

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
Principal Bench, New Delhi
In
Original Application No. 116/2014

In the matter of:-

Meera Shukla

Applicant

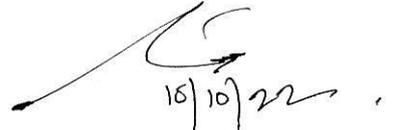
Versus

Municipal Corporation, Gorakhpur & Ors.

Respondent(s)

Index

Sl. No.	Particulars	Page No.
1.	Report on behalf of CPCB in compliance to Hon'ble NGT order dated 30.03.2022, in OA No. 116/2014, Meera Shukla Vs. Municipal Corporation, Gorakhpur & Ors.	
2.	Annexure-I: A copy of the Hon'ble NGT, PB order dated 30.03.2022.	
3.	Annexure-II: A copy of Detailed inspection report of STPs at Gorakhpur, Uttar Pradesh.	
4.	Annexure-III: A copy of Performance Assessment Report of Bio-remediation in 18 minor and 05 major drains located in Catchment area of Ramgarh Lake and River Rapti and River Rohini at Gorakhpur District, Uttar Pradesh.	
5.	Annexure-IV: A copy of photo gallery.	
6.	Annexure-V: A copy of the Sewage utilization plan of 30 MLD STP (UP Jal Nigam Gorakhpur).	
7.	Annexure-VI: A copy of Evaluation criteria of Bio-remediation of drains during treatment period as per NMCG.	



(P.K. Mishra)
Scientist E

Central Pollution Control Board
Delhi-110032

Place- Delhi
Date- 10.10.2022

Report of Central Pollution Control Board (CPCB) for ensuring compliance to Hon'ble NGT (PB) order dated 30.03.2022 passed in O.A No. 116/2014 in the matter of Meera Shukla Vs Municipal Corporation, Gorakhpur & Ors.



Central Pollution Control Board
(Ministry of Environment, Forests & Climate Change, Govt. of India)
Parivesh Bhawan, East Arjun Nagar,
Delhi – 110032

September, 2022

Report of Central Pollution Control Board (CPCB) for ensuring compliance to Hon'ble NGT (PB) order dated 30.03.2022 passed in O.A No. 116/2014 in the matter of Meera Shukla Vs Municipal Corporation, Gorakhpur & Ors

1.0 Background:

Hon'ble National Green Tribunal, Principal Bench, New Delhi, vide its order dated 30.3.2022 in O.A No. 116/2014 in the matter of Meera Shukla Vs Municipal Corporation, Gorakhpur & Ors regarding remedial action against contamination of water bodies and ground water, specially Ramgarh Lake, Ami, Rapti and Rohani Rivers in and around District Gorakhpur, Uttar Pradesh directed CPCB and the relevant portion of the directions are reproduced below:-

"vi. CPCB may monitor functioning of STPs. It may also assess the performance of bioremediation works being executed on different drains and location in terms of efficacy and in view of the revised guidelines of NMCG titled "Revised Monitoring Protocols for in-situ bio-remediation projects for drain treatment" and give further suggestions/recommendations for necessity and improvements and file its independent report."

A copy of the Hon'ble NGT order dated 30.03.2022 is attached at **Annexure- I**

2.0 Follow up actions taken by CPCB

2.1 Actions taken by CPCB on drains and STPs located in Gorakhpur

In compliance to directions of Hon'ble NGT, RD Lucknow-CPCB, conducted inspection of 03 STPs at Deoria Bypass Road near Kashiram Awas Yojna, Taramandal UP Jal Nigam (Capacity 30 MLD), at Maherva ki Bari Mahadev Jharkhandi Kunraghat Gorakhpur (capacity 15 MLD), and STP at Sahara Estate, Gorakhpur (Not operational during visit) and; 11 nos. of drains during May 24-25, 2022 located in Catchment area of Ramgarh Lake , River Rapti and River Rohini at Gorakhpur District, Uttar Pradesh.

Detailed inspection report of STPs at Gorakhpur, Uttar Pradesh are attached as **Annexure-II** and Performance Assessment Report of Bio-remediation in 18 minor and 05 major drains located in Catchment area of Ramgarh Lake and River Rapti and River Rohini at Gorakhpur District, Uttar Pradesh are attached as **Annexure-III** and photo gallery in **Annexure-IV**.

In compliance the Hon'ble NGT order, CPCB constituted a team comprising of the following members carried out monitoring of STPs and drains:

Team members:

1. Sh. A.K. Tripathi, Scientist - 'C', CPCB, Regional Directorate, Lucknow.
2. Sh. Shivam Singh, RA. CPCB, Regional Directorate, Lucknow.

Other members:

1. Sh. Sanjay Kumar, AEE, UPJN, Gorakhpur
2. Sh. Amaarjeet Yadav, JE,UPJN, Gorakhpur
3. Sh. Shailesh Kumar, AEE, Nagar Nigam ,Gorakhpur

2.2.1 Observations

CPCB monitored 11 nos. of drain and 02 nos. of STPs located in Gorakhpur, 01 STP at Sahara Estate, Taramandal Gorakhpur (which was not in operation during visit).

Details of drains and STPs monitored are as under:

Date of Inspection: 24/05/2022 & 25/05/2022				
S. No.	Name of STP	Installed Capacity (in MLD)	Technology adopted	Treatment Capacity (in MLD)
1	Deoria Bypass Road near Kashiram Awas Yojna , Taramandal , UP Jal Nigam, Gorakhpur (UP)	30	SBR	21
2	Maherva ki Bari Mahadev Jharkhandi Kunraghat Gorakhpur	15	SBR	15.5
3	Sahara estate,	Non -	-	-

	Taramandol, Gorakhpur	operational		
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Date of Inspection: 24/05/2022 & 25/05/2022

S. No	Name of Drain	Discharge of drain in to River/ Lake	Bio-remediation
1.	Girdharganj Nala (Yadav Tola No-1)	Ramgarh lake	Yes
2.	Girdharganj Nala (Yadav Tola No-2)	Ramgarh lake	
3.	Navalpurwa Nala (Near Jalpai Mai Mandir)	Ramgarh lake	
4.	Sahara Estate Nala	Ramgarh lake	
5.	Shri Krishnapuram Nala	Ramgarh lake	
6.	Satya Marg Nala (Near H.No. 112)	Ramgarh lake	
7.	Domingarh Nalla	Rapti river	
8.	Illahibagh Nalla	Rapti river	
9.	Kataniya / Mahewa Nalla	Rapti river	
10.	Basiyadih Nalla	Rohini river	
11.	Bargadwa Gao Jalan Nalla	Rohini river	

A. STPs

CPCB team monitored 02 STPs, located in Gorakhpur and samples were collected from both inlet, aeration tank and outlet. Subsequently, samples were analyzed for 07 parameters viz., pH, BOD, COD, TSS, Total Nitrogen, Total phosphorus, fecal coliform. Analytical results are depicted in **Table 1(a) & 1(b)**.

Table1(a): Analysis Result of Samples of 30 MLD STP, Gorakhpur

S. No.	Parameters	Unit	Inlet of STP	Aeration Tank1	Aeration Tank2	Outlet of STP	Standards as per NGT Order dated 30.04.2021
1.	pH	-	7.27	--	--	7.63	5.5 to 9.0
2.	TSS	mg/L	121	--	--	53.8	20
3.	BOD		24.5	--	--	15.6	10
4.	COD		128	--	--	62.5	50
5.	Total Phosphorus		0.632	--	--	BDL	1.0
6.	Total Nitrogen		26.8	--	--	25.8	10
7.	MLSS		-	8094	8958	--	--

8.	MLVSS		-	4092	4529	--	--
9.	F-coliform	MPN/ 100 ml	-	--	--	2.0X104	100 (Desirable) 230 (Permissible)
10.	Residual Chlorine	ppm	--	--	--	0.3	--

Table1(b): Analysis Result of Samples of 15 MLD STP, Gorakhpur

S. No.	Parameters	Unit	Inlet of STP	Aeration Tank1	Aeration Tank2	Outlet of STP	Standards as per NGT Order
1.	pH	-	7.60	--	--	7.52	5.5 to 9.0
2.	TSS	mg/L	7.29	--	--	6.15	20
3.	BOD		21.1	--	--	6.52	10
4.	COD		58.1	--	--	34.0	50
5.	Total Phosphorus		BDL	--	--	BDL	1.0
6.	Total Nitrogen		BDL	--	--	15.6	10
7.	MLSS		-	3392	3146	--	--
8.	MLVSS		-	1581	1490	--	--
9.	F-coliform		MPN/ 100 ml	-	--	--	7.8X104
10.	Residual Chlorine	ppm	-	--	--	-	--

Close examination of above results reveals following observations:

1. The STP at Deoria Bypass Road near Kashiram Awas Yojna , Taramandal receives raw sewage from the areas namely Mohaddipur, Railway Colony, Charfatak ,Paidleganj , Golf Couse , Indiranagar , Taramandal by tapping & diversion of open 4 Nos of major Drain (namely Mohaddipur power house nalla , Rafi Ahmad Kidwai nalla ,Golf ground nala, and Paidleganj nala) for the treatment.
 - a. The analysis results of final outlet of 30 MLD STP (Table 1(a)) reveals that STP is not complying w.r.t TSS, BOD, COD Total Nitrogen and Faecal Coliform as compared to norms prescribed by Hon'ble NGT order dated 30.04.2019 in OA No. 1069/2018.
 - b. The treated water from 30 MLD STP is discharged at outlet of Ramgarhtal in Gurra nala which finally joins River Rapti

- c. The Sewage utilization plan of 30 MLD STP (UP Jal Nigam Gorakhpur) is annexed as **Annexure-V**.

2. The STP at Maherva ki Bari Mahadev Jharkhandi Kunraghat Gorakhpur receives raw sewage from the areas namely Kunraghat, AIIMS and Awas Vikas , Colony, by tapping & diversion of open 2 Nos of major Drain (namely Gurdhaiya Nala and Kunraghat Nala) for the treatment.
 - a. The treated water is discharge into Rangarh taal through 750mm Concrete Pipeline near Maherwa kibari .
 - b. The analysis results of final outlet of 15 MLD STP revealed that STP is not complying w.r.t Total Nitrogen and Faecal Coliform as compared to Hon'ble NGT order dated 30.04.2019 in OA No. 1069/2018
 - c. The treated water is used in gardening, centrifuge operation and rest is being discharged in Ramgarhtal to maintain lake water balance.
3. STP at Sahara Estate, Gorakhpur was non-operational and untreated sewage of Sahara estate, Gorakhpur discharged into Shahra Estate Nallah which finally joins Ramgarhtal .

B. Drains:

- (i) There are 23 Major and Minor drains in Gorakhpur. Nagar Nigam, Gorakhpur carrying out in-Situ Treatment through Bioremediation technology for 11 drains (5 major and 6 minor) falling in RamgarhTaal, Rapti River and Rohini River. The Bio-remediation work is being carried out by M/s Maple Orgtech (India) Ltd. since 27-12-2020.
- (ii) Nagar Nigam, Gorakhpur cultured the bio media and sprayed at different locations in drain on fortnightly basis. There is no retention wall or bridge raised in drains to ensure mixing of biomedica with wastewater of drains to get effective results.
- (iii) CPCB collected samples of 11 drains before the outfall into Ramgarhtal, Rapti River & Rohini River and were analyzed for 04 parameters, viz., pH, BOD, COD & TSS, to access the effectiveness of bio-remediation applied by Gorakhpur Nagar Nigam. Analytical results are depicted in **Table 2(a)&(b)**.
- (iv) Water quality gets deteriorated in terms of BOD, COD and TSS at Sahara State Nala and Girdharganj Nala (Yadav Tola No-2), in terms of COD & TSS at Sri

Krishnapuram Nala and TSS in Bargadawa Drain, Drain, Near Jashan Marriage Hall, Bargadwa, Gorakhpur.

- (v) Water quality partially improved in terms of BOD in Sri Krishnapuram and in terms of COD & BOD in Bargadawa Drain, Drain, Near Jashan Marriage Hall, Bargadwa, Gorakhpur.
- (vi) It was observed during visit that V-notch and bar Screen was not properly installed at many drains.
- (vii) Out of 18 drains, samples of 03 drains viz Avas Vikas Kachcha Nala, Vishunpurwa Nala, Sigharia-Maherawa ki Bari not collected due to interception of sewerline by UPJN the drains diverted temporarily in ponding near 15 MLD STP.

Also samples of 09 drains drains viz Nala Near Smart Wheels Pvt Ltd, Mohaddipur, Sri Rampuram Colony Drain, Sri Rampuram Colony Drain-1, Sri Rampuram Colony Drain-2, Sri Rampuram Colony Drain-3, Sri Rampuram Colony Drain near house no.- 850, Suraj Nagar/Ram Nagar Colony Drain, Parha Tola Drain Near Ishrawati Devi and Parha Tola Drain Near Prabhu Dayal Agrawal not collected due to meagre / lean flow.

Table 2 (a): Analytical results of drains monitored in Gorakhpur during 24/05/2022 & 25/05/2022

Water quality of 6 minor drains falling in Ramgarh Lake, before Bio-remediation & after Bio-remediation

S. No	Name of the Drains.	Sampling Point	Date of Sample Collection	Flow (m ³ /hr)	PARAMETER						
					pH	B. O. D. (3days at 27° C in mg/L)	T.S.S. (mg/L)	C.O. D(mg /L)	Total Coliform	Fecal Coliform	Reduction (%)
1	Girdharganj Nala (Yadav Tola No-1)	Before Bio-remediation	25.05.2022	-	7.38	22.6	43.8	57.7	-	-	BOD: 33.62 COD:42.28 TSS: 62.78
		After Bio-remediation	25.05.2022	118.95	7.23	15	16.3	33.3	1.7x10 ⁷	7.9x10 ⁶	
2	Girdharganj Nala (Yadav Tola No-2)	Before Bio-remediation	25.05.2022	-	7.27	16.4	39.4	29.8	-	-	BOD: No reduction COD: No reduction TSS:15.22
		After Bio-remediation	25.05.2022	100.7	7.18	16.7	33.4	50.4	9.4 x10 ⁶	7.0x10 ⁶	
3	Navalpurwa Nala (Near Jal Pai Mai Mandir)	Before Bio-remediation	25.05.2022	36.56	7.52	25.8	31	65.5	-	-	BOD: 8.91 COD:14.80 TSS: 43.54
		After Bio-remediation	25.05.2022		7.55	23.5	17.5	55.8	3.5x10 ⁷	1.7x10 ⁷	
4	Sahara State Nala	Before Bio-remediation	25.05.2022	-	7.29	17.2	9.59	32.5	-	-	BOD: No reduction COD: No reduction TSS: No reduction
		After Bio-remediation	25.05.2022	45.03	7.21	18.6	12.4	42.6	2.4x10 ⁷	3.3x10 ⁶	

S. No	Name of the Drains.	Sampling Point	Date of Sample Collection	Flow (m ³ /hr)	PARAMETER						
					pH	B. O. D. (3days at 27° C in mg/L)	T.S.S. (mg/L)	C.O. D(mg/L)	Total Coliform	Fecal Coliform	Reduction (%)
5	Sri Krishnapuram Nala	Before Bio-remediation	24.05.2022	12.56	7.22	88.9	50.4	151	-	-	BOD: 11.36 COD: No reduction TSS: No reduction
		After Bio-remediation	24.05.2022		7.18	78.8	94.8	161	3.5x10 ⁶	2.2x10 ⁶	
6	Satya Marg Nala (Near H.No-112)	Before Bio-remediation	25.05.2022	16.48	7.41	25.2	47.3	44.2	-	-	BOD: 34.92 COD: 14.02 TSS: 31.50
		After Bio-remediation	25.05.2022		7.60	16.4	32.4	38	7.9x10 ⁵	2.3x10 ⁵	

Table 2(b): Analytical results of drains monitored in Gorakhpur during 25/05/2022
Water quality of 05 Major Drains falling in Rohin River & Rapti River before Bio-remediation & after Bio-remediation

S. No	Name of the Drains.	Sampling Point	Date of Sample Collection	Flow (m ³ /hr)	PARAMETER						
					PH	B. O. D. (3days at 27° C)	T.S.S.	C.O. D	Total Coliform	Fecal Coliform	Reduction (%)
1	Basiyadih Drain, Near Madhopur Bandh, Gorakhpur	Before Bio-remediation	25.05.2022	493.	7.15	28.1	66.5	89.5	-	-	BOD: 1.77 COD: 32.51 TSS: 24.81
		After Bio-remediation	25.05.2022	7	7.21	27.6	50	60.4	3.5x10 ⁷	1.3x10 ⁷	
2	Bargadawa Drain, Near Jashan Marrige Hall, Bargadwa, Gorakhpur	Before Bio-remediation	25.05.2022	509.	7.11	18.6	20	39.9	-	-	BOD: 46.34 COD: 32.51 TSS: No reduction
		After Bio-remediation	25.05.2022	30	7.62	9.98	63.8	30.6	4.0x10 ⁴	2x10 ⁴	
3	Domingarh Drain, Domingarh, Gorakhpur	Before Bio-remediation	25.05.2022	1170	7.10	70.2	83.2	161	-	-	BOD: 66.09 COD: 65.34 TSS:58.77
		After Bio-remediation	25.05.2022		7.14	23.8	34.3	55.8	9.2x10 ⁷	2.4x10 ⁷	
4	Ilahibag Drain, Gorakhpur	Before Bio-remediation	25.05.2022	931.	7.09	43.8	117	101	-	-	BOD: 17.80 COD: 9.50 TSS:11.96
		After Bio-remediation	25.05.2022	9	7.04	36	103	91.4	5.4x10 ⁷	3.5x10 ⁷	
5	Katariya/Mahewa Drain, Gorakhpur.	Before Bio-remediation	25.05.2022	206.	7.28	33.3	28.5	85.6	-	-	BOD: 14.11 COD: 27.10 TSS:35.43
		After Bio-remediation	25.05.2022	8	7.16	28.6	18.4	62.4	9.2x10 ⁷	5.4x10 ⁷	

Based on the analytical results following findings are made:

A. Drains

1. Bio-remediation techniques adopted by Nagar Nigam, Gorakhpur in 11 monitored drain is partially effective as partial reduction was observed at outfall of many drains. Nagar Nigam, Gorakhpur needs to address the issue by ensuring complete (100%) tapping of drains in compliance of Hon'ble Tribunal's orders.
2. Out of the 11 drains monitored, only 6 viz Girdharganj Nala (Yadav Tola No-1), Satya Marg Nala, Basiyadih Drain, Domingarh Drain, Katariya/Mahewa Drain were found complying to the Evaluation criteria of Bio-remediation of drains of NMCG while the rest 05 drains viz Girdharganj Nala (Yadav Tola No-2), Navalpurwa Nala (Near Jal Pai Mai Mandir), Sahara State Nala, Sri Krishnapuram Nala , Bargadawa Drain, Near Jashan Marriage Hall, Ilaahibag Drain, Gorakhpur were found non-complying. Evaluation criteria of Bio-remediation of drains during treatment period as per NMCG attached as **Annexure-VI.**

B. STPs

1. Out of 02 STPS monitored, both STPs were found not complying with the norms prescribed by NGT, 30 MLD STP (for parameters viz., COD, BOD, TSS, Total Nitrogen & Fecal Coliform.) and 15 MLD STP (for parameters viz., Total Nitrogen & Fecal Coliform.)
2. STP at Sahara estate, Gorakhpur was non-operational and untreated sewage discharge into Sahara estate nallah. Bio-remediation being carried out, however, water quality gets deteriorated w.r.t COD, BOD and TSS.

S. No.	Name of the Team members	Signature
1.	Sh. A.K. Tripathi, Scientist - 'C', CPCB, Regional Directorate, Lucknow	
2.	Sh. Shivam Singh, RA- CPCB, Regional Directorate, Lucknow	

Item No. 01

(Court No. 1)

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

(By Video Conferencing)

Original Application No. 116/2014

(With reports dated 03.12.2021, 21.02.2022
& 21.03.2022)

Meera Shukla

Applicant

Versus

Municipal Corporation, Gorakhpur & Ors.

