



TAMIL NADU POLLUTION CONTROL BOARD

**Action plan on Rejuvenation of
River Sarabanga
Thathayampatti to T.Konagapadi
Stretch (Priority-I)**

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Comprehensive Report on Prevention and Control of Pollution in River Sarabanga (Priority-I): An Action Plan for Rejuvenation

1.0 Introduction.

The Hon'ble National Green Tribunal (NGT) Principal Bench took Suo-Moto Cognizance of news report appeared in "The Hindu" authorized by Shri. Jacob Koshy titled "More River Stretches are now critically polluted – CPCB" and issued directions in para 50(i) to (x) vide its Original Application No. 673/2018 dated: 20.09.2018

1. All States and Union Territories are directed to prepare action plans within two months for bringing all the polluted river stretches to be fit at least for bathing purposes (i.e., BOD < 3 mg/L and FC < 500 MPN/100 ml) within six months from the date of finalisation of the action plans.
2. The action plans may be prepared by a four-member Committee comprising,
 - a. **Director, Environment**
 - b. **Director, Urban Development**
 - c. **Director, Industries**
 - d. **Member Secretary, TNPCB**

This Committee will also be the Monitoring Committee for execution of the action plan. The Committee may be called as "**River Rejuvenation Committee**" (**RRC**). The RRC will function under the overall supervision and coordination of Principal Secretary, Environment & Forest, Govt. of Tamilnadu.

3. The action plan will include components like identification of polluting sources including functioning/ status of STPs/ETPs/CETP and solid waste management and processing facilities, quantification and characterization of solid waste, trade and sewage generated in the catchment area of polluted river stretch. The action plan will address issues relating to; ground water extraction, adopting good irrigation practices, protection and management of Flood Plain Zones (FPZ), rain water harvesting, ground water charging, maintaining minimum environmental flow of river and plantation on both sides of the river. Setting up of biodiversity parks on flood plains by removing

encroachment shall also be considered as an important component for river rejuvenation. The action plan should focus on proper interception and diversion of sewage carrying drains to the Sewage Treatment Plant (STP) and emphasis should be on utilization of treated sewage so as to minimize extraction of ground or surface water. The action plan should have speedy, definite or specific timelines for execution of steps. Provision may be made to pool the resources, utilizing funds from State budgets, local bodies, State Pollution Control Board/Committee and out of Central Schemes.

4. The Action Plans may be subjected to a random scrutiny by a task team of the CPCB.
5. The Chief Secretaries of the State and Administrators/ Advisors to Administrators of the Union Territories will be personally accountable for failure to formulate action plan, as directed.
6. All States and Union Territories are required to send a copy of Action Plan to CPCB especially w.r.t Priority I & Priority II stretches for approval.
7. The States and the Union Territories concern are directed to set up Special Environment Surveillance Task Force, comprising nominees of District Magistrate, Superintendent of Police, Regional Officer of State Pollution Control Board and one person to be nominated by District Judge in his capacity as Chairman of Legal Services Authority on the pattern of direction of this Tribunal dated 07.08.2018, in *Original Application No. 138/2016 (TNHRC)*, "*Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case)*).
8. The Task Force will also ensure that no illegal mining takes place in riverbeds of such polluted stretches.
9. The RRC will have a website inviting public participation from educational institutions, religious institutions and commercial establishments. Achievement and failure may also be published on such website. The Committee may consider suitably rewarding those contributing significantly to the success of the project.
10. The RRCs will have the authority to recover the cost of rejuvenation in Polluter Pays Principle from those who may be responsible for the pollution,

to the extent found necessary. In this regard, principle laid down by this Tribunal in order dated 13.07.2017 in O.A No. 200 of 2014, M.C. Mehta Vs. U.O.I will apply. Voluntary donations, CSR contribution, voluntary services and private participation may be considered in consultation with the RRC.

Based on the directions of Hon'ble NGT (PB) vide its Original Application No. 673/2018 dated: 20.09.2018 the Principal Secretary (Environment & Forest) has convened the River rejuvenation committee meeting on 14.11.2018 regarding the directions issued by the Hon'ble NGT (PB) to prepare action plan for the rejuvenation/restoration of polluted river stretches in Tamil Nadu with the heads of the following departments:

1. Municipal Administration and Rural development and its line departments,
2. Chennai Metro Water Supply and Sewage Board.
3. Tamil Nadu Water Supply and Drainage Board.
4. Environment & Forest.
5. Central Pollution Control Board, Bangalore.
6. Tamil Nadu Pollution Control Board.

In the meeting it was decided to evolve the detailed action plan for the rejuvenation/restoration of polluted river stretches in Tamil Nadu. The minutes of the meeting was communicated to the above departments requesting certain details with action plan for the rejuvenation/restoration of polluted river stretches in Tamil Nadu. Remainder was also communicated to the above departments.

As per the Hon'ble NGT (PB) directions in its Original Application No. 673/2018 dated: 20.09.2018, Four member River Rejuvenation Committee (RRC) was constituted in Tamil Nadu and Government Order (G.O.) was issued by the Environment and Forest (EC.1) Department vide G.O. (D) No. 372 dated: 26.12.2018 (copy enclosed) to execute and to review the action plan for the Rejuvenation/Restoration of water along the polluted river stretches in Tamil Nadu as ordered by the Hon'ble National Green Tribunal, Principal Bench. River Rejuvenation Committee (RRC) members are as follows:

1. Industries Commissioner.
2. Commissioner, Municipal Administration.
3. The Director of Environment.
4. The Member Secretary, Tamil Nadu Pollution Control Board.

The RRC will function under the overall supervision and coordination of Principal Secretary, Environment and Forests Department, Government of Tamil Nadu.

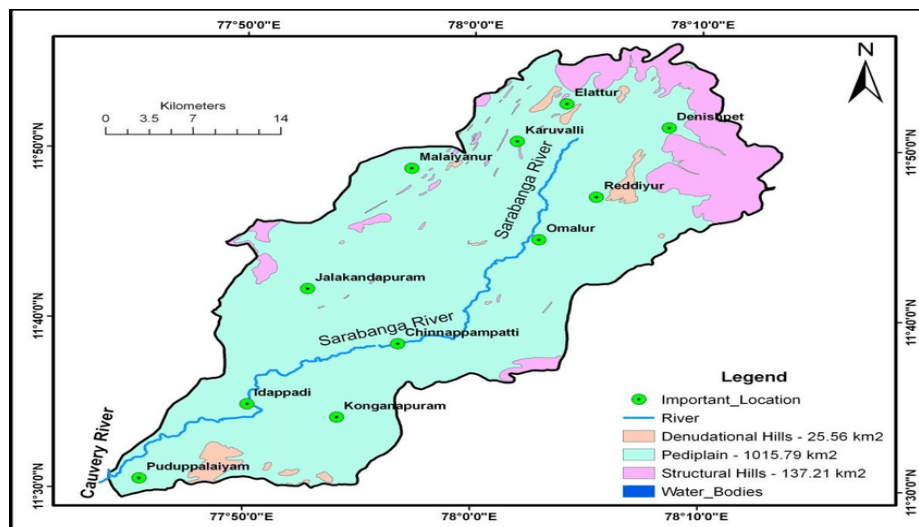
2.0 Introduction about the River Sarabanga

River Sarabanga is located in the state of Tamil Nadu in Salem & Namakkal District. It originates from Shevaroy Hills (Yercaud foot hills) in Salem district. The River Sarabanga flows through Danishpettai, Poosaripet, Omalur, Thoppur, Tharamangalam, T.Konagapadi, Pappampadi, Vellalapuram, Idappadi, Chettipatti, Peramachipalayam, Thevur and joins in the River Cauvery near Annamar Kovil before flowing into the Bay of Bengal. The Total length of the main stream is nearly 70 km from Omalur to Idappadi.

