

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

Original Application No. 21/2023

Ashwani Yadav

Applicant

Vs.

Govt. of NCT of Delhi

Respondent

Index

S. No.	Particulars	Page No.
1.	Report in compliance of order dated 09.01.2022 in OA No. 21/2023, Ashwani Yadav Vs. Govt. of NCT of Delhi.	
2.	Annexure-I: A copy of Hon'ble NGT order dated 09.01.2022.	
3.	Annexure-II: A copy of Trend Analysis carried out at Inter-State locations on River Yamuna at Palla and Asgarpur during 2018- 2022.	
4.	Annexure-III: A copy of Water Quality Data of Delhi Drains Monitored During 2018-2022.	
5.	Annexure-IV: A copy of Trend Analysis for Drains Monitored in Delhi during 2018- 2022.	
6.	Annexure-V: A copy of Detailed Compliance Status of STPs in Delhi during April-December, 2022.	
7.	Annexure-VI: A copy of Information regarding mode of disposal mode of disposal / utilisation of treated sewage in Delhi.	



(Vishal Gandhi)

Scientist E

Central Pollution Control Board

Delhi-110032

Date: 15.02.2023

Place: Delhi

**REPORT ON WATER QUALITY OF RIVER YAMUNA
AT INTER-STATE LOCATIONS, DRAINS AND
COMPLIANCE STATUS OF STPs IN DELHI**

Submitted to

**Hon'ble NGT vide order dated 09/01/2023 in OA No
21/2023 in the matter of Ashwani Yadav Vs NCT of Delhi**



**CENTRAL POLLUTION CONTROL BOARD
"Parivesh Bhawan", East Arjun Nagar,
Delhi-110032**

REPORT ON WATER QUALITY OF RIVER YAMUNA AT INTER-STATE LOCATIONS, DRAINS AND COMPLIANCE STATUS OF STPs IN DELHI IN COMPLIANCE TO HON'BLE NGT ORDER DATED 09/01/2023 IN OA NO. 21/ 2023 IN THE MATTER OF ASHWANI YADAV VS GOVT. OF NCT OF DELHI

1.0 BACKGROUND

The Hon'ble National Green Tribunal vide its Order dated 09/01/2023 in O. A No. 21 of 2023 in the matter of Ashwani Yadav Vs Govt. of NCT of Delhi directed as follows:

“25. CPCB will monitor water quality of river Yamuna at inter-state borders and compile the results. CPCB will also compile data about the quality of effluents being drained into river Yamuna and compliance of STPs and the mode of disposal / utilisation of treated sewage”.

A copy of the Hon'ble NGT order is given as **Annexure I**.

2.0 ACTION TAKEN BY CPCB

In compliance to Hon'ble NGT order dated 09.01.2023 in OA No. 21/ 2023, CPCB carried out water quality monitoring of river Yamuna at 02 inter-state locations viz., Palla (between Haryana and Delhi) and Asgarpur (between Delhi and Uttar Pradesh) on 24th January 2023. The water quality monitoring conducted for Physio-Chemical parameters (Dissolved Oxygen, pH, Biochemical Oxygen Demand), Bacteriological Parameters (Fecal Coliform and Fecal Streptococci) and Heavy Metals. The analyzed results are tabulated and given in **Table 1**.

Also, CPCB regularly monitors water quality of river Yamuna at these 02 inter-state locations of Haryana (Palla) and Uttar Pradesh (Asgarpur) on a quarterly basis.

TABLE 1: WATER QUALITY ASSESSMENT OF RIVER YAMUNA AT INTER-STATE LOCATIONS ON 24th JANUARY 2023

Parameters monitored	Primary Water Quality for Outdoor Bathing notified under the E(P) Rules, 1986	Name of Monitoring Location	
		River Yamuna at Palla	River Yamuna at Asgarpur
Physico- chemical parameters			
<i>* All the concentrations are in mg/L except pH</i>			
DO	> 5 mg/L	9.2	BDL
pH	6.5 - 8.5	8.2	7.4
BOD	< 3 mg/L	16	94
NH3-N	--	5.5	56.1
Bacteriological parameters			
<i>* All the units are in MPN/ 100 ml</i>			
Fecal Coliform	< 2500 MPN/ 100 ml	17x10 ³	46x10 ⁵
Fecal Streptococci	< 500 MPN / 100 ml	16x10 ³	24x10 ⁵
Total Coliform	--	54x10 ³	70x10 ⁵
Heavy metals			
<i>* All the concentrations are in mg/L</i>			
Arsenic	--	BDL	BDL
Cadmium	--	BDL	BDL
Cobalt	--	BDL	BDL
Chromium	--	0.03	0.04
Copper	--	BDL	0.05
Iron	--	0.77	3.11
Manganese	--	0.14	0.59
Nickel	--	BDL	0.04
Lead	--	BDL	BDL
Zinc	--	0.04	0.11

Based on the observations and analysis results of water quality, following observations are made:

- It is inferred that DO at entry of river Yamuna in Delhi i.e., at Palla is meeting to the criteria. However, DO observed Nil at Asagarpur indicating deterioration in quality of river with respect to DO.
- With respect to BOD, water quality not meeting the criteria at both locations (Palla and Asgarpur). It is pertinent to mentioned that BOD concentration increases at Asgarpur (94 mg/l) due to discharge of partially treated wastewater through drains.

- c. With respect to Fecal Coliform, Fecal Streptococci the water quality is not meeting with the criteria at both Palla and Asgarpur. However, concentration of said parameter increases at Asgarpur as compared to entry point (Palla) which indicates deterioration in water quality in terms of organic and bacterial pollution.
- d. pH is meeting to the criteria at both the locations.