Respondent(s)

Date of hearing: 30.03.2022

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE MS. JUSTICE PUSHPA SATHYANARAYANA, JUDICIAL MEMBER
HON'BLE PROF. A. SENTHIL VEL, EXPERT MEMBER
HON'BLE DR. VIJAY KULKARNI, EXPERT MEMBER**

Applicant: Ms. Katyayni, Advocate
Mr. Sameer Sodhi, Advocate for Applicant in M.A 02/2020

Respondent(s): Mr. Durga Shanker Mishra, Chief Secretary, S/Shri Manoj Singh
and Rajnish Dube, Additional Chief Secretaries, UP with Ms.
Garima Prashad, AAG & Ms. Priyanka Swami, Advocate for the
State of Uttar Pradesh
Mr. D.P. Mathuria, Executive Director, NMCG
Mr. Raj Kumar, Advocate for CPCB
Mr. Pradeep Misra & Mr. Daleep Dhyani, Advocates for UPPCB

ORDER

1. The issue for consideration is the remedial action against contamination of water bodies and ground water, specially Ramgarh Lake, Ami, Rapti and Rohani Rivers in and around District Gorakhpur, Uttar Pradesh.

2. According to the applicant, contaminated water results in Enterovirus (EV) which is brain fever, similar to Japanese Encephalitis (JE) and

Acute Encephalitis Syndrome (AES). Gorakhpur has history of death of hundreds of children at BRD Medical College, Gorakhpur though majority of patients may come from different parts of eastern UP and Bihar outside Gorakhpur. Such disease at times proves fatal and if patient survives patients suffer serious mental disabilities. Sources of virus are also said to be piggeries, water birds and livestock which is further accelerated by contaminated water. However, water pollution is certainly source of various diseases even apart from the said diseases and is thus made punishable criminal offence under the Water Act, 1974. It is a matter of regret that enforcement of law in this regard has been and continues to be highly inadequate, to the prejudice of public health. Remedial action required is prevention and control of industrial pollution, sewage management, removing encroachments, enforcement of Solid Waste and Bio Medical Waste Rules for which orders have already been passed in detail on earlier hearings.

Procedural History

3. The matter has been pending for the last more than seven years and progress was exhaustively reviewed vide order dated 23.08.2018. The Tribunal noted the allegation that Ramgarh Lake and the Ami, Rapti and Rohani Rivers in and around District Gorakhpur were severely polluted on account of discharge of untreated sewage and industrial effluents. It was also noted that the steps required to prevent contamination of water bodies and groundwater were not being taken. **This was affecting the farmers and inhabitants, flora, fauna and ecology of area and causing degradation of the environment. 103 water bodies are under threat. There was no proper management of solid waste and no designated scientific sanitary landfill. There was encroachment of the Ramgarh**

Taal. Common Effluent Treatment Plant (“CETP”) had not been set up. Industries were not complying with the environmental norms. There was high organic load in River Ami and Rapti. Sugar and Distillery units were also causing pollution. 557 persons died in the year 2012. About 50,000 persons died in the last 30 years. It was also noted that Ami, Rapti and Rohani Rivers are the tributaries of Ghaghara which ultimately terminated into River Ganga. For public health at Gorakhpur, clean water supply was necessary, apart from cleaning of water bodies and other steps for protection of environment.

4. The Tribunal issued directions for the purpose and a Monitoring Committee was constituted headed by a former Judge of Allahabad High Court with representatives of the Central Pollution Control Board (“CPCB”), Uttar Pradesh Pollution Control Board (“UPPCB”) and State Jal Nigam to oversee compliance of directions of this Tribunal already issued on the subject of closing the sources of contaminated water (like handpumps) and taking steps for supply of potable water, to ensure proper waste management and deal with other issues mentioned above. The Committee was to carry out inspection of the industries causing pollution of water bodies, drains and rivers in the area and Effluent Treatment Plants (“ETPs”), Sewage Treatment Plants (“STPs”), CETP and Solid Waste Management (“SWM”) sites. **Action plan was required to be prepared for solid waste processing, proper functioning of ETPs and CETP and also for making available potable water to the inhabitants, apart from undertaking rehabilitation program for compensating the victims who had suffered. The Committee was to furnish reports to this Tribunal for further action.**

5. As noted earlier, the matter has been dealt with thereafter on several dates in the light of reports received from the Committee from time to time. **The Tribunal passed directions with regard to installation of STPs and CETP by Gorakhpur Industrial Development Authority (“GIDA”), closure of industries operating illegally, adding to the pollution of the Rivers or their tributaries, shifting of construction activities from the floodplain zones/catchment area, unscientific disposal of municipal and other wastes. The orders include orders dated 25.10.2018, 17.12.2018, 07.03.2019, 29.04.2019, 19.07.2019, 27.09.2019, 16.6.2020, 12.01.2021 and finally on 07.09.2021.**

Last order dated 7.9.2021

6. It will suffice to refer to the last order dated 07.09.2021 when the compliance status was reviewed in the light of report of the Chief Secretary, dated 06.09.2021 and the report of the Oversight Committee constituted by this Tribunal in respect of some issues in UP. It was found that serious violations were still continuing which needed urgent remedial action at the level of Chief Secretary of the State in coordination with concerned departments. Relevant extracts from the said order are:

“13. The matter has been taken up today after almost eight months. Though the direction of this Tribunal was to file progress report within three months, report has been filed on behalf of the Chief Secretary only on 06.09.2021. The report does not mention specific timelines, action against the violators – polluters and colluding and incompetent officers who are defeating the law. The report only states that directions were issued to the Principal Secretaries of Urban Development/Irrigation & Water Resources/ Department of Infrastructure & Industrial Development /Revenue/Medical Education Department of Uttar Pradesh who have filed their compliance reports. The Chief Secretary thereafter, reviewed the progress on 02.09.2021 and issued further directions to speed up the ongoing projects and required the Additional Chief Secretaries to coordinate with the Finance Department and NMCG for sanction of the projects and to review the progress on monthly basis. Much more expected from senior

functionaries in such emergent situation of lawlessness. No accountability has been fixed, no time bound action taken or planned. This type of report shows both lack of concern for public health as well as lack of respect for law of the land. It is unfortunate that the clean environment, which is part of fundamental right to life, appears to be casualty at the hands of such high-ranking officers. Thus, a case is made out for requiring the State to pay compensation for the continued damage to the environment and public health under section 15 of the NGT Act, to be recovered inter alia from the concerned heads of the Departments for their failure of Constitutional and public duty to prevent pollution to enforce the right of citizens to clean environment. We propose to consider this aspect for which the concerned heads of the Departments are put to notice and required to remain present in person on the next date with their respective explanations.

14. Annexure-2 to the report gives the status of compliance and the matters reviewed by the Chief Secretaries in a summary form which is reproduced below with the addition of authorities who are required to take action as per Minutes of the Meeting dated 02.09.2021 (Annexure-3):-

A. Treatment of Sewage, Establishment of STP in Nagar Palika Parishad, Khalilabad & Nagar Panchayat, Maghar-

*That the Executive Engineer, Construction Division, UP Jal Nigam, Khalilabad vide their letter dated: 02.06.2021 informed that **DPR worth Rs. 28.36 Cr and 46.32 Cr for Maghar & Khalilabad respectively has been sent to Additional Project Director, SMCG, Lucknow for further necessary action.***

(Additional Chief Secretary, Department of Urban Development, MD, UP Jal Nigam and Additional Chief Secretary, Finance Department)

B. Interim measures for the treatment of the sewages in Nagar Palika Parishad, Khalilabad & Nagar Panchayat, Maghar

That Executive Officer, Nagar Palika Parishad, Khalilabad & Nagar Panchayat, Maghar vide its letter dt; 15.06.2021 has informed that for the treatment of domestic sewage of the drains, bio-remediation work has been started.

(Additional Chief Secretary, Department of Urban Development, MD, UP Jal Nigam and Additional Chief Secretary, Finance Department)

C. Establishment of CETP in Gorakhpur

That ACEO, GIDA vide his letter dated 16.06.2021, informed that DPR of 7.5 MLD CETP costing Rs. 62.50 Cr, prepared by UP Jal Nigam and sent to NMCG for approval on 11.11.2020. NMCG has appointed IIT, Roorkee for third party adequacy of the DPR. IIT, Roorkee has visited the site on 01.04.2021 and communicated their observation to NMCG vide online meeting held on 22.06.2021. Report received from the IIT Roorkee has been shared to GIDA by NMCG. Rs. 37 Cr. sanctioned for CETP (Rs. 17 Cr by GIDA & Rs. 20 Cr by Awasthapana Vikas Kosh of ID Department) and 11.15 Acre Land has been purchased by GIDA for establishment of CETP. Consultant has been appointed for Environment Impact Assessment and Environmental Clearance for proposed CETP.

That Project Manager, UP Jal Nigam, Gorakhpur vide its report dated; 12.08.2021 has submitted the updated status about installation of CETP.

(Additional Chief Secretary, Namami Gange
and Rural Water Supplies/Establishment &
Industrial Development
Department/SMCG/UP Jal Nigam and
Gorakhpur Industrial Development
Authority, Gorakhpur)

D. (i) Identification, Selection & Establishment of Landfill site for MSW processing plant in Gorakhpur

That Municipal Commissioner, Gorakhpur vide their Action Taken Report dated: 17.08.2021 has informed that Land of 10.36 hectare at Village Suthani & Bhati Rawat on Magahar Road has been identified. Out of 10.36 hectare, 8.45 hectare of land has been purchased by Municipal Corporation, Gorakhpur for developing landfill site and establishment of processing plant as per SWM Rules 2016. Director, C&DS, UP Jal Nigam, Lucknow (Implementing agency) has been requested to take further action regarding development of landfill site and processing plant vide letter No. 3323/mu.abhi./char-sa.ni.vi./2020-21, dated 12.02.2021, 3450 mu.abhi./char-sa.ni.vi./2020-21, dated 12.03.2021 and letter No. 93 mu.abhi./char-sa.ni.vi./2021-22, dated 03.06.2021. DPR of Rs. 31.579 Cr has been prepared by C&DS, UP, Jal Nigam Lucknow and has been sent by Municipal Commissioner, Gorakhpur vide letter no. 512/mu.abhi. /char-sa.ni.vi./2020-21, dated 29.07.2021 to ACS Urban Development U.P. Govt. Lucknow. The DPR is in process of sanctioning. The work will be started by C&DS, UP, Jal Nigam after DPR is sanctioned.

(Additional Chief Secretary, Department of
Urban Development and MD, UP Jal Nigam)

(ii) Tapping of all the drains falling into the Ramgarh Tal and Interim measures for the treatment of untapped drains falling in Ramgarh Tal

That Municipal Commissioner, Gorakhpur vide their Action Taken Report dated: 17.08.2021 has informed that;

- i. 6 Major drains (Total Discharge of 37 MLD) falling earlier in Ramgarhtal has been intercepted, diverted and being treated since Feb 2015 & June 2015.*
- ii. 7 Minor drains (Out of 18 minor drains having total Discharge of 5.463 MLD) falling in Ramgarhtal from its eastern side will be taken care of under ongoing “Gorakhpur Sewerage Scheme Zone A-1 Southern part” project under AMRUT till March-2022.*
- iii. Remaining 11 minor drains (Out of 18 minor drains having total Discharge of 1.357 MLD) falling in Ramgarhtal from its Northern Side is proposed under “Construction of earthen bund and intercepting sewer line at Northern side of Ramgarhtal from Paidleyganj to R.K.B.K” project which got sanctioned by GoUP on dated 30.03.2021. Tender has been invited & PQ cum Technical bid is opened on 25.05.2021.*
- iv. As an Interim measure for these 18 drains having discharge of 6.82 MLD falling in RamgarhTaal, Municipal Corporation, Gorakhpur has been doing In-Situ Nallah Treatment through Bioremediation technology. The Bio-remediation work is being carried out by M/s Maple Orgtech (India) Ltd.*

(Additional Chief Secretary, Department of Urban Development and MD, UP Jal Nigam)

(iii) Tapping of Drains falling in River Rapti

That Municipal Commissioner, Gorakhpur vide their Action Taken Report dated: 17.08.2021 has informed that;

- i. Out of 15 Major drains, 9 major drains are falling directly (untreated) in Rapti River, for which a project for “Interception Diversion and treatment of 8 major drains (having total discharge of 41.055 MLD) (phase-1) under Namami Gange with estimated cost Rs. 271.70 crore has been sent by SE (Nagar), U.P. Jal Nigam, Lucknow vide letter no. 485/022-0272 (22)/2020 Dated 17.08.2020 to APD, SMCG, Lucknow under which one STP of 44.0 MLD capacity and interception of 8 major drains are proposed.*
- ii. Some observations were raised by APD, SMCG, Lucknow vide letter dt. 23.09.2020 which has been complied and revised estimate amounting Rs. 271.84 Cr sent to The Director General, NMCG, New Delhi by Project Director, SMCG vide letter no. 1093/0390/SMCG-UP/02 dated 28.10.2020.*

- iii. Again NMCG, New Delhi raised some observation vide its letter dt 15.01.2021 in respect of which compliance has been sent by Chief Engineer, UP Jal Nigam, Gorakhpur vide his letter no. 991/V28/19 Dt. 25.05.2021 to Chief Engineer (Ganga), UP Jal Nigam, Lucknow and copy of same has also been sent to Dir (T-III), NMCG, New Delhi & APD, SMCG, UP along with others which is also forwarded by CE(Ganga), UP Jal Nigam, Lucknow by its letter no. 408/022-272 (22)/2021 Dt. 09.06.2021 to APD, NMCG, Lucknow. Approval of which is awaited.
- iv. Catchment area of remaining 1 major drain (Kataniya/Mahewa Nalla), having total discharge of 8.914 MLD) falling directly in River Rapti without treatment is separated by Gorakhpur-Lucknow four lane road. Hence for interception, diversion and treatment of this 1 major drain, a separate project "Interception, Diversion and Treatment (phase-2)" has been proposed under Namami Gange. Under this project one STP of 10 MLD capacity is proposed. The Pre Feasibility Report amounting Rs. 84.96 Cr has been sent to Director General, NMCG, New Delhi vide APD, SMCG, Lucknow letter no. 398/0628/SMCG-UP/03 Dt. 13.05.2021 for review and initiating appraisal activities for its approval under Namami Gange programme.
- v. For remaining 6 major drains (having total discharge of 27.01 MLD) falling directly (untreated) in Rohini River, a project "Gorakhpur Sewerage Scheme Zone-C under AMRUT (estimated cost Rs. 664.59 Cr) under which 245.55 km sewer laying, one no STP of 40 MLD capacity is proposed has been sent by PPRBD Cell, U.P. Jal Nigam, Lucknow to Mission Director, Directorate of Urban Local bodies, Lucknow vide letter no. 479/1009-072-001(AMRUT)/PPRBD/20 Dated 14.08.2020.

As an interim measure bioremediation/ phyto-remediation of drains, the following action has been taken:

- i. Out of 15 drains, 10 Nos. of drains have been sanctioned in AMRUT for In-Situ Treatment through CSIR-NEERI's RENEU (Restoration of Nallah with Ecological Units) technology. The cost of the project is Rs. 677.68 Lakhs. Tenders for the above work have been invited by CSIR-NEERI, Nagpur. NEERI Nagpur has assured to complete the work by the end of December, 2020. Nagar Nigam Gorakhpur has issued a number of letters as reminders to start the work at site but the work has not started by NEERI Nagpur due to some internal issues. Head Engineering Service Unit, NEERI Nagpur has issued acceptance of tender letter No. 50(65)/2019-2020/W, dated 12.02.2021 to M/S Emergy Enviro Pvt. Ltd.-SINE IIT Bombay Firm for

Construction, Installation & Commissioning of in-situ treatment (CSIR-NEERI's RENEU Technology) at Group 2 comprising of 1 constructed RENEU system of 500m for 4 Nallahs (Takiyaghat drain) of Gorakhpur. Work will be started after rains are over.

- ii. For rest of the 05 drains (3 drains having discharge of 38.554 MLD falling in Rapti river and 2 drains having discharge of 14.00 MLD falling in Rohini river), Municipal Corporation, Gorakhpur has been doing In Situ Nallah Treatment through Bio-remediation technology. The Bio-remediation work is being carried out by M/s Maple Orgtech (India) Ltd.

(Additional Chief Secretary, Department of Urban Development, MD, UP Jal Nigam and Additional Chief Secretary, Finance Department)

E. Sewage Management gap in Lucknow

That General Manager, Gomti Pollution Control Unit, UP Jal Nigam, Lucknow vide his letter dated: 16.06.2021 has informed that;

- i. Total 784 MLD sewage is generated in the Lucknow City, out of which 445 MLD Sewage is treated by 04 STPs.
- ii. 01 STP having capacity 120 MLD is under construction (to be completed in December-2022) and 05 STPs having capacity 39MLD, 01MLD, 22MLD, 80MLD & 85MLD each are proposed by UP Jal Nigam.
- iii. After commissioning of proposed STPs, the sewage gap will be addressed.

(Additional Chief Secretary, Namami Gange and Rural Water Supplies Department and MD, UP Jal Nigam)

F. Environmental Compensation

That UPPCB is continuously monitoring the industries in the catchment area of Aami River.

Status of Compensation imposed and Recovered from the industries in the catchment area of Aami River is as follows:

S. No.	Name of the Industry	EC Imposed	Recovery of EC Amount	Remark
1.	M/s B. R. D. Medical College & Hospital (Nehru Chikitsalay), Gorakhpur	Rs. 4.4115 Crore	Nil	Medical College did not deposit the EC imposed, so UPPCB has requested vide it's different letters dated 29.09.2020, 18.01.2021 to District Magistrate Gorakhpur for

				<p>recovery of Environmental Compensation as per the land revenue.</p> <p>The copy of letter dt: 18.01.2021 is enclosed herewith and marked as Annexure No.-2F(i).</p>
2.	M/s Bharti Research and Breeding Firm, FL-27, Sector 13, GIDA, Gorakhpur	Rs. 6.1125 Lacs	Nil	<p>EC not realized, so UPPCB vide its different letter dated: 17.12.2019, 19.05.2020, 14.07.2020 & 16.02.2021 has requested to District Magistrate, Gorakhpur for issuing RC as per the land-revenue against the industry.</p> <p>The copy of letter dt: 16.02.2021 is enclosed herewith and marked as Annexure No.-2F(ii).</p>
3.	M/s Mother Shree Dairy, D-1/3D, Sector 13, GIDA, Gorakhpur	Rs. 8.4 Lacs	Rs. 8.4 Lacs	EC has been deposited letter attached herewith and marked as Annexure No.- 2F(iii).
4.	M/s Alkane Construction Pvt Ltd., FL-1, Sector 13, GIDA, Gorakhpur	Rs. 4.25 Lacs	Nil	<p>EC not realized, so UPPCB vide its different letter dated: 17.12.2019, 19.05.2020, 14.07.2020 & 16.02.2021 has requested to District Magistrate, Gorakhpur for issuing RC as per the land-revenue against the industry.</p> <p>The copy of letter dt: 16.02.2021 is enclosed herewith and marked as Annexure No.- 2F(iv).</p>
5.	M/s Burnet Pharmaceutical Pvt. Ltd., FL-1, Sector 13, GIDA, Gorakhpur	Rs. 12.875 Lacs	Rs. 0.5 Lacs	<p>EC not fully realized, so UPPCB vide its different letter dated: 17.12.2019, 19.05.2020, 14.07.2020 & 16.02.2021 has requested to District Magistrate, Gorakhpur for issuing RC as per the land-revenue against the industry.</p> <p>The copy of letter dt: 16.02.2021 is enclosed herewith and marked as Annexure No.- 2F(v).</p>
6.	M/s Gorakhnath Agro Industries Pvt. Ltd., FL20/27, Sector 13, GIDA, Gorakhpur	Rs. 10.1875 Lacs	Rs. 2.0 Lacs	EC not fully realized, so UPPCB vide its different letter dated: 17.12.2019, 19.05.2020 & 14.07.2020 has requested to District Magistrate, Gorakhpur for issuing RC as per the land-revenue against the industry.