In Salem District the River West Sarabanga originates from Danishpet in Shevaroy Mountain and River East Sarabanga originates from foot hills of Yercaud at Vattakadu and confluences with West Sarabanga at V.O.C Nagar near Omalur. Both combines to form River Sarabanga and flows through the Salem and Namakkal District.

In Salem District the river flows over a stretch of approximately 48 km from Danishpet at the foot hills of Shevaroy Mountain and enters into Idappadi Taluk at Pappampadi. The River East Sarabanga flows over a stretch of approximately 12.5km from Vattakadu and confluences with the West Sarabanga at V.O.C Nagar. From Pappampadi it enters into Edappadi Taluk and confluences with River Cauvery at Annamar Kovil in Namakkal District. In this stretch, river always dry in nature and there is no water flow in the river, except seasonal rain.

Map showing the flow of River Sarabanga



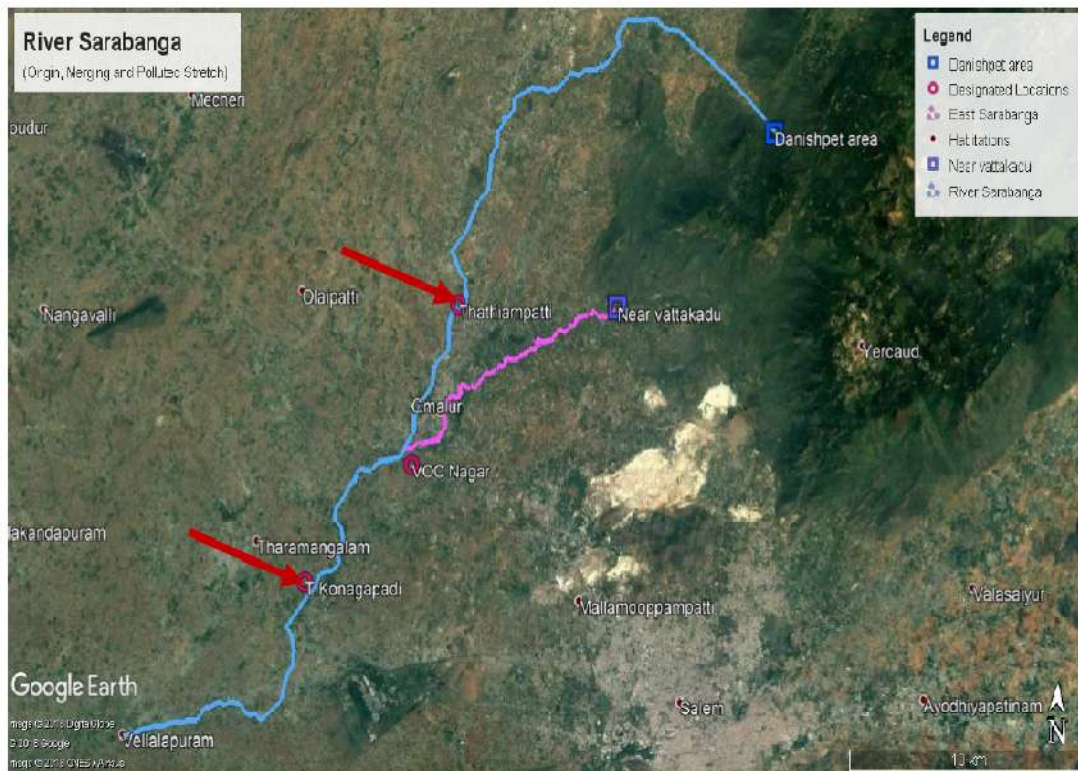
3.0. Sources of Pollution in the River Stretch:

The main source of pollution in River Sarabanga at the Thathiyampatti to T.Konagapadi Stretch is only domestic sewage from Idappadi Municipality, Thathiyampatti Village Panchayat and Omalur Town Panchayat area.

In summer season, the river is completely dry. The municipal sewage generated from the above said local bodies is discharged into the river.

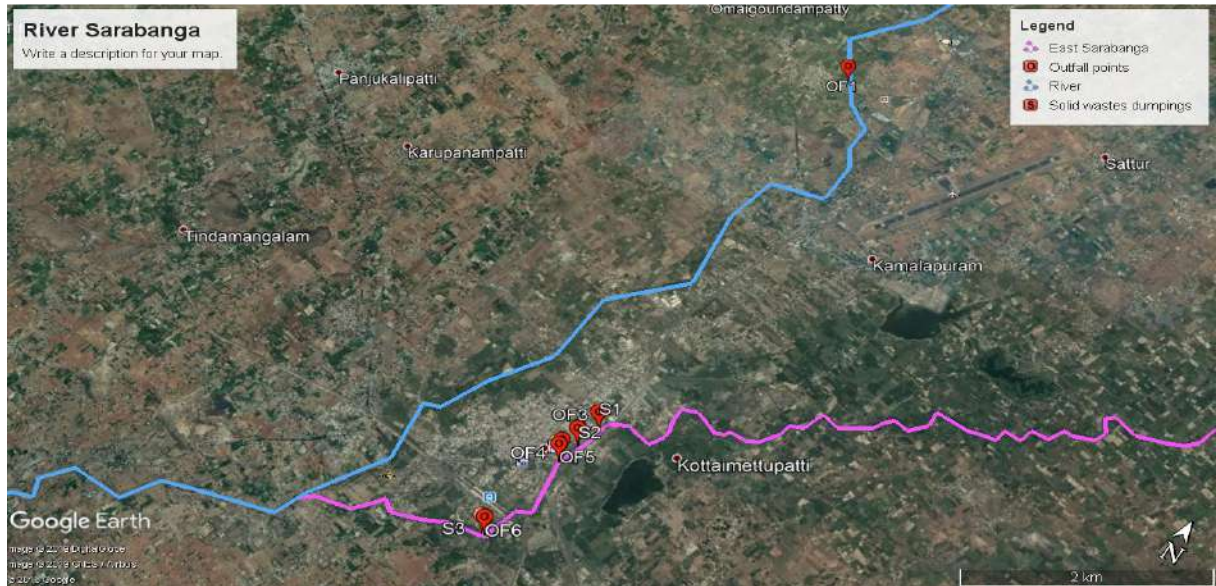
There is no highly polluting industries located along the above polluted river stretch. Hence, there is no industrial discharge into the River.

