

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,
Principal Bench, New Delhi**

O.A. No. 840/2022

Dr. Sanjay Kulshresthra

Applicant

Vs.

Govt. of Uttar Pradesh & Ors.

Respondent(s)

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1.	Report in compliance of Hon'ble NGT order dated 11.04.2023 In O.A. No. 840/2022, Dr. Sanjay Kulshresthra Vs Govt. of Uttar Pradesh & Ors.	
2.	Annexure-I: Copy of the Hon'ble NGT Order dated 11.04.2023.	
3.	Annexure-II: Copy of the Hon'ble NGT Order dated 12.09.2023.	
4.	Annexure-III: Copy of relevant photographs taken during monitoring of STPs	
5.	Annexure-IV: Copy of relevant photographs taken during monitoring of drains	



(P.K. Mishra)

Scientist F

Central Pollution Control Board

Delhi-110032

Date: 05.12.2023

Place: Delhi

REPORT FILED BY CENTRAL POLLUTION CONTROL BOARD IN THE MATTER OF DR. SANJAY KULSHRESTHRA VS GOVT. OF UTTAR PRADESH IN OA NO 840 OF 2022

1.0 BACKGROUND

The Hon'ble NGT in the matter of Dr. Sanjay Kulshresthra Vs Govt. of Uttar Pradesh & Ors (in OA No 840 of 2022) in its order dated 11/4/2023 directed the following:

“Para 8: On the pattern of order dated 11.04.2023 in OA No. 773/2022, Rajesh Pareek vs. State of Uttar Pradesh, CPCB may to file a report relating to chlorination, ferti-irrigation, performance of STPs and in-situ remediation projects at Agra also”.

A copy of NGT order dated 11/4/2023 is enclosed as **Annexure-I**.

Further, Hon'ble NGT vide order dated 12/9/2023 has directed CPCB to file its report on or before 7/12/2023. A copy of NGT order dated 12/9/2023 is enclosed as **Annexure-II**.

2.0 ACTION TAKEN BY CPCB AS PER THE DIRECTIONS OF HON'BLE NGT ORDER DATED 11/04/2023

In compliance to the directions of Hon'ble NGT, following actions initiated by CPCB for compliance of directions:

2.1 REGARDING PERFORMANCE OF STPs IN AGRA:

CPCB carried out inspection of 09 STPs in Agra on 24/08/2023 and during the inspection all STPs were found operational. Relevant photographs taken during monitoring of STPs is annexed as **Annexure III**. Analytical results of STPs are depicted in Table 1:

Table 1: Analytical results w.r.t physico-chemical and biological parameters of STPs in Agra

S. No.	STP location	Technology	Installed Capacity (MLD)	Source	Parameters								
					pH	COD (mg/L)	BOD (mg/L)	TS (mg/L)	NH ₃ -N (mg/L)	NO ₃ -N (mg/L)	NO ₃ -N (mg/L)	Total-P	Fecal Coliform
As per NGT direction dtd 30/4/2019 in OA No 1069 of 2018					5.5-9.0	50	10	20	10			1	230
1.	Buri Ka Nagla	WSP	2.25	Inlet	7	315	116	354	20	1.50	BDL <0.01	5.06	68x10 ⁹
				Outlet	7.3	108	28	35	14	1.66	BDL <0.01	3.64	21x10 ⁴
2.	Pilakhar	WSP	10	Inlet	7	395	125	890	15	1.68	BDL <0.01	2.24	23x10 ¹²
				Outlet	6.9	72	10	24	8	8.89	BDL <0.01	2.84	<1.8
3.	Dhandhupura-I	UASB	78	Inlet	7.2	163	40	128	17	0.71	BDL <0.01	3.79	92x10 ¹⁴
				Outlet	7.1	72	11	25	2	9.83	BDL <0.01	2.59	<1.8
4.	Jaganpur, Sikan darpur	UASB	14	Inlet	7.1	287	107	200	19	1.15	BDL <0.01	5.40	12x10 ⁸
				Outlet	7.2	93	19	21	13	0.74	BDL <0.01	3.04	33x10 ⁴
5.	Bhim Nagri, Devri Road	UASB	12	Inlet	7.1	193	60	163	28	1.76	BDL <0.01	6.20	17x10 ¹⁰
				Outlet	7	24	5	12	7	1.68	BDL <0.01	2.21	<1.8
6.	Sadarwan (Bichpuri)	UASB	40	Inlet	6.9	204	71	157	27	0.81	BDL <0.01	4.86	33x10 ⁶
				Outlet	6.5	127	39	34	14	0.79	BDL <0.01	3.16	35x10 ⁴
7.	Dhandhupura-II	UASB	24	Inlet	7.3	154	56	125	20	1.93	BDL <0.01	4.31	63x10 ⁹
				Outlet	7.2	58	9	32	2	10.30	BDL <0.01	3.26	<1.8
8.	Sadarwan (Bichpuri) New	SBR	36	Inlet	6.7	67	14	70	16	0.71	BDL <0.01	2.05	40x10 ⁶
				Outlet	6.9	52	9	54	11	0.79	BDL <0.01	4.09	17x10 ⁵