				The copy of letter dt: 14.07.2020 is enclosed herewith and marked as Annexure No.- 2F(vi).
7.	M/s Royale Savera Foods Pvt. Ltd., FL-28, Sector 13, GIDA, Gorakhpur	Rs. 6.1125 Lacs	Rs. 6.1125 Lacs	EC has been deposited letter attached herewith and marked as Annexure No.- 2F(vii).
8	M/s Dr. Sandhu Hatchery, FL-28, Sector 13, GIDA, Gorakhpur	Rs. 6.1125 Lacs	Rs. 6.1125 Lacs	EC has been deposited letter attached herewith and marked as Annexure No.- 2F(viii).
9	M/s Bajaj Hindustan Sugar Ltd (Distillery Unit), Rudhauri, Basti	Rs. 1.4280 Crore	Rs. 1.4280 Crore	EC has been deposited letter attached herewith and marked as Annexure No.- 2F(ix).

(UP Pollution Control Board)

G. Illegal Electric Connections to Industries

That Chairman, Uttar Pradesh Power Corporation Ltd (UPPCL) vide its order dt. 02.11.2020 has made mandatory that the permanent electric connection to the Red & Orange category industries, will be provided only after the valid Consent to Operate under Air & Water Act are issued from UPPCB.

That CGWA has mandated vide its Notification dt. 24.09.2020 that no new borewell will be allowed without its permission & has laid down the rates of ground water abstractions for various usages and District Magistrates (DMs) are authorized for imposition of Environmental Compensation in case of default.

(Uttar Pradesh Power Corporation Limited
and UP Pollution Control Board)

H. STP at Sahara State, Gorakhpur

- i. That Sahara State, Gorakhpur has developed residential township of area 142 acre. For this, they have not obtained consent to establish and water consent under section 25/26 of the Water (Prevention and Control of Pollution) Act, 1974.
- ii. That untreated domestic effluent from the township was being discharged in Ramgargh Tal.
- iii. That in view of above said facts, a complaint case (no-104/2021) dated 06.01.2021 under section 43,44 of the Water (Prevention and Control of Pollution) Act, 1974 has been filed against the township in competent court.

(UP Pollution Control Board)

I. M/s Malvika Cement Pvt Ltd, Raebareli

That UP Pollution Control Board vide its letter dated 28.01.2021 has imposed an environmental compensation of Rs. 4.40 Lacs against the industry and said EC has been deposited by the industry.

(UP Pollution Control Board)

J. Municipal Solid Waste Management in Lucknow

That UP Pollution Control Board vide its letter dated 27.07.2020 has imposed an environmental compensation of Rs. 14.4071 Cr against the Municipal Commissioner, Nagar Nigam, Lucknow and vide its letter dated 20.11.2020 has issued a show cause notice under section 5 of Environment (Protection) Act, 1986 against the operator of MSW Plant (M/s Eco Green Energy Pvt Ltd, Shiviry, Mohan Road, Lucknow for imposition of environmental compensation of Rs. 25.3271 Cr.

*(Additional Chief Secretary,
Department of Urban Development
/ UP Pollution Control Board)*

15. We have heard learned Counsel for Applicant, State of UP, State PCB and CPCB. **From the compliance status reproduced above, it is seen that the authorities have merely paid lip service to the cause. The action taken is superficial without any meaningful impact on the ground. Untreated sewage is still being discharged unscientifically into the water bodies inspite of prohibition under the Water (Prevention & Control of Pollution) Act, 1974 and judgment of the Hon'ble Supreme Court in Paryavaran Surakhsha Samiti Vs. Union of India as well as order of this Tribunal in O.A. No. 593/2017, Paryavaran Surakhsha Samiti Vs. Union of India. Contamination of water sources is a punishable criminal offence under the Water (Prevention and Control of Pollution) Act, 1974 for the last 47 years. Under Section 25 of the Act, untreated discharge of sewage any drain is prohibited and is in fact a criminal offence under Sections 42(2) and 44. Section 48 of the Act makes the Head of the Department liable for being punished for such offence. As per directions of the Hon'ble Supreme Court in Surakhsha case¹ an outer limit of 31.03.2018 is fixed for completing the work of all STPs in the Country for laying down the sources of budget and direction is to initiate prosecution for continued failure. This Tribunal has been directed to monitor compliance. We may refer to the specific directions of the Hon'ble Supreme Court and this Tribunal on the subject:**

Extracts from the judgement of the Hon'ble Supreme Court in Paryavaran Surakhsha Samiti Vs. Union of India, supra

¹ (2017) 5 SCC 326

“7. Having effectuated the directions recorded in the foregoing paragraphs, the next step would be, to set up common effluent treatment plants. We are informed, that for the aforesaid purpose, the financial contribution of the Central Government is to the extent of 50%, that of the State Government concerned (including the Union Territory concerned) is 25%. The balance 25%, is to be arranged by way of loans from banks. The above loans, are to be repaid, by the industrial areas, and/or industrial clusters. We are also informed that the setting up of a common effluent treatment plant, would ordinarily take approximately two years (in cases where the process has yet to be commenced). The reason for the above prolonged period, for setting up “common effluent treatment plants”, according to the learned counsel, is not only financial, but also, the requirement of land acquisition, for the same.

X.....X.....X.....

10. Given the responsibility vested in municipalities under Article 243-W of the Constitution, as also, in Item 6 of Schedule XII, wherein the aforesaid obligation, pointedly extends to “public health, sanitation conservancy and solid waste management”, we are of the view that the onus to operate the existing common effluent treatment plants, rests on municipalities (and/or local bodies). Given the aforesaid responsibility, the municipalities (and/or local bodies) concerned, cannot be permitted to shy away from discharging this onerous duty. In case there are further financial constraints, the remedy lies in Articles 243-X and 243-Y of the Constitution. It will be open to the municipalities (and/or local bodies) concerned, to evolve norms to recover funds, for the purpose of generating finances to install and run all the “common effluent treatment plants”, within the purview of the provisions referred to hereinabove. Needless to mention that such norms as may be evolved for generating financial resources, may include all or any of the commercial, industrial and domestic beneficiaries, of the facility. The process of evolving the above norms, shall be supervised by the State Government (Union Territory) concerned, through the Secretaries, Urban Development and Local Bodies, respectively (depending on the location of the respective common effluent treatment plant). The norms for generating funds for setting up and/or operating the “common effluent treatment plant” shall be finalised, on or before 31-3-2017, so as to be implemented with effect from the next financial year. In case, such norms are not in place, before

the commencement of the next financial year, the State Governments (or the Union Territories) concerned, shall cater to the financial requirements, of running the “common effluent treatment plants”, which are presently dysfunctional, from their own financial resources.

11. *Just in the manner suggested hereinabove, for the purpose of setting up of “common effluent treatment plants”, the State Governments concerned (including, the Union Territories concerned) will prioritise such cities, towns and villages, which discharge **industrial pollutants and sewer, directly into rivers and water bodies.***
12. *We are of the view that in the manner suggested above, **the malady of sewer treatment, should also be dealt with simultaneously.** We, therefore, hereby direct that “sewage treatment plants” shall also be set up and made functional, within the timelines and the format, expressed hereinabove.*
13. ***We are of the view that mere directions are inconsequential, unless a rigid implementation mechanism is laid down.** We, therefore, hereby provide that the directions pertaining to continuation of industrial activity only when there is in place a functional “primary effluent treatment plants”, and the setting up of functional “common effluent treatment plants” within the timelines, expressed above, shall be of the Member Secretaries of the Pollution Control Boards concerned. **The Secretary of the Department of Environment, of the State Government concerned (and the Union Territory concerned), shall be answerable in case of default. The Secretaries to the Government concerned shall be responsible for monitoring the progress and issuing necessary directions to the Pollution Control Board concerned, as may be required, for the implementation of the above directions.** They shall be also responsible for collecting and maintaining records of data, in respect of the directions contained in this order. The said data shall be furnished to the Central Ground Water Authority, which shall evaluate the data and shall furnish the same to the Bench of the jurisdictional **National Green Tribunal.***
14. *To supervise complaints of non-implementation of the instant directions, the Benches concerned of the National Green Tribunal, will maintain running and numbered case files, by dividing the jurisdictional area into units. The abovementioned case files will be listed periodically. **The Pollution Control Board concerned is also hereby directed to initiate such civil or criminal action, as may be permissible in law, against all or any of the defaulters.***

x.....x.....x.....

16. *It however needs to be clarified, that the instant directions and time lines, shall not in any way dilute any time lines and directions issued by Courts or Benches of the National Green Tribunal, hitherto before, wherein the postulated time lines would expire before the ones expressed through the directions recorded above. **It is clarified, that the time lines, expressed hereinabove will be relevant, only in situations where there are no prevalent time line(s), and also, where a longer period, has been provided for.***

(emphasis supplied)

Extracts from orders of this Tribunal in OA 593/2017 :

Order dated 21.05.2020

26. Summary of directions:

- i. *All States/UTs through their concerned departments such as Urban/Rural Development, Irrigation & Public Health, Local Bodies, Environment, etc. may ensure formulation and execution of plans for sewage treatment and utilization of treated sewage effluent with respect to each city, town and village, adhering to the timeline as directed by Hon'ble Supreme Court. STPs must meet the prescribed standards, including faecal coliform.*

CPCB may further continue efforts on compilation of River Basin-wise data. Action plans be firmed up with Budgets/Financial tie up. Such plans be overseen by Chief Secretary and forwarded to CPCB before 30.6.2020. CPCB may consolidate all action plans and file a report accordingly.

Ministry of Jal Shakti and Ministry of Housing and Urban Affairs may facilitate States/UTs for ensuring that water quality of rivers, lakes, water bodies and ground water is maintained.

As observed in para 13 above, 100% treatment of sewage/effluent must be ensured and strict coercive action taken for any violation to enforce rule of law. Any party is free to move the Hon'ble Supreme Court for continued violation of its order after the deadline of 31.3.2018. This order is without prejudice to the said remedy as direction of the Hon'ble Supreme Court cannot be diluted or relaxed by this Tribunal in the course of execution. PCBs/PCCs are free to realise compensation for violations but from 1.7.2020, such compensation must be realised as per direction of this Tribunal failing which the erring State PCBs/PCCs will be accountable.

Order dated 21.09.2020

“11. The Tribunal has already issued directions vide orders dated 28.08.2019 and 21.05.2020 for ensuring that no untreated sewage/effluent is discharged into any water body and for any violation compensation is to be assessed and recovered by the CPCB so that the same can be utilized for restoration of the environment, complying with the principle of ‘Polluter Pays’ which has been held to be part of ‘Sustainable Development’ and part of right to life. Control of such pollution is crucial for environment, aquatic life, food safety and also human health. ..”

From OA 673/2018

Order dated 6.12.19:

6. The Hon’ble Supreme Court noticed the level of degradation of rivers in India and apathy of the authorities as follows:

“58. Rivers in India are drying up, groundwater is being rapidly depleted, and canals are polluted. Yamuna in Delhi looks like a black drain. Several perennial rivers like Ganga and Brahmaputra are rapidly becoming seasonal. Rivers are dying or declining, and aquifers are getting over pumped. Industries, hotels, etc. are pumping out groundwater at an alarming rate, causing sharp decline in the groundwater levels. Farmers are having a hard time finding groundwater for their crops e.g. in Punjab. In many places there are serpentine queues of exhausted housewives waiting for hours to fill their buckets of water. In this connection John Briscoe has authored a detailed World Bank Report, in which he has mentioned that despite this alarming situation there is widespread complacency on the part of the authorities in India.²

“4. We see Yamuna river virtually turned into a sillage. We take judicial notice of this situation. Similar is the position with Ganges. As it proceeds, industrial effluents are being poured in rivers. Sewage is also being directly put in rivers contributing to the river water pollution. We direct the Pollution Control Boards of the various States as well as the Central Pollution Control Board and various Governments to place before us the data and material with respect to various rivers in the concerned States, and what steps they are taking to curb the pollution in such rivers and to management as to industrial effluents, sewage, garbage, waste and air pollution, including the water management. We

² State of Orissa v. Govt. of India, (2009) 5 SCC 492

club the ending case of water management with this matter.³

XXX.....XXX.....XXX

11. In spite of above, in flagrant violation of law of the land, polluted water in the form of sewage, industrial effluents or otherwise has continued to be discharged in the water bodies including the rivers or the canals meeting the rivers. Violation of law is not only by private citizens but also statutory bodies including the local bodies and also failure of the regulatory authorities in taking adequate steps. There is no corresponding coercive action posing danger to rule of law when large scale violation of law is not being remedied. This leads to lawlessness.

12. It will be appropriate to note the crisis situation in the country on the subject of availability of potable water. The matter has been considered in the report of Niti Aayog on Composite Water Management Index (CWMI).⁴ Following further information also needs to be noted:

- (i) India is suffering from the worst water crisis in its history and millions of lives and livelihoods are under threat. Currently, 600 million Indians face high to extreme water stress and about two lakh people die every year due to inadequate access to safe water⁵. The crisis is only going to get worse. By 2030, the country's water demand is projected to be twice the available supply, implying severe water scarcity for hundreds of millions of people and an eventual ~6% loss in the country's GDP⁶. As per the report of National Commission for Integrated Water Resource Development of MoWR, the water requirement by 2050 in high use scenario is likely to be a milder 1,180 BCM, whereas the present-day availability is 695 BCM. The total availability of water possible in country is still lower than this projected demand, at 1,137 BCM. Thus, there is an imminent need to deepen our understanding of our water resources and usage and put in place interventions that make our water use efficient and sustainable.
- (ii) India is undergoing the worst water crisis in its history. Already, more than 600 million people⁷ are facing acute water shortages. Critical groundwater resources – which account for 40% of our water supply – are being depleted at unsustainable rates.⁸
- (iii) Most states have achieved less than 50% of the total score in the augmentation of groundwater resources,

³ M.C. Mehta Vs Union of India- W.P. (Civil) No. 13029/1985 dated 25.11.2019

⁴ Niti Ayog on “Composite Water Management Index”, June 2018, https://niti.gov.in/writereaddata/files/document_publication/2018-05-18-Water-Index-Report_vS8-compressed.pdf.

⁵Source: WRI Aqueduct; WHO Global Health Observatory

⁶Source: McKinsey & WRG, ‘Charting our water future’, 2009; World Bank; Times of India

⁷ Source: World Resource Institute

⁸ Source: World Resource Institute

highlighting the growing national crisis—54% of India’s groundwater wells are declining, and 21 major cities are expected to run out of groundwater as soon as 2020, affecting ~100 million people⁹.

(iv) With nearly 70% of water being contaminated, India is placed at 120th amongst 122 countries in the water quality index.

13. As per statistics mentioned before the Lok Sabha on April 6, 2018, waterborne diseases such as cholera, acute diarrhoeal diseases, typhoid and viral hepatitis continue to be prevalent in India and have caused 10,738 deaths, over the last five years since 2017. Of this, acute diarrhoeal diseases caused maximum deaths followed by viral hepatitis, typhoid and cholera¹⁰

14. As per ‘National Health Profile’ published by Central Bureau of Health Investigation, Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India, a total of 1535 Deaths due to Acute Diarrhoeal Diseases was reported during the year 2013¹¹

Main Causes of Pollution of Rivers

15. As already noted, well known causes of pollution of rivers are dumping of untreated sewage and industrial waste, garbage, plastic waste, e-waste, bio-medical waste, municipal solid waste, diversion of river waters for various purposes affecting e-flow, encroachment of catchment areas and floodplains, over drawl of groundwater, river bank erosion on account of illegal sand mining. In spite of directions to install Effluent Treatment Plants (ETPs), Common Effluent Treatment Plants (CETPs), Sewage Treatment Plants (STPs), and adopting other anti-pollution measures, satisfactory situation has not been achieved. As per CPCB’s report 2016¹², it has been estimated that 61,948 million liters per day (mld) sewage is generated from the urban areas of which treatment capacity of 23,277 mld is currently existent in India. Thereby the deficit in capacity of waste treatment is of 62%. There is no data available with regard to generation of sewage in the rural areas.

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33. We may note the observations of the Hon’ble Supreme Court:

“26. Enactment of a law, but tolerating its infringement, is worse than not enacting a law at all. The continued

⁹ Source: UN Water, ‘Managing water under uncertainty and risk’, 2010; World Bank (Hindustan Times, The Hindu).

¹⁰ <https://www.indiaspend.com/diarrhoea-took-more-lives-than-any-other-water-borne-disease-in-india-58143/>

¹¹ <http://pib.nic.in/newsite/PrintRelease.aspx?relid=106612>

¹² http://www.sulabhenvi.nic.in/Database/STST_wastewater_2090.aspx July 16, updated on December 6, 2016

*infringement of law, over a period of time, is made possible by adoption of such means which are best known to the violators of law. Continued tolerance of such violations of law not only renders legal provisions nugatory but such tolerance by the enforcement authorities encourages lawlessness and adoption of means which cannot, or ought not to, be tolerated in any civilized society. Law should not only be meant for the law-abiding but is meant to be obeyed by all for whom it has been enacted. A law is usually enacted because the legislature feels that it is necessary. It is with a view to protect and preserve the environment and save it for the future generations and to ensure good quality of life that Parliament enacted the anti-pollution laws, namely, the Water Act, Air Act and the Environment (Protection) Act, 1986. These Acts and Rules framed and notification issued thereunder contain provisions which prohibit and/or regulate certain activities with a view to protect and preserve the environment. When a law is enacted containing some provisions which prohibit certain types of activities, then, it is of utmost importance that such legal provisions are effectively enforced. If a law is enacted but is not being voluntarily obeyed, then, it has to be enforced. Otherwise, infringement of law, which is actively or passively condoned for personal gain, will be encouraged which will in turn lead to a lawless society. Violation of anti-pollution laws not only adversely affects the existing quality of life but the non-enforcement of the legal provisions often results in ecological imbalance and degradation of environment, the adverse effect of which will have to be borne by the future generations.*¹³

xxx.....xxx.....xxx

*“61. If the laws are not enforced and the orders of the courts to enforce and implement the laws are ignored, the result can only be total lawlessness. It is, therefore, necessary to also identify and take appropriate action against officers responsible for this state of affairs. Such blatant misuse of properties at large-scale cannot take place without connivance of the officers concerned. It is also a source of corruption. Therefore, action is also necessary to check corruption, nepotism and total apathy towards the rights of the citizens.”*¹⁴

xxx.....xxx.....xxx

35. *Vide order dated 22.08.2019 in Original Application 200/2014, dealing with the pollution of river Ganga, the Tribunal issued directions and laid down coercive measures to be taken for discharge of untreated sewage in river Ganga:-*

“16. xxx.....xxx.....xxx

¹³ INDIAN COUNCIL FOR ENVIRO-LEGAL ACTION Vs. UNION OF INDIA AND OTHERS (1996) 5 SCC 281

¹⁴ M.C. Mehta v. Union of India, (2006) 3 SCC 399 – Public functionaries

17. **Wherever the work has not commenced, it is necessary that no untreated sewage is discharged into the River Ganga. Bioremediation and/or phytoremediation or any other remediation measures may start as an interim measure positively from 01.11.2019, failing which the State may be liable to pay compensation of Rs. 5 Lakhs per month per drain to be deposited with the CPCB. This however, is not to be taken as an excuse to delay the installation of STPs. For delay of the work, the Chief Secretary must identify the officers responsible and assign specific responsibilities. Wherever there are violations, adverse entries in the ACRs must be made in respect of such identified officers. For delay in setting up of STPs and sewerage network beyond prescribed timelines, State may be liable to pay Rs. 10 Lakhs per month per STP and its network. It will be open to the State to recover the said amount from the erring officers/contractors.**

36. *Vide order dated 28.08.2019, the Tribunal held:-*

“15. xxx.....xxx.....xxx

“16. xxx.....xxx.....xxx

17. **As already noted, prevention of pollution of water is directly linked to access to potable water as well as food safety. Restoration of pristine glory of rivers is also of cultural and ecological significance. This necessitates effective steps to ensure that no pollution is discharged in water bodies. Doing so is a criminal offence under the Water Act and is harmful to the environment and public health. ‘Precautionary’ principle of environmental law is to be enforced. Thus, the mandate of law is that there must be 100% treatment of sewage as well as trade effluents. This Tribunal has already directed in the case of river Ganga that timelines laid down therein be adhered to for setting up of STPs and till then, interim measures be taken for treatment of sewage. There is no reason why this direction be not followed, so as to control pollution of all the river stretches in the country. The issue of ETPs/CETPs is being dealt with by an appropriate action against polluting industries. Setting up of STPs and MSW facilities is the responsibility of Local Bodies and in case of their default, of the States. Their failure on the subject has to be adequately monitored. Recovery of**

compensation on 'Polluter Pays' principle is a part of enforcement strategy but not a substitute for compliance. It is thus necessary to issue directions to all the States/UTs to enforce the compensation regime, latest with effect from 01.04.2020. We may not be taken to be condoning any past violations. The States/UTs have to enforce recovery of compensation from 01.04.2020 from the defaulting local bodies. On failure of the States/UTs, the States/UTs themselves have to pay the requisite amount of compensation to be deposited with the CPCB for restoration of environment. The Chief Secretaries of all the States may furnish their respective compliance reports as per directions already issued in O.A. No. 606/2018."