Figure 1: Map shows the origin of River Sarabanga, Merging of East and West Sarabanga at V.O.C Nagar and the Polluted River Stretch



Map Showing the River Sarabanga – Thathiyampatti to T.Konagapadi Stretch – 15KM

River Sarabanga – Sewage Outfall points and Solid Waste Dump Site



Sewage Outfall Points	MSW Dumpings	Sewage Generation	Solid Wastes Generation
1. Thathiyampatti Bridge(OF1)	1. Jai Nagar Omalur(S1)	1. Thathiyampatti- 0.08MLD	1. Omalur TP-5.84 TPD
2. Jai Nagar Omalur (OF2)	2. Pudhuthuru, Omalur(S2)	2. Omalur TP-1.549 MLd	
3. Pudhuthuru, Omalur(OF3)	3. Omalur Town Panchayat (Composting Facility)(S3)		
4. Omalur Veg Market(OF4)			
5. Omalur bus stand (OF5)			
6. Habitations nearby Railway Stations(OF6)			

Sarabanga River from vellalapuram to Annamar Kovil (confluence point of Cauvery River)



Sewage Outfall Points – 6 Locations				
Sl. No.	Sewage Out-fall Location	Name of the Local Body	GPS Co-ordinates	
			Latitude	Longitude
1	Thathiyampatti Bridge	Village Panchayat	11°47'17.21"N	78°3'1.43"E
2	Jai Nagar, Omalur	Omalur Town Panchayat	11°44'50.18"N	78°3'0.54"E
3	Pudhutheru, Omalur Vegetable Market	Omalur Town Panchayat	11°44'43.11"N	78°2'58.22"E
4	Pudhutheru, Omalur	Omalur Town Panchayat	11°44'43.11"N	78°2'58.22"E
5	Habitations nearby Omalur bus stand	Omalur Town Panchayat	11°44'36.26"N	78°2'56.50"E
6	Habitations nearby Omalur Railway station	Omalur Town Panchayat	11°44'7.65"N	78°2'51.51"E
Solid Waste Dumping Points – 4 Locations				
Sl. No.	Sewage Out-fall Location	Name of the Local Body	GPS Co-ordinates	
			Latitude	Longitude
1	Jai Nagar, Omalur	Omalur Town Panchayat	11°44'50.18"N	78°3'0.54"E
2	Pudhutheru, Omalur	Omalur Town Panchayat	11°44'43.11"N	78°2'58.22"E
3	Omalur Town Panchayat (Composting Facility)	Omalur Town Panchayat	11°44'7.65"N	78°2'50.51"E



Photographs showing the sewage out-fall points



Thathiyampatti Bridge
11°47'17.21"N 78° 3'1.43"E



Jai Nagar Omalur
11°44'50.18"N 78° 3'0.54"E



Pudhutheru, Omalur Veg Market
11°44'43.11"N 78° 2'58.22"E



Pudhutheru, Omalur
11°44'43.11"N 78° 2'58.22"E

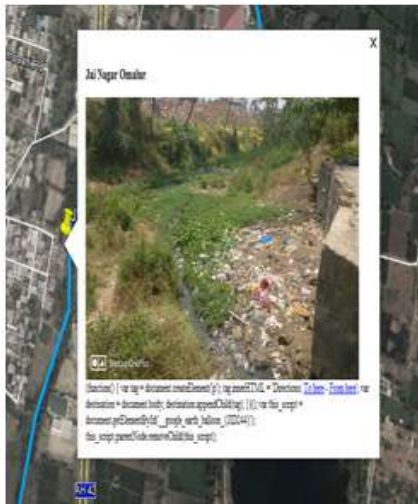


Habitations nearby Omalur bus stand
11°44'36.26"N 78° 2'56.50"E

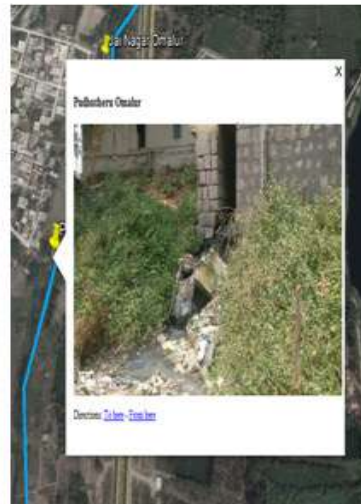


Habitations nearby Railway Stations
11°44'7.65"N 78° 2'51.51"E

Photographs showing the Solid Waste Dumping Points



Jai Nagar Omalur
11°44'50.18"N 78° 3'0.54"E



Pudhutheru, Omalur -
11°44'43.11"N 78°2'58.22"E



Omalur Town Panchayat (Composting Facility)
11°44'7.65"N 78° 2'50.51"E

4.0 Status of Industries along the Polluted River Stretch.

The details of the industries located along and adjacent to the polluted River Stretch and their status of consent details, wastewater generation quantity and its disposal methods are enclosed in Annexure – I.

4.1 Taluk wise details of industries

a. Details of consented units

Sl. No.	Taluk	LARGE				MEDIUM				SMALL				Total
		Red	Orange	Green	White	Red	Orange	Green	White	Red	Orange	Green	White	
1	Kadayampatti	0	0	0	0	0	0	0	0	15	27	5	0	47
2	Omalur	8	6	3	0	0	3	0	0	20	108	70	16	234
	** Total **	8	6	3	0	0	3	0	0	35	135	75	16	281

4.2. Details of industries located in the villages present in the Taluk where the River passes:

Type of units	Omalur Taluk	Kadayamappati Taluk	Total
Granite polishing, Milk Chilling, Stone crushers, Stone quarry and Sago Industries etc.,	46	47	93

5.0 Inspection Team Members

Combined inspection team was formed by Tamil Nadu Pollution Control Board including Engineers and Scientists for inspection, sample collection and analysis of samples along the entire stretch as per the Hon'ble NGT (PB) directions in its original application number 673/2018 dated 20.09.2018.

Sl. No.	Polluted River Stretch	Jurisdiction Office	Name of the Team Members Tvl	Designation
1	Sarabhanga River Thathayampatti to T.Konagapadi- Priority- 1	O/o AEL, Salem.	E. Gowri	Deputy CSO
2		O/o, DEL, Hosur	S. Dhanapal	Deputy CSO
3		O/o, AEL, Salem	Gopal	Field Assistant

6.0 Sample collection details in the River Sarabanga

Details of samples collection in the industries

There is no highly polluting industries located along the polluted river stretch. Hence there is no industrial discharge into the river.

