BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI

Original Application No. 10 of 2017 (SZ)
with
Original Application No. 18 of 2017 (SZ)
with
Original Application No. 58 of 2017 (SZ)
with
Original Application No. 105 of 2017 (SZ)

Suo Motu Proceedings initiated based on the news item Published in "The Times of India" Chennai - Edition dated 20.01.2017 on the caption "Bhavani river water unfit for consumption" and "Waste from Mettupalayam Government Hospital ends up in Bhavani River"

... Applicant(s)

Versus

The Chief Secretary,
Government of Tami Nadu,
Secretariat, Chennai and others.

...Respondent(s)

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Filed by
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REPORT OF THE JOINT COMMITTEE CONSTITUTED BY THE HONOURABLE NGT SOUTH ZONE IN THE MATTER OF O. A. NO.10, 18, 58 AND 105 OF 2017 SUBMITTED BEFORE THE HONOURABLE NATIONAL GREEN TRIBUNAL, SOUTHERN ZONE, CHENNAI, AS PER THE ORDER DATED JULY 15, 2021

1.0 Background

The Hon'ble National Green Tribunal, Southern Zone, Chennai in O.A. No. 10, 18, 58 and 105 of 2017 has directed as follows in its order dated: 15.07.2021; The copy of the order is attached as *Annexure I.*

> *"---The applicant in O.A. No. 58 of 2017 had filed written submissions in the form of objections to the joint committee report. The applicant had mentioned that apart from the sewage and garbage dumping etc., in the drain which ultimately reaches the River Bhavani as one of the reasons for polluting the water, there are other sources of pollutants as pointed out in the earlier objections. They have raised a specific issue that the trade effluents released from ITC also mixes with the Bhavani River and they have also mentioned that there are three major pollution sources / points above this intake-well, (1) the confluence points of Periapallam where polluted water caused by the ITC mixes with the Bhavani River (II) Sharadha Terry Products and (III) the confluence points of Kallaru River and all these water reaches the Bhavani River which will ultimately pollute the river water.*
>
> *Unless these issues are also addressed, it may not be possible to resolve the entire issue in a scientific manner. They have also mentioned in the written submissions that the committee has not properly understood the points that have been raised by them in the earlier objection and that also will have to be revisited. So under such circumstances, we direct the joint committee to inspect the area mentioned in the written submissions submitted in the applicant in O.A. No. 58 of 2017 and consider those objections and after inspecting the areas and Industries to ascertain as to whether the ETP and other trade effluents mechanisms provided are efficiently functioning and whether there is any possibility of illegal discharge of untreated trade effluents into any of the drains or the water body directly in a clandestine manner so as to affect the water quality and also take the water samples from those points as well, to ascertain as to whether there is any possibility of pollution being caused due to illegal discharge of trade effluents and if there is any*

contamination caused then they are directed to find out the source and provide remediation required for that purpose.

They are also directed to consider the Research study on Pollution conducted by the Directorate of Natural Resources Management of Tamil Nadu Agricultural University, which was given to the Tamil Nadu Pollution Control Board on 31.03.2016 and consider whether the recommendations if any made by the committee in that case and the directions given by the Tamil Nadu Pollution Control Board pursuant to the same have been strictly implemented and if not, what is the gap and what is the nature of action taken by the Tamil Nadu Pollution Control Board in this regard.

The committee is also directed to ascertain as to whether the industries mentioned in the written submissions filed by the applicant, dated30.06.2021 are treating the effluents generated by them in a scientific manner and what is the quantity of the effluents generated, how it is treated and the treated water is being used by them and whether that treated water if any, used for irrigation is fit for irrigation as such and if not, what are the remediation measures to be taken to rectify the same and whether the inlet and outlet discharges from the treatment plants are meeting the norms and if not what is the remedial measures to be taken by them and if there is any violation found, what is the action taken by them. All the above aspects will have to be incorporated in the report to be filed by them.

The committee, the Health Department and also to the Mettupalayam Municipality are directed to submit their further progress report regarding the compliance of the recommendations made by the joint committee earlier.

The committee as well as the respective Departments are directed to file their further independent reports as directed by this Tribunal on or before 09.09.2021..."

2.0 Inspection and monitoring of the Joint Committee as per the directions of Hon'ble NGT

In compliance to the Hon'ble NGT direction, a meeting of the Joint Committee was held on 02.08.2021 at the District Collectorate, Coimbatore, the joint committee finalized the date of inspection and decided to carry out the inspection on 05.08.2021 and 06.08.2021. Accordingly, the joint committee inspection was carried out and observations made are submitted below:

3.0 M/s. ITC Limited, Paper Boards and Specialty Boards Division, Unit: Kovai

M/s. ITC Limited, Paper Boards and Specialty Boards Division is located at SF No. 241/1, Thekkampatty Village, Mettupalayam Taluk, Coimbatore District and is in manufacturing paper board using waste paper.

3.1 Observations

i. Previously, this unit had applied CTO in the name of M/s. Servall Engineering Industries Ltd., on 11-11-1994 and Consent was issued vide Proc. No. F1/TNSEC-207/CBE/W&A/97 Dt: 14.08.1997 valid up to 31.03.1998 for manufacturing Duplex Board, Chromo Board & Art Board for 7424 T/M of capacity.

ii. Then the management & name of the unit was changed from M/s. Servall Engineering Industries Ltd., to M/s. Bilt Industrial Packaging Company Ltd., and necessary Amendment under both the Acts was issued vide JCEE Proc. No: JCEE/ TNPCB/CBE/F.702/A/CBE/O/L/W&A/AMEND/2000/Dt.17-11-2000.

iii. Further, the unit was taken over by M/s ITC Limited, Paper Board and Specialty Papers Division, Unit: Kovai. Once again, the CTO was amended by TNPCB and amendment was issued vide. PROC. No: DEE/TNPCB/CBE/F.3889/O/L/A&W/AMENDMENT /2004/ Dt. 27-05-2004.

iv. The M/s ITC Limited applied CTE for the addition of Captive Power Plant of 8 MW under Water & Air Acts on 25-06-2004 for manufacturing Duplex Board, Cromo Board & Art Board of 7424 T/M capacity and Power Generation (Cogeneration plant) with 8 MW.

v. The unit has obtained CTO for Expansion vide Board Proc. No. T4/TNPCBD/F-0038CBN/ RL/CBN/A & W/2015/DT.24/06/2015, valid up to 31.03.2016 and renewed up to 31.03.2022 for the production of Duplex Board, Cromo Board & Art Board of 10000 T/M capacity and Power Generation (for Captive Use) – 8 MW.

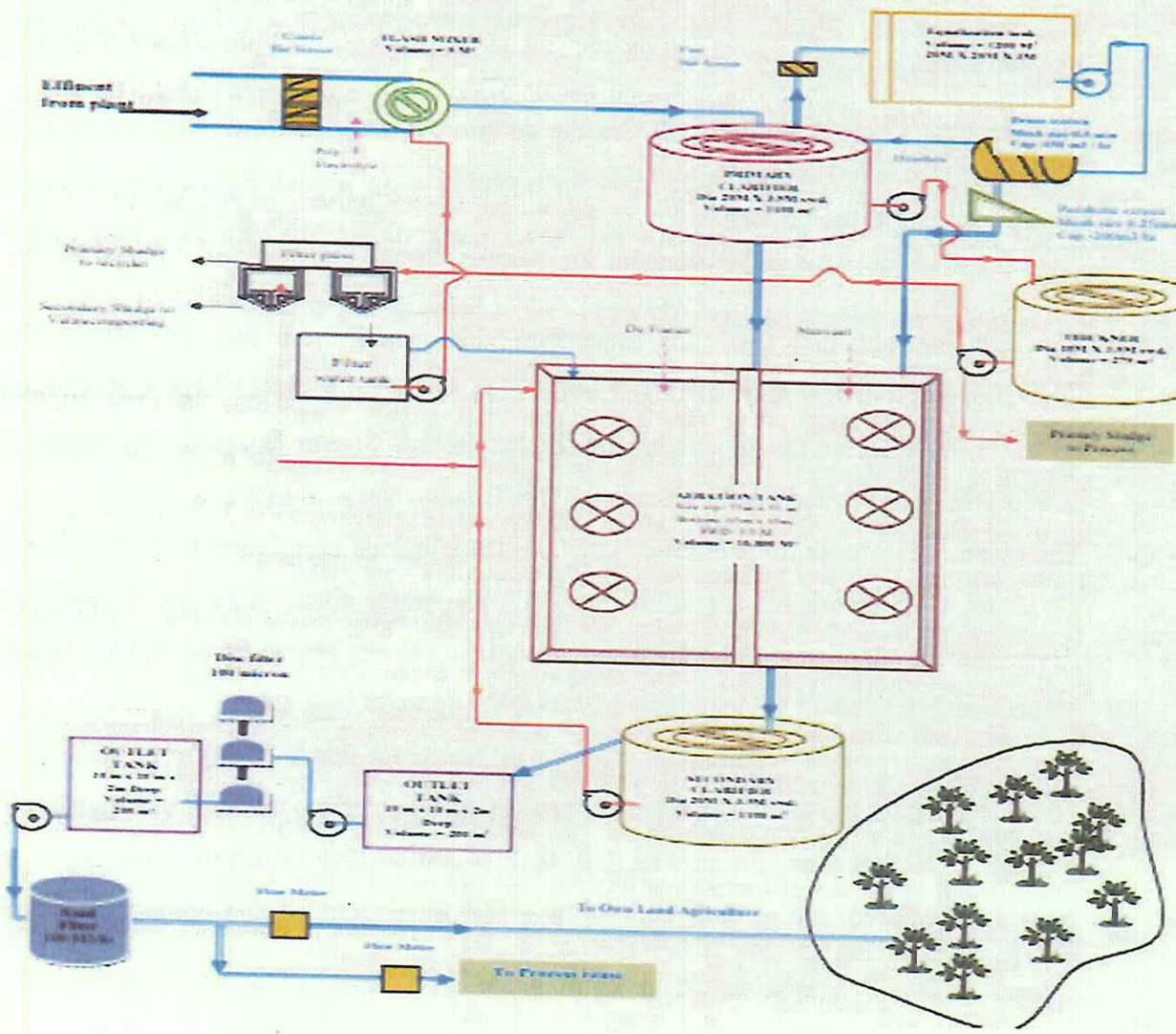
vi. The source of water is River Bhavani, the unit has obtained permission from the District Collector, Coimbatore for the withdrawal of fresh water about 6600 Cu. m/day from River Bhavani vide letter dated: 07.07.2019 with the validity period up to 08.09.2019 and subsequently renewed vide letter dated:17.08.2021 up to 08.09.2024.