Further, water quality trend analysis at the inter-state locations (Palla and Asgarpur) has been carried out for the period 2019- 2022. The tabulated results are given in **Table 2** below and the graphical representations of the trend analysis is given at **Annexure II**

TABLE 2: WATER QUALITY OF RIVER YAMUNA AT INTER-STATE LOCATIONS DURING 2019- 2022

Name of Monitoring Location	Year	Dissolved Oxygen (mg/L)		Biochemical Oxygen Demand (mg/L)		Fecal Coliform (MPN/100ml)	
		Min	Max	Min	Max	Min	Max
Primary Water Quality for Outdoor Bathing notified under the E(P) Rules, 1986		>5 mg/L		<3 mg/L		<2500 MPN/ 100 ml	
RIVER YAMUNA AT PALLA (DELHI)	2019	6.4	8.7	2.5	3.4	3450	17000
	2020	7.2	17.1	3.7	7.9	110	79000
	2021	3.9	9.6	1	14	68	33000
	2022	4.5	10	4	8	47	49000000
RIVER YAMUNA AT ASGARPUR ,U.P	2019	0.2	0.3	8.4	44	54000	79000000
	2020	0.2	7.2	7.7	51	68000	140000
	2021	0.3	0.3	8	127	17000	2200000
	2022	0.3	5.5	11	39	40000	4800000

- DO is meeting the criteria at Palla during 2019 & 2020. At Asgarpur, DO is not meeting the criteria and remains NIL during the assessment period of 2019- 2022.
- BOD is not meeting to the criteria at both the locations Palla and Asgarpur. However, shows an increase in trend followed by a decrease during 2022. Maximum BOD observed is 127 mg/L at Asgarpur during 2021.
- FC is not meeting to the criteria at both Palla and Asgarpur during 2019-2022. At Palla, an increase is observed over the years with highest value 49000000 MPN/ 100 ml during 2022. At Asgarpur, 2020 onwards a gradual increase is being observed with 4800000 MPN/ 100 ml during 2022.

3.0 WATER QUALITY DATA OF DRAINS IN JURISDICTION OF DELHI MONITORED BY DPCC DURING DECEMBER 2022

There are 24 drains discharging wastewater in river Yamuna. Out of 24 drains, 16 drains discharge wastewater in river Yamuna stretch between Wazirabad downstream to Okhla Upstream and 03 drains meet Yamuna in downstream of Okhla Barrage. There are 05 more drains out of which 04 discharge their wastewater directly to Agra Canal (02 each) and Gurgaon Canal (02 each). The list of drains is mentioned in **Table 3** and schematic flow diagram in **Figure 1**.

TABLE 3: LIST OF DRAINS

S.NO.	Drains between Wazirabad and Okhla
1	Najafgarh
2	Sonia Vihar drain
3	Magzine Road drain
4	Sweeper Colony drain
5	Khyber Pass drain
6	Metcalf House drain
7	ISBT + Mori gate drain
8	Tonga Stand drain
9	Kailash Nagar drain
10	Civil Mill drain
11	Shastri Park drain
12	Delhi Gate (power house) drain
13	Sen Nursing home drain
14	Drain no.14
15	Barapulla drain
16	Maharani Bagh drain
Downstream of Okhla Barrage	
17	Abu Fazal drain
18	Jaitpur drain
19	Tuglakabad drain
20	Shahdara drain
Discharge to Agra Canal	
21	Abandoned Agra Canal at Okhla Vihar (Only Yamuna River Water)

S.NO.	Drains between Wazirabad and Okhla
	Abandoned Agra Canal at Kalindi Kunj (After Receiving City Waste)
	Input of Waste water in Abandoned Agra canal (1-2)
22	Sarita Vihar Drain
Discharge to Gurgaon Canal	
23	Tehkhand drain
24	Molarband Drain