7.0 River water/drain/Ground water samples collected details with live photographs along the River Sarabanga.

During 4th of January, 2019 the team constituted for sample collection has collected 5 samples from River Sarabanga at various locations (2Nos of location in Salem, 1No in Edappadi), Nalukaalpalam Lake (1 location) and Konagapadi (open well), to study the pollution impact on the River Sarabanga, at salient points mainly covering before and after confluence of sewage out fall. Details of sampling locations with date of sampling are given in the below table.

7.1 Sampling location details of River Sarabanga

Sl. No.	Code No.	Point of collection	GPS coordinates		Date of sample collection
1	1787	Danishpet upstream	11°50'45.9"N	78°09'26.5"E	04.01.2019
2	1788	Nalukaalpalam Lake	11°46'37.2"N	78°07'20.4"E	04.01.2019
3	1789	Omalur-Downstream	11°44'24.4"N	78°02'59.6"E	04.01.2019
4	1794	Edapadi	11°34'59.1"N	77°50'28.5"E	04.01.2019
5	1790	Konagapadi (open-well)	11°41'20.4"N	78°00'16.5"E	04.01.2019



Fig : Map showing the details of samples collected at various points in the River

Photographs taken during Sampling of surface/ground water :



Sample Collected at Danishpet area where the River Originates from the foot hills



Sample Collected at the Nalukaapalam Lake



River Sample Collected at Omalur Area



Open Well Water Sample Collected at T.Konagapadi



Sample Collected at Edapadi Area

8.0 Status of water quality of river in the study area

River water samples are collected from River Sarabanga at four locations (i.e Danish Pettai Up-Stream, Nalukalpalam Lake, Omalur – Down-Stream and Edapadi. Water quality monitoring results for four samples collected from River Sarabanga is given in the below table for general parameters and heavy metals.

Sl. No	Sample No.	Point of Collection	DO	Faecal + Coli form	BOD	Cu	Zn	Pb	Cd	Ni	Mn	Fe	T.Cr	Status of compliance with respect to WQC limit
			mg/l	MPN/100ml	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	
1	1787	Danish Pettai -Up Stream	8.2	14	<2	<0.0015	<0.0015	<0.015	<0.0008	0.041	<0.1	<0.05	<0.05	Complied
2	1788	Nalukalpalam Lake	7.6	170	4	<0.0015	<0.0015	<0.015	<0.0008	0.040	<0.1	<0.05	<0.05	Complied except BOD
3	1789	Omalur - Down Stream	NIL	70 X 10 ³	22	<0.0015	<0.0015	<0.015	<0.0008	0.092	<0.1	0.101	<0.05	Not complied
4	1794	Edapadi	1.4	140 X 10 ³	18	0.949	0.231	<0.015	<0.0008	0.418	<0.1	0.214	<0.05	Not complied
Water quality criteria (WQC) limit for Bathing			≥ 5 mg/l	≤ 500 MPN/100 ml	≤ 3 mg/l	-	-	-	-	-	-	-	-	-

9.0 Status of water quality of ground water in the study area

One Number of Ground water sample was collected at T.Konagapadi (open well) by the inspection team. Ground water sample collected from afore-said location was analysed in TNPCB laboratory. Water Quality Monitoring Results of ground water sample collected by the Inspection team is given in the below table.

Sl. No	Sample No.	Point of Collection	SO ₄	F	O&G	Cu	Zn	Pb	Cd	Ni	Mn	Fe	T.Cr	Status of compliance with respect to WQC limit
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	
1	1790	Konagapadi Open well	1.1	0.271	< 1	<0.0015	<0.0015	<0.015	<0.0008	<0.006	<0.1	<0.121	<0.05	Complied
IS10500-2012 Drinking water specifications-Acceptable limit (in mg/l)			200	1.0	0.5 *	0.05	5	0.01	0.003	0.02	0.1	0.3	0.05	Complied

10) Assessment of Compliance of the effluent/sewage discharge norms by the industries in the study area

Four sago industries are in operable condition issued with consent order. Two units are disposing the trade effluent on-land for irrigation and another two units obtained consent order for inland surface water standards. However, these units are not in operation due to non-availability of raw material. Other sector units which are generating trade effluent are granite cutting polishing units which recycle their effluent in the process itself.

➤ Status on the ground reality of the STPs and Waste processing facilities provided by the local body for handling sewage and solid waste.

a. Sewage Treatment Plants- No STPs are provided by the local bodies located along the River Stretch.

b. Solid Waste Management-

Omalar Town Panchayat has provided decentralized micro composting centres across the city to manage the bio degradable solid wastes.



Existing Scenario of the Omalur Town Panchayat Composting unit

11) Operation status of industries type & category wise, consent details and hazardous waste authorization details:

No Hazardous waste generating industry is located along the polluted River stretch.

➤ **Details on Consent / Authorization issued by the Board for the establishment of the STP / Solid waste facility.**

- a. Sewage Treatment Plant - Nil
- b. Solid Waste Facility - Nil

Omalur Town Panchayat has provided decentralized micro composting centres across the town to manage the bio degradable solid wastes.

12) Main findings and observations:

The domestic sewage from the Omalur town panchayat and Thathiyampatti Village Panchayat contributes to the pollution of River.

13) General observations and recommendations of the inspection team

During inspection there is no discharge of trade effluent into the river. However, domestic sewage is being discharged into the River from the above said local bodies.

14) Recommendations- Action plan of the River stretch

It is recommended that the Omalur Town Panchayat, which is located along the stretch of the River Sarabanga, shall provide STP for treatment of Sewage. Omalur Town Panchayat should not dispose the municipal solid wastes on the banks of the River Sarabanga.

Proposed Short Term and Long Term Action Plan for Rejuvenation of River Sarabanga:

Sl. No.	Description of Source	Action Plan for Rejuvenation of River Sarabanga	Organisation/ Agency Responsible for Execution of the Action Plan	Time Target
1.	Industrial Pollution Control	No industrial discharge	TNPCB	-
2.	Sewage Treatment and Disposal plan	<p>Salem District ❖ Omalur Town Panchayat</p> <ul style="list-style-type: none"> • No. of sewage outfall identified: 11 locations • Population: 16279 • Qty of Sewage generated: 1.16 MLD • Status of UGSS: Not Provided • Status of STP: Not Provided • Mode of Disposal of Sewage: • Sullage water Let out in to 	Directorate of Town Panchayat	