vii. The unit has provided two numbers of Sewage Treatment Plants (STP) with capacity of 50 KLD and 23 KLD for the treatment of sewage generated from the unit. STP consists of Sewage collection tank, Primary settling tank, Aeration tank, Secondary settling tank, treated sewage collection tank and Multi grade filters and all the components were

operational during inspection. The treated sewage is further taken to ETP for treatment along with trade effluent.

VIII. The unit procures raw materials from its sister concern unit i.e. M/s ITC, Bhadrachalamin the form of bales. The unit produces paper board from waste paper without using digester. The flow diagram of the process is depicted below:

IX. The effluent 2600 KLD generated from the process is treated in an effluent treatment plant of capacity 6600 KLD. The unit has provided ETP with physic-chemical and biological treatment system. ETP consists of Bar Screen chambers before the Primary Clarifier to remove the floating particles of 7mm & above, Drum Filter after primary Clarifier to remove the floating particles of 0.5 mm &above, Secondary Clarifier, Multiple Disc Membrane Filter to remove particles of 100micron particles and also to reduce the TSS levels, and activated carbon & pressure sand filters. During inspection, all the filters and other units of ETP were under operation. The flow diagram of ETP is as below:



X. The unit has provided EMFM in the following locations i. Effluent Inlet channel leading to Primary Clarifier (V-Notch with laser mechanism- Non contact type) ii. Outlet of the ETP i.e., Outlet of Pressure Sand Filter leads to Irrigation fields iii. Outlet of the ETP i.e., Outlet of Pressure Sand Filter - Reusing line to the process and other utility. The Online Continuous effluent monitoring system is also installed at the outlet of ETP for the parameters pH, COD, BOD, TSS, and Temperature and the data recorded is connected to CPCB & TNPCB server.

XI. During inspection, Samples were collected from at the outlet of ETP and at irrigation distribution channel. The samples were analysed at TNPCB Laboratory, Salem and results are tabulated below:

S.No.	Parameters	Unit	ETP Outlet (Treated)	Treated effluent in pumping tank (Treated)	Standards for on land for irrigation
1	pH @ 25°C		7.95	7.91	5.5-9.0
2	Conductivity	µs/cm	1898	2790	-
3	Total Suspended Solids	mg/l	22	34	200
4	Total Dissolved Solids	mg/l	1028	1428	2100
5	BOD for 3 days @ 27°C	mg/l	7	7	100
6	COD	mg/l	64	96	-
7	Ammonical Nitrogen	mg/l	2.2	<2	-
8	Total Kjeldahl Nitrogen	mg/l	<5	<5	-
9	Sulphide	mg/l	<1.0	<1.0	-
10	Phenolic Compounds	mg/l	<0.001	<0.001	-
11	% Sodium	%	50	46	60
12	Iron Total	mg/l	0.75	0.43	--
13	Total Chromium	mg/l	<0.01	<0.01	-
14	Copper	mg/l	0.1280	0.1011	-
15	Zinc	mg/l	<0.0015	<0.0015	-

16	Lead	mg/l	<0.015	<0.015	-
17	Cadmium	mg/l	<0.0008	<0.0008	-
18	Nickel	mg/l	<0.006	<0.006	-

From the above table, it is observed that the treated effluent parameters are within the limits prescribed by the TNPCB.

XII. The piezometric well located in the irrigation fields and the surface water samples from the Odai (canal) located near the unit were collected during inspection and results are tabulated below:

S.No.	Parameters	Unit	Bore well at Irrigation land (Coconut farm)	Salaivembu Odai near Nachimuthu Gounder Thottam (Fresh Water)	Periyapallam odai near M/s. ITC Water Pump house (Fresh water)	Standards for on land for irrigation by TNPCB
1	pH @ 25°C		7.65	8.03	8.29	5.5-9.0
2	Conductivity	µs/cm	3080	1128	224	-
3	Total Suspended Solids	mg/l	8	14	10	200
4	Total Dissolved Solids	mg/l	1712	510	130	2100
5	BOD for 3 days @ 27°C	mg/l	<2	3	<2	100
6	COD	mg/l	16	40	16	-
7	Ammonical Nitrogen	mg/l	<2	<2	<2	-
8	Total Kjeldahl Nitrogen	mg/l	<5	<5	<5	-
9	Sulphide	mg/l	<1.0	<1	<1	-
10	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	-
11	% Sodium	%	51	28	14	60
12	Iron Total	mg/l	0.38	0.14	0.14	--
13	Total Chromium	mg/l	<0.01	<0.01	<0.01	-
14	Copper	mg/l	0.1108	0.1225	0.1282	-
15	Zinc	mg/l	<0.0015	<0.0015	<0.0015	-
16	Lead	mg/l	<0.015	<0.015	<0.015	-

17	Cadmium	mg/l	<0.0008	<0.0008	<0.0008	-
18	Nickel	mg/l	<0.006	<0.006	<0.006	-

The ground and surface water all the parameters are within the permissible limits for irrigation prescribed by TNPCB.

3.2 About Irrigation Fields

M/s ITC Limited possess about 166.73 Hectares, out of which, 72.85 Hectares is used for the process utility, ETP, STP, Power plant and storage shed and 93.88 Hectares is used for irrigation.

In 93.88 Hectares of land, the unit has planted 2491 nos. of coconut trees in 16.59 Hectares, 39850 nos. of eucalyptus trees in an area of 31.56 Hectares, 62625 numbers of other local trees such as Neem, Pungai, Vaagai, Accacia & Ficusin in 27.11 Hectares of land and 18.62 Hectares. of land is utilized for crop rotation.

During inspection, it was noticed that there were no crops in the crop rotational field and was informed by the unit representative that the corn and pearl millet cultivated were harvested during the month of July 2021 and planned for harvesting the same crops.

The unit has obtained consent by TNPCB for discharge of 2600 KLD of treated water on their irrigation land which requires 74.29 Hectares of irrigation field as per the consent order condition hydraulic loading rate 35 KL/Hec/day. The unit has already earmarked and developed 93.88 Hectares of irrigation land. And also treated effluent is used for development of green belt in process area. Hence the unit is utilizing entire treated effluent for irrigation and green belt development.

3.3 Research study by the Directorate of Natural Resources Management of Tamil Nadu Agricultural University (TNAU) in irrigation fields of the unit

It was informed by TNPCB that during the year 2013, frequent complaints were received from the farmers of Thekkampatty Village against the unit regarding damage caused to the Ground water, Soil, Agricultural yield of the Farmers located near the unit due to discharge of treated effluent on industry's own irrigational lands. In this regard the District Collector had addressed to TNAU, Coimbatore and the Directorate of Natural Resource Management, a wing of Tamil Nadu Agricultural University, Coimbatore to analyse the soil, Ground Water, and Yield in and around the area of the unit's irrigation fields vide its Lr.No. TNAU/SODNRM/SOIL & WATER POLLUTION/STUDY IN THEKKAMPATTY VILLAGE/2013/DT.18-03-2013. The cost of study

was paid by the unit and the TNAU analysed samples of Soil, Ground Water, etc. and the study report was submitted to the District Collector of Coimbatore and to TNPCB on 31.03.2016.