SCHEMATIC DIAGRAM OF POINT SOURCES IN YAMUNA RIVER – DELHI STRETCH

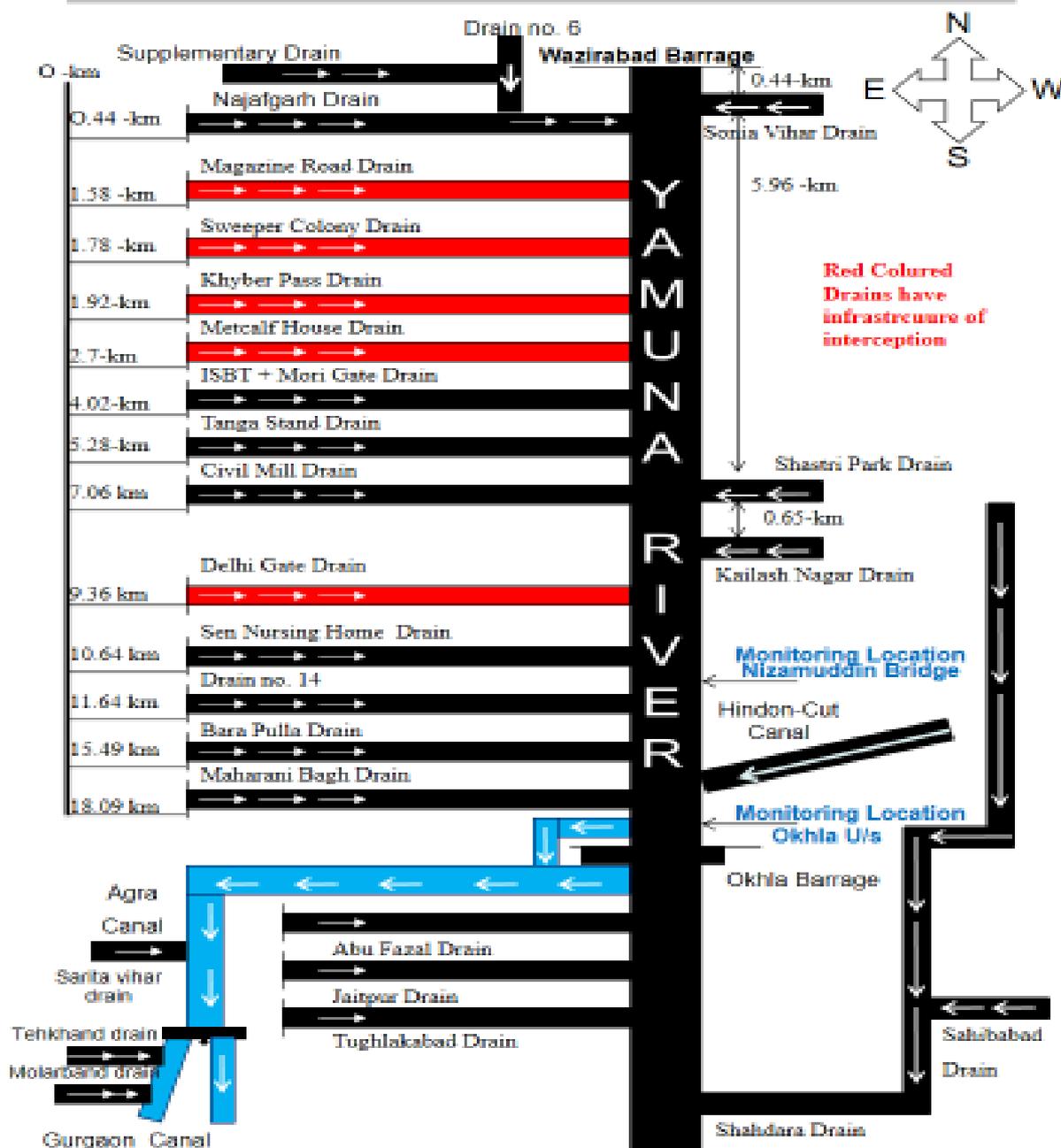


Figure 1: Schematic flow diagram of drains out-falling in river Yamuna in Delhi

Water quality monitoring of drains in Delhi is carried out by CPCB for the period between 2018-2020 and by DPCC for the period 2021-22. The water quality data of the drains with analysis results (**Annexure III**) and trend analysis are attached as **Annexure –IV**. Based on above, following observations are made for major drains is given below:

1. Najafgarh and Supplementary drain

Najafgarh drain enters NCT on the south western side and traverses a distance of about 40 km before joining river Yamuna in the north. Figure 2 depicts the trend analysis of water quality of Najafgarh drain during the period 2018-2022. The trend indicates that minimum ranges show increasing trend for BOD, COD and TSS.

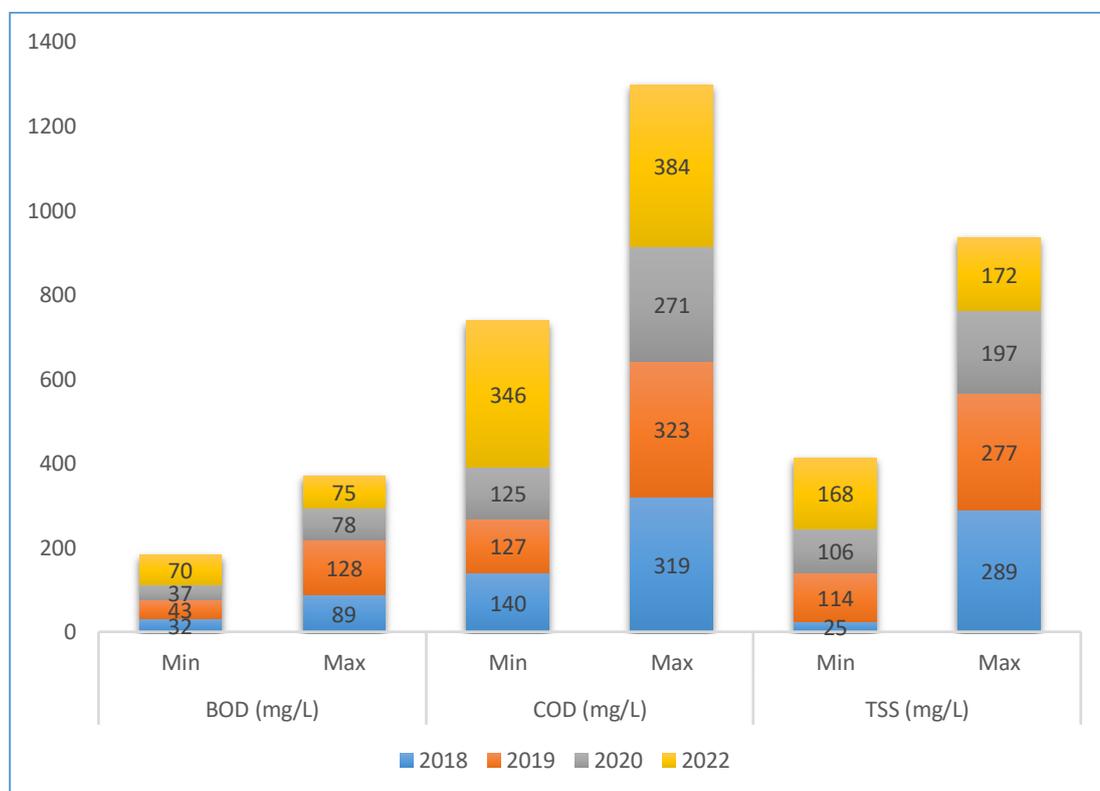


Figure 2: Trend analysis of water quality of Najafgarh drain for the period 2018-2022.

