodies shall create awareness among the public with the help of associations in the local body area for proper segregation of solid waste.
07. The PWD with the help of Revenue Authorities shall make fresh survey to identify the exact number of encroachment and to evict them within six months.
08. PWD shall expedite the NGO to carry out the works proposed by them for the eco-restoration of the Sembakkam Lake at the earliest

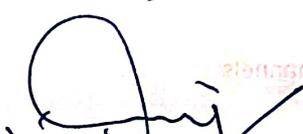

**Executive
Officer,
Chitlapakkam
Town Panchayat**

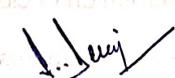

**Commissioner,
Tambaram
Municipality**


**Commissioner,
Pallavaram
Municipality**


**Commissioner,
Sembakkam
Municipality**


**District Environmental
Engineer, Tamil Nadu
Pollution Control Board,
Maraimalai Nagar**


**Revenue Divisional Officer,
Tambaram Chengalpet District.**


**Superintending Engineer,
Public Works Department and
Water Resources Organisation**


**District Collector,
Chengalpattu
District**