Based on the report of the Directorate of Natural Resource Management, a wing of Tamil Nadu Agricultural University, Coimbatore, the District Collector sent a DO letter to the Chairman, TNPCB, Chennai and copy to this office stating that it has been ascertained that water sample analysed in certain survey Nos. in the vicinity of the unit are unfit for human/domestic consumption and agricultural purposes. Further it has been stated that some of the soil samples have higher pH which will lead to more than 50% reduction of yield corps. In this regard it was requested to issue Show Cause Notice, Hence, the District Environmental Engineer, TNPCB, Coimbatore North issued Show Cause notice to the unit vide Proc.No.F.CBN1371/DEE/TNPCB/CBN/RL/W/2016/Dt.14/03/2016.

For the Show cause Notice, the unit had submitted reply stating that the effluent from their process is treated effectively and efficiently in the ETP and the quality of treated effluent discharged is within the standards prescribed by TNPCB and also informed that the unit has engaged Tamil Nadu Agricultural University (TNAU) to study the impact of treated effluent usage in their agriculture land. TNAU had collected water samples from different locations, both within the premises and nearby wells and soil samples similarly once in three months and furnishes half yearly report. The recent half yearly report concludes that "In field soil, no deleterious effect was observed due to continuous irrigation of treated effluent". All the parameters are well within the TNPCB Norms. Core parameter (pH, TDS, EC) of surrounding well water and soil samples collected by TNAU are well within the standard.

The unit M/s ITC Limited has engaged the Tamil Nadu Agricultural University (TNAU) to monitor the impact of application of treated effluent on soil and ground water quality since year 2004 onwards. The unit submits TNAU reports annually to the District Environmental Engineer, TNPCB, Coimbatore North which shows no adverse impact on the soil and ground water quality.

4.0 M/s Sharadha Terry Products Ltd.

The unit is a textile processing industry since 27.03.1994 and located at S.F.No. 939/1, 2&3, 940/1, 2&3 etc, Thekkampatty village , Mettupalayam Taluk, Coimbatore District.

4.1 Observations

i. The unit has obtained Consent to Operate (CTO) under Air & Water Acts vide Proc.T2/ TNPCB/ F-1487W& A/ RL/ CBE/2008 dated 26.12.2008 with a validity up to 31.03.2009

and subsequently renewed up to 31.03.2022 to manufacture Woven Fabrics (Products like Terry towels, home furnishing Apparel fabrics as per order basis) for 21,00,000 meters/ Month.

ii. The unit has provided 5000 KLD capacity of Effluent Treatment Plant with Zero Liquid Discharge System (ZLDS) for the treatment of effluent generation from the dyeing activity. ETP consists of Collection Tank, Homogeneous Tank, Neutralization treatment System, Effluent Cooling System, Biological Oxidation system, Secondary Clarifier, Quartz's Filters, Ultra Filtration, Reverse Osmosis system, Nano Filtration System, Enhanced Natural Evaporator, Multiple Effect Evaporator and Agitated Thin Film Dryer (ATFD).

iii. During the Joint Committee inspection, it was observed that ETP and Zero Liquid Discharge System (ZLDS) was under operation and treated effluent was recycling R.O. Permeate of 3240 KLD and Brine of 306KLDto process and the unit was achieving ZLD.

iv. There was no discharge of untreated/partial/treated trade effluent into River Bhavani from the unit during the time of inspection. During inspection, it was ascertained that the unit has generated 2878 tons of chemical sludge from the ETP, out of which 2459 tons is disposed to TSDF, Gummidipoondi & Cement industries and remaining 419 tons stored in closed shed. The unit has stored hazardous waste mixed salt of 4311 tons generated from Agitated Thin Film Drier (ATFD) in the closed shed.

v. The unit has installed Agitated Thin Film Drier (ATFD) during the year 2017 to recover the salt. The unit generates800-1000 Kg/day (around 20 -30 T/Month) of mixed salts. The TNPCB has issued Authorization under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 for the collection and storage of recovered salt from ATFD , however it has not mentioned mode of disposal. Hence the unit is storing mixed salt of 4311 tons in the closed shed.

vi. The unit generates 132 KLD of sewage and is treated in the STP of 150 KLD capacity. STP consists of Bar Screen Chamber, Oil& Grease separator, Initial Collection Tank, Aeration Tank, Settling Tank, Pressure Sand Filter, Chlorine dosing system, Air Blower, Raw Feed Pump, Return Sludge pump, Filter Feed pump & Chlorine contact tank and all the components were found in operation at the time of inspection.

vii. The effluent samples were collected at the ETP inlet and outlet and analysed through the Advanced Environmental Laboratory, Coimbatore. The results are tabulated and submitted as below

S.No.	Parameters	Unit	ETP Inlet	RO Feed
1	pH @ 25°C		8.12	7.14
2	Total Suspended Solids	mg/l	42	22
3	Total Dissolved Solids	mg/l	4250	4580
4	Chloride as Cl	mg/l	1400	1550
5	Sulphate as SO_4	mg/l	247	226
6	BOD for 3 days @ 270C	mg/l	64	10
7	COD	mg/l	800	144
8	Ammonical Nitrogen	mg/l	2.8	2.2
9	Total Kjeldahl Nitrogen	mg/l	20.17	<5
10	Total Chromium	mg/l	<0.01	<0.01
11	Zinc	mg/l	<0.0015	<0.0015
12	Nickel	mg/l	<0.006	<0.006

From the above results, the TSS, BOD and COD value in ETP outlet are lower than the ETP inlet. It is further evident that the unit has operated the Effluent Treatment Plant continuously and efficiently.

5.0 Monitoring of River Bhavani

The Joint Committee monitored River Bhavani Stretch, River Kallaru and major pollution sources/points on August 05, 2021. During inspection the flow of the river was moderate and observed that, the major drains carrying sewage generated from the Mettupalayam Municipality was directly discharged into the river. The River Bhavani water samples at two locations in downstream of the Periapallam odai and River Kallaru joining the River Bhavani and River Kallaru water sample were collected and analysed in the Advanced Environmental Laboratory, TNPCB, Salem. The results are tabulated in the table below:

S. No.	Parameters	Unit	SN - 137	SN - 138	SN - 139	Drinking water standards
1	Turbidity*	NTU	**2.2**	**2.7**	**2.3**	1
2	Colour*	ml	<5	<5	<5	5
3	Conductivity at 25°c	µmhos/ cm	103	259	110	-
4	pH at 25°c	Number	6.57	6.52	**6.44**	**6.5-8.5**
5	Total Suspended Solids at 103°C - at 105°C	mg/l	4	4	4	-
6	Total Dissolved Solids at 180°C	mg/l	78	176	82	500
7	Chloride as Cl	mg/l	11	28	12	250