2. ISBT drain:

This drain carries 35 MLD of wastewater. Figure 3 depicts the trend analysis of water quality of ISBT during the period 2018-2022. The increasing trend for COD and TSS is observed for assessment period.

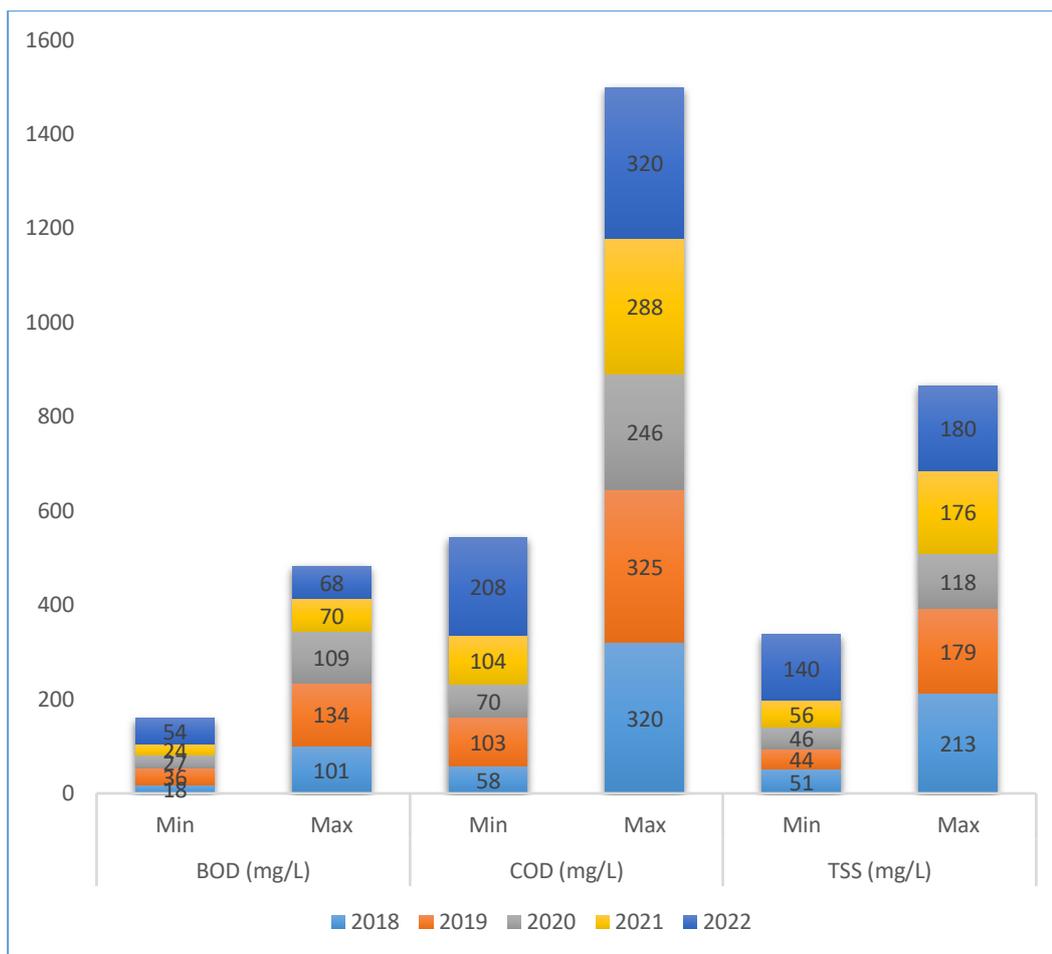


Figure 3: Trend analysis of water quality of ISBT drain for the period 2018-2022.

3. Delhi Gate Drain:

It carries 90 MLD of wastewater from Old Delhi region. STP of 67.5 MLD is installed at tail end of Delhi Gate drain. The remaining 22.5 MLD of untreated wastewater flows through the same drain. Figure 4 depicts the trend analysis of water quality of Delhi Gate Drain during the period 2018-2022. The water quality of said drain deteriorates over the period for all parameters (BOD, COD and TSS).