		<p>Sarabanga river.</p> <ul style="list-style-type: none"> • Plan of Action: Detailed project report have been prepared at an estimated cost of Rs. 300.00 Lakhs for treatment and disposal of sullage water by Reed Bed Filter Technology / Eco Ozotex under IUDM 2019-2020 fund. <p>❖ Thathayampatti Village Panchayat</p> <ul style="list-style-type: none"> • No. of sewage outfall identified: 1 location • Population: 2507 • Qty of Sewage generated: 0.20 MLD • Status of UGSS: Not Provided • Status of STP: Not provided • Plan of Action: Individual Soak pits to be provided for 145 houses and 105 houses to connect community soak pits (vertical type) to be provided under MGNREGS 2019-2020. After construction of soak pits no waste water will be disposed into the river. <p>❖ T.Konagapadi Village Panchayat</p> <ul style="list-style-type: none"> • No. of sewage outfall identified: Nil 	<p>Rural Development & Panchayat Raj</p> <p>Rural Development & Panchayat Raj</p>	<p>Mar-2020</p> <p>July-2019</p>
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		<ul style="list-style-type: none"> • Population: 6489 • Qty of Sewage generated: 0.51 MLD • Status of UGSS: Not Provided • Status of STP: Not provided • Plan of Action: Total nos. of habitations is 14. Out of which K.R. Thoppur has 550 households are directly connected to river Sarabanga. Now individual & community soak pits are proposed under MGNREGS 2019-2020. After construction of soak pits no waste water will be disposed into the river. <p>❖ Idappadi Municipality</p> <ul style="list-style-type: none"> • No. of sewage outfall identified: 22 Locations • Population: 56193 • Qty of Sewage generated: 5.20 MLD • Status of UGSS: Not Provided • Status of STP: Not Provided • Present mode of Disposal: The blackwater is collected in septic tanks by individual households. • Plan of Action: ➤ In order to treat the black water, construction of 30kld Fecal Sludge Treatment Plant work is 	Municipal Administration	July-2019
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		<p>taken up and is in progress at an estimated cost of Rs. 4.00 Crore and it will be completed before 31.12.2019 under IUDM 2018-19 fund.</p> <p>➤ To handle the sullage water discharged through 22 no. of major channels which confluence with the river stretch, it is proposed to provide in-situ treatment methodology by providing Screen, Grit followed by Horizontal planted gravel filter which will treat the sullage and discharge the treated water into the water course.</p> <ul style="list-style-type: none"> • The ULB has prepared detailed estimate for establishing liquid waste treatment facility at a cost of Rs.250.00 lakh. This fund is proposed to tied up with Capital grant fund 2019-20 and is expected to be completed by December 2019. 		<p>Dec-2019</p> <p>Dec-2019</p>
3.	Solid Waste Management and Disposal Plan	<p>Salem District</p> <ul style="list-style-type: none"> ❖ Omalur Town Panchayat • No. of MSW dumping points identified: 1 • Population: 16279 • Qty of MSW Generated: 5.84 TPD <p>Source Collection & Segregation – Yes</p>	Directorate of Town Panchayat	

		<p>Treatment method: Windrow & Vermi composting</p> <p>Present Mode of MSW Disposal:</p> <p>Wet Waste of 3.212 TPD are processed by Windrow Compost method.</p> <p>Dry Waste – 2.628 TPD</p> <ul style="list-style-type: none"> • Recycable waste (plastic, metal, rubber etc., 0.300 TPD sold out to the identified vendors. • The Non Recycable waste of 1.828 TPD periodically disposed. • Inerts & Silt 0.500 TPD Used in Filling Low Lying Areas. <p>Plan of Action:</p> <p>Work under progress at an estimate cost of Rs.110 lakhs for Providing protection wall, compound wall, windrow platform with shed and Bio-Mining for disposal of Historical waste under SBM fund.</p> <p>❖ Thathiyampatti Village Panchayat</p> <ul style="list-style-type: none"> • No. of MSW dumping points identified: Nil • Population: 2507 • Qty of MSW Generated: 1.0 TPD <p>Source Collection & Segregation – Yes</p> <p>Treatment method:</p>	<p>Rural Development & Panchayat Raj</p>	<p>Dec-2019</p>
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		<p>➤ Bio-Degradable Waste:</p> <p>Dumped in the compost pits and cow dung are being sprayed at regular intervals and it becomes manure after 30 days and sold to the farmers.</p> <p>➤ Non Bio – Degradable Waste:</p> <p>Segregated glass, Plastic bottles, Covers, Iron, Aluminium foil sheets etc. once in 15 days and sold to the local merchants.</p> <p>Present Mode of MSW:</p> <p>➤ Bio-Degradable Waste:</p> <p>Sold to the farmers as manure.</p> <p>➤ Non Bio – Degradable Waste:</p> <p>Sold to local merchants</p> <p>❖ T.Konagapadi Village Panchayat</p> <ul style="list-style-type: none"> • No. of MSW dumping points identified: Nil • Population: 6489 • Qty of MSW Generated: 2.59 TPD • Source Collection & Segregation – Yes <p>➤ Bio-Degradable Waste:</p> <p>Dumped in the compost pits and cow dung are being sprayed at regular intervals and it becomes manure after 30 days and sold to the farmers.</p>	<p>Rural Development & Panchayat Raj</p>	<p>-</p> <p>-</p>
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		<p>➤ Non Bio – Degradable Waste: Segregated glass, Plastic bottles, Covers, Iron, Aluminium foil sheets etc. once in 15 days and sold to the local merchants.</p> <p>Present Mode of MSW:</p> <p>➤ Bio-Degradable Waste: Sold to the farmers as manure.</p> <p>➤ Non Bio – Degradable Waste: Sold to local merchants.</p> <p>❖ Idappadi Municipality</p> <ul style="list-style-type: none"> • No. of MSW dumping points identified: Nil • Population: 56193 • Qty of MSW Generated: <p>Wet waste: 9 TPD Dry waste: 7 TPD Total: 16 TPD MSW Collection – 100% MSW Segregation – 86% Present Treatment Method: Wet waste: Micro composting-5Nos – 15 TPD On-site composting facility – 2Nos – 0.5 TPD. Dry waste:</p> <ul style="list-style-type: none"> • Saleable waste - 4 TPD • The Non saleable /Non-Biodegradable waste – 2.3 TPD - 	Municipal Administration	-
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		<p>stored in the RRC at all MCCs.</p> <ul style="list-style-type: none"> Inert & Silt – 0.7 TPD stored with C&D waste for land filling. <p>Proposed Plan of Action: Nil MSW Treatment Facility provided.</p>		
4.	Environmental Flow (E-flow) and Irrigation Practices	<ul style="list-style-type: none"> Suitable gauging arrangements have already been made to measure the discharge of water in rivers, canals, channels and anicuts at all necessary locations. Water will be released in the channels and canals according to the irrigation and drinking water needs. Proper shuttering and regulating arrangements are being maintained regularly in Head regulators of anicuts/barrages. 	PWD-WRD and Irrigation Department	-
5.	Ground Water Quality	Generally the ground water quality satisfies the prescribed standards.	State Ground Water Authority, CGWB	-
6.	Flood Plain Zone (FPZ)	<ul style="list-style-type: none"> Identification of FPZ areas has been completed in co-ordination with Revenue Department, Police Department and Fire Service Departments. Survey has also been completed, demarcating the encroached boundary and notice has been 	PWD-WRD, Forest Department	-

		<p>issued and some encroachments has been evicted.</p> <p>➤ Supplying water to the crops by adopting turn system and on rotational basis. Awareness has been created among farmers regarding minimum utilization of water and also above rotation crops in consultation with Agriculture and Horticulture Departments.</p>		
7.	Encroachments along the river bank	➤ Nil	PWD-WRD and Revenue Department	-

15. Conclusion:

The River Sarabanga is not a Perennial River. There is no industrial effluent discharge into the River. Only sewage is discharged in certain areas from the local bodies. More than 99% of the River area was found in dry condition.