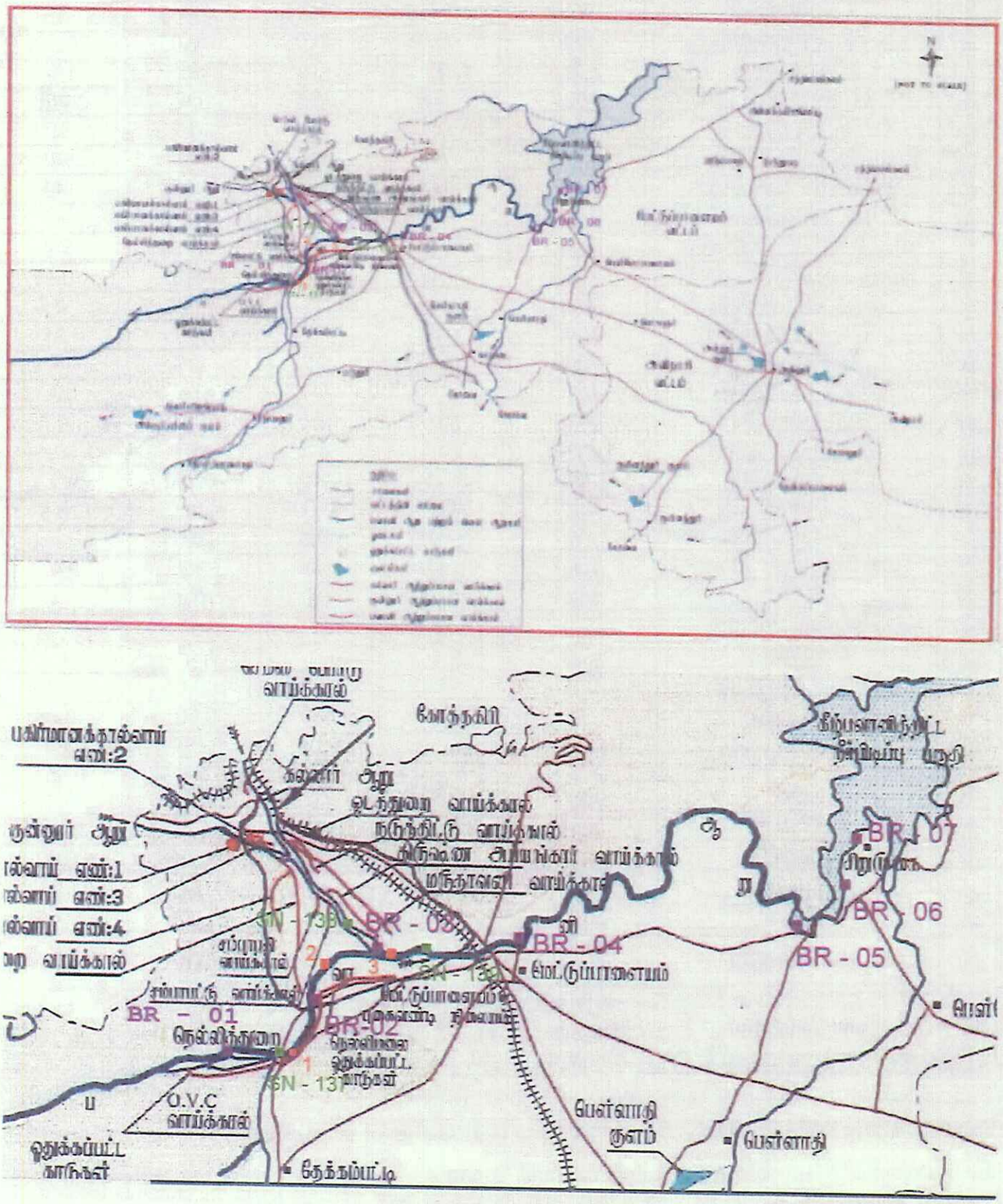
8	Sulphate as SO_4	mg/l	<5	<5	<5	200
9	Oil and Grease	mg/l	<4	<4	<4	0.5
10	BOD (at 27°C for 3 days)	mg/l	<2	<2	<2	-
11	COD	mg/l	16	16	16	-
12	Manganese*	mg/l	<0.01	<0.01	<0.01	0.1
13	Ammonical Nitrogen as NH3-N	mg/l	<2	<2	<2	-
14	Total Kjeldahl Nitrogen	mg/l	<2	<2	<2	-
15	Fluoride as F	mg/l	0.034	0.051	0.063	1.0
16	Ph. Compounds	mg/l	<0.05	<0.05	<0.05	0.001
17	% Sodium	%	17	38	32	-
18	Total Hardness as CaCO3	mg/l	25	63	32	200
19	Alkalinity as CaCO3	mg/l	24	44	36	200
20	Ph. Alkalinity*	mg/l	<1	<1	<1	-
21	Nitrate Nitrogen as NO3	mg/l	0.128	0.171	0.100	45
22	Nitrite Nitrogen as NO2	mg/l	0.016	0.021	0.013	-
23	Phosphate as PO4	mg/l	0.041	0.046	0.037	-
24	Cyanide	mg/l	<0.05	<0.05	<0.05	0.05
25	Calcium as Ca	mg/l	4	11	6	75
26	Magnesium as Mg	mg/l	3	8	4	30
27	Sodium as Na	mg/l	6.2	19	7.2	-
28	Potassium as K	mg/l	1.1	4	1.2	-
29	Iron Total as Fe	mg/l	<0.05	<0.05	<0.05	0.3
30	Dissolved Oxygen	mg/l	6.3	6.2	6.3	-
31	Free Ammonia*	mg/l	0.297	0.446	0.297	-
32	Boron*	mg/l	<0.002	<0.002	<0.002	0.5
33	Hexavalent Chromium	mg/l	<0.05	<0.05	<0.05	-
34	Total Residual Chlorine*	mg/l	<1	<1	<1	-
35	SAR*	mg/l	0.5	0.9	0.4	-
36	Residual Sodium Carbonate*	-	-	-	-	-
37	Total Chromium	mg/l	<0.05	<0.05	<0.05	0.05
38	Copper*	mg/l	<0.0015	<0.0015	<0.0015	0.05
39	Zinc*	mg/l	<0.0015	<0.0015	<0.0015	5
40	Lead*	mg/l	<0.015	<0.015	<0.015	0.01
41	Cadmium*	mg/l	<0.0008	<0.0008	<0.0008	0.003
42	Nickel*	mg/l	<0.006	<0.006	<0.006	0.02
43	Feacal Coliform*	MPN/ 100ML	4	7.8	4.5	0
44	Total Coliform*	MPN/ 100ML	12	21	14	0

Note:SN-137:Near Kavundampalayam Scheme water pump house in River Bhavani, SN-138: Near Puliyanthoppu (Odanthurai Panchayat) in River Kallaru , SN-139: Near Kuduthurai malai (Thekkampatty Panchayat) in River Bhavani

From the above table, it clearly shows that there is discharge of sewage from the hamlets located in the upstream of Mettupalayam Municipality and Coonoor Municipality, due to the presence of Fecal coliform in all three locations. Since the river water flow was moderate during monitoring, the

sewage contamination is not visible in the results due to river water dilution. Other parameters are within the permissible limits for drinking water standards except for turbidity.

6.0 Sampling Points in River Bhavani



Violet Colour: *Location of River Bhavani water Samples collected on 27.03.2020 & 27.03.2021*
Orange Colour: *Samples locations pointed out in the Witten submission by Thiru.T.T.Rangasamy.*

Green Colour: *Location of River Bhavani & Kallaru water Samples collected on 27.03.2020 & 05.08.2021*

6.1 The confluence points of Periapallam where polluted water caused by the ITC mixes with the River Bhavani;

M/s. ITC Limited has provided Effluent Treatment Plant for the treatment of effluent generated. During the Joint Committee inspection, the ETP was in operation and treated trade effluent is utilized for irrigation on their land. At the time of inspection, there was no discharge of untreated/treated effluent into drain or into River Bhavani from the unit. The unit is located at 3 km away from the River Bhavani in Southern direction and located in between the Bhavani River water sampling location of BR-01-Mr. Kittu's Thottam, Vilamarathur and BR-02-Badrakaliamman Koil (after confluence of Periapallam Odai). Already two times River Bhavani water samples were collected in the above two locations on 17.03.2020 & 17.03.2021 by the NGT Joint Committee and analysed through TNPC Board Laboratory. From the report of analysis, it was found that there is no industrial effluent contamination in River Bhavani Water except domestic sewage and submitted to the Hon'ble NGT in the previous Reports. However, the Joint Committee again collected River Bhavani water samples near Kavundampalayam Scheme water pump house on 05.08.2021 and confirmed the same.

6.2 Water mixing point at Sharadha Terry Products

M/s Sharadha Terry Products has provided Zero Liquid Discharge System (ZLDS) for the treatment of effluent generation. During the Joint Committee inspection, it was observed that ETP was operational and treated effluent was recycled back to process and the unit was achieving ZLD. There was no discharge of untreated/partial/treated trade effluent into River Bhavani from the unit during the time of inspection. The unit is located at 800m away from the River Bhavani in Southern direction and located in between the Bhavani River water sampling location of BR-02-Badrakaliamman Koil and BR-03-Near Samanna Water Tank and Mettupalayam Municipality Water Pumping stations (confluence point of Uppupallam Odai). Already two times River Bhavani water samples were collected in the above two location on 17.03.2020 & 17.03.2021 by the NGT Joint Committee and analysed the water samples. From the analysis results, it was noticed that there was no industrial effluent contamination except domestic sewage and submitted to the Hon'ble NGT in the previous Reports. However, the Joint Committee again collected River Bhavani water samples near Kuduthurai malai (Thekkampatty Panchayat) on 05.08.2021 and confirmed the same.

6.3 The Confluence point of Kallaru River

The River Kallaru confluences into River Bhavani in between the Sampling location of BR-02-Badrakaliamman Koil and BR-03-Near Samanna Water Tank & Mettupalayam Municipality Water Pumping station (confluence point of Uppupallam Odai), Already two times River Bhavani water samples were collected in the above two locations on 17.03.2020 & 17.03.2021 by the NGT Joint Committee and analysed through TNPCB Laboratory. From the report of analysis, it was observed that there was domestic sewage contamination in River Bhavani water and submitted to the Hon'ble NGT in the previous Reports. As per the Hon'ble NGT direction, the Joint Committee collected River Kallaru water samples near Puliyanthoppu (Odanthurai Panchayat) on 05.08.2021 and analysed through TNPCB Laboratory. From the Report of analysis, it was found that the River Kallaru carries domestic sewage from the Coonoor Municipality and finally confluences into River Bhavani.

7.0 Action taken Report by Mettupalayam Municipality

In compliance of the Hon'ble National Green Tribunal, Southern Zone, Chennai in O.A. No. 10, 18, 58 and 105 of 2017 order dated: 15.07.2021 the short term and long-term measures taken by the Mettupalayam Municipality is submitted as below.