S. No.	STP location	Technology	Installed Capacity (MLD)	Source	Parameters								
					pH	COD (mg/L)	BOD (mg/L)	TS (mg/L)	NH ₃ -N (mg/L)	NO ₃ -N (mg/L)	NO ₃ -N (mg/L)	Total-P	Fecal Coliform
As per NGT direction dtd 30/4/2019 in OA No 1069 of 2018					5.5-9.0	50	10	20	10			1	230
9.	Kalindi Vihar	UASB	4.5	Inlet	6.8	105	22	67	20	BDL <0.03	0.05	5.05	17x10 ⁹
				Outlet	7.1	54	10	29	16	1.47	BDL <0.01	3.80	78x10 ²

Based on the inspection and analytical results, major observations are summarized as under:

1. All 09 STPs in Agra were not meeting with norms for one or the other parameters as prescribed by Hon'ble NGT in the matter of Nitin Shankar Deshpande Vs UOI & Ors in O.A. 1069 of 2018.
2. Out of 09 STPs, 07 STPs are operating with valid Consent order from UP PCB except Sadarwan (Bichpuri) and Kalindi Vihar.
3. All STPs except Bhim Nagri, Devri Road discharge their treated effluent into river Yamuna.
4. Chlorination facility was found in the all the STPs and dosing being done at rate of 4-5 ppm.

2.2 REGARDING FERTI-IRRIGATION IN AGRA

In respect of ferti-irrigation, it is observed that there was no permanent structure/distribution network found connected to the outlet of the STP for the use of treated effluent, however it was informed that nearby farmers are using partially, the treated sewage by putting temporary pipe arrangement; mostly treated effluent going to river Yamuna.

2.3 REGARDING IN-SITU REMEDIATION OF DRAINS

- (i) As per the information provided by Agra Nagar Nigam (ANN), there are total 90 no. of drains Agra, out of which, 23 drains are tapped/partially tapped and waste water is diverted to STPs for treatment & disposal of effluents. At present ANN is doing in-situ remediation project through hired firm (M/s Sign-Age (India) Pvt. Ltd) on 67 no. untapped/partially tapped drains (<20MLD – Minor Drain) located in different locations of Agra. Relevant photographs taken during monitoring of drains is annexed as **Annexure IV**.
- (ii) CPCB inspected randomly 08 no. drains in Agra, where in-situ remediation project was going on. Inspection team collected relevant information and waste water samples of 08 drains (pre-treatment and after treatment both). The water quality of drains is compared with General Standards for discharge of Environmental Pollutants. Analytical results are depicted in Table 2:

Table 2: Analytical results of drains in Agra

S. No.	STP location	Flow (MLD)	Sampling Locations	Parameters								
				pH	CO _D (mg/L)	BO _D (mg/L)	TS (mg/L)	P _{O₄-N} (mg/L)	N _{H₃-N} (mg/L)	Total Coliform	Fecal Coliform	TKN (mg/L)
As per General Discharge Standards				5.5-9.0	250	30			50			100
1.	Taj West Gate	1.1	Before Remediation	6.9	218	77	179	2.97	28	28x10 ⁹	14x10 ⁹	36
			After Remediation	7.1	205	68	133	5.05	25	16x10 ¹¹	92x10 ¹⁰	32
2.	Mantola	3.2	Before Remediation	7	102	20	61	2.62	16	92x10 ⁶	54x10 ⁶	19
			After Remediation	7.1	94	15	70	2.90	15	94x10 ⁶	43x10 ⁶	18
3.	Water Works	0.6	Before Remediation	7	152	29	84	1.81	13	43x10 ⁹	12x10 ⁸	16
			After Remediation	6.9	106	17	146	1.66	11	24x10 ⁸	13x10 ⁸	14

S. No	STP location	Flow (MLD)	Sampling Locations	Parameters								
				pH	COD (mg/L)	BOD (mg/L)	TS (mg/L)	P _{O4} -N (mg/L)	N _{H3} -N (mg/L)	Total Coliform	Fecal Coliform	TKN (mg/L)
As per General Discharge Standards				5.5-9.0	250	30			50			100
			iation									
4.	Bhairon Nala	0.5	Before Remediation	6.8	155	47	80	2.12	14	21x10 ⁸	39x10 ⁷	17
			After Remediation	7	130	36	84	2.06	12	94x10 ⁷	32x10 ⁷	15
5.	Peepal Mandi	1.3	Before Remediation	6.4	221	94	105	2.30	25	70x10 ⁸	21x10 ⁸	33
			After Remediation	6.8	213	89	96	2.51	13	47x10 ⁷	47x10 ⁷	15
6.	Krishna colony	1	Before Remediation	6	188	58	132	0.49	15	22x10 ⁷	24x10 ⁶	18
			After Remediation	7.1	170	49	87	3.11	13	11x10 ⁸	70x10 ⁷	16
7.	Thana chatta	0.3	Before Remediation	7	146	45	95	1.13	18	92x10 ⁹	13x10 ⁹	22
			After Remediation	7.1	127	34	120	0.28	17	70x10 ⁶	70x10 ⁶	20
8.	Jeevani Mandi	0.05	Before Remediation	6.9	162	59	76	2.82	18	31x10 ⁹	13x10 ⁹	23
			After Remediation	7	140	47	69	1.82	16	94x10 ⁸	26x10 ⁸	18