River Sarabanga is categorized as polluted River stretch under priority-I. The report of analysis of the River Water collected at Omalur-Down Stream and Edapadi reveals that the D.O is very less and BOD is very high and it shows the presence of high level of Fecal Coliforms and this indicates that the River gets contaminated due to sewage discharge.

The quality of River water can be improved with the following measures;

- ✓ Idappadi Municipality, Omalur Town Panchayat and Thathyampatti Village shall provide treatment plants within the time frame as per the action plan and shall ensure that the entire sewage generated from the local body is treated and disposed off scientifically.

- ✓ Omalur Town Panchayat shall complete the establishment of the solid waste treatment facility within the time frame and shall ensure that the entire solid waste generated from the local body area including solid waste dumped along the River Bank is treated and disposed off scientifically.
- ✓ Idappadi Municipality shall ensure that the entire solid waste generated from the local body area is treated and disposed off scientifically.

Annexure - I

Details of Industries along the Polluted River Stretch

Sl.No	Taluk	Village	Industry Name	Consent validity	Trade effluent quantity in KLD	Disposal
1	OMALUR	ANAIKAVUNDANPATTI	S R C PROJECTS PRIVATE LIMITED	31/3/2019	2.5	On land for irrigation
2	OMALUR	CHELLAPILLAIKUTTAI	AMMAN GRANITE	31/3/2027	10	Recycling to process
3	OMALUR	CHELLAPILLAIKUTTAI	RESHMA ENTERPRISES	31/3/2009	1	Recycling to process
4	OMALUR	CHELLAPILLAIKUTTAI	K.M.B. TRADING CORPORATION Pvt Ltd	31/3/2020	10	Recycling to process
5	OMALUR	IDAIYAPPATTI	SREE DHANALAKSHMI AQUA FARM	CTE Only 2014	6	On land for irrigation
6	OMALUR	KANJANAYAKKANPATTI	SAARAL GRANITE	31/3/2021	9	Recycling to process
7	OMALUR	KANJANAYAKKANPATTI	SREE SAPTHA PRAVAT PAPER INDUSTRIES	CTE Only 2014	3	Recycling to process
8	OMALUR	KANJANAYAKKANPATTI	SEKAR GRANITES	CTE Only 2014	4	Recycling to process
9	OMALUR	KARUPPUR	INDIAN OIL CORPN LTD LPG BOTTLING PLANT	31/3/2019	0.1	On land for irrigation
10	OMALUR	KARUPPUR	EAST INDIA MINING COMPANY	31/3/1999	3	On land for irrigation
11	OMALUR	KARUPPUR	G.S. ENTERPRISES UNIT-II REFRACTORY DIVI	31/3/2019	0.25	Solar Evaporation pans
12	OMALUR	KARUPPUR	C.N.N.P. GRANITES	31/3/2019	1.5	Recycling to process
13	OMALUR	KARUPPUR	GOLDEN GRANITES	31/3/2027	5	Recycling to process
14	OMALUR	KARUPPUR	MAYUR CHEMICAL INDUSTRIES PVT. LTD	31/3/1993	100	On land for irrigation
15	OMALUR	KARUPPUR	TMR POWER INDUSTRY	30/9/2020	0.1	Solar Evaporation pans
16	OMALUR	KARUPPUR	THIRUPATHI GRANITES	31/3/2018	6	Recycling to process
17	OMALUR	KARUPPUR	HATSUN AGRO PRODUCT LTS RAPID CHILLING C	31/3/2019	0.4	Recycling to process
18	OMALUR	KARUPPUR	KAMATCHI REFINERIES	31/3/2020	6.8	On land for irrigation
19	OMALUR	KARUPPUR	T.V.SUNDRAM IYENGAR AND SONS PRIVATE LTD	31/3/2021	1	Recycling to process
20	OMALUR	KETUNAYAKKAMPATTI PUDUR	SRI BALAMURUGAN SAGO FACTORY	31/3/1991	25	Inland surface water
21	OMALUR	KETUNAYAKKAMPATTI PUDUR	SRI VENKATESWARAHAA SAGO FACTORY	30/6/2013	80	On land for irrigation
22	OMALUR	KONGUPATTI SOUTH	S.A.STONES	30/03/2013	10	Recycling to process
23	OMALUR	KOTTAGOUNDAMPATTI	KMB MARBLES AND GRANITES INDIA PVT LTD	31/3/2031	4.5	Recycling to process
24	OMALUR	KOTTAKKAVUNDAMPATTI	K.M.B.GRANITES	31/3/2031	12	Recycling to process
25	OMALUR	MALLIKUTTAI	HATSUN AGRO PRODUCTS RAPID MILK CHILL	31/3/2019	0.5	Recycling to process
26	OMALUR	MARAMANGALAM	TIRUMALA MILK PRODUCTS P LTD	31/3/2019	5.5	On land for irrigation
27	OMALUR	MUTHUNAICKENPATTI	SRI AMMAN GRANITES	31/3/2022	5	Recycling to process
28	OMALUR	MUTHUNAICKENPATTI	OBLI GRANITES	31/3/2027	30	Recycling to process
29	OMALUR	MUTHUNAICKENPATTI	M.S.B. TRADING CORPORATION	31/3/2020	5	On land for irrigation
30	OMALUR	OMALUR	S.P.M.GRANITES	31/3/2018	5	Recycling to process
31	OMALUR	PACHCHANAMPATTI	TVN HEALTH PRODUCTS COMPANY	31/3/2026	3.6	On land for irrigation
32	OMALUR	PAGALPATTI	NANDA DAIRY	31/3/2021	35	On land for irrigation
33	OMALUR	PAGALPATTI	NAACHI GRANITE UNIT - II	31/3/2022	10	On land for irrigation
34	OMALUR	PAGALPATTI	HATSUN AGRO PRODUCT LTD RAPID MILK CHILL	31/3/2019	0.1	On land for irrigation
35	OMALUR	PAGALPATTI	VENKATESWARA SAGO FACTORY	31/3/2001	100	Inland surface water