7.1 Action taken for long term measures.

Under Ground Sewerage System (UGSS) and collection wells were under progress. Around 97% of the Sewerage Treatment Plant (STP) construction is nearing completion. It was informed that due to pandemic COVID-19 situation and nationwide lockdown and election code of conduct was in force, the construction work was comparatively slow. The Construction of Inlet chamber, Sequential Batch Reactors and Chlorine Contact Tank are completed and Construction of Blower building, administrative building and centrifuge building were under progress. It was informed that by the end of October 31, 2021 the construction & operation of the STP will be completed. The overall progress of the UGSS scheme is 87%. The status report of construction of UGSS and STP is given in the table below:

1	**Name of Scheme** Name of the Division Name of the Executive Engineer Mobile No	**Under Ground Sewerage Scheme to METTUPALAYAM Municipality in Coimbatore District.** **Sewerage Division, Kuniyamuthur.** **Er. J.K. Annadurai, B.E. MBA,** **9360236553**
	Beneficiary	Mettupalayam Municipality
	Population and Requirement	Population Benefited (in Lakh)

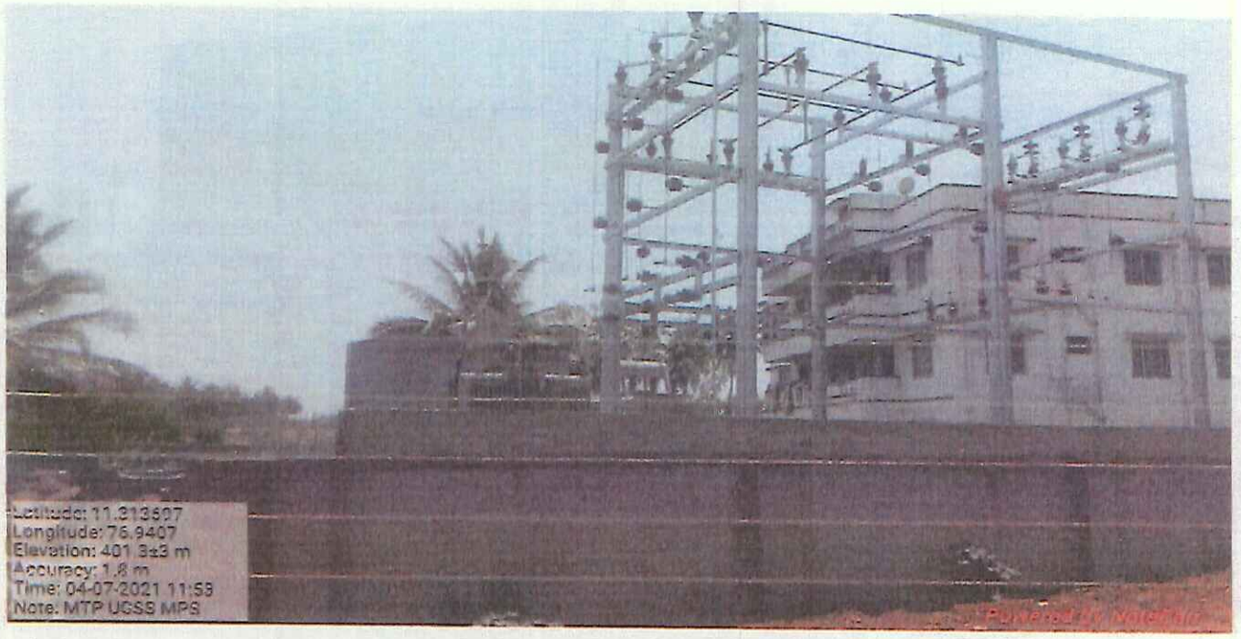
		Present (2017)	Inter (2032)	Ultimate (2047)		
		0.715	0.773	0.836		
2	Administrative Sanction	G.O.(D) No.389 /MA&WS (MA3) dept / dt.09.09.2016 - Rs. 91.70 crores to install and Rs. 97.50 lakhs to maintain annually.				
3	Technical Sanction	CE/CBE No: 11/2016-17 dt.24.02.2017 for Rs.91.70Crore				
4	Date of Work Order	1. Package -I : CE / TWAD Board / Coimbatore : Work order No. F. UGSS to MTP Mpty Package -I / SDO (T1)/CE/CBE/2018 / Dt : 09.04.2018. 2. Package -II: CE / TWAD Board / Coimbatore: Work order No. F. UGSS to MTP Mpty Package -I / SDO (T1)/CE/CBE/2018 / Dt: 09.04.2018. 3. Package-III: CE/TYWAD/Cbe Work order no. F.UGSS to MTP Mpty package III/SDO(T1)/CE/Cbe/2018/dt.16.8.18				
5	Agreement No /date/ Value & Period	1.Pac -I:Agt No CE/CBF/ No 4/18-19/dt.04.05.18 Rs.29.34 Cr/30 +6 Months 2.Pac -II :Agt No CE/CBF/ No 5/18-19/dt.04.05.18 Rs.37.46 Cr/30 +6 Months 3.Pac-III :Agt No. CE/Cbe/no.15/18-19/dt. 12.9.18 rs.13.788 cr./ 30 +6 Month				
6	Date of Commencement of work	For Pac-I & II - **24.4.2018** &Pac-III – **12.9.2018**				
7	Name of Contractor	Package I: M/s. VVV Construction Private Ltd., AnnaiSathya Nagar Main Road, Nesapakkam, Chennai -600 078 Package II: M/s. Keyem Engineering Enterprises., KamarajNagar, Thiruvanmiyur,Chennai -600 041 Package-II: R.Velumani, Avinashi.				

Sl. No.	Name of the work	Physical Progress of work				Financial Progress in lakhs			Scheduled date of completion
		Total Qty of Work	Progress upto 31.08.21	Balance	%	Total Cost	Expenditure upto31.08.21	%	
	Physical Progress:								
	COLLECTION SYSTEM								
I	**Package I**								
1	**Sewer Line (Mts.)**	29321	23016	6305					
2	**Manholes (Nos.)**	1342	1150	192	69 %	Rs.917 Lakhs	5571.88 lakhs	72%	Package I –10/2020 (Original) 10/2021 (Revised)
3	**House Service Connection (Nos.)**	10205	3241	6964					

4	Road Restoration Works (Meter)	28521	14477	14044					
5	Pumping Main ((Meter)	9569	6765	2804					
6	Pumping Station (Nos.)	3	3 Nos. completed.						
	Lifting Station (Nos.)	7	6 Nos completed.	1					
II	Package II								
1	Sewer Line (Mts.)	45314	36449	8866					
2	Manholes (Nos.)	1977	1665	312					
3	House Service Connection (Nos.)	6795	3093	3702					
4	Road Restoration Works (Meter) Stoneware Line	35314	31545	6089	79%				Package II -10/2020 (Original) 10/2021 (Revised)
5	Pumping Main (Meter)	7300	6629	671					
6	Pumping Station (Nos.)	3	completed						
7	Lifting Station (Nos.)	1	completed						
III	Sewerage Treatment Plant – 8.65 mld SBR Method	1 No	97% completed	1	97% Package III - 3/2021 (Original) 10/2021 (Revised)				