Based on the analytical results, it is observed that only 02 drains namely Mantola and Water works were meeting with discharge standard norms. The In-situ remediation of drains are not effective and there was no substantial reduction in organic load of wastewater in drains having higher hydraulic load

2.4 REGARDING CHLORINATION: FORMATION OF STANDARDIZATION TO CONTROL FORMATION OF THMs

In compliance to directions of Hon'ble NGT dated 11/4/2023 in the matter of Rajesh Prateek Vs State of Uttar Pradesh (in OA No 773 of 2022), CPCB

has submitted its findings on formation of THMs and effective dosing for fecal reduction on 29/11/2023 to Hon'ble NGT.

The major observations made in the report and results of STPs in respect of THMs and Fecal coliform reduction for Agra are produced below:

- (i) CPCB carried out monitoring of 05 STPs in Agra on 21/9/2023, wherein chlorination facility was available and during the visit all STPs were found operational. Analytical results of STPs are depicted in Table 3 & Table 4.

Table 3: Analytical results of STPs (with chlorination) in Agra

S. No.	STP location	Technology	Installed Capacity (MLD)	Source	Parameters					
					pH	COD (mg/L)	BOD (mg/L)	TSS (mg/L)	FC (MPN/100 ml)	NH ₃ -N (mg/L)
1.	Sadarvan, Bichpuri, Agra	SBR	36	Inlet	6.9	628	202	1030	-	24
				Before chlorination	7.3	148	49	65	70x10 ⁵	16
				Outlet	7.1	139	55	67	27x10 ⁵	15
2.	Bichpuri, Agra	UASB	40	Inlet	6.9	256	102	196	-	23
				Before chlorination	7.2	355	92	60	79x10 ⁴	25
				Outlet	7.1	419	149	51	17x10 ⁵	16
3.	Devori road Agra	UASB	12	Inlet	7.0	486	109	498	-	27
				Before chlorination	6.9	106	28	43	22x10 ⁵	10
				Outlet	7.3	106	28	61	11x10 ⁷	11
4.	Dhandhupura	UASB	24	Inlet	6.9	256	75	186	-	26
				Before chlorination	7.0	147	61	166	13x10 ⁴	10
				Outlet	7.1	128	36	125	<1.8	02
5.	Jaganpura	UASB	14	Inlet	7.2	213	64	104	-	
				Before chlorination	7.1	143	45	62	11x10 ²	11
				Outlet	7.2	140	44	65	14x10 ⁶	10

Table 4: Analytical results of STPs in Agra with respect to THMs

S. No.	STP locations	Source (Post Chlorination)	Parameters				
			Bromo-form	Dibromo - chloromethane	Bromodi-chloromethane	Chloro-form	Chloramines
1	Sadarvan, Bichpur, Agra (36 MLD)	First Dose - 5ppm	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.1)
		Second Dose - 2ppm	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.1)
2	Bichpuri, Agra (40 MLD)	First Dose - 5ppm	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.1)
3	Devori Road, Agra (12 MLD)	First Dose - 5ppm	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.1)
4	Dhandhupura, Agra (24 MLD)	First Dose - 5ppm	BLQ (LOQ-0.05)	0.282	0.166	0.272	3.12
5	Jaganpura, Agra (14 MLD)	First Dose - 5ppm	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.1)

Note: BLQ-Below Limit of Quantification, LOQ - Limit of Quantification

- (ii) Samples were collected from 05 STPs, based on SBR & UASB technology having manual/ automatic feeding of chlorine (3.0 – 5.0 ppm) in gaseous / liquid form.
- (iii) Maximum reduction in fecal coliform from the order of 10^4 MPN/ 100 mL to < 1.8 MPN/100 mL in post-chlorination samples at chlorine dosing of 3.0 - 5.0 ppm was observed in 01 STP viz. Dhandupura.
- (iv) The results also reveal that THMs formation is below the limit of quantification at all STPs except Dhandupura at chlorine dosing ranging between 03-06 ppm

3.0 CONCLUDING REMARKS

In view of above facts, following findings are made in respect of chlorination, ferti-irrigation, performance of STPs and in-situ remediation projects at Agra:

1. All 09 STPs in Agra were not meeting with norms for one or the other parameters as prescribed by Hon'ble NGT in the matter of Nitin Shankar Deshpande Vs UOI & Ors in O.A. 1069 of 2018.
2. In respect of chlorination, it is observed that there is no direct relation found between dosing of chlorination with corresponding BOD to control formation of THM. It is also found that possibility of formation THMs arises only in case of dosing of chlorination beyond breakpoint i.e., 5 mg/L. However, the usual dosage of chlorine in STP in field practice is adopted between 3-5 mg/L.
3. Based on analytical results, it is found that dosing of chlorine at 05 ppm rate and required chlorine demand, possibility of formation of THMs in wastewater is negligible. To meet the desired standards of 230 MPN/ 100 mL, optimum performance of biological secondary treatment and needed tertiary treatment shall be ensured.
4. Out of 08 drains in Agra, only 02 drains namely Mantola and Water works were meeting with discharge standard norms. In-situ remediation of drains are found not effective and there was no substantial reduction in organic load of wastewater in drains.