Annexure-I Details of industries along the polluted river stretch

36	OMALUR	PAGALPATTI	SRI LAKSHMI SAGO FACTORY	31/3/2007	30	On land for irrigation
37	OMALUR	SAMINAYAKKAMPATTI	T.P.S. BLUE METALS	31/3/2027	0	No Trade Effluent
38	OMALUR	SAMINAYAKKAMPATTI	AISHWARIYA EXPORTS	31/3/2019	1.5	Recycling to process
39	OMALUR	SELAVADAI	ROYAL GRANITES	31/3/2018	10	Recycling to process
40	OMALUR	SELLAPILLAIKUTTAI	SRI GRANITE	31/3/2024	5	Recycling to process
41	OMALUR	T MARAMANGALAM	HATSUN AGRO PRODUCTS LTD	31/3/2022	7	On land for irrigation
42	OMALUR	TATTAYANGARPATTI	HATSUN AGRO PRODUCT LTD RAPID MILK CHILL	31/3/2019	0.2	On land for irrigation
43	OMALUR	TOLASAMPATTI	B.JAYA GRANITES	31/3/2024	10	Recycling to process
44	OMALUR	VELLAKKALPATTI	G.T.P. GRANITES LIMITED Unit - II	31/3/2020	20	Recycling to process
45	OMALUR	VELLAKKALPATTI	ASHOK GRANITES LIMITED	31/3/2020	15	Recycling to process
46	OMALUR	VELLAKKALPATTI	SIVA GRANITE PRODUCTS	31/3/2024	1.5	Recycling to process
47	KADAYAMPATTI	KADAYAMPATTI	SARANKUMAR ROUGH STONE QUARRY	31/3/2023	0	No Trade Effluent
48	KADAYAMPATTI	DANISHPET	SRI THANGAVEL BLUE METALS	31/3/2022	0	No Trade Effluent
49	KADAYAMPATTI	DANISHPET	Balu Rough Stone Quarry	31/3/2023	0	No Trade Effluent
50	KADAYAMPATTI	DARAPURAM	V.M. GRANITES	31/3/2014	10	Recycling to Process
51	KADAYAMPATTI	DEEVATTIPATTI	V.KALAISELVI ROUGH STONE QUARRY	31/3/2021	0	No Trade Effluent
52	KADAYAMPATTI	DEEVATTIPATTI	SRI DHANALAKSHMI BLUE METALS	Rejection	0	No Trade Effluent
53	KADAYAMPATTI	DEEVATTIPATTI	SS BIOCHEM INDIA PRIVATE LIMITED	31/3/2028	1	Solar Evaporation
54	KADAYAMPATTI	DIVATTIPPATTI	R.GOPAL ROUGH STONE QUARRY	08-12-2019	0	No Trade Effluent
55	KADAYAMPATTI	DIVATTIPPATTI	JEYYAM FOOD PARK LLP	31/3/2026	0	No Trade Effluent
56	KADAYAMPATTI	DIVATTIPPATTI	NAGAA OIL MILL	31/3/2008	0	No Trade Effluent
57	KADAYAMPATTI	DIVATTIPPATTI	R.G. BLUE METALS	31/3/2020	0	No Trade Effluent
58	KADAYAMPATTI	DIVATTIPPATTI	R.G.BLUE METALS M. SAND UNIT	31/3/2027	20	Recycling to Process
59	KADAYAMPATTI	DIVATTIPPATTI	SRI KRISHNA PLASTICS	31/3/2007	0	No Trade Effluent
60	KADAYAMPATTI	ELATHUR	KEERTHI PETRO CHEM PVT LTD	31/3/2021	0	No Trade Effluent
61	KADAYAMPATTI	ELATHUR	TPS M SAND	31/3/1997	20	Recycling to Process
62	KADAYAMPATTI	ELATHUR	SURYA BLUE METAL UNIT II	31/3/2001	0	No Trade Effluent
63	KADAYAMPATTI	ELATTUR	SURIYA BLUE METALS	31/3/2027	0	No Trade Effluent
64	KADAYAMPATTI	GUNDUKKAL	HATSUN AGRO PRODUCT LTS RAPID CHILLING C	31/3/2019	0.5	Recycling to Process
65	KADAYAMPATTI	GUNDUKKAL	ARP BLUE METALS	31/3/2027	0	No Trade Effluent
66	KADAYAMPATTI	KADAYAMPATTI NORTH	S.G. THANGAVEL ROUGH STONE QUARRY	31/3/2019	0	No Trade Effluent
67	KADAYAMPATTI	KADAYAMPATTI NORTH	A.RAMASAMY GRAVEL QUARRY	03-10-2019	0	No Trade Effluent
68	KADAYAMPATTI	KADAYAMPATTI NORTH	SRI SAKTHI BLUE METALS	31/3/2026	0	No Trade Effluent
69	KADAYAMPATTI	KADAYAMPATTI NORTH	LAKSHMI MINERALS	31/3/2011	0	No Trade Effluent
70	KADAYAMPATTI	KADAYAMPATTI NORTH	SATHYA BLUE METALS	31/3/2020	0	No Trade Effluent
71	KADAYAMPATTI	KADAYAMPATTI NORTH	OM MURUGAA CRUSHER	31/3/2020	0	No Trade Effluent
72	KADAYAMPATTI	KADAYAMPATTI SOUTH	T.JAYASUDHA	31/3/2019	0	No Trade Effluent
73	KADAYAMPATTI	MOOKKANUR	MRS BLUE METALS	31/3/2023	0	No Trade Effluent
74	KADAYAMPATTI	NADUPATTI	TPS Rough Stone Quarry	31/3/2023	0	No Trade Effluent
75	KADAYAMPATTI	NADUPATTY	T.P.S BLUE METALS AND CRUSHING UNIT	Rejection	0	No Trade Effluent

Annexure-I Details of industries along the polluted river stretch

76	KADAYAMPATTI	NADUPPATTI	S.SELVAM ROUGH STONE QUARRY I	02-07-2021	0	No Trade Effluent
77	KADAYAMPATTI	SARKAR GOLLAPPATTI	EVEREST BLUE METALS-CRUSHER DIVISION	31/3/2023	0	No Trade Effluent
78	KADAYAMPATTI	TUMBIPADI	ARUNACHALAM INDUSTRIES	31/3/2005	5	Recycling to Process
79	KADAYAMPATTI	TUMBIPADI	T.P.S. BLUE METALS	31/3/2027	0	No Trade Effluent
80	KADAYAMPATTI	VEPPILAI	S.A. STONES - QUARRY	CTE Only	0	No Trade Effluent
81	KADAYAMPATTI	VEPPILAI	THILLAIKKARASI QUARRY	31/3/2016	0	No Trade Effluent
82	KADAYAMPATTI	VEPPILAI	R.CHINNATHAMBI ROUGH STONE QUARRY	31/3/2016	0	No Trade Effluent
83	KADAYAMPATTI	VEPPILAI	P.DHANABAKKIYAM ROUGH STONE QUARRY	31/3/2020	0	No Trade Effluent
84	KADAYAMPATTI	VEPPILAI	M.VELLAIYAN	31/3/2016	0	No Trade Effluent
85	KADAYAMPATTI	VEPPILAI	S.SELVAM ROUGH STONE QUARRY II	31/3/2021	0	No Trade Effluent
86	KADAYAMPATTI	VEPPILAI	P.P.S.CRUSHER	31/3/2027	0	No Trade Effluent
87	KADAYAMPATTI	VEPPILAI	N.S.K. CRUSHER	31/3/2028	0	No Trade Effluent
88	KADAYAMPATTI	VEPPILAI	SRI VENKATESWARA BLUE METALS	31/3/2024	0	No Trade Effluent
89	KADAYAMPATTI	VEPPILAI	M.P.S. BLUE METALS	CTE Only	0	No Trade Effluent
90	KADAYAMPATTI	VEPPILAI	SRI JAYAMURUGAN BLUE METALS	31/3/2025	0	No Trade Effluent
91	KADAYAMPATTI	VEPPILAI	SRI AYYANARAPPAN BLUE METALS	31/3/2026	0	No Trade Effluent
92	KADAYAMPATTI	VEPPILAI	SA BLUE METALS	31/3/2026	0	No Trade Effluent
93	KADAYAMPATTI	VEPPILAI	KAVITHA BLUE METALS	31/3/2027	0	No Trade Effluent