16. Even though the grievance has been continuing for the last seven years as earlier mentioned, only progress mentioned is that on 02.06.2021, a letter has been sent to the Additional Project Director, SMCG, Lucknow which by no standard can be held to be a responsible meaningful progress. Even with regard to CETP, only progress is sanction of funds in the meeting held on 22.06.2021. There is no remedial action against erring officers by way of adverse entries in their ACRs in terms of directions of this Tribunal and also for initiating prosecution against them. It is not mentioned how those discharging pollution in water bodies are being dealt with. Such violators are in no way less than offenders causing deaths and injuries. The offences committed in preventing water pollution are so serious in nature that the Parliament has laid down minimum sentence for such violations. It is a well-known fact that significant number of deaths and diseases take place on account of water borne diseases. Sources of drinking water cannot be allowed to be polluted. It is as important as security of citizens against other offences. If the authorities fail, the statutory regulators have to initiate prosecution but in the present case the State PCB appears to be a failure in enforcing the law against the violators. The officers of the State PCB need to be held accountable for such violations. Similarly, on the subject of establishment of landfill site for processing of the waste, only progress made is initiation of process for sanction of DPR which infact is no compliance at all for prevention of offences relating to pollution. With regard to tapping of drains falling in the lake, it is stated that action for tapping of all the drains will be taken but neither any timeline has been fixed nor any meaningful action plan has been placed on record. It is stated that in respect of some of the drains, project has been sanctioned on 30.03.2021 and tender has been invited which again shows sorry state of affairs and lack of sensitivity as merely doing so does not end the pollution and the offences relating to violation of environmental laws thus, continues unabated. On the subject of tapping of drains falling in river Rapti, the situation remains equally disappointing.

Environmental Compensation assessed for serious violation remains uncomplied, defeating the mandate of 'Polluter Pays' principle. There is no justification, explanation or clarification given regarding the same. We are not repeating our observations with regard to other issues but the situation is extremely unsatisfactory and disappointing. It is further evidenced from the report of the OSC and of the Chief Secretary that reckless disposal of sewage and trade effluents has already resulted in rivers Rapti and Ghagra being categorised as polluted rivers identified by CPCB. These rivers are not fit for bathing and the value of such deterioration of natural resources is not even recognised. Further damage on account encroachment of catchment of Ramgarh Tal and river flood plain zones of Ami, Rapti and Ghagra is continuing. Thus, pending further action, continuing encroachments must be forthwith stopped by strict enforcement of Flood Plain Zone regulations, including for the Ramgarh lake. It is also surprising that how UP PCB is permitting industries to operate in violation of Water Act. It appears that, out of around 266 industries in GIDA area, there are 55 water polluting industries. It has not been made clear whether these industries have their own ETPs meeting the laid down stipulated standards. If so, why CETP is required. If not, how industries are continuing in violation of law. Regarding meeting norms by the existing 30 mld and 15 mld STPs, the compliance with respect to Fecal coliform has to be ascertained, considering that recipient system has rivers and lake, which are sources of drinking water by humans and other living beings. SPCB ought to have mentioned about the performance of remediation which is said to have started on some drains.

17. We confronted learned Counsel for the State with the situation but he has not been able to give any response except to say that the Chief Secretary should own the responsibility and take stringent action against the erring officers for non-compliance of law, for protection of environment and public health. What has stopped the Chief Secretary to take the action is not known to us.

18. With utter disappointment with the attitude of the concerned officers of the State of UP, we direct the Chief Secretary to now take meaningful and stringent action for compliance of law and hold the erring officers accountable in the same manner as any other violators of law in a system governed by rule of law. Adverse entries must be made in their ACRs and if there is no change in their attitude towards performance of their duty, the criminal prosecution needs to be launched against them in the same manner as against any other violators. We hope that the Chief Secretary realizes his responsibility and acts promptly. We direct the Chief Secretary to remain present in person by Video Conferencing on the next date with his action taken report along with the concerned accountable officers i.e., Additional Chief Secretaries of Urban Development/Irrigation & Water Resources/ Department of Infrastructure & Industrial

Development /Revenue/Medical Education Department of Uttar Pradesh, who may explain why they be not personally dealt with as per law for the serious violations and dereliction of duty at the cost of public health. The report of Chief Secretary needs to be affirmative considering the matter has been going on for more than seven years. There is need for time bound committal execution plan on treatment and utilisation of treated sewage, ensuring each household connection to sewers, proper management of fecal septage (material from Septic tanks), interception of drains to destined STPs, justifying necessity of CETP and basis of permitting existing industries, economic losses on account of pollution of rivers and the lake, removal of encroachments and further prevention and cutting down tendering business to avoid delays. CPCB may also examine the proposal in view of existing status of industries and ascertain necessity of CETP and situation which will prevail till CETP is set up. There should be mechanism to monitor progress at the level of the Secretary concerned and monthly progress be placed on the website of the District Magistrate/ State portal. It may also be assessed that how much loss is being incurred (in qualitative and quantitative terms) on account of inaction/delayed action damaging the Rivers and the Lake.”

Progress reports for consideration today

7. In pursuance of above, Chief Secretary and Additional Chief Secretaries, Environment and Urban Development are present in person. Director National Mission for Namami Gange (NMCG) has also appeared as rivers in question are tributaries of Ganga and NMCG has also been concerned by pollution of rivers polluting Ganga. We have interacted with them at length and considered the status reports filed by the Irrigation Department, Urban Development Department, Environment Department, CPCB and the Oversight Committee (OC)¹⁵ and report dated 21.02.2022 filed on behalf of the Chief Secretary, UP. The report of the OC dated 03.12.2021 is as follows:

Oversight Committee report

“II. PROGRESS AFTER THE LAST REPORT DATED 02.09.2021

The Committee reviewed the progress of the compliance of the orders of Hon NGT in OA No. 116/2014 in re: Meera Shukla vs Municipal

¹⁵ constituted by this Tribunal for monitoring compliance of certain orders of this Tribunal in the State of UP headed by Justice S.V.S. Rathore, former Judge of Allahabad High Court

Corporation, Gorakhpur and others on 11.06.2021. Thereafter, a joint meeting of the Oversight Committee and River Rejuvenation Committee was held on 2.07.2021 and an updated report based on the compliance status received in this meeting was submitted to the Hon'ble NGT by Oversight Committee on 3.9.2021.

Further progress in this matter is as under:

1. **Meeting of River Rejuvenation Committee (RRC):** Another joint meeting of the Oversight Committee and River Rejuvenation Committee was to be scheduled immediately after 2.8.2021 as the Department of Urban Development and Environment, Forest and Climate Change assured to prepare concrete work plan with proper financial tie up within a month. However, till date, despite several reminders by the Oversight Committee and the UPPCB to the RRC no meeting date has been fixed.
2. **About the tapping of drains:**
 - a) **6 major drains and 18 minor drains falling in Ramgarh Tal:**
 - i) **6 major drains** that fall directly into Ramgarh Tal have been intercepted and diverted (I&D).
 - ii) **18 minor drains** that fall into Ramgarh Tal, I & D work of **7 minor drains** falling in Ramgarh Tal from eastern side (having total discharge of 5.463 MLD) is ongoing and will be completed by March- 2022. No further progress has been reported. Bioremediation work on these drains had stopped due to monsoon season and late heavy rain. It was anticipated to be restarted by the end of November, 2021.
 - iii) For the interception and diversion of the remaining 11 minor drains falling in Ramgarh Tal from northern side (having total discharge 1.357 MLD), a project has been sanctioned by the Government of Uttar Pradesh and tendering is in progress. Technical bid opened on 11.10.2021 and financial bid on 03-11- 2021. Bidding is in the finalization stage. Proposed time line of completing the work is April, 2023. Bio Remediation on these drains is being carried out since 27-12-2020. However, due to monsoon season and late heavy rain it has stopped and work is expected to be restarted within this month.
 - b) **9 Major drains falling in Rapti:** There are 9 major drains falling into Rapti. Projects have been submitted for Interception Diversion and treatment of these drains but no sanctions received so far. As an interim measure, three drains namely-Domingarh, Illahibagh and Kataniya drains are being treated through bioremediation process by Nagar Nigam, Gorakhpur. For six other drains, phytoremediation work has been given to NEERI Nagpur. A team from NEERI, Nagpur had visited the site on 19.10.2021. Work is anticipated to start within few days.

- c) 6 Major drains falling in Rohini:** 6 major drains having total discharge of 27.01 MLD are falling directly (untreated) in Rohini River. A project “Gorakhpur Sewerage Scheme Zone -C under AMRUT (estimated cost Rs. 664.59 Cr) was submitted in which 245.55 km sewer laying and establishment of one STP of 40 MLD capacity was proposed on 14.08.2020. However, no fund has been released for this. Now, a revised project named as “Gorakhpur Sewerage Scheme Sub Zone - C -2 Part -1” having 51.89 km sewer laying, 1 STP of 10 MLD capacity (covering 3 drains viz. bansiyadih drain, Green City Phase -II Drain & Subash Chandra Bose Nagar Drain) and 15000 sewer house connections amounting Rs. 226.56 Cr under AMRUT has been approved on 30.9.2021. Out of all the 6 drains falling in Rohini, 2 drains are being treated through bioremediation process while phytoremediation work of 4 drains has been assigned to NEERI, Nagpur. A team from NEERI, Nagpur had visited the site on 19.10.2021. Work is anticipated to be initiated soon. For details about the drains refer Annexure I.
- d) 22 drains falling in river Saryu:** There are total 22 drains falling directly into river Saryu out of which 5 are tapped and rest 17 are untapped. No further progress has been reported.

- 3. About cleaning of Tihura drain in Ayodhya:** Hon’ble NGT vide order dated 7.9.2021 in O.A 116/2014 had directed the Irrigation Dept., UP to take remedial action on the issue of prayer in M.A 02/2021 for removing obstructions from Tihura drain and submit an action taken report before the next hearing date. In compliance, the Dept. Of Irrigation and Water Resources, Govt. of Uttar Pradesh. Chief Engineer, Irrigation and Water resources Dept., Lucknow vide his letter dated 27.11.2021 has informed that in the financial year 2020-21, the work of cleaning of drain between the embankment and up to river Saryu has been done and all blockages have been removed. The drain is discharging water uninterruptedly into the river (refer Annexure II & III).

III. Recommendations of the Oversight Committee

1. From the updated progress, it is observed that fund has not been released for tapping of 11 minor drains falling into Ramgarh Tal yet. Similarly, for 9 major drains falling in river Rapti and 6 major drains falling in Rohini, although, the projects have been submitted. The State Government needs to arrange sufficient funds on priority for implementing the action plans made for making the rivers and water bodies pollution free.
2. Phytoremediation work on 10 new drains (4 drains falling in Rohini and 6 drains falling in Rapti) assigned to NEERI Nagpur and ongoing bio/phytoremediation works in total 23 drains falling in Ramgarh Tal, Rapti and Rohini rivers which had stopped due to monsoon season and late heavy rain, needs to be started at the earliest. All concerned officials need to be directed to ensure that bio/phytoremediation

must result in improving the quality of water to the permissible standards.

3. *The UPPCB needs to submit water analysis reports of the drains where bio/phytoremediation is taking place on a monthly basis to this Committee which will be submitted to the Hon'ble NGT by this Committee on quarterly basis."*

Status report filed on behalf of the Chief Secretary

8. Consolidated status report filed by Joint Secretary, Department of Environment is based on review taken by the Chief Secretary. It summarizes the action taken with respect to river Ami, CETP at GIDC Gorakhpur, Ramgarh Tal, river Rapti, Saryu, Ghagra, sewage gap at Lucknow and other issues relating to: encroachment, flood plain zones, Landfill at Gorakhpur and BRD Medical College. The status is as under:

“C. In review meetings held on above respective dates the Chief Secretary, UP monitored the status and taken the action against erring officers as follows;

S. No.	Issues and Concerned Departments	Current Progress Status	Action against Erring Officers
1.	For the treatment of Sewage, establishment of STP in Nagar Palika Parishad, Khalilabad & Nagar Panchayat, Maghar. (Urban Development Directorate and Jal Nigam)	<p>i. The GOs for administrative, financial sanction of 32 KLD FSTP at Maghar(17.11.2021) and 32 KLD FSTP at Khalilabad (26.11.2021) have been issued. An amount of Rs. 578.88 Lacs has been sanctioned in which Rs. 72.36 Lacs has been released for each local body.</p> <p>ii. Work has started</p> <p>iii. Timeline : June 2022.</p> <p>iv. Bio-remediation of all 03 drains is being done (Inlet BOD : 52 to 122 mg/L , Outlet BOD : 36 to 49 mg/L)</p>	Executive Officer (EO) of Nagar Palika Parishad , Khalilabad and Nagar Panchayat, Maghar have been chargesheeted

2.	<p><i>Establishment of Combined Effluent Treatment Plant (CETP) in Gorakhpur. Gorakhpur Industrial Development Authority (GIDA, Namami Gange and Urban Development Directorate)</i></p>	<p><i>i. Rs. 37 Cr. sanctioned for 07 MLD CETP (17 Cr by GIDA & 20 Cr by Awasthapana Vikas Kosh of ID Department). ii. 11.15 Acre land purchased by GIDA for CETP. iii. The Project is approved by NMCG on 11.01.2022. iv. Environmental Clearance has been applied to SIEAA on 24.11.2021. SEIAA has issued ToR. EIA study by PP is underway. v. There are 55 Water polluting industries in GIDA. ETPs have been installed in all of them. vi. 52 Industries are complying ,09 Non-complying (Closure- 03, EC- 06) vii. Regular monitoring of industries in GIDA is being done by UPPCB</i></p>	<p><i>Justification for CETP</i></p> <p><i>Presently trade effluent is only 02 MLD</i></p> <p><i>Capacity of proposed CETP is 07 MLD</i></p> <p><i>Compliance challenges have been observed in industries as most of the industries are micro /small scale CETP is proposed for better compliance of existing industries and establishments of more industries in future.</i></p>
3.	<p><i>Tapping of all the drains falling into the Ramgarh Tal and Interim measures for the treatment of untapped drains falling in Ramgarh Tal. (Namami Gange, Jal Nigam and Urban Development Directorate)</i></p>	<p><i>i. 06 Major drains have been tapped and being treated (in 15 MLD and 30 MLD STPs). ii. Work ongoing for tapping of 6 Minor drains and upgradation of existing 15 MLD STP to be completed by March-2022. iii. 01 Drain (Sahara Estate Nala) is being treated by Sahara Estate STP of 350 KLD. iv. 11 minor drains (total discharge 1.537 MLD) will be treated at 30 MLD existing STP and work of tapping of these drains will be completed by April 2023 (Interception drain will be started after construction of Harbert bund which is going on). v. Interim measure (Bio remediation) for these 18 drains falling in Ramgarh Taal, is being done (Inlet BOD : 78 to 92 mg/L , Outlet : BOD 44 to 56 mg/L)</i></p>	<p><i>Urban Development Department has issued show cause notice for adverse entry against the 03 UPJN officers (01 Project Manager, 01 Project Engineer and 01 Assistant Project Engineer).</i></p>

4.	Tapping of Drains falling in River Rapti. (Namami Gange, Jal Nigam and Urban Development Directorate)	<p>i. Total No. of drains meeting in the River-15.</p> <p>ii. 44 MLD STP (08 Drains), 10 MLD PFR (01 Drain) and 40 MLD STP (06 Drains) have been proposed to SMCG, NMCG and UDD respectively. Approval awaited. Timeline September, 2024.</p> <p>iii. Action plan has been jointly prepared by UDD & Namami Gange i.e. UPJN (Urban) & UPJN (Rural).</p> <p>iv. Interim measure (Bio-remediation) has been started for 05 drains (by NEERI) and work for phyto-remediation in 10 drains has been awarded to NEERI Nagpur.</p> <p>v. Bio-remediation of all 05 drains is being done (Inlet BOD : 78 to 100 mg/L , Outlet BOD : 46 to 56 mg/L)</p>	
5.	Pollution of river Saryu due to untapped drains. (Namami Gange, Urban Development & Jal Nigam) (Namami Gange, Jal Nigam and Urban Development Directorate)	<p>i. Total No. of drains meeting in the River- 21 (Tapped- 5, Untapped-16).</p> <p>ii. For 15 drains shall be tapped in 33 MLD new proposed STP by March 2024. Work Started.</p> <p>iii. For Nirmali kund Drain, project for I&D and treatment is proposed under AMRUT 2.0, Timeline : Jan, 2024.</p> <p>iv. Interim measures are being done (Inlet BOD : 41 to 53 mg/L , Outlet BOD : 5 to 7 mg/L).</p>	Executive Officer (EO) Nagar Panchayat, Ilfatganj has been charge sheeted.
6.	Pollution of river Ghaghra due to untapped drains. (Namami Gange, Urban Development Directorate & Jal Nigam)	<p>i. Total No. of drains-19 (Untapped)</p> <p>a. Deoria — 02</p> <p>b. Gorakhpur — 04</p> <p>c. Mau — 04</p> <p>d. Ambedkarnagar — 09</p> <p>ii. Proposed STPs- 04 (15 MLD, 06 MLD, 2.5 MLD & 06 MLD capacity). Timeline September, 2024.</p> <p>iii. Interim measures are being done (Inlet BOD : 80 to 86 mg/L , Outlet BOD : 22 to 30 mg/L).</p>	Total 03 Executive Officer's (EO) have been charge sheeted belonging to Nagar Palika Parishad, Gaura Behraj, Deoria, Nagar Panchayat, Badhalganj, Gorakhpur & Nagar Panchayat, Dohari Ghat, Mau.