Item No. 06

Court No. 1

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

Original Application No. 840/2022

Dr. Sanjay Kulshresthra

Applicant

Versus

Govt. of Uttar Pradesh & Ors.

Respondent(s)

Date of hearing: 11.04.2023

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER**

Applicant: Ms. Shraddha Kulshresthra, Advocate

Respondent: Ms. Shivangi Kumar, Advocate for UPPCB

ORDER

1. Grievance in this application is against discharge of pollution in Yamuna River at Agra by the concerned Local Authority as well as private industrial/commercial establishments.

2. The Tribunal considered the matter earlier vide order dated 25.11.2022. After referring to earlier order dated 15.3.2021 in OA No. 176/2020, *Social Action for Forest and Environment (SAFE) vs. Union of India & Ors.*, the Tribunal constituted a joint Committee comprising Principal Secretaries, Environment and Urban Development, UP, CPCB, NMCG and State PCB to furnish a factual report in the matter. Operative part of the order is reproduced below:-

“1to4....xxx.....xxx.....xxx

5. The Tribunal has dealt with the issue of solid and sewage waste management in Agra vide order dated 15.3.2021 in OA No. 176/2020, Social Action for Forest and Environment (SAFE) vs. Union of India & Ors. inter-alia directing Chief Secretary to ensure remedial action. Relevant part of the said order is as under:

“5. xxxxxx.....xxx

Sl. No.	Directions by Hon'ble NGT	Compliance Status	Present Status/ Reasons for Non-Compliance
1	Xxx	xxx	Xxx
9	Status of Sewage Treatment/ Gap deficit in Agra with reference to water supply was 156 MLD	Partially Complied	<p>As per information given by Municipal Corporation Agra, the population of Agra city is about 19.90 lacs. The generation of sewage as per norms of CPHEEO is 80% of per capita water consumption. The per capita water consumption norm is 150 lpcd. So, for 19.90 lacs population the requirement of sewage treatment comes out to 238 MLD. But due to bulk consumers, floating population and private sources, discharge of 90 drains is about 286 MLD including sewer discharge.</p> <ul style="list-style-type: none"> The installed capacity of 9 STPs is 220.75 MLD. Out of this 7 STPs of 180.25 MLD capacity are being operated and maintained by M/s V A Tech Wabag Ltd., under one city one operator scheme of State Govt. The State Govt. has introduced one city one operator scheme based on competitive bidding process. The work in the city of Agra has been awarded to M/s V A Tech Wabag Ltd., for 10 years extendable upto 15 years. Rest 2 STPs of 40.50 MLD capacity are being operated and maintained by Agra Development Authority, Agra. Under Namami Gange Programme a DPR of Rs. 1174.45 Crore was earlier prepared and approved by NMCG. Since the operation and maintenance work of existing assets has been awarded to M/s VA Tech Wabag Ltd., a revised DPR of Rs. 842.25 Cr. has been approved by NMCG, New Delhi on 06.05.2020 in which work of tapping of 23 untapped drains and const. of 177.60 MLD STPs (to meet the demand of year 2035) have been covered for which bid document & tendering process is being done by Transaction Advisor M/s Deloitte Touche Tohmatsu India LLP, Gurgaon appointed by NMCG. The above sanctioned project will be carried out on Hybrid Annuity based PPP mode, funded by World Bank. Apart from the above estimate, for balance work related to existing assets i.e. tapping of 38 untapped drains & excess discharge of partially tapped drains, a project amounting of Rs. 78.86 Crore has been sent to State Govt. for approval. Now as per instructions of HQ U.P. Jal Nigam, Lucknow, revised estimate amounting to Rs. 78.86 Crore is being sent to Namami Gange Department.

10	xxx	xxx	Xxx
11	Status of the work of 90 drains	Complied	<p>The work on all drain has been completed. CPCB has also visited these drains and they shall submit the report accordingly.</p> <p>As per information, all 90 drains have been tapped and the waste water of these drains (18 MLD) is being treated through process of bioremediation/phytoremediation. The work of required infrastructure started from 06.10.2020 and completed on 22.10.2020. After that, the exercise of dosing is being carried out at strategic locations from 22.10.2020. The completion of work of check dam is on corner and it is expected to get completed in upcoming weeks. The work of plantation will be started after completion of check dam. The UPPCB has collected water sample of raw and treated sewerage from different nallahs for their analysis on dated 14.12.2020. The details work of phytoremediation /bioremediation on 57 nallahs is enclosed as Annexure- IV.</p>

6. From the reports of the CPCB and the Oversight Committee it is seen that the work executed so far is not adequate. Thus, the capacity for solid waste (including bio-mining) and sewage management needs to be enhanced by addressing the infrastructure gaps, installing more equipments and taking all other necessary measures.