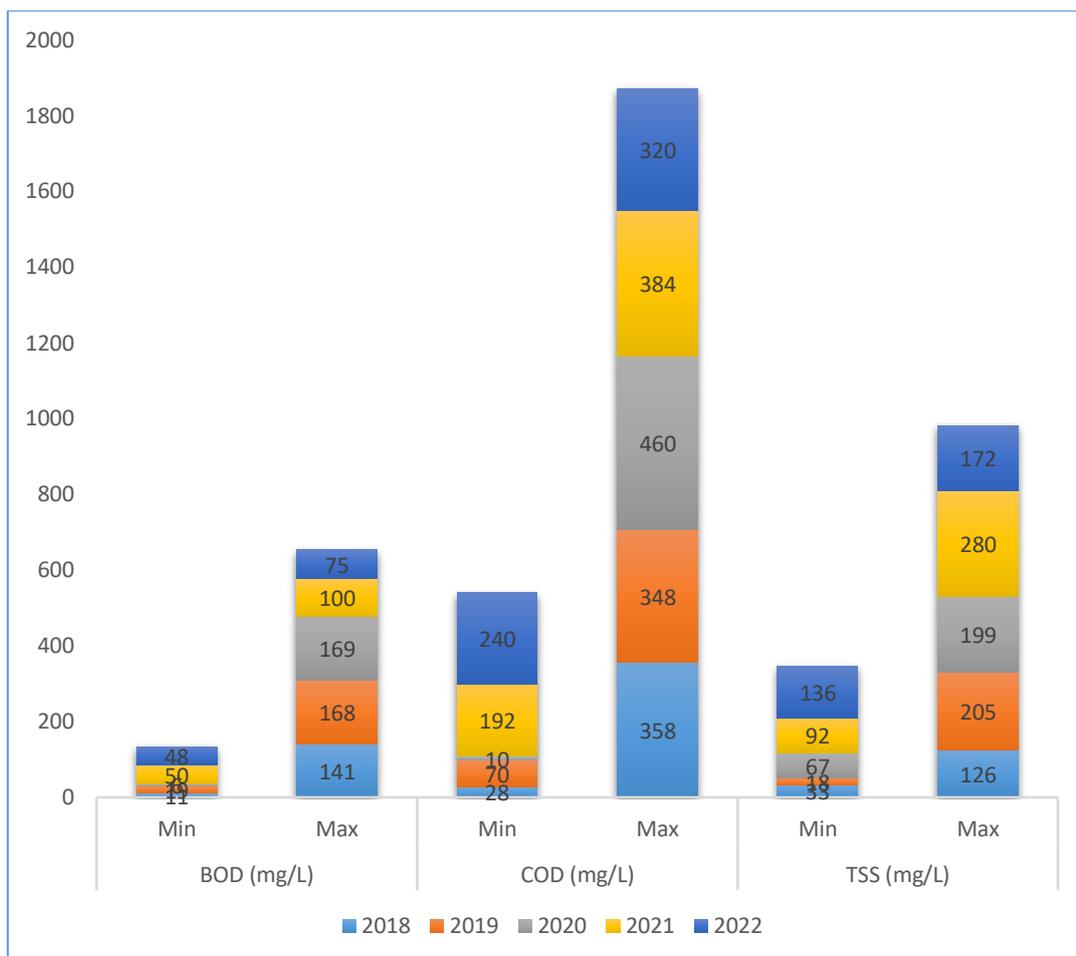


Figure 4: Trend analysis of water quality of Delhi Gate Drain during the period 2018-2022

4. Sen Nursing Home Drain:

Sen Nursing home drain contributes about 68 MLD of wastewater to river Yamuna. The wastewater from NDMC region is discharged into Sen Nursing home drain near Bhairon Marg. DJB has set up temporary arrangement for diversion of partial flow of said drain into trunk sewer. The excess flow allowed to flow in the drain is tapped for treatment into Sen Nursing Home STP. There is no arrangement for flow regulation at diversion site, due to which some flow is always observed downstream of Sen Nursing Home STP. Figure 5 depicts the trend analysis of water quality of Sen Nursing Home Drain during the period 2018-2022. The water quality of said drain improves over the period for all parameters (BOD, COD and TSS).