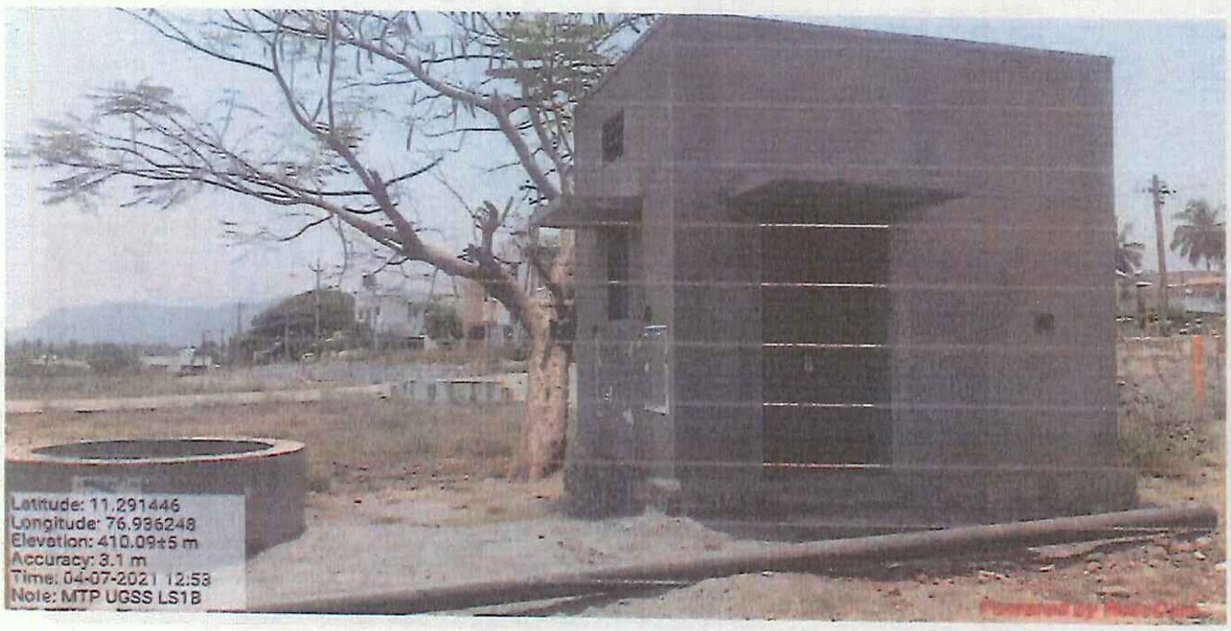
Package – 3 –STP

Package 2 – MPS – Vellipalayam near scavenger quarters



Package 2 – Pumping Station 5 - Near mokkaiyur road - MuniyappanKoil

Package 1 – Lift station 1 B– Shanthi nagar



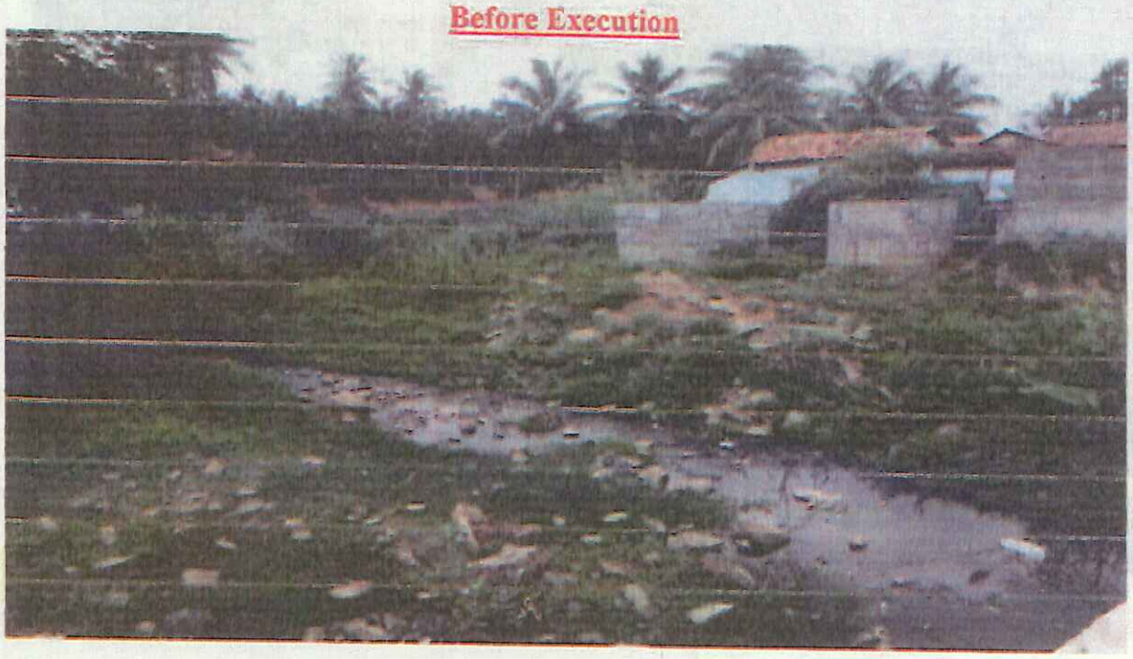
PKG II Zone 4 Trunk main Manhole 572 Rajapuram

7.2 Action taken for short term measures.

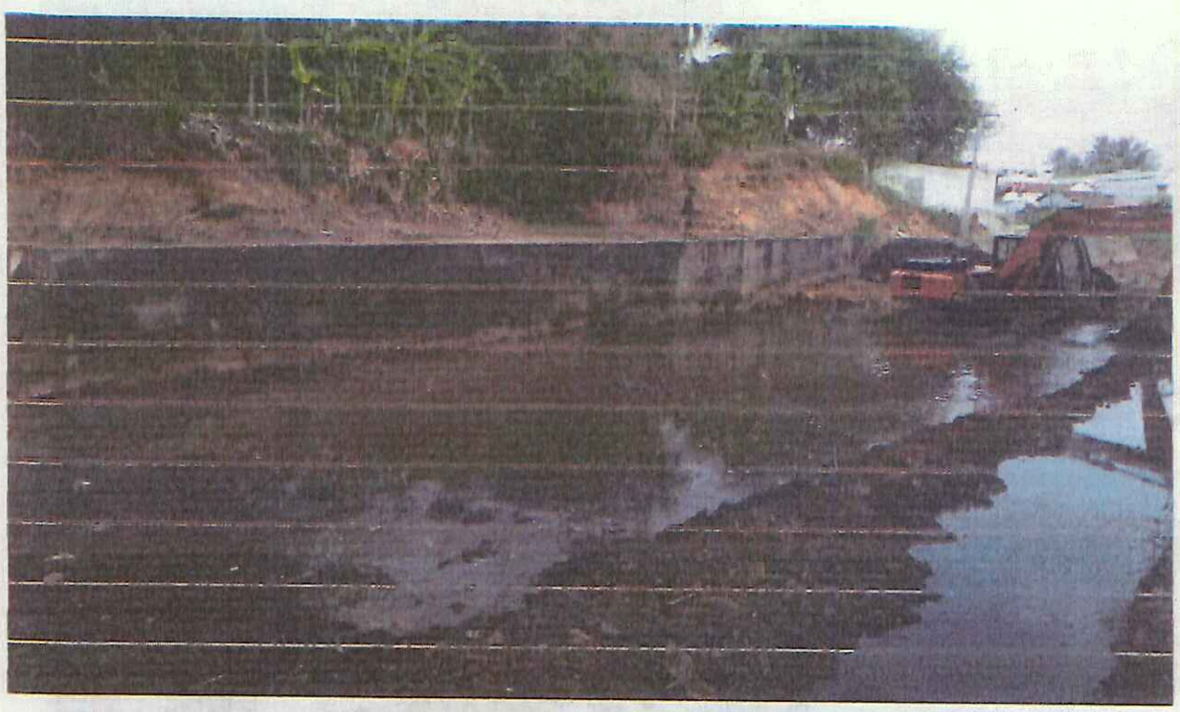
The Joint Committee recommended Mettupalayam Municipality to execute phytoremediation in the major drains adjoining the River Bhavani as a short term measures. Mettupalayam Municipality construction wetland system with phytoremediation in the upstream side of Uppupallam Odai.

Bioremediation Techniques Phytoremediation, Constructed with Wetlands

Before Execution



During Execution



After Execution

8.0 Action taken Report by Government Hospital, Mettupalayam

In compliance to the Hon'ble National Green Tribunal, Southern Zone, Chennai order dated22.03.2021, the short and long-term measures taken by the Government Hospital, Mettupalayam is submitted as below:

i. The Tamil Nadu Government accorded Rs.102.00 Lakhs administrative sanction for the construction of (100 KLD) Combined Sewage Treatment plant at Government Hospital Mettupalayam, Coimbatore District.

ii. The initial preparation work was started on 17.06.2021 and the preliminary work of division of existing sanitary line and laboratory wastewater line was in progress and informed that the probable date of competition is 16.11.2021.

9.0 Summary, Remedial measures and Recommendations

i. The analysis results of the River Bhavani &Kallaru water samples shows the presence of Fecal coli which confirm discharge of untreated sewage from the Local Bodies. All other

parameters are within the standards which confirm that there is no industrial effluent contribution to the River Bhavani.

ii. The analysis results of the treated effluent samples of M/s ITC Limited shows that the parameters are within the limits prescribed by the TNPCB.

iii. The analysis results of the ground and surface water samples collected in and around the unit of M/s ITC Limited shows that all the parameters are within the permissible limits for irrigation prescribed by TNPCB.

iv. The analysis results of the treated effluent sample in M/s Sharadha Terry Products Ltd

v. Shows that the unit is operating ETP regularly and meeting the standards.

vi. M/s Sharadha Terry Products Ltd shall be directed to dispose the chemical sludge of 419 tons stored in shed at the earliest and submit the manifest copy to TNPCB.

vii. During inspection, there was no illegal discharge of treated/untreated effluent was noticed and the ETP installed in the units of M/s ITC Limited and M/s Sharadha Terry Products is adequate to treat the effluent generated.

viii. The Government Hospital Mettupalayam shall effectively utilize the existing disinfection system provided for disinfecting the liquid wastewater before discharging into public sewer

ix. The Government Hospital Mettupalayam shall discharge the sewage/trade effluent into the drainage after proper disinfection until completion of the STP.

x. The Mettupalayam Municipality shall operate and maintain the phytoremediation provided in the Uppupallam Odai until the completion of UGSS and STP.

xi. The construction of UGSS and STP by the Mettupalayam Municipality shall be completed by October, 2021 as assured by Mettupalayam Municipality.

xii. The TNPCB shall monitor all the industries located on the banks of the River Bhavani to ensure that there is no discharge of untreated/treated effluent and sewage into River Bhavani. If any violations observed appropriate action shall be initiated against the defaulters.

xiii. The Coonoor Municipality may be directed to provide Sewage Treatment Plant for sewage generation from the Municipality and to prevent the discharge of untreated sewage into River Kallaru.