7. Accordingly, the Chief Secretary, UP may ensure further remedial action in a mission mode, taking into account the recommendations of the CPCB and Oversight Committee by ensuring that adequate measures are taken to bridge the gap for solid and sewage management. Due attention is required on utilization of treated sewage and setting up of adequate capacity for solid waste processing plant to avoid mounting of legacy waste. Leachate re-circulation and treatment has to be ensured as per MSW Rules and keeping monitoring of ground water to check contamination. There is need to devise manifest system for tying up rejects and residues arising out of bio-mining. Further, duly authorized bio-medical, plastics and hazardous waste management facilities need to be set up and operated. The Monitoring Committee constituted in terms of order dated 19.11.1999 of the Hon'ble Supreme Court in W.P. (C) No. 426 of 1992, D.K. Joshi v. Chief Secretary, State of UP & Ors., may also monitor compliance at its level. The Chief Secretary may oversee further action in the matter on monthly basis."

6. In our view, matter requires consideration as it involves a substantial question relating to environment arising from implementation of the scheduled enactments under NGT Act, 2010. However, before proceeding further, we find it appropriate to obtain a factual report for which we constitute a joint Committee comprising Principal Secretaries, Environment and Urban Development, UP, CPCB, NMCG and State PCB who shall submit a factual report within three months 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. The report may inter-alia cover quantity of sewage generation at Agra, existing sewage treatment capacities, actually utilized capacities of STPs and quantity of sewage being discharged through drains carrying sewage untreated and treated from STPs. The report may also highlight water quality of river Yamuna at different locations and the steps taken in terms of preventing discharges into river Yamuna.”

3. In pursuance of above, the State PCB has filed its report dated 24.02.2023, **acknowledging discharge of 131 MLD of untreated sewage in Yamuna river and failure of the Authorities to take necessary remedial action.** Relevant extracts from the report are:-

“Status of Sewage Generation, Collection and Treatment:

Considering the water demand of 441MLD including wastage of water, sewage generation as per the population is estimated about 306 MLD. As per information provided by UP Jal Nigam (Urban), the details are as follows:

Table-1

Total Sewage Generation	306 MLD
Installed Treatment Capacity	220.75 MLD
Utilization Treatment Capacity	175 MLD
Sewage being discharged to River Yamuna	131 MLD (43.00%)

From the above data, it is clear that sewerage system and sewage treatment facilities are not sufficient in the city. At presently 131 MLD sewage is being discharged into river Yamuna. However, out of 131 MLD sewage, 28.62 MLD sewage is being treated through bio-remediation and discharged into river Yamuna.

Table-2 :Detail of STPs Established/Operational in Agra

S. No	STP Location	Commission (Year)	Co-Ordinates	Install Capacity	Technology	Status
1.	BoodhiKaNagla	2001	27.2258 77.9948	2.25 MLD	WSP	Operational
2.	Peelakhar	2001	27.1998 78.0609	10.0 MLD	WSP	Operational
3.	Dhandhupura-I	2001	27.1623 78.0719	78.0 MLD	UASB	Operational
4.	Jaganpur, Sikandarpur	2011	27.2449 77.9973	14.0 MLD	UASB	Operational
5.	BhimNagri, Devri Road.	2011	27.0933 78.0299	12.0 MLD	UASB	Operational
6.	Sadarwan (Bichpuri)	2013	27.1789 77.9041	40.0 MLD	UASB	Operational

7.	Dhandhupura-II	2014	27.1659 78.0757	24.0 MLD	UASB	Operational
8.	Sadarwan (Bichpuri) New	2014	27.1792 77.9007	36.0 MLD	SBR	Operational
9.	4.5 MLD STP at KalindiVihar Agra	2010	27.2210 78.0667	4.5 MLD	UASB	Operational

- 1- **Buri Ka Nagla (2.25 MLD):** The STP is located in north side of Agra city. The capacity of STP (Oxidation Pond/Waste stabilization pond) is 2.25 MLD. The treated effluent is being discharged into river Yamuna.
- 2- **Pilakhar, shahadara, Nunhai (10MLD):** The STP is situated in south side of NH-2 near Atul Generator factory Agra. The plant is working on UASB (Up-flow Anaerobic Sludge Blanket) based technology. At present, the utilization capacity of STP is approx. 10 MLD. The treated effluent is being discharged into river Yamuna.
- 3- **Dhandhupura (78 MLD):** The STP is situated in the east side of Taj Mahal. The plant is working on UASB (Up-flow Anaerobic Sludge Blanket) based technology. At present, the utilization capacity of STP is approx. 77.5 MLD. The treated effluent is being used for irrigation purpose and partially being discharged in river Yamuna.
- 4- **Jaganpura, Dayalbagh, Agra (14MLD):** The STP is situated in north side of NH-2. The plant is operated by M/s V A Tech Wabag Ltd under one city one operator scheme. The plant is working on UASB (Up-flow Anaerobic Sludge Blanket) based technology. At present, the utilization capacity of STP is approx. 14 MLD raw sewage and the treated effluent is being used for irrigation purpose.
- 5- **Devri, Agra (12 MLD):** The STP is located in East side of NH-3. The plant is operated by M/s V A Tech Wabag Ltd under one city one operator scheme. The plant is working on UASB (Up-flow Anaerobic Sludge Blanket) technology. At present, the utilization capacity of STP is approx. 08 MLD and the treated effluent is being discharged into canal for irrigation purpose and partially being discharged in River Yamuna.
- 6- **Sadarvan, Bichpuri(40MLD):** The STP is located in west side of Agra city near Jaipur highway NH-11. The plant is operated by M/s V A Tech Wabag Ltd under one city one operator scheme. The plant is working on UASB (Upflow Anerobic Sludge Blanket Digestion) technology. At present, the utilization capacity of STP is approx. 28 MLD and the treated effluent is being discharged into canal for irrigation purpose.
- 7- **Dhandhupura (24 MLD STP-II):** The STP is situated toward north-east side of 78MLD STP Dhandhupura plant. The plant is operated by M/s V A Tech Wabag Ltd under one city one operator scheme. The plant is working on UASB (Up-flow Anaerobic Sludge Blanket) technology. At present, the utilization capacity of STP is approx. 18 MLD