7.	<p><i>Identification, Selection & Establishment of Landfill site for MSW processing plant in Gorakhpur.</i> (Urban Development Directorate, Nagar Nigam, Gorakhpur & GDA)</p>	<p><i>. Land of total 10.36 hectare at Village Suthani & Bhati Rawat on Magahar Road has been identified and Out of 10.36 hectare, 8.45 hectare of land has been purchased by Nagar Nigam, GKP. The GO for administrative, financial sanction of 500 TPD MSW Processing Plant has been issued vide letter dated 09.12.2021.</i> <i>ii. Work has been started.</i> <i>v. Timeline proposed- December, 2022</i></p>	
8.	<p><i>Identification of encroachments and eviction in Flood Plain Zone of these Rivers and Tal.</i> (Irrigation/GDA/District Administration)</p>	<p><i>i. Flood Plain Zone has been notified in River Rapti, Ghaghra, Saryu and notified Ramgarh Tal as wetland.</i> <i>ii. Process for identification of encroachments and plantation on vacant land has been started.</i> <i>ii. Plantation will be carried out in next rainy season.</i></p>	
9.	<p><i>BRD Medical College should deposit the EC of Rs. 4.4115 Cr issued by UPPCB.</i> (Health & Education Department, BRD Medical College, DM Gorakhpur & UPPCB)</p>	<p><i>i. Medical College did not deposit the EC imposed, so UPPCB has requested vide it's different letters dated 29.09.2020, 18.01.2021 to District Magistrate Gorakhpur for recovery of Environmental Compensation as per the land-revenue.</i> <i>ii. Review application filed in the Hon'ble NGT has been dismissed vide order dt. 27-01-2022</i></p>	

10	Sewage Management gap in Lucknow. (Namami Gange, Urban Development Directorate & Jal Nigam)	<p>Total generation of sewage from 34 drains- 602.5MLD out of which Gomti River (33 Drains) receives 582.50 MLD & Sai River (01 Drains) receives 20 MLD. ii. Capacity of STPs installed 445MLD (05 STPs). Capacity of proposed /under construction STP- 347 MLD (06 STPs) 120MLD GH Canal (under construction). Timeline December, 2022. 39+1MLD Daulat ganj. Sanctioned (under litigation regarding tendering dispute). 03 STPs (85 MLD, 80 MLD & 22MLD) proposed under Namami Gange Phase-2.</p> <p>v. After commissioning of proposed STPs, the sewage gap will be addressed.</p> <p>v. Interim measures are being done (Inlet BOD: 80 to 120 mg/L Outlet BOD : 17 to 28 mg/L).</p>	
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Supplementary report of OC dated 21.03.2022

“II. PROGRESS AFTER THE LAST REPORT DATED 03.12.2021

The Committee reviewed the progress of the compliance of the orders of Hon NGT **in OA No. 116/2014** in re: Meera Shukla vs Municipal Corporation, Gorakhpur and others on 11.06.2021. Thereafter, a joint meeting of the Oversight Committee and River Rejuvenation Committee was held on 2.07.2021 and a report based on the compliance status received from various Departments/Agencies was submitted to the Hon’ble NGT by the Oversight Committee on 3.9.2021. Thereafter, an updated report was sent to the Hon’ble NGT on 3.12.2021. This OA was listed for hearing on 6.12.2021 but could not be taken up and now the next hearing is listed for 25.03.2022, hence, this supplementary report indicating further progress is being submitted to update the Hon’ble NGT on this matter.

Further progress in this matter is as under:

1. **Action against B.R.D Medical College:** Review application by the B.D Medical College regarding imposition of EC of Rs. 4.4115 crore has been dismissed by the Hon'ble NGT vide order dated 27.1.2022.
2. **Establishment of CETP (7.5 MLD) in Gorakhpur:** The project of setting up CETP in Gorakhpur has been approved by the NMCG on 11.1.2022. The revised total cost of CETP is Rs. 92.34 crores (including 06 months cost of trial run). Out of the total cost 50% would be borne by the NMCG, 25 % by the GIDA and remaining 25% jointly by the Industrial Development Dept and the Industry Association.
3. **Sewage management in Maghar and Khalilabad:** The GOs granting administrative and financial sanction of Rs. 578.88 Lacs for construction of 32 KLD FSTP each at Maghar and Khalilabad has been issued in Nov, 2021. An amount of Rs. 72.36 Lacs has been released for each local body to start the work. Construction work is in progress and it is expected to be completed by June, 2022.
4. **Action against erring officers :** Dept.of Urban Development has taken action against the 06 concerned officials. The details are mentioned below:

Executive Officer (EO) of Nagar Palika Parishad, Khalilabad & Nagar Panchayat, Maghar have been charge sheeted for non-compliance of directions regarding bio/phytoremediation remediation of drains and other orders given by the Department. 03 UPJN officers (01 Project Manager, 01 Project Engineer and 01 Assistant Project Engineer) have been censured vide letter dated 27.11.2021 for delay in completion of work under Ramgarh Tal Sewerage Scheme Zone A-1.

Executive Officer (EO) of Nagar Panchayat, Ilafatganj has been charge sheeted for not ensuring bio/phytoremediation of untapped drains causing pollution in river Saryu.

Executive Officers (EOs) of Nagar Palika Parishad, Gaura Behraj, Deoria; Nagar Panchayat, Badhalganj, Gorakhpur & Nagar Panchayat, Dohari Ghat, Mau have been charge sheeted for non-compliance of directions regarding bio/phytoremediation of untapped drains falling into river Ghaghra.

5. **Water quality of drains after bioremediation:** The water quality report of the 18 minor drains falling in Ramgarh lake and 5 minor drains falling in Rohini and Rapti rivers for the month of February, 2022 has been submitted to this Committee. **The report reveals that the Biological Oxygen Demand (BOD) level of all the drains after bio-remediation is above the permissible limit of 30 mg/l.** The COD levels¹ and pH values² are within the prescribed limits. Similarly, the concentration of total suspended solids (TSS) in water after bioremediation of drains has reduced and is within the permissible limit of 100 mg/l. However, **no information has been provided regarding the total coliform**

(TC) and fecal coliform (FC) parameters in the report.
Overall, the report reflects that bioremediation of drains has helped in improvising the water quality but consistent efforts are required to bring the BOD levels down to the permissible limit and to maintain the levels of all other parameters.

The UPPCB has been directed by the Committee to submit the monthly water quality report of all the drains taking into account all the concerned parameters viz. BOD, COD, TC, FC, TSS and pH.”

Consideration of the matter and further directions

9. We have heard the learned counsel for the applicant and the officers present in person in the light of status reports on record quoted above.

10. As mentioned in earlier orders, serious failure on the part of the authorities in controlling water pollution appears to be continuing. Samples of water conclusively establish continuing pollution. Contributors to pollution are not merely private industries but also State authorities who have to manage the sewage. This is not only in violation of law and policies of Central and State Governments but also specific directions of the Hon'ble Supreme Court and this Tribunal on the issue of sewage management. The timelines now proposed are beyond the timelines laid down by the Hon'ble Supreme Court with no adverse consequences for such serious offence, continuing for long. Mere future proposals giving distant timelines, without accountability for strict compliance and stringent monitoring mechanism are not by itself enough. Component of coliform has been withheld by the authorities. Even then high level of pollution is depicted. The industries have been discharging toxic industrial waste into the drains secretly as shown by water samples and confirmed by Director NMCG. Regulatory authorities have so far been able utter failure in enforcing the law and their accountability needs to be fixed as it has resulted in huge damage to public health and environment. Untreated sewage is still being discharged in the water bodies and rivers, as shown

by the water samples. Though the State Authorities claim to have taken steps for tapping of the drains falling into the lake and into the rivers which are tributaries/sub-tributaries of river Ganga, with the support of funds provided by National Mission for Clean Ganga (NMCG) and also to establish CETP to control industrial pollution, situation so far remains far from satisfactory, calling for further action in mission mode with stern approach at the highest level in the administration, in the interest of public health and safety of citizens and for protection of environment. Water quality must be shown to be compliant with the statutory norms. Since these are primarily governmental functions, it is for the State to set its house in order. Access to potable water has to be ensured, being part of right to life. Deaths diseases relatable to pollution have to be prevented. Health surveys need to be conducted. As an adjudicatory body, we certainly express our dissatisfaction with the present grim situation. Mere fact that situation is claimed to have improved is not enough so long as violation of law is continuing. High level of sensitivity is expected in dealing with human rights. The State exists for welfare of citizens and minimum guaranteed constitutional rights must be enforced. It is no satisfaction that some steps have been taken till pollution is completely stopped and health of the citizens and source of water secured under public trust doctrine. Since we are assured by the Chief Secretary and the Additional Chief Secretaries that situation will receive serious attention henceforth, we hope and expect meaningful, prompt and continuous action. Serious concern is deaths of children and diseases in the area of which contamination of water is a possible cause. Thus, the projects proposed in the form of CETP/STPs need to be implemented on war footing so as to show result on the ground and to comply with the directions of the Hon'ble Supreme Court. Mere sanction of projects can be no satisfaction in the

grim situation since long beyond binding timelines, with no action against violators. Simultaneously, effective measures are required against scientific management of bio-medical and solid waste. Comprehensive water management strategies need to be adopted in view of unchecked industrial and domestic pollution. The State has also to ensure access to potable water by taking suitable measures for drinking purposes using treated water for secondary purposes. Further steps required are to protect flood plains of the rivers by identifying and demarcating flood plain zones in respect of perennial and non-perennial rivers/drains, undertaking fencing, plantations and other measures. Encroachment from the flood plains zones need to be removed. Since it has been reported that industrial pollution is discharged in the water bodies in the night stealthily, the action plan needs to have provision for stringent vigilance using appropriate technology such as CCTVs and oversight by the statutory regulators – the State PCB, the Local Police and other agencies of the administration. There is also need for awareness about the treatments for the diseases on account of water pollution.

11. We note with regret that the proposed timelines stretching upto April 2023 to September, 2024 which are in contempt of orders of Hon'ble Supreme Court and may result in crime continuing. FPZs of the rivers whether perineal or non- perineal need urgent demarcation. Encroachments need to be removed and environmental flow maintained. Water quality of is to be improved to class B. STPs are to be fully utilised with 100 percent household connections. Treated sewage is to be utilised by the industries and bulk users and necessary tie ups are to be made by Industrial Development Corporations and with other concerned Agencies. In this context, Tribunal has directed vide order dated 09.03.2022 in OA

No. 29/2020(WZ), *Suraj Pradip Ajmera vs. Aurangabad Municipal Corporation* as follows:

“10. During the hearing, suggestion has emerged that an interaction be held at the level of Chief Secretary, Maharashtra with inclusion of Secretary, Urban Development, Maharashtra and Technical Experts as may be decided by them including from IIT, Bombay, Regional Officer, CPCB and Member Secretary, State PCB to consider possibility of laying pipeline upto the industrial area for transporting treated sewage to the industrial areas so that the same can be utilized for industrial purpose. Industries Association may be associated in the project of sewage treatment and can bear a part of the cost out of Corporate Social/ Environmental Responsibility, depending upon the financial capacity of the member industries. This may result in a permanent and long-lasting cheaper solution. If successful, this experiment may be tried appropriately at such other locations in the State as found appropriate and also customized different locations. The Committee may also study such models elsewhere in the country which reportedly have been successful. The Committee may also consider any other viable strategies for sewage treatment and interception and diversion of sewage, use of appropriate effective and economical technology, making group housing societies Zero Liquid Discharge (ZLD) by recycling treating sewage, after treatment in decentralized manner and utilizing the treated sewage for horticulture, flushing, cleaning or other nondrinking purposes. This strategy may help in augmenting availability of potable water particularly in drought affected areas of Aurangabad Region in Maharashtra where potable water had to be transported by trains in the past. The Secretary, Urban Development may act as nodal agency who may call for a meeting within one month.”

12. Thus, overall integration of Action Plans is to be ensured by monitoring at the Chief Secretary level with involvement of RRC in the State. CPCB needs to monitor STPs in the context of Ramgarh lake, river Ami, Rapti, Ghagra, Rohini and to assess compliance with respect to Fecal coliform and sewage utilisation plan.

13. To sum up, our directions are :

- i. Comprehensive action plan may be put in place under the supervision of the Chief Secretary covering all aspects of preventing and remedying pollution to be executed by a special task force which needs to be constituted with defined

responsibilities and monitorable parameters preferably within one month. The Chief Secretary, UP may undertake visit to Gorakhpur personally to take stock of the ground situation with other concerned officers/stake holders at the earliest. Thereafter, execution of action plan may be monitored by a special cell attached to the Chief Secretary Office, in the light of time bound specific targets.

- ii. The Chief Secretary may furnish a comprehensive report covering all the issues especially for Ramgarh tal, Ami and other rivers in quantifiable terms giving the status of compliance as on 30.06.2022 by 15.07.2022 with a copy to the Oversight Committee.
- iii. We request Oversight Committee to continue to monitor the compliance measures in the light of orders of this Tribunal. The Oversight Committee may also give its report by 30.07.2022 by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF.
- iv. In the light of suggestion during the hearing, we also direct that a high level team headed by an Expert on Neurovirology may also undertake a visit to the area within one month, accompanied by nominees of Central Pollution Control Board (CPCB), Indian Council of Medical Research (ICMR), Animal Husbandry and Medical Health and Family Welfare Departments, UP. The Additional Chief Secretary, Environment Department, UP will act as nodal agency to facilitate such visit. He may organize the visit of the Committee within one month. Necessary expenses will be borne out of

consent funds of the State PCB. District Magistrate, Gorakhpur may provide logistics at local level. The team may undertake study of the problem and suggest remedial measure which may include diagnosis and treatment strategies. The Committee would be at liberty to take assistance from any other expert/institution. The Committee may give its report to this Tribunal by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF within two months with a copy to the Chief Secretary, UP to enable the State Administration to take remedial measures in the light of the said report. We request Director, All Indian Institute of Medical Sciences (AIIMS) to nominate a suitable expert for this purpose within one week. The Additional Chief Secretary (Environment) UP may follow up with the Director AIIMS and other concerned for nominations forthwith.

- v. NMCG may monitor compliance of terms and conditions applicable to the sanctioned CETP.
- vi. CPCB may monitor functioning of STPs. It may also assess the performance of bio-remediation works being executed on different drains and location in terms of efficacy and in view of the revised guidelines of NMCG titled “Revised Monitoring Protocols for in-situ bio-remediation projects for drain treatment” and give further suggestions/recommendations for necessity and improvements and file its independent report.
- vii. UP PCB may continue to monitor the rivers in question as well as Ramgarh Tal, particularly with reference to Fecal Coliform bacteria.

- viii. UPPCB may ensure that industries in the catchment of the rivers and the Ramgarh Tal in GIDC do not discharge effluents into the water bodies and ensure compliance with conditions of sanction for the CETP by NMCG.

List for further consideration on 26.08.2022.

A copy of this order be forwarded to the Director, AIIMS, CPCB, NMCG, ICMR and the Additional Chief Secretary (Environment) UP by e-mail for compliance.

A copy of this order be also forwarded to Justice SVS Rathore, former Judge of the Allahabad High Court at Lucknow by e-mail.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Pushpa Sathyanarayana, JM

Prof. A. Senthil Vel, EM

Dr. Vijay Kulkarni, EM

March 30, 2022
Original Application No. 116/2014
DV + A



CENTRAL POLLUTION CONTROL BOARD
Regional Directorate, Lucknow

Inspection Report of STPs of Gorakhpur, Uttar Pradesh

A. Background:

In compliance of Hon'ble NGT Order OA No.116 of 2014 dated 30/03/22 monitoring of 30 MLD STP, UP Jal Nigam, Deoria Bypass Road near Kashiram Awas Yojna , Taramandal and 15 MLD STP , UP Jal Nigam ,Maherva ki Bari Mahadev Jharkhandi Kunraghat Gorakhpur, were carried by a team of CPCB, RD, Lucknow during 24-25.05.2022 for compliance verification and functioning of STPs against discharge standards of key parameters endorsed by Hon'ble NGT order dated 30.04.2021. The salient features and observations are as under:

1.0 INSPECTION REPORT OF 30 MLD STP Taramandal, Gorakhpur, Uttar Pradesh

B. Salient Detail:

1.	Name/Location of STP/CETP (full address)	:	30 MLD STP, UP Jal Nigam, Deoria Bypass Road near Kashiram Awas Yojna , Taramandal , Gorakhpur (UP)
2.	Coordinates (In decimal units e.g. 12.34567°)	Latitude	26.71272 N
		Longitude	83.40861 E
4.	Designed capacity of STP and Treatment Technology	:	30 MLD & SBR technology
5.	a. Date of monitoring and starting time	:	24-05-2022
	b. Type of sampling (Grab or interval (eg. 12 hr composite at 2 hr interval)	:	Grab
		:	NA
8.	Agency/organisation responsible for O&M (Name of agency & contact person, Mob., E-mail)	:	State mission for clean Ganga (SMCG) & Directorate of urban local bodies (DULB), Lucknow and UP Jal Nigam, Gorakhpur Sh. Ratansen Singh, Project Manager, Executive Engineer - UP Jal Nigam, Gorakhpur Mob: 7388908719 Email: pm_ramgarhti@yahoo.in

9.	Whether Operation through Sub contractor, if any, details thereof with contact information (Name of agency, contact person with designation, Mob., E-mail)	:	M/s Toshiba Water Solutions Pvt LTD Contact Person – Sh. Hanumant Kumar Upadhyay Designation- Project Manager, Mob- 9118187327, Email- gkp30mldoperations@toshiba-water.com
10.	Year of commissioning (Operational since)	:	2015
11.	a. Operational/Non-functional/Non-operational (be specific in functionality status) b. Reason, if non-functional/non-operational and time since non-functional/non-operational	:	Operational
12.	STP designed parameter (flow, BOD, COD, TSS etc.& mentioned values of designed parameter)	:	Raw Sewage Flow- 22.70 (30 MLD) MLD, pH- 7.01 (6-8.5), BOD-115 (180-200) mg/l, COD- 240(400-450) mg/l, TSS-186(250-300) mg/l Treated Sewage pH-7.24(6.5-8.5), BOD-6(≤10) mg/l, COD- 40(≤100) mg/l, TSS- 20(≤30) mg/l
13.	Utilized Capacity as reported by operator or verified from log book (MLD)	:	21 MLD (Avg. as per logbook of 1 st May to24 th May,2022)
14.	Actual treatment (Inflow during visit) (m ³ /hr x hrs.)	:	1234 m ³ /hr during visit
15.	If operating under designed capacity, give reason	:	No
16.	Flow meter/v-notch at Inlet of STP & reading	:	Flow meter totalizer reading during visit– 3998834m ³ /hr 945 m ³ /hr
17.	Flow meter/v-notch at Outlet of STP & reading	:	Not Installed
18.	Fresh water supply source (in STP premises) if any, details (source, water consumption status, logbook, meter)	:	Submersible 1 HP, Consumption -2000 LTr
19.	Raw sewage characteristics pH COD BOD TSS TDS (also FDS for CETPs) Total Nitrogen Total Phosphorus Sulphate	:	Please refer observations

	Nitrate, Phosphate, Ammonical Nitrogen Chloride Faecal Coliform Total Coliform Heavy metal		
20.	Details of transfer sump	:	105 m ³
21.	Pre-treatment if any, details (screen, Equalization Tank)	:	Fine screen & Grit mechanism
22.	Primary-treatment if any, details (Oil and Grease trap, grit, pre-settling tank)	:	Grit removal
23.	Primary Settling Tank (i) Primary Settling Tank Volume m ³ (ii) Settling Surface area m ³ (iii) Weir length m (iv) Retention Period (v) PST outlet pH, TSS, BOD, COD (mg/L) (vi) Underflow solids concentration mg/l or % (vii) Actual primary Sludge production rate (flow rate m ³ /hr x hr/day) Availability of Mechanical Scraper	:	NA
24.	No. of Biological Treatment stages	:	SBR(4 nos.)
25.	Treatment processes used in STP for sewage treatment along with order of the stage: SBR – Sequential Batch Reactor; Filling-Aeration-Settling-Decanting Bio-Tower Technology (based on attached growth technology) followed by ASP		
26.	Process parameters of Anaerobic Process for example A. UASB& Others (i) No. of reactors (ii) Capacity of each reactor (iii) Average flow (iv) HRT (v) UASB outlet BOD, COD, TSS (mg/l)	:	NA
27.	Process parameters of Aerobic Process for example B. Activated Sludge Process (i) Waste sludge generation (flow	:	- 427m ³ /day

	<p>rate m³/hr multiplied by hr/day)</p> <p>(ii) Waste sludge solids (TSS) concentration mg/l</p> <p>(iii) ASP outlet pH, TSS, COD, BOD</p> <p>Aeration Tank</p> <p>(i) Aeration Tank volume m³</p> <p>(ii) Retention period</p> <p>(iii) Mixed Liquor MLSS, MLVSS&DO mg/l</p> <p>(iv) Aeration Capacity KW or HP</p> <p>(v) Related aeration capacity Kg/KW hr</p> <p>Secondary Settling Tank</p> <p>(i) Secondary Settling tank volume m³</p> <p>(ii) Settling Surface area m²</p> <p>(iii) Retention period</p> <p>(iv) Weir length m</p> <p>(v) Return flow rates m³/hr or m³/day</p> <p>(vi) Return flow solids (TSS) concentration</p>		<p>4408.5 m³</p> <p>244 min</p> <p>AT1: MLSS -8094 & MLVSS - 4092mg/L</p> <p>AT2: MLSS – 8958 & MLVSS - 4529mg/L</p> <p>DO-2.1 Mg/l</p> <p>90 Kw in each basin</p> <p>Air blowers of 3900 Nm³/hr. (4 w+ 12SB), Elect. Motor 90 kW</p> <p>NA</p>
28.	<p>Tertiary Treatment (Physico- Chemical)</p> <p>(i) Coagulation and flocculation</p> <p>(ii) Dual Media Filter</p> <p>(iii) Adsorption</p> <p>(iv) Membrane Treatment</p> <p>(v) Any Other</p>	:	NA
Disinfection System			
29.	Disinfection Technology Installed (Yes/ No)	:	Yes
	Name of Technology used	:	Chlorination Unit
	Operational status (if Non-operational, Reasons)	:	Operational
	<p>If chlorination-based disinfection system</p> <p>a. Name of chemical/ form of chlorine</p> <p>b. Methodology (Mechanical/manual)</p> <p>c. Dosing Rate</p> <p>d. Type of chlorinator</p> <p>e. Chemical consumption record</p>	:	<p>Liquid Chlorine Gas</p> <p>Chlorine Gas filled in Tonner Manual</p> <p>3PPM</p> <p>Vacuum Injector</p> <p>66 Kg / Day</p> <p>20X12.5x2.5</p> <p>30 Min</p> <p>0.3 PPM</p>