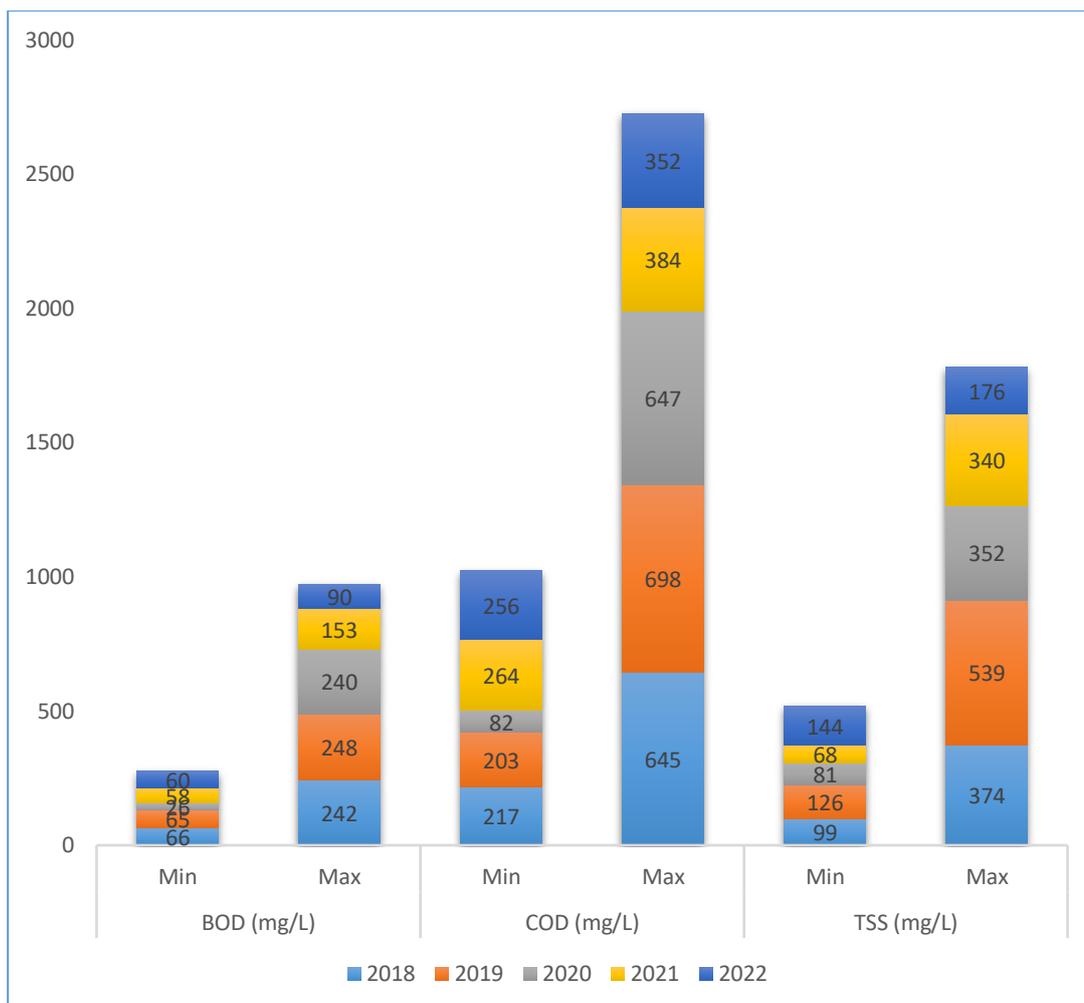


Figure 5: Trend analysis of water quality of Sen Nursing Home Drain during the period 2018-2022

5. Barapullah Drain:

It carries 140 MLD of wastewater from South Delhi and sewage from punctured sewer of NDMC. Figure 6 depicts the trend analysis of water quality of Barapullah Drain during the period 2018-2022. The trend indicates that minimum ranges shows increasing trend for BOD, COD and TSS. However, water quality for BOD, COD and TSS shows at par concentration for minimum and maximum values during the year of 2022.

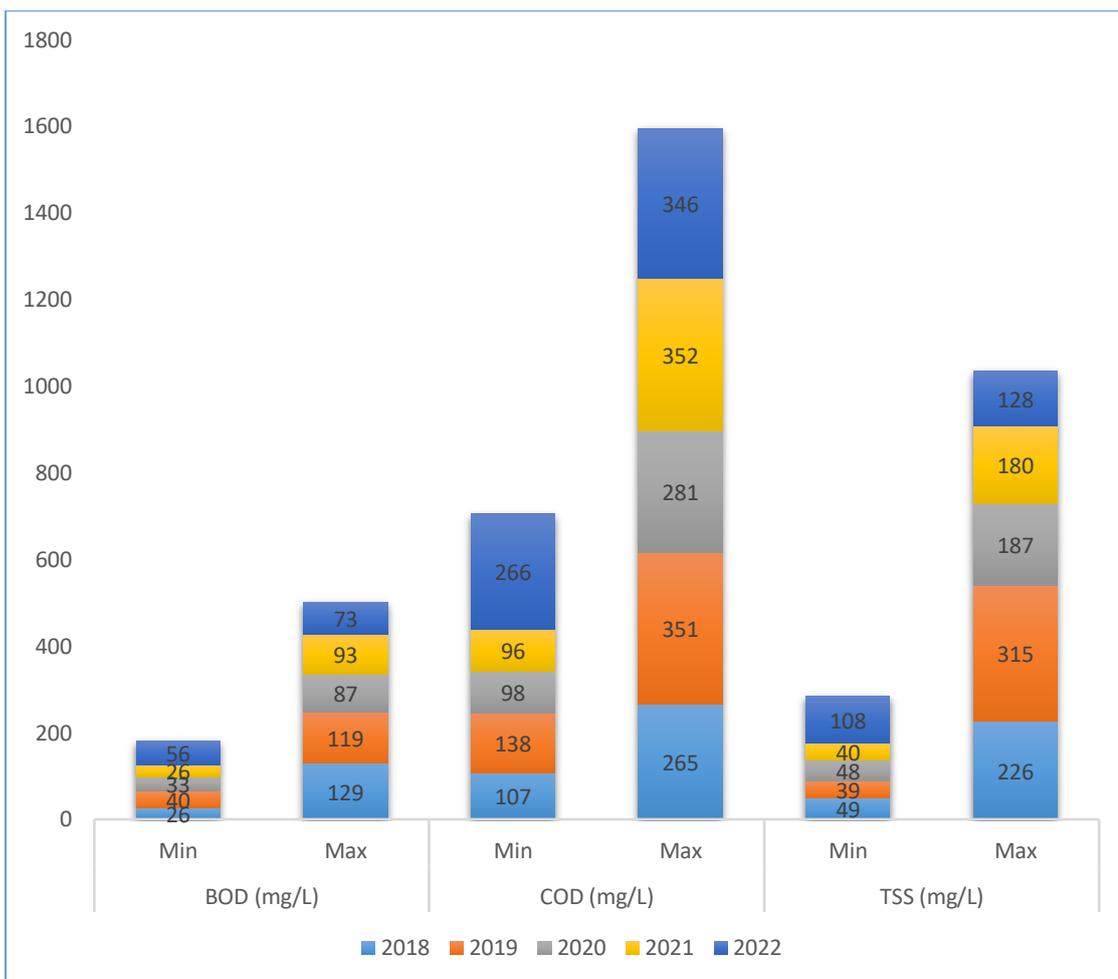


Figure 6: Trend analysis of water quality of Barapullah Drain during the period 2018-2022

6. **Shahdara Drain:**

Shahdara drain carries 500 MLD of partially treated / untreated domestic and industrial waste water. This figure of 500 MLD was measured by CPCB at outfall of river. The 500 MLD of wastewater includes 303 MLD of treated sewage from Kondli STP and Chilla STP. Figure 7 depicts the trend analysis of water quality of Shahdara Drain during the period 2018-2022.