and the treated effluent is being used for irrigation purpose.

- 8- **Sadarvan, Bichpuri (36 MLD):** The STP is located in west side of Agra city near Jaipur highway NH-11. The plant is operated by M/s V A Tech Wabag Ltd under one city one operator scheme. The plant is working on SBR (Sequence Batch Reactor) technology. The STP is consists of several units such as a sump, screen, grit chamber and settling tank. At present, the utilization capacity of STP is approx. 18MLD and the treated effluent is being discharged into canal for irrigation purpose.
- 9- **KalindiVihar Agra (4.5 MLD):** The STP is located in North side of NH-19. The plant is operated by M/s V A Tech Wabag Ltd under one city one operator scheme. The plant is working on UASB (Up-flow Anaerobic Sludge Blanket) technology. At present, the utilization capacity of STP is approx. 3.0 MLD and the treated effluent is being used for irrigation purpose and partially discharged into River Yamuna.

Table 3: Analysis results of the STP samples are as below: (As per sampling dt.10.02.2023)

Parameters		pH	BOD (mg/1)	SS , (mg/1)	COD (mg/1)	FecalColiform (MPN/100m1)
STP	STP 2.25 MLD	7.81	28	42	152	79000
	STP 10 MLD	7.86	27	46	144	84000
	STP 78 MLD	7.96	26	38	128	63000
	STP 14 MLD	7.60	25	40	128	930
	STP 12 MLD	7.80	26	42	136	920
	STP 40 MLD	7.85	24	40	136	780
	STP 24 MLD	7.85	28	47	160	920
	STP 36 MLD	7.90	25	38	144	930
	STP 4.5 MLD	7.68	25	48	152	910

Monthly monitoring of Sewage Treatment Plants is being done by UP Pollution Control Board, Agra. Online Continuous Effluent Monitoring System (OCEMS) has been installed on 07 STPs except 4.5MLD STP Kalindi Vihar and 36MLDSadarvan, Bichpuri.

Monthly monitoring of river Yamuna at different locations is being carried out by U.P Pollution Control Board, Agra. The analysis report for the month of Jan-Feb, 2023 is as below:

Table 4: Analysis results of the Surface Water (River Yamuna)

S. No.	Location of sampling points	Date of sample collection	Field Determination				Organic Matter		Coliforms
			Colour	Odour	pH	D.O	B.O.D	C.O.D	Total Coliforms MPN/100 ml

1	U/S Kailash Ghat, River Yamuna Agra	21.01.2023	Slight Yellowish	Odourless	7.4	7.2	8.4	16.0	9300
2	U/S Water Works, Jeoni Mandi, River Yamuna Agra	21.01.2023	Yellowish	Odourless	7.2	7.0	8.8	20.0	11000
3	D/S Agra, Near Taj, River Yamuna Agra	21.01.2023	Yellowish	Odourless	7.1	6.8	9.6	20.0	25000
4	U/S Kailash Ghat, River Yamuna Agra	03.02.2023	Yellowish	Odourless	7.6	7.2	8.4	16.0	9300
5	U/S Water Works, Jeoni Mandi, River Yamuna Agra	03.02.2023	Yellowish	Odourless	7.5	6.8	8.8	20.0	11000
6	D/S Agra, Near Taj, River Yamuna Agra	03.02.2023	Yellowish	Odourless	7.3	6.7	9.2	24.0	25000
Note- All the parameters are expressed in mg/lit. Except pH and stated otherwise.									

Proposed Future Plan:

As informed by UP Jal Nigam (Urban), Agra 03 nos. of STPs having 166.0 MLD capacity and 10 Nos. Decentralized Sewage Treatment Plant (DSTPs) having capacity of 11.6MLD has been awarded under the Namami Gange Programme. Details are as follows:

- 31 MLD at Jaganpur,
- 35 MLD at Pilakhar
- 100 MLD at Dhandhupura
- 11.6 MLD at 10 different locations (DSTP)
- **Total Proposed Capacity of STPs- 177.6 MLD**

It is pertinent to mention, that in the Writ Petition (C) 13381/84 (M.O Mehta V/s Union of India and Ors.) order dt. 11.12.2019 (**Annexure-4**) Hon'ble Supreme Court directed as below: -