	<ul style="list-style-type: none"> f. Dimension of the Chlorine contact tank g. Chlorine Contact Time/Retention time h. Value of Residual Chlorine in treated sewage (ppm) i. Methodology used for assessment of Residual chlorine : titrimetric method/ colorimetry (using ortho-toluidine or any other indicator) 		Indicator based
	<p>If Ozonation</p> <ul style="list-style-type: none"> a. Pressure at which ozonation is performed b. Dosing rate (concentration of ozone dozed) c. Dosing tank Detail d. Contact time e. Flow rate of sewage 	:	NA
	<p>If UV Treatment</p> <ul style="list-style-type: none"> a. UV Dose (mJ/cm²) b. Dosing tank Detail c. Flow rate of sewage 	:	NA
32.	<p>Treated sewage characteristics</p> <p>Oil & Grease pH BOD COD TSS TDS (also FDS for CETP) Total Nitrogen Total Phosphorous Nitrate (as N) Ammonical Nitrogen (as N) Phosphate (as P) Chloride Faecal Coliform Total Coliform Residual Chlorine (if doing chlorination) (Heavy metal for Kanpur STPs) &Other parameters (DO & MLSS/MLVSS for Aeration tank)</p>	:	Please refer observations
33.	<p>Sludge Thickener (i) Volume m³</p>	:	NA

	(ii) Thickening Surface m ² (iii) Underflow solids concentration (mg/l) (iv) Actual thickened sludge production rate (Flow rate, m/hr multiplied by hr/day)		-- -- --
34.	Sludge Digester (i) Digester Volume m ³ (ii) Thickening sludge BOD & COD mg/l (iii) Actual digester sludge production rate(flow rate m ³ /hr multiplied by hr/day)	:	Not Available, Sludge handling by centrifuge
35.	Biogas produced, if any and its composition	:	No
36.	Operational status of gas utilization	:	NA
37.	Power generation, if any	:	Through solar panels only. Solar panel installed for capacity of 300KW, but presently power generation is approx. 2000KWh/day.
38.	STP connected to sewerage network (Yes/ NO)		No
39.	Mode of receiving raw sewage through (open drain/ sewerage network/ both)	:	Both, by tapping & diversion of open -4 Nos Drain and sewerage network with 1200 mm PSC rising main SPS , namely 30 MLD SPS and connected to 30 MLD STP.
40.	Disposal of treated sewage (river/lake/irrigation/land/pisciculture/aquaculture/and other) Any plan for reuse of treated sewage	:	Gurra nala which is connected to Rapti River
	In case Land disposal (land & agreement details)/	:	No land disposal
	Recycling and reuse of treated sewage If reuse by Industry/organization (name of unit and contract)	:	No
	Route of treated sewage to reach river	:	Treated Sewage → Gurra Nala →River Rapti
41.	By Pass arrangement at STP/CETP, if any	:	No
42.	By pass observed at time of inspection (Yes/No) If yes pictures and description	:	No (from STP premises)
43.	Method of sludge disposal description and status (Satisfactory/unsatisfactory)	:	Centrifuge treatment & then disposal at Nagar Nigam

			dumping place & also we are planning to turn it into manure which is under process. (Satisfactory)
44.	Operation and maintenance of Sewage Treatment Plant (Satisfactory/unsatisfactory)	:	Please refer observation.
45.	If unsatisfactory, details of major flaws observed	:	Please refer observation.
46.	Power requirement	:	Approx. 2570 KWh/day (As per logbook maintained at STP for May-23-2022)
47.	Status of power availability for uninterrupted and continuous running of STP. Provide details of standby arrangement , if any	:	24 hrs/day by Substation, 750 KVA DG set whenever the power breakdown occurs.
48.	Annual expenditure on O & M & STP	:	64457263 Rs/year
49.	Consent Status from State Pollution Control Board/Pollution Control Committee (Water & Air)	:	Consent available & valid up to 31-12-2023
50.	Sewage generated (in MLD) in the area covered under STP	:	Approx. 22 MLD
51.	Details of proposed or ongoing augmentation or upgradation of capacity or any new STP under construction	:	No
52.	Augmentation of STPs for achieving stricter norms	:	No (During visit)
53.	Volume of industrial waste being mixed in sewage, if any.	:	Nil (As reported)
54.	Status of maintenance of log Books (inlet & outlet flow, pump operations, electricity, maintenance/breakdown maintenance)	:	Logbooks were found maintained.
55.	Influent and Effluent quality monitoring schedule in own lab (parameter wise)	:	Per day (pH, TSS, DO, BOD, COD, FRC and FC)
56.	Status of Skilled/trained Manpower (operation & laboratory)	:	Total -42 (27skilled &15semiskilled)
57.	Status of Environmental Laboratory facility	:	Lab established for analysis of pH, TSS, DO, BOD, COD and Fecal coliform in raw sewage and treated sewage. Residual chlorine in final discharge.
58.	Status of Online Monitoring System (OCEMS) (Installed/not installed and	:	Not Installed (Under process at inlet & outlet both) but not

	connected to CPCB/SPCB server or not) Compliance to be verified of direction dated 10.08.2020		connected with SPCB/CPCB server
59.	Flow diagram of treatment (to be attached)	:	Enclosed as Annexure-IA
60.	<p>General Information</p> <p>a. Map of city along with ward details</p> <p>ii. ULB structure</p> <p>iii. City population (census) and growth</p> <p>iv. Details of government project/funding-Swachbharati/AMRUT/Smart Cities/14 SFC</p>	:	<p>Total 70 wards in Gorakhpur city& population 673446 as per Census (2011) &as per Census (2019) projected (from SMCG website)</p> <p>Nagar Nigam, Gorakhpur Census (2011)-673446</p> <p>As per Voter List (2017)- 865302</p> <p>Projected Population (2025)- 1105000</p> <p>Under AMRUT</p> <p>Sanctioned Scheme-</p> <ol style="list-style-type: none"> 1- Gorakhpur Sewerage Scheme Zone A-1, Northern Part 2- Gorakhpur Sewerage Scheme Zone A-1, Southern Part 3- Gorakhpur Sewerage Scheme Zone C-2, Part-1 4- Interception & Diversion of 11 Minor Drains under State Sector <p>Proposed Schemes-</p> <ol style="list-style-type: none"> 1- Gorakhpur Sewerage Scheme Zone C-, Part-2 2- Interception, Diversion & Treatment of Kataniya/Mahewa Drain falling in river rapti 3- Interception, Diversion & Treatment of 8 Drains falling in river rapti to be proposed by UP Jal Nigam (Rural)
61.	<p>Sewage Information (city)</p> <p>i. Water supplied</p> <p>ii. Ground water tapped</p> <p>iii. Others</p> <p>iv. Estimated quantity of sewage generated</p>	:	<p>Unaccounted (private/institutional)</p> <p>Total sewage generation- approx. 116.76 MLD (treated + untreated), based on latest data</p>

	<p>v. Quality of sewage</p> <p>vi. Sewer line network Plan-network, length, pipe sizes, pump wells, diversity, coverage</p> <p>vii. % coverage (aerial/ population) by sewerage network</p> <p>viii. Year of commissioning of sewer line</p> <p>ix. No. of toilets</p> <p>x. No. of drain carrying sewage</p> <p>xi. Cost of service connection</p> <p>xii. Sewerage charges per month and mode of collection</p> <p>xiii. No. of STPs and coverage by STPs (in terms of volume treated)</p> <p>xii. Design Capacity vis a vis available treatment</p> <p>xiii. Major reasons for under-utilized or non-operational</p> <p>xiv. Plan for treatment of entire sewage generated</p>	<p>available.</p> <p>pH- 7.35 TSS- 238 mg/l as reported. BOD- 165 mg/l COD- 280 mg/l</p> <p>173.04 km sewer line work is in progress under Gorakhpur Sewerage Zone A-1 Upper & Lower Part and likely to be commissioned up to Nov-22 57.08 km sewer line work is in progress under Gorakhpur Sewerage Scheme Zone C-2, Part -1.</p> <p>29%</p> <p>Under progress and likely to be commissioned upto Nov-2022 & March-2023</p> <p>NA 39 NA NA</p> <p>Approx. 45 MLD covered by 2 Nos numbers of operational STPs during visit. Designed Capacity: 15 & 30 MLD; Available Treatment: 15 & 30 MLD Proposed: New 30 MLD STP at Subhash Chandra Bose Nagar under Gorakhpur Sewerage Scheme Zone C, Part 2 & New 10 MLD STP at Mahewa under Interception Diversion and Treatment of Mahewa/ Kataniya drain falling in river Rapti. Under construction: 5 MLD STP at Existing 15 MLD STP</p>
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		under Gorakhpur Sewerage Scheme Zone A-1, Southern Part, 10 MLD at Subash Chandra bose Nagar under Gorakhpur Sewerage Scheme Zone C-2, Part-1
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Observations:

1. During visit, the STP was found operational. It was running at 22 MLD average capacity.
2. STP has obtained consent form UPPCB which is valid up to 31.12.2023.
3. The STP is operated and maintained by M/s Toshiba Water Solutions Pvt. Ltd.
4. The STP is based on SBR treatment technology, comprises of: Inlet → Mechanical Bar Screen → Grit Chamber → Aeration Tank → CCT → Final Outlet.
5. The STP receives raw sewage from the areas namely Mohaddipur , Railway Coloney, Charfatak ,Paidleganj , Golf Couse , Indiranagar , Taramandal by tapping & diversion of open 4 Nos of major Drain(namely Mohaddipur power house nalla , Rafi Ahmad Kidwai nalla ,Golf ground nala, and Paidleganj nala) Raw and sewerage network with 1200 mm PSC rising main Sewage pumping station (SPS) , namely 30 MLD SPS and connected to 30 MLD STP. etc. for the treatment.
 - Programmable Logic Calculator
 - The unit has neither informed UPPCB nor CPCB about the operational status of STP, which is a matter of serious concern.
6. PLC system has been installed for optimised functioning of STP.
7. Log book is maintained for Inlet flow, pump operation, electricity, maintenance/breakdown, DG Set, lab analysis & sludge disposal.
8. Solar panels were found installed for saving of energy consumption at STPs. Approx. -2000 KWh/day power were generated through solar panels which reduces the operation cost of STP in terms of energy consumption.
9. Electromagnetic flow meter was found installed at inlet of 30 MLD STP, Electromagnetic flow meter was not found installed at final out let of STP .
10. It is noticed that, this STP is generally running at capacity but during visit STP was operating under capacity.

11. Samples collected from inlet & outlet of STP was analysed at CPCB, RD, Lucknow. The analysis results of samples are tabulated below:

Table1: Analysis Result of Samples of 30 MLD STP, Gorakhpur

S. No.	Parameters	Unit	Inlet of STP	Aeration Tank1	Aeration Tank2	Outlet of STP	Standards as per NGT Order dated 30.04.2021
1.	pH	-	7.27	--	--	7.63	5.5 to 9.0
2.	TSS	mg/L	121	--	--	53.8	20
3.	BOD		24.5	--	--	15.6	10
4.	COD		128	--	--	62.5	50
5.	Total Phosphorus		0.632	--	--	BDL	1.0
6.	Total Nitrogen		26.8	--	--	25.8	10
7.	MLSS		-	8094	8958	--	--
8.	MLVSS		-	4092	4529	--	--
9.	F-coliform		MPN/100 ml	-	--	--	2.0X10⁴
10.	Residual Chlorine	ppm	0.3	--	--		--

12. The analysis results of final outlet of STP revealed that STP is not complying w.r.t TSS, BOD, COD Total Nitrogen, and Faecal Coliform as compared to Hon'ble NGT order dated 30.04.2019 in OA No. 1069/2018.
13. Out of 4 aeration tanks, 2 were operational with concentration of MLSS & MLVSS (values given in Table-1).
14. During Visit an OCEMS was found in process for installation at the outlet of the STP for parameters pH, TSS, BOD & COD, but not connected to SPSCB/CPCB server.
15. Sludge generated in the STP is handled by sludge thickener and centrifuge.
16. Dewatered sludge obtained after centrifugal action is transported through trolleys and dumped in the Nagar Nigam dumping yard.
17. No sludge characterisation were carried out by Jal Nigam/O&M Agency.
18. Logbook maintained for sludge generation at the STP shows that the generation rate of dried sludge from the STP is in the range of 4 to 5 MT per day.

Recommendations:

1. UP Jal Nigam, Gorakhpur and O& M Agency should ensure that STP should strictly comply all the consented conditions as issued by UPPCB.

2. Sahara estate STP should be made functional only after obtaining consent from UPPCB and ensure proper treatment of waste water generated from township.
3. Directorate of urban local bodies (DULB), Lucknow, UP Jal Nigam, Gorakhpur and O& M Agency should take initiative for the installation & connection of OCEMS and Electromagnetic flowmeter to CPCB & SPCB server on priority basis.
4. Alternate use of sludge as manure or use in biogas plants may be explored.
5. UP Jal Nigam, Gorakhpur and O& M Agency should ensure that STP should operate at optimum capacity no untreated water should be discharge in River/Lake.
6. The unit should run the disinfection system for removal of microbes from the treated sewage before its final discharge to minimize the risk of contamination of receiving body.
7. The STP should ensure proper disposal of sludge as per nature of sludge.

Name, designation & signature of inspecting officers:

1. Sh. A.K. Tripathi, Scientist - 'C', CPCB, Regional Directorate, Luckno



2. Sh. Shivam Singh, RA. CPCB, Regional Directorate, Lucknow



Photo Gallery of Sewage Treatment Plant at Taramandal (30 MLD), Gorakhpur



Photo1: Main Gate of the Gorakhpur 30 MLD STP



Photo2: Inlet of the STP with Screen



Photo3: SBR Basin



Photo4: Centrifuge House



Photo 5: CCT and Final out of STP



Photo 6: Pumping Station

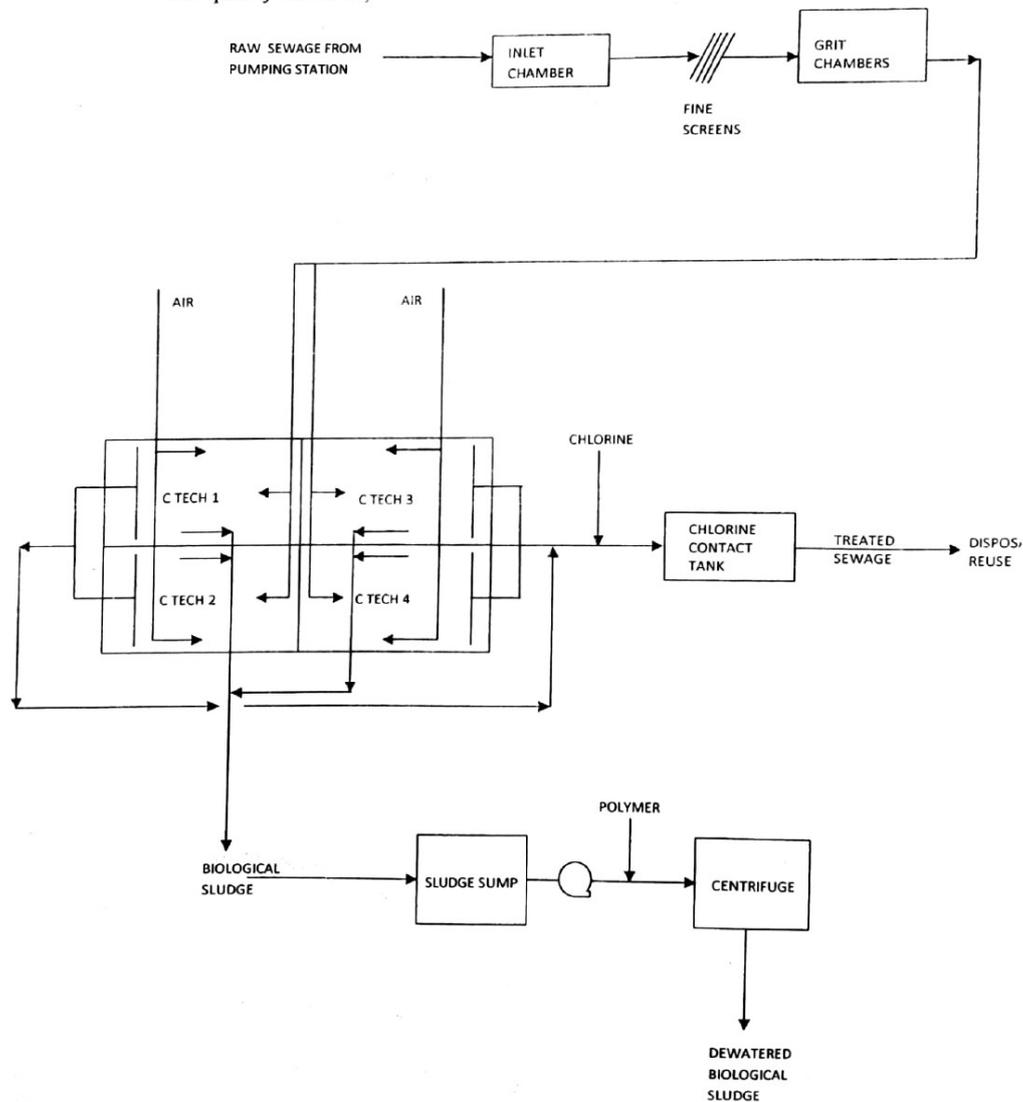
Annexure-IA

Photo 7: 30 MLD Flow Diagram

3. TREATMENT SCHEME & TREATMENT PHILOSOPHY

3.1. Treatment Scheme (As per Tender)

Following treatment scheme is considered for the treatment of sewage to achieve desired treated water quality standards;



PROCESS FLOW SHEET FOR SEWAGE TREATMENT PLANT

2.0 INSPECTION REPORT OF 15 MLD STP at Mahadev Jharkhandi Kunraghat Gorakhpur, UTTAR PRADESH

Salient Detail:

1.	Name/Location of STP/CETP (full address)	:	15 MLD STP, UP Jal Nigam, Maherva ki Bari Mahadev Jharkhandi Kunraghat Gorakhpur
2.	Coordinates (In decimal units e.g. 12.34567°)	Latitude	26.7336
		Longitude	83.41927
4.	Designed capacity of STP and Treatment Technology	:	15 MLD & SBR technology
5.	d. Date of monitoring and starting time	:	25-05-2022
	e. Type of sampling (Grab or interval (eg. 12 hr composite at 2 hr interval)	:	Grab
		:	NA
8.	Agency/organisation responsible for O&M (Name of agency & contact person, Mob., E-mail)	:	State mission for clean Ganga (SMCG) & Directorate of urban local bodies (DULB), Lucknow and UP Jal Nigam, Gorakhpur Sh. Ratansen Singh, Project Manager, Executive Engineer - UP Jal Nigam, Gorakhpur Mob: 7388908719 Email: pm_ramgarhtl@yahoo.in
9.	Whether Operation through Sub contractor, if any, details thereof with contact information (Name of agency, contact person with designation, Mob., E-mail)	:	M/s Toshiba Water Solutions PVT LTD. Gurugram Contact Person- Mr. Deepu yadav E-mail: deep8yadava@gmail.com Mob-7011034369
10.	Year of commissioning (Operational since)	:	2015
11.	c. Operational/Non-functional/Non-operational (be specific in functionality status)	:	Operational
	d. Reason, if non-functional/non-operational and time since non-functional/non-operational	:	
12.	STP designed parameter (flow, BOD, COD, TSS etc.& mentioned values of designed parameter)	:	Raw Sewage Flow- 15.739 (15 MLD) MLD, pH-7.11(6-8.5), BOD-62 (180-200) mg/l, COD- 124(400-450) mg/l, TSS-50(250-300) mg/l Treated Sewage pH-7.23(6.5-8.5), BOD-9(≤10)

			mg/l, COD- 36(≤100) mg/l, TSS- 14(≤30) mg/l
13.	Utilized Capacity as reported by operator or verified from log book (MLD)	:	15.504 MLD (Avg. as per logbook of 1 st May to 24 th May, 2022)
14.	Actual treatment (Inflow during visit) (m ³ /hr x hrs.)	:	646 m ³ /hr during visit
15.	If operating under designed capacity, give reason	:	No
16.	Flow meter/v-notch at Inlet of STP & reading	:	m ³ /hr Flow meter totalizer reading during visit- 1950051 m ³
17.	Flow meter/v-notch at Outlet of STP & reading	:	Not Installed
18.	Fresh water supply source (in STP premises) if any, details (source, water consumption status, logbook, meter)	:	Submersible 1 HP, Consumption -2000 LTr
19.	Raw sewage characteristics pH COD BOD TSS TDS (also FDS for CETPs) Total Nitrogen Total Phosphorus Sulphate Nitrate, Phosphate, Ammonical Nitrogen Chloride Faecal Coliform Total Coliform Heavy metal (For Kanpur STPs)	:	Please refer observations
20.	Details of transfer sump	:	52.5 m ³
21.	Pre-treatment if any, details (screen, Equalization Tank)	:	Fine screen & Grit mechanism
22.	Primary-treatment if any, details (Oil and Grease trap, grit, pre-settling tank)	:	Grit removal
23.	Primary Settling Tank (viii) Primary Settling Tank Volume m ³ (ix) Settling Surface area m ² (x) Weir length m (xi) Retention Period (xii) PST outlet pH, TSS, BOD, COD (mg/L)	:	NA

	(xiii) Underflow solids concentration mg/l or % (xiv) Actual primary Sludge production rate (flow rate m ³ /hr x hr/day) Availability of Mechanical Scraper		
24.	No. of Biological Treatment stages	:	2 Stages, Filling, Aeration, Settling & Decanting
25.	Treatment processes used in STP for sewage treatment along with order of the stage: SBR – Sequential Batch Reactor;		
	Bio-Tower Technology (based on attached growth technology) followed by ASP		
26.	Process parameters of Anaerobic Process for example C. UASB & Others (vi) No. of reactors (vii) Capacity of each reactor (viii) Average flow (ix) HRT (x) UASB outlet BOD, COD, TSS (mg/l)	:	NA
27.	Process parameters of Aerobic Process for example Activated Sludge Process (iv) Waste sludge generation (flow rate m ³ /hr multiplied by hr/day) (v) Waste sludge solids (TSS) concentration mg/l (vi) ASP outlet pH, TSS, COD, BOD Aeration Tank (vi) Aeration Tank volume m ³ (vii) Retention period (viii) Mixed Liquor MLSS, MLVSS & DO mg/l (ix) Aeration Capacity KW or HP (x) Related aeration capacity Kg/KW hr Secondary Settling Tank (vii) Secondary Settling tank volume m ³ (viii) Settling Surface area m ² (ix) Retention period (x) Weir length m	:	305 m ³ /day 4408.5 m ³ 180 min AT1: MLSS - 3392 & MLVSS - 1581 mg/L AT2: MLSS - 3146 & MLVSS - 1490 mg/L DO - 2.1 Mg/l 90 Kw in each basin Air blowers of 3900 Nm ³ /hr. (2w+ 1SB), Elect. Motor 90 kW NA

	(xi) Return flow rates m ³ /hr or m ³ /day (xii) Return flow solids (TSS) concentration		
28.	Tertiary Treatment (Physico- Chemical) (i) Coagulation and flocculation (ii) Dual Media Filter (iii) Adsorption (iv) Membrane Treatment (v) Any Other	:	NA
Disinfection System			
29.	Disinfection Technology Installed (Yes/ No)	:	Yes
	Name of Technology used	:	Chlorination Unit
	Operational status (if Non-operational, Reasons)	:	Operational
	If chlorination based disinfection system j. Name of chemical/ form of chlorine k. Methodology (Mechanical/manual) l. Dosing Rate m. Type of chlorinator n. Chemical consumption record o. Dimension of the Chlorine contact tank p. Chlorine Contact Time/Retention time q. Value of Residual Chlorine in treated sewage (ppm) r. Methodology used for assessment of Residual chlorine : titrimetric method/ colorimetry (using ortho-toluidine or any other indicator)	:	Liquid Chlorine Gas Chlorine Gas filled in Tonner Manual 3PPM Vacuum Injector 48Kg / Day 18X10.5x2.5 30 Min 0.4 PPM Indicator based
	If Ozonation f. Pressure at which ozonation is performed g. Dosing rate (concentration of ozone dozed) h. Dosing tank Detail i. Contact time	:	NA

	j. Flow rate of sewage		
	If UV Treatment d. UV Dose (mJ/cm ²) e. Dosing tank Detail f. Flow rate of sewage	:	NA
32.	Treated sewage characteristics Oil & Grease pH BOD COD TSS TDS (also FDS for CETP) Total Nitrogen Total Phosphorous Nitrate (as N) Ammonical Nitrogen (as N) Phosphate (as P) Chloride Faecal Coliform Total Coliform Residual Chlorine (if doing chlorination) (Heavy metal for Gorakhpur STPs) &Other parameters (DO & MLSS/MLVSS for Aeration tank)	:	Please refer observations
33.	Sludge Thickener (v) Volume m ³ (vi) Thickening Surface m ² (vii) Underflow solids concentration (mg/l) (viii) Actual thickened sludge production rate (Flow rate, m/hr multiplied by hr/day)	:	NA -- -- --
34.	Sludge Digester (iv) Digester Volume m ³ (v) Thickening sludge BOD & COD mg/l (vi) Actual digester sludge production rate(flow rate m ³ /hr multiplied by hr/day)	:	Not Available, Sludge handling by centrifuge
35.	Biogas produced, if any and its composition	:	No
36.	Operational status of gas utilization	:	--
37.	Power generation, if any	:	Through solar panels only. Solar panel installed for capacity of

			150KW, but presently power generation is approx. 1000KWh/day.
38.	STP connected to sewerage network (Yes/ NO)		NO
39.	Mode of receiving raw sewage through (Open drain/ sewerage network/ both)	:	Both, by tapping & diversion of open -2 Nos of Major Drains and sewerage network with 900 mm PSC rising main SPS , namely 15 MLD SPS and connected to 15 MLD STP.
40.	Disposal of treated sewage (river/lake/irrigation/land/pisciculture/aquaculture/and other)	:	Direct dispose to Ramgarh taal
	Any plan for reuse of treated sewage	:	
	In case Land disposal (land & agreement details)/	:	No land disposal
	Recycling and reuse of treated sewage If reuse by Industry/organization (name of unit and contract)	:	No
	Route of treated sewage to reach river	:	Treated Sewage → Ramgarh taal
41.	By Pass arrangement at STP/CETP, if any	:	No
42.	By pass observed at time of inspection (Yes/No) If yes pictures and description	:	No (from STP premises)
43.	Method of sludge disposal description and status (Satisfactory/unsatisfactory)	:	Centrifuge treatment & disposal at Nagar nigam dumping place. As informed STP operator are planning to turn it into manure which is under process.
44.	Operation and maintenance of Sewage Treatment Plant (Satisfactory/unsatisfactory)	:	Please refer observation.
45.	If unsatisfactory, details of major flaws observed	:	Please refer observation.
46.	Power requirement	:	Approx. 1735KWh/day (As per logbook maintained at STP for May-24-2022)
47.	Status of power availability for uninterrupted and continuous running of STP. Provide details of standby arrangement , if any	:	24 hrs/day by substation, 400 KVA DG set during power breakdown
48.	Annual expenditure on O & M & STP	:	64457263 Rs/year
49.	Consent Status from State Pollution Control Board/Pollution Control	:	Consent available & valid upto 31-12-2023

	Committee (Water & Air)		
50.	Sewage generated (in MLD) in the area covered under STP	:	More than 15 MLD
51.	Details of proposed or ongoing augmentation or upgradation of capacity or any new STP under construction	:	Yes, 5 MLD STP SBR technology based
52.	Augmentation of STPs for achieving stricter norms	:	Yes, achieved all norms
53.	Volume of industrial waste being mixed in sewage, if any.	:	Nil (As reported)
54.	Status of maintenance of log Books (inlet & outlet flow, pump operations, electricity, maintenance/breakdown maintenance)	:	Logbooks were found maintained.
55.	Influent and Effluent quality monitoring schedule in own lab (parameter wise)	:	Per day (pH, TSS, DO, BOD, COD, FRC and FC)
56.	Status of Skilled/trained Manpower (operation & laboratory)	:	Total -38 (28skilled &10semiskilled)
57.	Status of Environmental Laboratory facility	:	Lab established for analysis of pH, TSS, DO, BOD, COD and Fecal coliform in raw sewage and treated sewage. Residual chlorine in final discharge.
58.	Status of Online Monitoring System (OCEMS) (Installed/not installed and connected to CPCB/SPCB server or not) Compliance to be verified of direction dated 10.08.2020	:	Installed at inlet &outlet both but not connected with SPCB/CPCB server
59.	Flow diagram of treatment (to be attached)	:	Enclosed as Annexure-IB
60.	General Information b. Map of city along with ward details ii. ULB structure iii. City population (census) and growth iv. Details of government project/funding-Swachbharati/AMR UT/Smart Cities/14 SFC	:	Total 70 wards in Gorakhpur city 673446 as per Census (2011) &as per Census (2019) projected (from SMCG website) Nagar Nigam, Gorakhpur Census (2011)-673446 As per Voter List (2017)-865302 Projected Population (2025)-1105000 Under AMRUT Sanctioned Scheme-1- Gorakhpur Sewerage Scheme Zone A-1, Northern Part

		<p>2- Gorakhpur Sewerage Scheme Zone A-1, Southern Part 3-Gorakhpur Sewerage Scheme Zone C-2, Part-1 4-Interception & Diversion of 11 Minor Drains under State Sector Proposed Schemes- 1-Gorakhpur Sewerage Scheme Zone C-, Part-2 2-Interception, Diversion & Treatment of Kataniya/Mahewa Drain falling in river rapti Interception, Diversion & Treatment of 8 Drains falling in river rapti to be proposed by UP Jal Nigam (Rural)</p>
61.	<p>Sewage Information (city) j. Water supplied ii. Ground water tapped iii. Others iv. Estimated quantity of sewage generated v. Quality of sewage vi. Sewer line network Plan-network, length, pipe sizes, pump wells, diversity, coverage vii. % coverage (aerial/ population) by sewerage network viii. Year of commissioning of sewer line ix. No. of toilets x. No. of drain carrying sewage xi. Cost of service connection xii. Sewerage charges per month and mode of collection xiii. No. of STPs and coverage by STPs (in terms of volume treated) xii. Design Capacity vis a vis available treatment xiii. Major reasons for under-utilized or non-operational xiv. Plan for treatment of entire sewage generated</p>	<p>: Unaccounted (private/institutional) Total sewage generation- approx. 116.76 MLD (treated + untreated) pH- 7.35 TSS- 238 mg/l BOD- 165 mg/l COD- 280 mg/l 173.04 km sewer line work is in progress under Gorakhpur Sewerage Zone A-1 Upper & Lower Part and likely to be commissioned upto Nov-22 57.08 km sewer line work is in progress under Gorakhpur Sewerage Scheme Zone C-2, Part -1 which is likely to be commissioned upto March-2023 Size of Pipe- 150 mm dia to 1100 mm dia 29% Under progress and likely to be commissioned upto Nov-2022 & March-2023 NA 39 NA NA Approx. 45 MLD covered by 2 Nos numbers of operational STPs during visit. Designed</p>

		<p>Capacity: 15 & 30 MLD; Available Treatment: 15 & 30 MLD Proposed: New 30 MLD STP at Subhash Chandra Bose Nagar under Gorakhpur Sewerage Scheme Zone C, Part 2 & New 10 MLD STP at Mahewa under Interception Diversion and Treatment of Mahewa/ Kataniya drain falling in river Rapti.</p> <p>Under construction: 5 MLD STP at Existing 15 MLD STP under Gorakhpur Sewerage Scheme Zone A-1, Southern Part, 10 MLD at Subash Chandra bose Nagar under Gorakhpur Sewerage Scheme Zone C-2, Part-1</p>
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Observations:

1. During visit, the STP was found operational. It was running at 15 MLD avrg capacity.
2. STP has obtained consent form UPPCB which is valid up to 31.12.2023.
3. The STP is operated and maintained by M/s Toshiba Water Solutions Pvt. Ltd.
4. The STP comprises of: Inlet → Mechanical Bar Screen → Grit Chamber → Aeration Tank(SBR Basin) → CCT → Final Outlet.
5. The STP receives raw sewage from the areas namely Kunraghat, AIIMS and Awas Vikas , Colony, by tapping & diversion of open 2 Nos of major Drain (namely Gurdhaiya Nala and Kunraghat Nala) , Raw and sewerage network with 900 mm PSC (Pre stressed concrete pipeline) rising main Sewage pumping station (SPS) , namely 15 MLD SPS and connected to 15MLD STP. etc. for the treatment.
6. The treated water is discharge into Rangarh taal through 750mm Concrete Pipeline near maherwa kibari .
 - Programmable Logic Calculator
 - The unit has neither informed UPPCB nor CPCB about the operational status of STP, which is a matter of serious concern.
7. PLC system has been installed for optimised functioning of STP.

8. Log book is maintained for Inlet flow, pump operation, electricity, maintenance/breakdown, DG Set, lab analysis & sludge disposal.
9. Solar panels were found installed for saving of energy consumption at STPs. Approx. -150 KWh/day power were generated through solar panels which reduces the operation cost of STP in terms of energy consumption.
10. Electromagnetic flow meters were found installed at only inlet 15 MLD STP flow meter at outlet was found not installed during visit.
11. Samples collected from inlet & outlet of STP was analysed at CPCB, RD, Lucknow. The analysis results of samples are tabulated below:

Table2 : Analysis Result of Samples of 15 MLD STP, Gorakhpur

S. No.	Parameters	Unit	Inlet of STP	Aeration Tank1	Aeration Tank2	Outlet of STP	Standards as per NGT Order
1.	pH	-	7.60	--	--	7.52	5.5 to 9.0
2.	TSS	mg/L	7.29	--	--	6.15	20
3.	BOD		21.1	--	--	6.52	10
4.	COD		58.1	--	--	34.0	50
5.	Total Phosphorus		BDL	--	--	BDL	1.0
6.	Total Nitrogen		BDL	--	--	15.6	10
7.	MLSS		-	3392	3146	--	--
8.	MLVSS		-	1581	1490	--	--
9.	F-coliform		MPN/100 ml	-	--	--	7.8X10⁴
10.	Residual Chlorine	ppm	-	--	--	-	--

12. The analysis results of final outlet of STP revealed that STP **is not complying** w.r.t Total Nitrogen, and Faecal Coliform as compared to Hon'ble NGT order dated 30.04.2019 in OA No. 1069/2018.
13. Out of 2 aeration tanks (SBR basins), 2 were operational with concentration of MLSS & MLVSS (values given in Table-1).
14. During Visit an OCEMS was found in process for installation at the outlet of the STP for parameters pH, TSS, BOD & COD, but not connected to SPSCB/CPCB server.
15. Sludge generated in the STP is handled by sludge thickener and centrifuge.
16. Dewatered sludge obtained after centrifugal action is transported through trolleys and dumped in the Nagar Nigam dumping yard.
17. No sludge characterization was carried out by Jal Nigam/O&M Agency.

18. Logbook maintained for sludge generation at the STP shows that the generation rate of dried sludge from the STP is in the range of 1.5 MT per day.

Recommendations:

1. UP Jal Nigam, Gorakhpur and O& M Agency should ensure that STP should strictly comply all the consented conditions as issued by UPPCB.
2. UP Jal Nigam, Gorakhpur and O& M Agency should ensure that STP should operate at optimum capacity no untreated water should be discharge in River/Lake.
3. The unit should run the disinfection system for removal of microbes from the treated sewage before its final discharge to minimize the risk of contamination of receiving body.
4. State mission for clean Ganga (SMCG) & Directorate of urban local bodies (DULB), Lucknow, UP Jal Nigam, Gorakhpur and O& M Agency should take initiative for the installation & connection of OCEMS and Electromagnetic flowmeter to CPCB & SPCB server on priority basis.
5. The STP should ensure proper disposal of sludge as per nature of sludge.
6. The logbook for disposal of solid waste and sludge disposal from STP should be maintained.