Report dated September 7, 2021

Thiru R.Vinoth
Municipal Commissioner
Mettupalayam Municipality
Mettupalayam.

Tmt. Poornima B.M.
Scientist D
Central Pollution Control Board
Regional Directorate - Chennai

Dr. P.Asokan
Joint Chief Environmental Engineer(M)
Tamil Nadu pollution Control Board
Coimbatore

Dr.G.S.Sameeran, I.A.S.
District Collector
Coimbatore.

Photographs

Joint Committee inspection of Effluent Treatment Plant in M/s. ITC Limited


SECONDARY CLARIFIER
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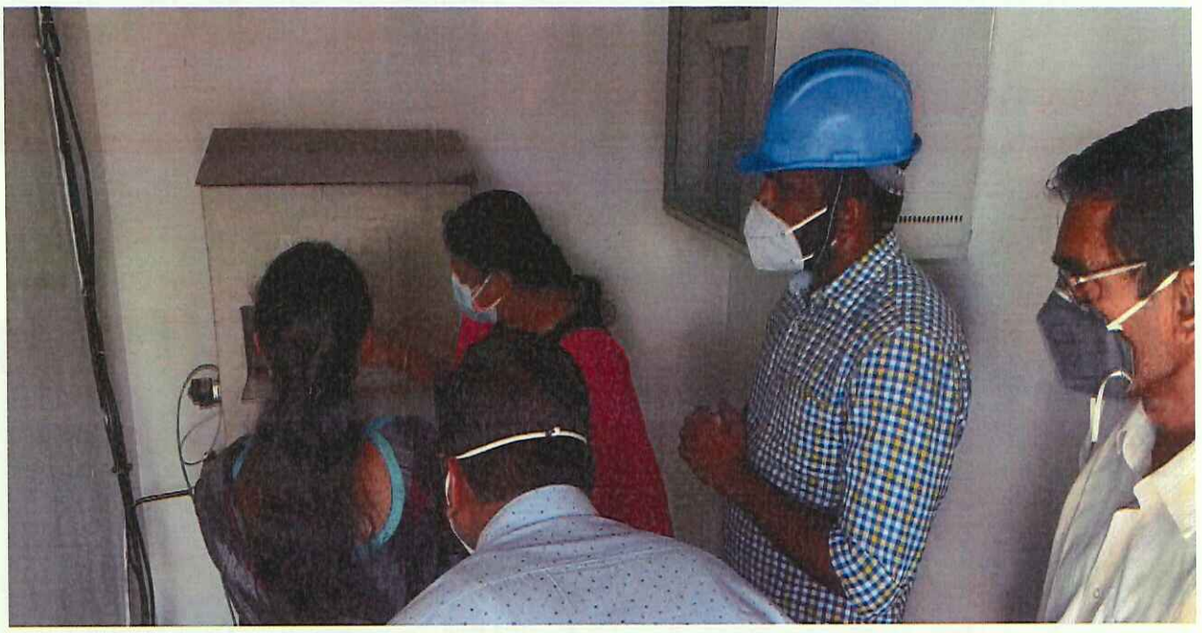
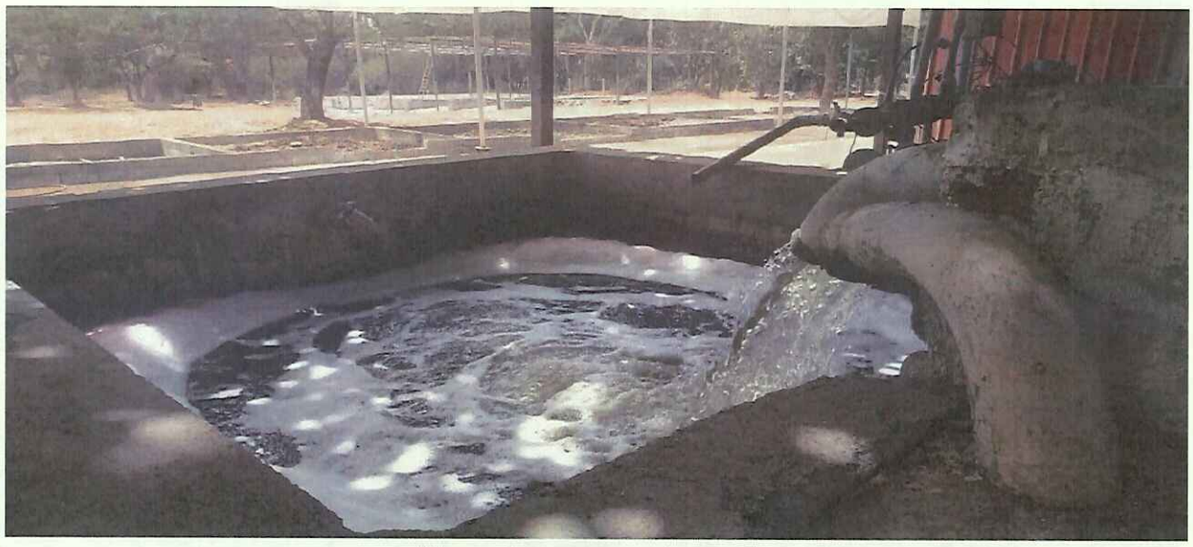


Inspection of Online continues effluent monitoring system at the outlet of ETP

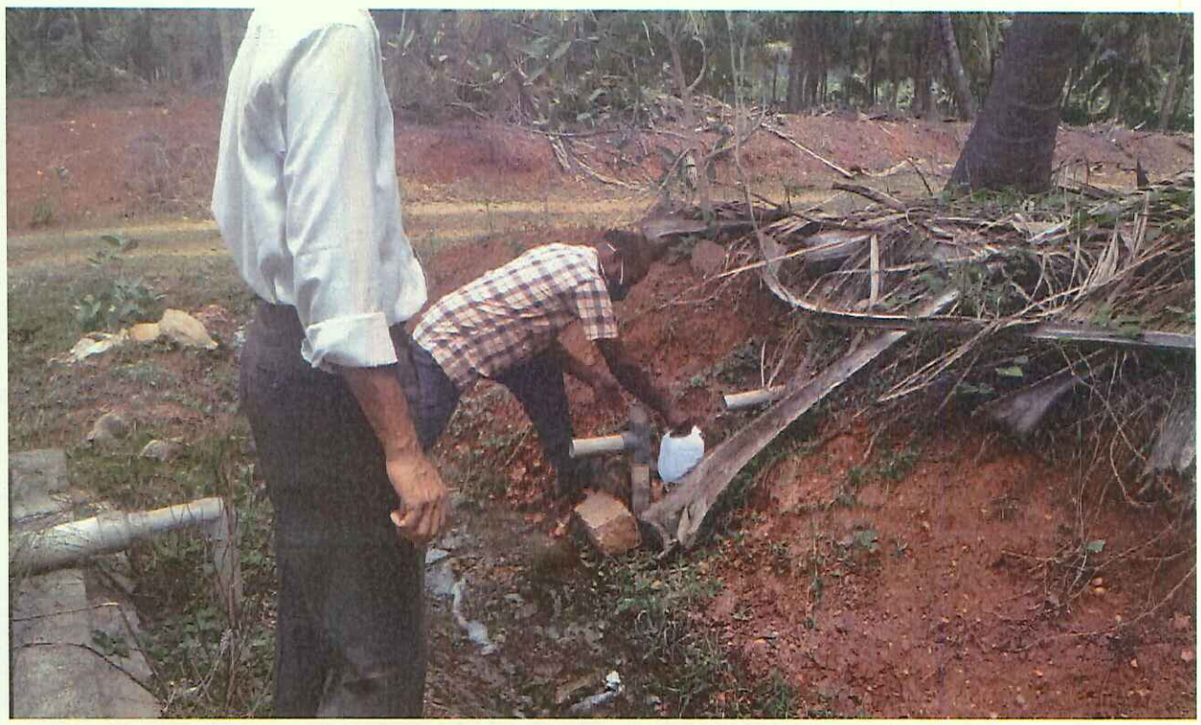


Treated water pumping tank

Open channel irrigation in M/s. ITC Limited

Inspection of open channel irrigation field in M/s. ITC Limited

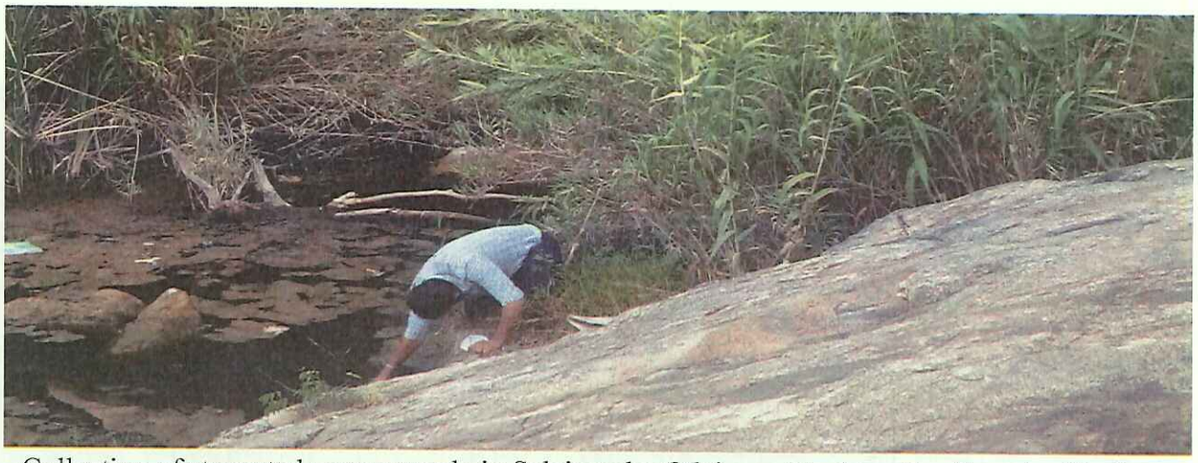
Inspection of irrigation field in M/s. ITC Limited