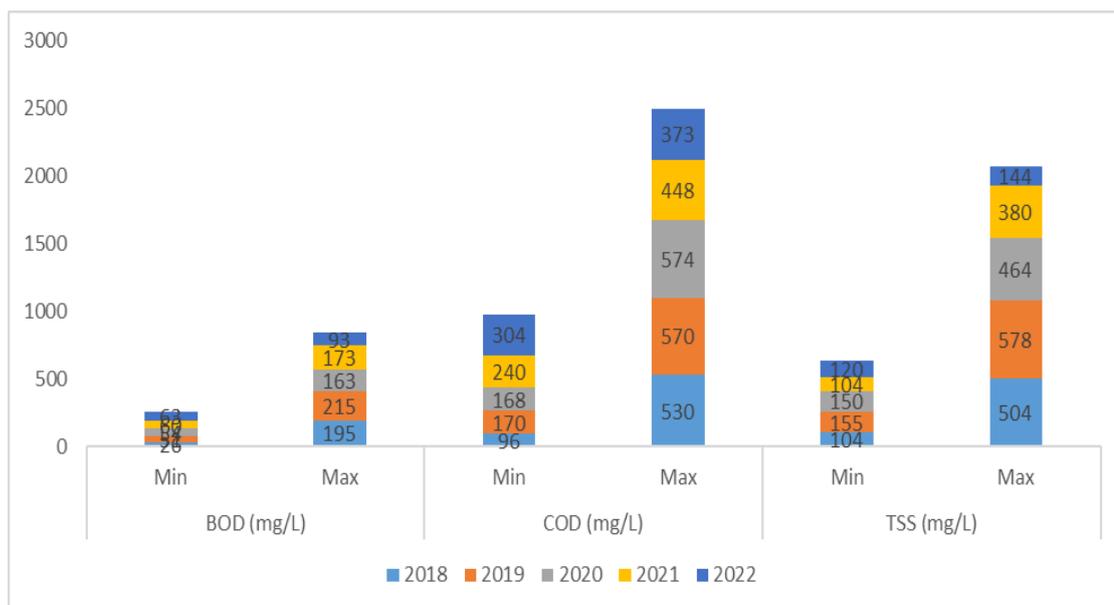


Figure 7: Trend analysis of water quality of Shahdara Drain during the period 2018-2022

4.0 STATUS OF SEWAGE TREATMENT PLANTS (STPs) IN DELHI

There are 35 no. of operational STPs at 20 locations with an installed capacity of 2874 MLD (632 MGD) and there is an estimated sewage generation of 3491 MLD in Delhi. There is a gap in treatment capacity of nearly 618 MLD (136 MGD) and a gap in treatment is 900 MLD (198 MGD).

1	Sewage Generation	3491 MLD (768 MGD)
2	Number of Operational STPs	35 STPs (at 20 Locations)
3	Installed Treatment Capacity of 35 Operational STPs	2874 MLD (632 MGD)
4	Capacity Utilization of existing STPs	2591 MLD (570 MGD)
5	Gap in Treatment Capacity	618 MLD (136 MGD)
6	Gap in Treatment	900 MLD (198 MGD)
7	No. of complying STPs	9 (as per Standards prescribed by DPCC)
Source: Monthly Progress Report submitted by Delhi Pollution Control Committee for the month of December, 2022		

Qualitative Assessment of 35 no. of Sewage Treatment Plants with respect to consented parameters of Delhi Pollution Control Committee (DPCC) was carried out by DPCC during 2022 and it is observed that out of assessed STPs in Delhi, minimum no. of STPs complying were observed during April 2022 (04 STPs) and maximum were observed during September 2022 (12 STPs) (**Annexure V**).

Further, 90 MGD of treated sewage used in Horticulture in various parks in Delhi including Millennium Park in I.P Estate, Japanese Garden in Rohini and various parks in NDMC area and DTC Depots, PPCL Power plants. Detailed break up on current re-used and mode of disposal is placed at Table 7 and 8 of **Annexure-VI**.

TABLE 4: COMPLIANCE STATUS OF STPS IN DELHI CONDUCTED BY DPCC DURING APRIL- DECEMBER, 2022

S. No.	Month	No. of STPs monitored during 2022	No. of STPs Complying	No. of STPs Non-Complying
1	April	19	04	15
2	May	33	08	15
3	July	33	11	22
4	August	33	11	22
5	September	35	12	22
6	October	35	9	26
7	November	35	6	29
8	December	35	9	26

Note: Compliance status of STPs w.r.t consented norms of DPCC viz., pH (6.5-9.0), BOD (10 mg/l), COD (50 mg/l), TSS (10 mg/l), NH₄-N (5 mg/l), N-Total (10 mg/l), Fecal Coliform (<230 MPN/ 100 ml) and PO₄-P (2 mg/l).

5.0 MAJOR FINDINGS

From the analysis and observations of the water quality of river Yamuna at inter-state locations, drains and status of compliance of STPs in Delhi, it is concluded that:

1. Water quality of river Yamuna is meeting the criteria when it enters in Delhi at Palla from Haryana. However, water quality deteriorates as it exits Delhi at Asgarpur. This indicates the contribution of pollution in river Yamuna in Delhi due to discharge of untreated/ partially treated domestic and industrial waste water through 24 drains.
2. Compliance status of STPs show that out of 35 STPs, 23 are non-complying consistently w.r.t the prescribed norms of DPCC for all parameters during April-December 2022 namely Coronation Pillar I & II, Ghitorni, Keshopur Phase- II, Keshopur Phase- III, Kondli Phase- I, Kondli Phase-II, Kondli Phase-IV,

Mehrauli, Molarband, Najafgarh, Narela, Nilothi Phase-I, Okhla Phase-II, Okhla Phase-III, Okhla Phase- IV, Okhla Phase-V, Pappankalan Phase I, Rohini, Vasant Kunj Phase-I, Vasant Kunj- Phase II, Yamuna Vihar Phase- I, Yamuna Vihar Phase-II, Yamuna Vihar Phase- III.