Name, designation & signature of inspecting officers:

1. Sh. A.K. Tripathi, Scientist - 'C', CPCB, Regional Directorate, Lucknow.



2. Sh. Shivam Singh, RA. CPCB, Regional Directorate, Lucknow



Photo Gallery of Sewage Treatment Plant at Jharkhandi (15 MLD), Kunraghat Gorakhpur (UP)



Photo1 Rising Main of 15 MLD



Photo2 GRIT CHAMBER



Photo3: SBR 1



Photo4: SBR 2



Photo 5: CCT and final outlet



Photo 6: CENTRIFUGE



Photo7: SLUDGE PRODUCTION



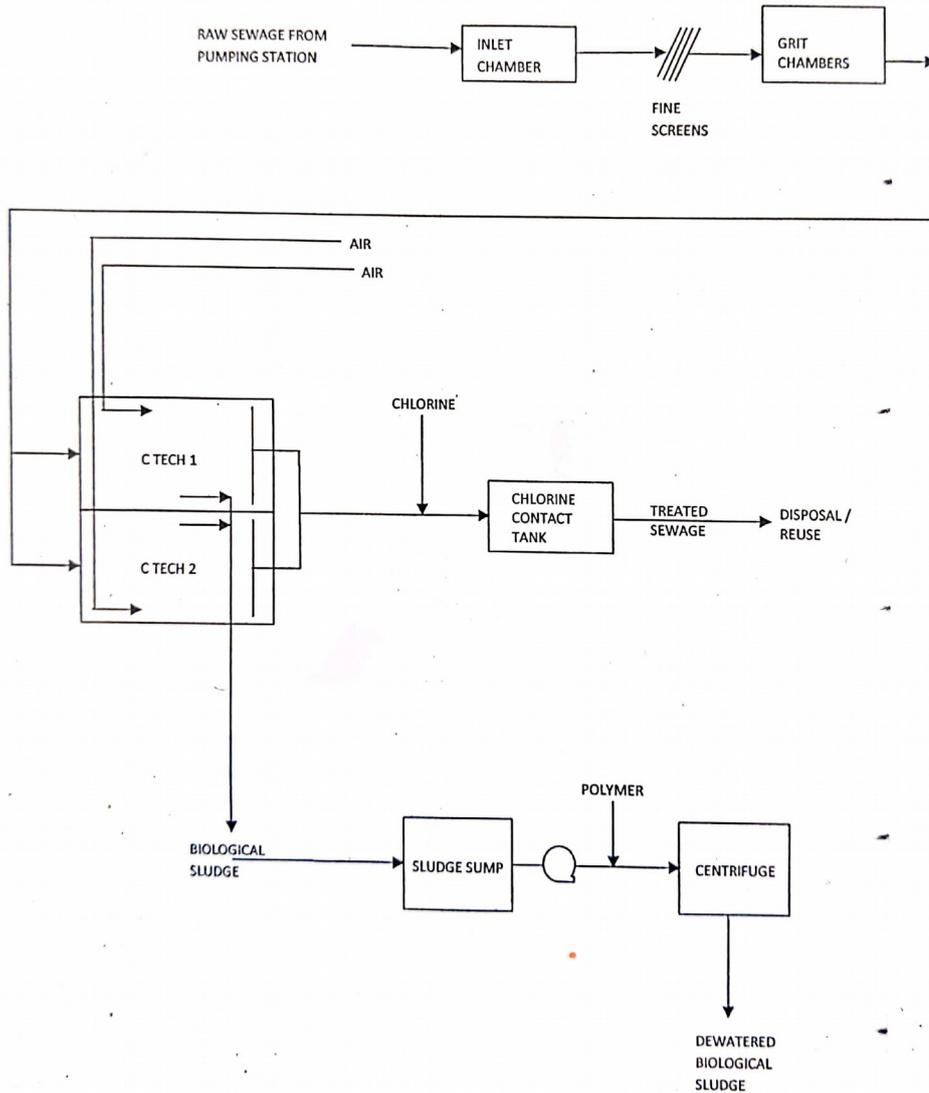
Photo 8 : Air Blower

Annexure-IB

3. TREATMENT SCHEME & TREATMENT PHILOSOPHY

3.1. Treatment Scheme (As per Tender)

Following treatment scheme is considered for the treatment of sewage to achieve desired treated water quality standards;



PROCESS FLOW SHEET FOR SEWAGE TREATMENT PLANT



**Central Pollution Control Board
Regional Directorate (N) Lucknow**

Performance Assessment Report of Bio-remediation in 18 minor and 05 major drains located in Catchment area of Ramgarh Lake and River Rapti and River Rohini at Gorakhpur District, Uttar Pradesh in compliance of order passed by the Hon'ble National Green Tribunal (PB) in case of OA No. 116/2014; Meera Shukla Vs Municipal Corporation, Gorakhpur & Ors) Dt 30.03.2022

Background:

In pursuance of Hon'ble NGT order OA No. 116/2014, dated 30.03.2022, 18 nos. of minor drains and 05 major drains located in Catchment area of Ramgarh Lake and River Rapti and River Rohini at Gorakhpur District, Uttar Pradesh were inspected/monitored by CPCB, RD, Lucknow team during May 25-26, 2022. Out of these 03 minors, were found temporarily diverted due to sewerline interception work being carried out by UPJN during visit. The water quality, salient details, observations and recommendations based on inspection are as follows:

Analytical results of drains monitored in Gorakhpur during 24/05/2022 & 25/05/2022
Water quality of 6 minor drains falling in Ramgarh Lake, before Bio-remediation & after Bio-remediation

S. No	Name of the Drains.	Sampling Point	Date of Sample Collection	Flow (m ³ /hr)	PARAMETER						
					pH	B. O. D. (3days at 27° C in mg/L)	T.S.S. (mg/L)	C.O. D (mg/L)	Total Coliform	Fecal Coliform	Reduction (%)
1	Girdharganj Nala (Yadav Tola No-1)	Before Bio-remediation	25.05.2022	-	7.38	22.6	43.8	57.7	-	-	BOD: 33.62 COD:42.28 TSS: 62.78
		After Bio-remediation	25.05.2022	118.95	7.23	15	16.3	33.3	1.7x10 ⁷	7.9x10 ⁶	
2	Girdharganj Nala (Yadav Tola No-2)	Before Bio-remediation	25.05.2022	-	7.27	16.4	39.4	29.8	-	-	BOD: No reduction COD: No reduction TSS:15.22
		After Bio-remediation	25.05.2022	100.7	7.18	16.7	33.4	50.4	9.4 x10 ⁶	7.0x10 ⁶	
3	Navalpurwa Nala (Near Jal Pai Mai Mandir)	Before Bio-remediation	25.05.2022	36.56	7.52	25.8	31	65.5	-	-	BOD: 8.91 COD:14.80 TSS: 43.54
		After Bio-remediation	25.05.2022		7.55	23.5	17.5	55.8	3.5x10 ⁷	1.7x10 ⁷	
4	Sahara State Nala	Before Bio-remediation	25.05.2022	-	7.29	17.2	9.59	32.5	-	-	BOD: No reduction COD: No reduction TSS: No reduction
		After Bio-remediation	25.05.2022	45.03	7.21	18.6	12.4	42.6	2.4x10 ⁷	3.3x10 ⁶	

S. No	Name of the Drains.	Sampling Point	Date of Sample Collection	Flow (m ³ /hr)	PARAMETER						
					pH	B. O. D. (3days at 27° C in mg/L)	T.S.S. (mg/L)	C.O. D (mg/L)	Total Coliform	Fecal Coliform	Reduction (%)
5	Sri Krishnapuram Nala	Before Bio-remediation	24.05.2022	12.56	7.22	88.9	50.4	151	-	-	BOD: 11.36 COD: No reduction TSS: No reduction
		After Bio-remediation	24.05.2022		7.18	78.8	94.8	161	3.5x10 ⁶	2.2x10 ⁶	
6	Satya Marg Nala (Near H.No-112)	Before Bio-remediation	25.05.2022	16.48	7.41	25.2	47.3	44.2	-	-	BOD: 34.92 COD: 14.02 TSS: 31.50
		After Bio-remediation	25.05.2022		7.60	16.4	32.4	38	7.9x10 ⁵	2.3x10 ⁵	

Analytical results of drains monitored in Gorakhpur during 25/05/2022
Water quality of 05 Major Drains falling in Rohin River & Rapti River before Bio-remediation & after Bio-remediation

S. No	Name of the Drains.	Sampling Point	Date of Sample Collection	Flow (m ³ /hr)	PARAMETER						
					PH	B. O. D. (3days at 27° C in mg/L)	T.S.S. (mg/L)	C.O. D (mg/L)	Total Coliform	Fecal Coliform	Reduction (%)
1	Basiyadih Drain, Near Madhopur Bandh, Gorakhpur	Before Bio-remediation	25.05.2022	493.	7.15	28.1	66.5	89.5	-	-	BOD: 1.77 COD: 32.51 TSS: 24.81
		After Bio-remediation	25.05.2022	7	7.21	27.6	50	60.4	3.5x10 ⁷	1.3x10 ⁷	
2	Bargadawa Drain, Near Jashan Marrige Hall, Bargadwa, Gorakhpur	Before Bio-remediation	25.05.2022	509.	7.11	18.6	20	39.9	-	-	BOD: 46.34 COD: 32.51 TSS: No reduction
		After Bio-remediation	25.05.2022	30	7.62	9.98	63.8	30.6	4.0x10 ⁴	2x10 ⁴	
3	Domingarh Drain, Domingarh, Gorakhpur	Before Bio-remediation	25.05.2022	1170	7.10	70.2	83.2	161	-	-	BOD: 66.09 COD: 65.34 TSS:58.77
		After Bio-remediation	25.05.2022		7.14	23.8	34.3	55.8	9.2x10 ⁷	2.4x10 ⁷	
4	Ilahibag Drain, Gorakhpur	Before Bio-remediation	25.05.2022	931.	7.09	43.8	117	101	-	-	BOD: 17.80 COD: 9.50 TSS:11.96
		After Bio-remediation	25.05.2022	9	7.04	36	103	91.4	5.4x10 ⁷	3.5x10 ⁷	
5	Katariya/Mahewa Drain, Gorakhpur.	Before Bio-remediation	25.05.2022	206.	7.28	33.3	28.5	85.6	-	-	BOD: 14.11 COD: 27.10 TSS:35.43
		After Bio-remediation	25.05.2022	8	7.16	28.6	18.4	62.4	9.2x10 ⁷	5.4x10 ⁷	

Observations:

1. As per the list provided by UP Jal Nigam, Gorakhpur, there are 21 major drains and 18 minor drains (total 39 drains) in Gorakhpur city by which waste water / sewage through drains falling directly in Rapti River, Rohani River (Tributory of Rapti River) and Ramgrarhtal Lake.
2. During visit team has carried out inspection of 18 minor drains located in catchment Ramgarhtal and 05 major drains located in catchment area of Rapti River and Rohini River which carries untreated domestic wastewater of area.
3. It was observed that In-situ treatment through microbial culture in upstream of 11 drains were found functional and accordingly wastewater samples were collected. (Photo gallery **Annexure-III**)
4. 18 minor drains are still falling in Ramgarhtal lake (7 minor drains fall from Eastern side of lake and 11 minor drains fall from Northern side of lake for which work is under progress however as an interim measure these 18 minor drains are being treated by Bio-remediation by Nagar Nigam, Gorakhpur.
5. As an Interim measure for these 18 drains having discharge of 6.82 MLD (UPJN) falling in RamgarhTaal, Municipal Corporation, Gorakhpur has been doing InSitu Nallah Treatment through Bioremediation technology. The Bio-remediation work is being carried out by M/s Maple Orgtech (India) Ltd
6. Bio-remediation is carried out by M/s Mapple Orgitech (India) Ltd, Kolkata since 27-12-2020 before meeting to Ramgarhtal and the work is being carried out at site.
7. Out of above 21 major drains, 6 major drains (which were falling directly in Ramgarhtal) have been Intercepted, Diverted and being Treated through 2 Nos S.T.Ps (15 MLD& 30 MLD capacity) since Year 2015.
8. During visit team has observed that Major drains are filled with garbage and floating materials flow of drains was interrupted at many locations of Gorakhpur city. (Photo gallery **Annexure-III**)

- 9.** Out of the 11 drains monitored, only 6 viz Girdharganj Nala (Yadav Tola No-1), Satya Marg Nala, Basiyadih Drain, Domingarh Drain, Katariya/Mahewa Drain were found complying to the Evaluation criteria of Bio-remediation of drains of NMCG while the rest 05 drains viz Girdharganj Nala (Yadav Tola No-2), Navalpurwa Nala (Near Jal Pai Mai Mandir), Sahara State Nala, Sri Krishnapuram Nala , Bargadawa Drain, Near Jashan Marring Hall, Ilahibag Drain, Gorakhpur were found non-complying.
- 10.** Monitoring of water quality at both the sites indicated that there was partial reduction in pollution load in terms of BOD and COD and TSS . Possible reasons for this may be lack of adequate retention/contact time, lack of microbial diversity essential for biodegradation of organic pollutants, and hydraulic and chemical shock loads due sudden discharge of non-domestic wastewaters.
- 11.** Water quality gets deteriorated in terms of BOD, COD and TSS at Sahara State Nala and Girdharganj Nala (Yadav Tola No-2), in terms of COD & TSS at Sri Krishnapuram Nala and TSS in Bargadawa Drain, Drain, Near Jashan Marriage Hall, Bargadwa, Gorakhpur. Also, water quality partially improved in terms of BOD in Sri Krishnapuram and in terms of COD & BOD in Bargadawa Drain, Drain, Near Jashan Marriage Hall, Bargadwa, Gorakhpur.
- 12.** Sewage of 7 minor drains out of 18 minor drains falling directly in Ramgarhtal from its Eastern side under “Gorakhpur sewerage scheme Zone A- 1 Southern Part” under “AMRUT” which is in progress (out of 3400 m trunk / intercepting sewer line 2930 m trunk sewer work completed, rest work in 470 m is in progress) . The sewage of these drains is proposed to be treated at existing 15 MLD STP, capacity of which is being enhanced by additional 5 MLD STP which is under progress.
- 13.** Out of balance 15 major drains 9 drains are falling in River Rapti & 6 drains are falling in River Rohini.
- 14.** As an interim measure, Out of 15 major drains 5 drains are being treated by Bio-remediation by Nagar Nigam and 10 major drains were proposed to be treated by Bio-remediation by NEERI, Nagpur which is not being done by NEERI

- 15.** 7 minor drains out of 18 minor drains falling directly in Ramgarhtal from its Eastern side under “Gorakhpur sewerage scheme Zone A- 1 Southern Part” under “AMRUT” which is in progress out of 3400 m trunk sewer line 2930 m trunk sewer work completed (UPJN).
- 16.** Municipal Commissioner, Gorakhpur has informed that Remaining 11 minor drains (Out of 18 minor drains having total Discharge of 1.357 MLD falling in Ramgarhtal from its Northern Side is proposed under “Construction of earthen bund and intercepting sewer line at Northern side of Ramgarhtal from Paidleyganj to R.K.B.K” project which got sanctioned by GoUP .These drains are likely to be intercepted upto May-2023(UPJN,Gorakhpur).
- 17.** Out of 15 Major drains, 9 major drains are falling directly (untreated) in Rapti River, for which a project for “Interception Diversion and treatment of 8 major drains (having total discharge of 41.055 MLD) (phase1) under Namami Gange under which one STP of 44.0 MLD capacity and interception of 8 major drains are proposed.
- 18.** 9 major drains (Out of 15 major drains) are falling directly (untreated) in Rapti River, for which a project for “Interception Diversion and treatment of 8 major drains (phase-1) under Namami Gange with estimated cost Rs. 271.84 crore has been sent to Director General, NMCG, New Delhi on dt 11.06.2021.
- 19.** Catchment area of remaining 1 major drain (Kataniya/Mahewa Nalla), having total discharge of 8.914 MLD) falling directly in River Rapti without treatment is separated by Gorakhpur-Lucknow four lane road. Hence for interception, diversion and treatment of this 1 major drain, a separate project “Interception, Diversion and Treatment (phase-2)” has been proposed under Namami Gange. Under this project one STP of 10 MLD capacity is proposed.
- 20.** For remaining 6 major drains (having total discharge of 27.01 MLD) falling directly (untreated) in Rohini River, a project “Gorakhpur Sewerage Scheme Zone-C under AMRUT ,one no STP of 40 MLD capacity is proposed.

- 21.** Four no of Nallahs namely Domingarh, Illahibagh and Kataniya Basiyadih , Bargadawa Gao Jalan are being treated through Bio remediation process by Nagar Nigam, Gorakhpur through M/s Mapple Orgitech (India) Ltd, Kolkata.
- 22.** STP at Sahara State, Gorakhpur: That Sahara State, Gorakhpur has developed residential township of area 142 acre for this, they have not obtained consent to establish and water consent under section 25/26 of the Water (Prevention and Control of Pollution) Act, 1974.
- 23.** During the vist STP at Sahara State, Gorakhpur was found closed and untreated domestic effluent from the township was being discharged in Ramgarh Tal. After Bio-remediation Water quality gets deteriorated in terms of BOD, COD and TSS, which shows that Bio-remediation was not effective at sahara state nala.

Recommendations:

1. Nagar Nigam, Gorakhpur and UP Jal Nigam, Gorakhpur and operating agency should ensure that Bio-remediation should strictly comply all the NMCG guidelines and agreement conditions as issued by ULB.
2. In-situ bio-remediation technology may be applied in adjoining major and minor drains of Gorakhpur City.
3. Overall outcome of Bio-remediation shall be helpful in improving water quality of drain / Ramgarh Lake.
4. Monitoring of water quality at both the sites should achieve substantial reduction in pollution load in terms of BOD and COD and TSS. Operating agency should ensure adequate retention/contact time, proper dosing of microbial diversity essential for biodegradation of organic pollutants, and hydraulic and chemical shock loads due sudden discharge of non-domestic wastewaters.

5. Based on observations & recommendations made by the inspecting team, suitable direction may be issued to Directorate of urban local bodies (DULB), Lucknow, UP Jal Nigam, Gorakhpur and Operating agency of the Bio-remediation.

Name of the Team members	Signature
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Sh. Shivam Singh, RA- CPCB, Regional Directorate, Lucknow	

Photo Gallery: Bio-remediation of Drains at Gorakhpur in Catchment area of Ramgarh Taal



Photo1: Drain located near smart wheel



Photo2: Meagre flow of Drain near smart wheel



Photo 3: Bio-remediation Dosing tank



Photo 4: Bio-remediation near Shree Ram puram Colony



Photo 5: Minor drain in catchment area of Ramgarhtal



Photo 6: Minor drain in catchment area of Ramgarhtal



Photo7: Minor drain with meagre flow in catchment area of Ramgarhtal



Photo8: Bio-remediation Dosing tank



Photo 9: After Bio-remediation



Photo 10: Open Area at Gaushala fodder feed by



Photo 11: Bio-remediation Dosing tank



Photo 12: Minor drain in catchment area of Ramgarhtal



Photo 13: Bio-remediation EM



Photo 14: Minor drain in catchment area of Ramgarhtal



Photo 15: Drains filled with garbage



Photo 16: V-notch installed at drain Gorakhpur



Photo 17: Drains filled with garbage



Photo 18: V-notch installed at drain Gorakhpur



Photo 19: Adjoining minor drains of Ramgarh lake



Photo 20: Drains filled with garbage



Photo 21: Minor drains at Gorakhpur



Photo 22: Flow measurement of drain



Photo 23: V-notch installed at drain



Photo 24: Bio-remediation of Drain meeting in River Rapti

Sewage utilization plan of 30 MLD STP and 15 MLD STP

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Letter No.

617

1/39

Date :- 03/06/2022

1- Sewage Utilization plan of 30 MLD STP & 15 MLD STP, Gorakhpur

S.No	Description	Plan
1	Treated Water Disposal	
(a)	15 MLD STP	The Treated Water are used in Gardening, Centrifuge Operation and rest is being discharged in Ramgarhtal to maintain lake water balance.
(b)	30 MLD STP	The Treated Water are used in Gardening, Centrifuge Operation and rest is being disposed at Outlet of Ramgarhtal in Gurra Nala which finally joins River Rapti.
2	Sludge Management / Disposal Scheme	
(a)	15 MLD STP	Presently after dewatering of excess sludge generated from both Plant's is being disposed off at waste disposal point of Nagar Nigam, Gorakhpur. However, for Management of Sludge generated from both plant's, the concerning firm Ms Toshiba has directed for its reuse. Firm has conveyed to UP Jal Nigam (urban) that they have sent sample of same for Testing.
(b)	30 MLD STP	
3	Sewage Received from Areas	
(a)	15 MLD STP	Catchment of Gordhaiya Nala & Kurnaghat Nala
(b)	30 MLD STP	Catchment of Mohaddipur Power House Nala, Rafi Ahmad Kidwai School Nala, Golf Ground Nala & Paidleyganj Nala

2- Regarding Bio remediation being executed by Nagar Nigam Gorakhpur of 7 minor drains falling from eastern side of Ramgarhtal Lake.

In the compliance of order of Hon'ble NGT, New Delhi under OA No 116/2014 Laying of deep Intercepting Sewer Line for Tapping the 6 drains out of 7 drain (1 drains is tapped at Packaged Type STP by Sahara Estate Society) is under progress just adjacent & Parallel to the existing bund at eastern side of Ramgarhtal Lake. The proposed alignment is just adjacent to Ramgarhtal Lake, the water table is very high (just at NGL) & the land is marshy also these drains are meeting at same junction point of proposed alignment of Intercepting Sewer Line which is making more difficult for work of laying of mentioned Intercepting Sewer Line. To facilitate and expedite the laying of above mentioned line the water table is required to lower the water below the proposed depth of Mentioned Sewer Line. In view of mentioned above unavoidable site situation, above 3 drains namely Awas Vikas Kaccha Nala, Vishunpura Nala & Singharia Maherwa ki Bari Nala have been diverted and tapped by ponding temporarily which is likely to be intercepted through above mentioned intercepting sewer line within one month.

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Gorakhpur

Annexure-VI

Evaluation criteria of Bio-remediation of drains during treatment period as per NMCG

Sr. No.	Parameters	Outflow reduction/ values (at the end of trial period)	Out flow reduction/ values (beyond trial period)
1	BOD_{3.27} (Biochemical Oxygen Demand)	< 30.0 mg/l or 40% reduction in BOD load value from the initial reading (whichever is lower)	< 30.0 mg/l or 70% reduction in BOD load value from the initial reading (whichever is lower)
2	COD (chemical Oxygen Demand)	< 150.0 mg/l or 40% reduction in COD load value from the initial reading (whichever is lower)	< 150.0 mg/l or 70% reduction in COD load value from the initial reading (whichever is lower)
3	TSS (Total suspended solids)	< 100.0 mg/l or 40% reduction in TSS load value from the initial reading (whichever is lower)	< 100.0 mg/l or 70% reduction in TSS load value from the initial reading (whichever is lower)
4	pH	6.5-9.0	6.5-9.0