"We are informed that there are several open drains and sewer lines in the Taj Trapezium Zone (TTZ) and the City of Agra in particular. It is said that the waste water from these drains/sewer lines overflows and spreads on the streets. If this is correct, it is a clear threat to the sanitary and hygiene in the TTZ area and Agra City. It would result in breeding of mosquitoes and flies and spread of disease and cause ecological damage. We therefore consider it appropriate to direct that Mr. M C. Mehta, Petitioner-in-Person who is present before us, and NEERI would inspect the area of TTZ and Agra City and submit a detailed report to this Court. Mr. Mehta and NEERI would, if the assertions are correct, highlight the remedial action and steps, both short term and long term, which the Commissioner of 17Z or the Agra Municipal Corporation should take. The Commissioner of 11L shall provide access to NEERI and Mr. Mehta as and when they desire to visit the aforesaid TTZ area and the Agra City for the above purpose. The report shall be submitted by Mr. Mehta and NEERI to this Court in eight weeks from today. List the matter thereafter on receipt of the said Report."

In the compliance of the above direction Shri M.O Mehta, Petitioner- in- person and NEERI representative Dr. S.K Goyal, Chief Scientist and head visited Agra, Mathura, Firozabad in Feb-March, 2021 and on 16.02.2023. The report is to be submitted by the joint team.

Recommendations:

- ***Proposed STPs having capacity of 177.6MLD should be constructed in a time bound manner, all the untapped/partially tapped drains should be connected to the proposed STPs, so that no untreated sewage should be discharged into river Yamuna.***
- ***Bio-Remediation/Phyto-Remediation should be continuously done on 61 untapped drains and 06 partially tapped drains until the construction of 03 STPs and 10 DSTPs having total capacity of 177.6MLD should be completed.***
- ***Regular operation and maintenance of all STPs should be done by concerned agencies and monitoring of STPs should be ensured by U.P Jal Nigam(Urban). So that STPs should comply with the norms.***
- ***Chlorine treatment should be ensured in all STPs, so that Fecal coliform must comply with the norms before discharging for irrigation or in River Yamuna.***
- ***Treated sewage should be discharged in such a way that no untreated / contaminated effluent should meet before the final disposal.***
- ***Tertiary treatment capacity should be installed at all STPs for better utilization of treated sewage.***
- ***Online Continuous Effluent Monitoring System (OCEMS) should be installed in all STPs and connected with CPCB/UPPCB server.***
- ***Treated effluent should be used for water sprinkling, dust suppression activities, irrigation, horticulture and gardening purpose to increase the greenery and forests cover and other related areas.”***

4. It is clear from the above, that there are huge gaps and deficiencies in sewage management in such important city as Agra. Some of the major deficiencies are:-

- i. Out of 91 drains in Agra, 21 drains (58.25 MLD flow) are tapped, 8 drains are partially tapped (210.82 MLD) and 61 drains (16.93 MLD) remain untapped and thus untreated effluent goes to river Yamuna. 286 MLD of sewage flows into

drains and only 58.25 MLD is tapped. No information is actually furnished about sewage received through sewage network and by interception of drains.

- ii. There appear to be no urgency for providing STPs. No STP appears to have been set up after the year 2014.
- iii. As per Table 2 in the report 9 STPs have installed capacity of 220.75 MLD but utilization capacity is only 175 MLD.
- iv. Treated sewage is still being discharged into Yamuna instead of its utilization.
- v. 90.25 MLD of sewage treated in 3 STPs does not conform to faecal coliform standards.
- vi. There is no fixed timeline for setting up of 3 STPs and DSTPs at 10 locations.

5. We have recently reviewed the issue of compliance of solid and liquid waste management status in U.P. in *O.A. No. 606 of 2018, Compliance of Municipal Solid Waste Management Rules, 2016 and other environmental issues*, in pursuance of orders of Hon'ble Supreme Court dated 02.09.2014 in *W.P. No. 888/ 1996, Almitra H. Patel vs. Union of India & Ors.* (in respect of solid waste management) and in *Paryavaran Suraksha vs. Union of India, (2017) 5 SCC 326* (in respect of liquid waste). In continuation of earlier proceedings, compliance status was reviewed vide order dated 23.03.2023 in the presence of Chief Secretary, U.P along with other concerned officers. Data presented was as follows:

SUMMARY OF STATUS

A: Solid Waste Management			
Quantity of waste generation in the State (in TPD)	Waste Processed (in TPD)	Gap in generation and Processing (in TPD)	Quantity of Legacy waste in the State (Tonnes)

14,710 (734 ULBs)	Capacity: 10,117	4593 (based on capacity only)	33.0 lakh MT plus 40 lakh in last 3 years as unprocessed waste (2020- 2022)
Rural: 11,959 TPD	Rural: 3,000 TPD	Rural: 8,959 TPD	

B): Sewage Management					
Quantity of sewage generation in the State (in MLD)	Capacity (in MLD)	Current Gap in treatment (in MLD)	Utilization of treated sewage in		
			Agriculture/ Horticulture purpose	Industrial purpose	Any other purpose
5,500	Capacity: 3860	1640 (based on capacity and not actually utilized)	- Thermal Power Plants -		

6. The Tribunal, on detailed consideration of the matter, held that gaps in generation and treatment of solid and liquid waste are required to be addressed expeditiously considering timelines as per statutory Rules and Supreme Court judgement and officers responsible for failure were required to be made accountable. Progress report was to be filed after six months to this Tribunal.