Collection of borewell water sample in irrigation field

Dry condition of Salaivembu Odai near Nachimuthu Gounder Thottam (Upperside of check dam)

Inspection of Salaivembu Odai near Nachimuthu Gounder Thottam



Collection of stagnated water sample in Salaivembu Odai near Nachimuthu Gounder Thottam (Downside of check dam)

Inspection of Periapallam Odai near M/s. ITC Limited water pumping station

Inspection of ETP & ZLD System in M/s. Sharadha Terry Products Ltd


ETP/RO-RECYCLE PLANT /3600 KLD-ZLD PLANT
ETP/RO FLOW DIAGRAM
LIFTING SUMP
SEPERATOR
HOMOGENIZING & EQUALIZATION TANK
COOLING TOWER-I
COOLING TOWER-II
DISTRIBUTOR
OXIDATION TANK-I
OXIDATION TANK-II
SECONDARY CLARIFIER
MICRON FILTERS-02 NO'S
QUARTZ FILTER - 04 NO'S
ULTRA FILTRATION-02 NO'S
SOFTENER FILTER-03 NO'S
DE-CARBONIZING FILTER-02 NO'S
REVERSE OSMOSIS UNITS
PERMEATE
NANOFILTRATION
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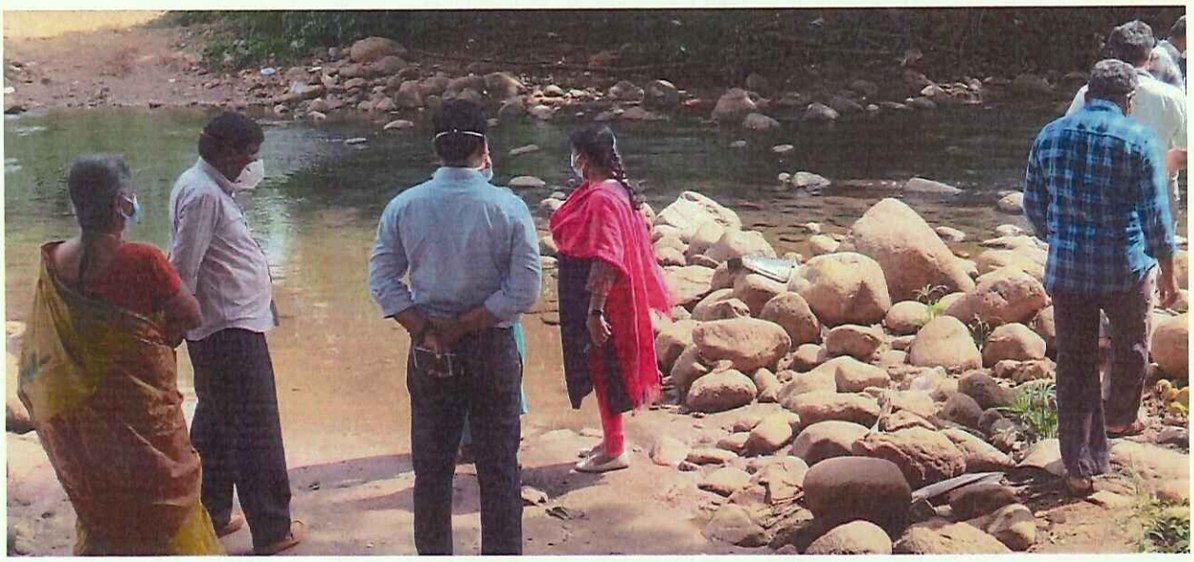
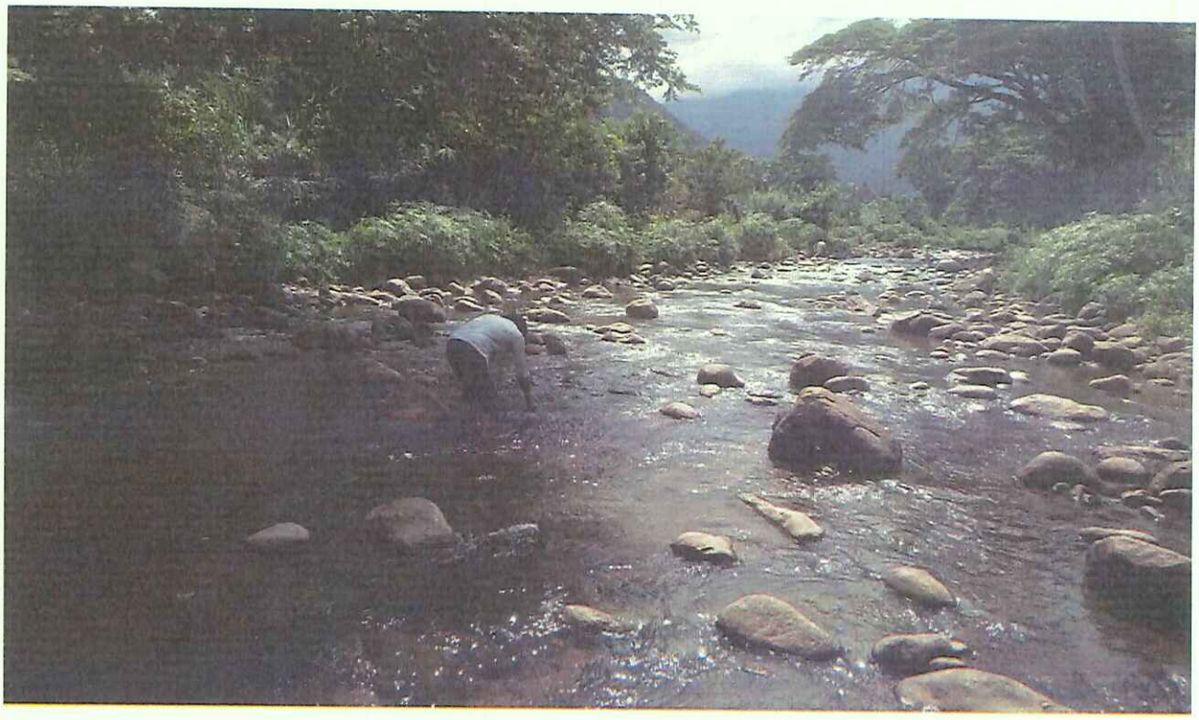
Inspection of River Kallaru near Puliyanthoppu (Odanthurai Panchayat)





Collection of Kallaru River Water Sample near Puliyanthoppu (Odanthurai Panchayat)

Collection of River Bhavani water near Kuduthurai malai (Thekkampatty Panchayat)

BEFORE THE NATIONAL GREEN TRIBUNAL SOUTHERN ZONE, CHENNAI

Original Application No. 10 of 2017
Original Application No. 18 of 2017
Original Application No. 58 of 2017
&
Original Application No. 105 of 2017 (SZ)

Suo Motu Proceedings initiated based on the news item Published in "The Times of India" Chennai - Edition dated 20.01.2017 on the caption "Bhavani river water unfit for consumption" and "Waste from Mettupalayam Government Hospital ends up in Bhavani River"

Versus

The Chief Secretary,
Government of Tami Nadu,
Secretariat, Chennai and others.

...Respondent(s)

REPORT OF THE JOINT COMMITTEE CONSTITUTED BY THE HON'BLE NGT (SZ) IN THE MATTER OF O.A.No.10, 18, 58 AND 105 OF 2017 SUBMITTED BEFORE THE HON'BLE NGT(SZ), CHENNAI AS PER THE ORDER DATED 15.07.2021

Advocate for Respondent: TNPCB
Thiru.Sai Sathya Jith,
Advocate, Chennai.

Date: 08.09.2021.

Date of hearing on: 09.09.2021