SCHEDULE-VI: ENVIRONMENT (PROTECTION) RULES, 1986

(See rule 3A of E (P) Rules, 1986)

**GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENTAL POLLUTANTS PART-A:
EFFLUENTS**

Sl. No.	Parameter	Standards			
		Inland Surface Water	Public Sewers	Land for Irrigation	Marine coastal areas
1	2	3(a)	3(b)	3 (c)	3 (d)
1	Colour and odour	See 6 of Annexure-I	-	See 6 of Annexure-I	See 6 of Annexure-I
2	Suspended solids mg/l Max.	100	600	200	(a) For process waste water -100 (b)For cooling water effluent 10 % above total suspended matter of influent
3	Particle size of suspended solids	shall pass 850 micron IS Sieve	-		(a) Floatable solids, max 3 mm. (b)Settleable solids, max 850 microns
4	[*Omitted*]				
5	pH value	5.5 to 9	5.5 to 9	5.5 to 9	5.5 to 9
6	Temperature	Shall not exceed 5°C above the receiving water temperature	-	-	Shall not exceed 5°C above the receiving water temperature
7	Oil and grease mg/l, Max	10	20	10	20
8	Total residual chlorine mg/l, Max	1.0	-	-	1.0
9	Ammonical nitrogen (as N) mg/l, Max	50	50	-	50
10	Total Kjeldahl nitrogen (as NH ₃) mg/l, Max	100	-	-	100
11	Free ammonia [as NH ₃] mg/l, Max	5.0	-	-	5.0
12	Biochemical Oxygen Demand (3 days at 27°C) mg/l, Max	30	350	100	100
13	Chemical Oxygen Demand, mg/l Max	250	-	-	250
14	Arsenic (as As) mg/l, Max	0.2	0.2	0.2	0.2
15	Mercury (as Hg), mg/l, Max	0.01	0.01	-	0.01
16	Lead (as Pb) mg/l Max	0.1	1.0	-	2.0
17	Cadmium (as Cd) mg/l, Max	2.0	1.0	-	2.0
18	Hexavalent Chromium (as Cr ⁺⁶) mg/l, Max	0.1	2.0	-	1.0
19	Total chromium (as Cr) mg/l, Max	2.0	2.0	-	2.0

Annexure - II

Sl. No.	Parameter	Standards			
		Inland Surface Water	Public Sewers	Land for Irrigation	Marine coastal areas
20	Copper (as Cu) mg/l Max	3.0	3.0	-	3.0
21	Zinc (as Zn) mg/l, Max	5.0	15	-	15
22	Selenium (as Se) mg/l Max	0.05	0.05	-	0.05
23	Nickel (as Ni) mg/l, Max	3.0	3.0	-	5.0
24	Omitted	*	*	*	*
25	Omitted	*	*	*	*
26	Omitted	*	*	*	*
27	Cyanide (as CN) mg/l ,Max	0.2	2.0	0.2	0.2
28	Omitted	*	*	*	*
29	Fluoride (as F) mg/l, Max	2.0	15	-	15
30	Dissolved Phosphates (as P) mg/l, Max	5.0	-	-	-
31	Omitted	*	*	*	*
32	Sulphide (as S) mg/l Max	2.0	-	-	5.0
33	Phenolic compounds [as C ₆ H ₅ OH] mg/l, Max	1.0	5.0	-	5.0
34	Radioactive materials				
	(a) Alpha emitters [Micro curie/ml] max	10 ⁻⁷	10 ⁻⁷	10 ⁻⁸	10 ⁻⁷
	(b) Beta emitters [Micro curie/ml] Max	10 ⁻⁶	10 ⁻⁶	10 ⁻⁷	10 ⁻⁶
35	Bio-assay test	90 % survival of fish after 96 hours in 100 % effluent	90 % survival of fish after 96 hours in 100 % effluent	90 % survival of fish after 96 hours in 100 % effluent	90 % survival of fish after 96 hours in 100 % effluent
36	Manganese (as Mn)	2 mg/l	2 mg/l	-	2 mg/l
37	Iron (as Fe)	3 mg/l	3 mg/l	-	3 mg/l
38	Vanadium (as V)	0.2 mg/l	0.2 mg/l	-	0.2 mg/l
39	Nitrate Nitrogen	10 mg/l	-	-	20 mg/l
40	Omitted	*	*	*	*

* Omitted by Rule 2 (d) (i) of the Environment (Protection) Third Amendment Rules, 1993 vide Notification No. G.S.R 801 (E), dated 31.12.1993

Annexure - III

Water Quality Criteria -Designated Best Uses of Water

Designated Best Use	Class	Criteria
Drinking Water Source without conventional treatment but after disinfection	A	1.Total Coliforms Organism MPN/100ml shall be 50 or less 2. pH between 6.5 and 8.5 3. Dissolved Oxygen 6mg/l or more 4. Biochemical Oxygen Demand 5 days 20 °C, 2mg/l or less
Outdoor bathing (Organised)	B	1.Total Coliforms Organism MPN/100ml shall be 500 or less 2. pH between 6.5 and 8.5 3. Dissolved Oxygen 5mg/l or more 4. Biochemical Oxygen Demand 5 days 20 °C, 3mg/l or less
Drinking water source after conventional treatment and disinfection	C	1.Total Coliforms Organism MPN/100ml shall be 5000 or less 2. pH between 6 and 9 3. Dissolved Oxygen 4mg/l or more 4. Biochemical Oxygen Demand 5 days 20 °C, 3mg/l or less
Propagation of Wild life and Fisheries	D	1. pH between 6.5 and 8.5 2. Dissolved Oxygen 4mg/l or more 3. Free Ammonia (as N)-1.2 mg/l or less 4. Biochemical Oxygen Demand 5 days 20 °C, 2mg/l or less
Irrigation, Industrial Cooling, Controlled Waste disposal	E	1. pH between 6.0 and 8.5 2. Electrical Conductivity at 25 °C micro mhos/cm, maximum 2250 3. Sodium absorption Ratio Max. 26 4. Boron Max. 2mg/l
	Below-E	Not meeting any of the A, B, C, D & E Criteria