7. In the light of the said order and observations in the present case, the **Chief Secretary, U.P, in coordination with other concerned authorities in the State, may ensure remedial action in the present case also for which a special meeting of concerned officers be convened preferably within one month to inter alia consider that all the existing 9 STPs are fully utilized and comply with standards and treated effluents are utilized for secondary purposes with defined sources/ command area, untapped, partially tapped drains be intercepted and diverted to STPs, performance of in-situ projects is evaluated, fortnightly monitoring of existing treatment of waste water with reference to consent conditions takes place.** An action

taken report be filed within four months 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.

8. On the pattern of order dated 11.04.2023 in OA No. 773/2022, *Rajesh Pareek vs. State of Uttar Pradesh*, CPCB may file a report relating to chlorination, ferti-irrigation, performance of STPs and in-situ remediation projects at Agra also.

List for further consideration on 23.08.2023.

A copy of this order be forwarded to the Chief Secretary, U.P, CPCB, State PCB, District Magistrate and Taj Trapezium Zone Pollution (Prevention and Control) Authority, Agra by email for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Dr. A. Senthil Vel, EM

Dr. Afroz Ahmad, EM

April 11, 2023
Original Application No. 840/2022
A

Item No. 06

Court No. 1

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

(BY HYBRID MODE)

Original Application No. 840/2022

Dr. Sanjay Kulshresthra

Applicant

Versus

Govt. of Uttar Pradesh &Ors.

Respondent(s)

Date of hearing: 12.09.2023

**CORAM: HON'BLE MR. JUSTICE PRAKASH SHRIVASTAVA, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER**

Applicant: Dr. Sanjay Kulshresthra, Applicant in Person

Respondent: Mr. Atif Suhrawardy, Adv. for CPCB
Ms. Priyanka Swami, Adv. for Nagar Nigam Agra
Mr. Arvind Kumar & Mr. Ankit Kumar Vats, Advs. for UPPCB

ORDER

1. The issue raised in this Original Application is concerning the discharge of pollutants in Yamuna River at Agra by the concerned local authorities and also by the private industrial/commercial establishments.

2. The Tribunal in the order dated 11.04.2023 had considered the factual report submitted by the Joint Committee and after taking note of the lapses/short-comings, the Tribunal had issued following directions:-

“6. The Tribunal, on detailed consideration of the matter, held that gaps in generation and treatment of solid and liquid waste are required to be addressed expeditiously considering timelines as per statutory Rules and Supreme Court judgement and officers responsible for failure were required to be made accountable. Progress report was to be filed after six months to this Tribunal.

*7. In the light of the said order and observations in the present case, the **Chief Secretary, U.P, in coordination with other concerned authorities in the State, may ensure remedial action in the present case also for which a special meeting of concerned officers be convened preferably within one month to inter alia consider that all the existing 9 STPs are fully utilized and comply with standards and treated effluents are utilized for***

secondary purposes with defined sources/ command area, untapped, partially tapped drains be intercepted and diverted to STPs, performance of in-situ projects is evaluated, fortnightly monitoring of existing treatment of waste water with reference to consent conditions takes place. An action taken report be filed within four months 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.

8. On the pattern of order dated 11.04.2023 in OA No. 773/2022, *Rajesh Pareek vs. State of Uttar Pradesh*, **CPCB may to file a report relating to chlorination, ferti-irrigation, performance of STPs and in-situ remediation projects at Agra also.”**

3. In terms of the above directions, no action taken report by the Chief Secretary, U.P. has been filed nor has Central Pollution Control Board (CPCB) filed the report relating to chlorination, ferti-irrigation, performance of STPs and in-situ remediation projects at Agra.

4. The Commissioner, Agra Municipal Corporation has placed on record some test reports along with the tabulation dated 22.08.2023 which are not found to be reliable and satisfactory.

5. The Learned Counsel appearing for CPCB has sought some reasonable time to file report in terms of the previous direction.

6. It is unfortunate that no one is present on behalf of State of U.P. representing Chief Secretary, State of U.P. nor the report has been filed as direct earlier. We expect that report in terms of the previous order will be filed on behalf of the Chief Secretary, State of U.P. within six weeks 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.

7. A copy of this order be forwarded to Chief Secretary, State of U.P. and CPCB by e-mail for compliance.

8. List the matter on 07.12.2023.

Prakash Shrivastava, CP

Sudhir Agarwal, JM

Dr. A. Senthil Vel, EM

September 12, 2023
Original Application No. 840/2022
JG

PHOTOGRAPHS TAKEN DURING STPs INSPECTION IN AGRA







PHOTOGRAPHS TAKEN DURING DRAIN MONITORING IN AGRA



Fig 1: Taj Mahal west gate



Fig 2: Krishna colony drain



Fig 3: Peepal Mandi drain



Fig 4: Chhatta



Fig 5: Jeevani mandi



Fig 6: Bhairon Nala