Item No. 01

Court No. 1

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

Original Application No. 21/2023

Ashwani Yadav

Applicant

Versus

Govt. of NCT of Delhi

Respondent

Date of hearing: 09.01.2023

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

ORDER

1. This is yet another petition on the issue of unabated pollution of River Yamuna and continued failure of the authorities in taking adequate remedial measures in terms of specific orders on the subject passed by the Hon'ble Supreme Court and this Tribunal.

2. It may be mentioned that the issue was dealt with by this Tribunal earlier vide order dated 27.01.2021 in OA No. 06/2012, *Manoj Mishra vs. Union of India & Ors.* The Tribunal, in continuation with earlier orders, issued specific final directions for remedial measures in time bound manner. Vide order dated 21.10.2022 in Civil Appeal No. 3465/2022, *Nizamuddin West Association vs. Union of India & Ors.*, the Hon'ble Supreme Court has directed further monitoring of compliance of the said directions by this Tribunal for which order dated 27.01.2021 to the extent

it directed disposal of the application has been set aside and OA No. 06/2012 has been restored. Text of the said order is as follows:

- “1 This appeal arises from an order dated 27 January 2021 of the National Green Tribunal in OA No 6 of 2012.
- 2 The issue which was considered by the NGT pertained to the rejuvenation of the river Yamuna through the execution of the directions contained in a previous order dated 13 January 2015 and subsequent orders, including those dated 8 May 2015 and 7 December 2017. The NGT also noted that certain directions had been issued by this Court.
- 3 In this backdrop, the NGT directed that the Chief Secretary, NCT of Delhi, in coordination with other authorities such as the Additional Chief Secretary, Urban Development, DDA, IDMC, DPCC and DJB and the Chief Secretaries of Haryana and Uttar Pradesh, may personally monitor the progress by providing an effective administrative mechanism to handle the grim situation of the river caused by years of neglect. The NGT has issued certain ancillary directions for monitoring. However, the NGT has disposed of the OA at that stage.
- 4 Pursuant to the issuance of notice by this Court on 25 April 2022, the Union of India has been represented by Ms Aishwarya Bhati, Additional Solicitor General.
- 5 We have heard Ms Mugdha, counsel appearing on behalf of the appellant and Ms Aishwarya Bhati, Additional Solicitor General.
- 6 **In our considered view, having regard to the previous directions which have been issued by the NGT for monitoring the steps to be taken for cleaning of the river Yamuna, the ends of justice require that the matter be monitored by the NGT.**
- 7 Ms Aishwarya Bhati has stated that the Ministry of Jal Shakti has been filing status reports before the NGT.
- 8 **In order to facilitate judicial oversight by an expert adjudicating body, we request the NGT to monitor the matter and compliance of its orders at periodic intervals. To facilitate this process, we set aside the direction contained in the impugned order dated 27 January 2021 for the disposal of the application. OA No 6 of 2012 shall continue to remain on the file of the NGT. The NGT shall list the OA at an early date so that necessary directions can be given so as to enable it to assess the status of compliance with its previous orders and for considering whether any further orders are necessary to meet the exigencies of the situation.”**

3. In view of above, since this Tribunal is to monitor compliance of directions already issued as per earlier order dated 27.01.2021, we have looked into the grievance in the present application mentioning the compliance status as follows:

“i. There is still huge in generation and treatment of sewage with 35 STPs treating 573.5 MGD, with a gap of 194.5 MGD. The timelines of all STPs (except Coronation Pillar which was commissioned in March, 2022 against the timeline of June, 2020) has been continuously extended and presently stands extended upto June, 23.

ii. All drains in which untreated sewage is being discharged are not intercepted and diverted so that the untreated sewage is not conveyed to the river. DJB is yet to trap 147 drains out falling into Najafgarh and Shahdara Drains and timelines for each stage of trapping of different segments of the drains is yet to be assigned to specific officers.

iii. DJB is yet to ensure that all the households in the areas where sewerage network has been provided are connected with the sewerage network and environmental compensation is yet to be imposed.”

We have also seen the data of October – December 2022 about water quality of river Yamuna on the website of DPCC. It shows high level of BOD, exceeding 50 mg/l and innumerable numbers of faecal coliform much beyond laid down parameters.¹

4. Thus, compliance of directions in order dated 27.1.2021 does not appear to have been ensured. The status of pollution of Yamuna was noted in the said order from report of YMC and it was found that violations were continuing and violators included the State authorities. Chief Secretaries of concerned States were directed to remedy the situation. It will suffice to refer to findings in paras 19 to 21 of the said order which are as follows:

“19. From the report of the Committee, it is clear that major problem of preventing pollution by discharge of sewage, industrial effluents and other pollutants remains unaddressed. This was so observed in para 18 the last order also, as quoted above in the paragraph 14.

¹ https://www.dpcc.delhigovt.nic.in/home/monthly_analysis_report#gsc.tab=0

There is hardly any improvement in evolving meaningful and effective institutional mechanism for monitoring. Though IDMC is reported to have started functioning, tangible results are yet to be shown, as noted in the report of the YMC. The Committee has particularly found that 147 drains in the catchment of Najafgarh and Shahadra drains have not been tapped, as earlier directed. **Against heading 6, dealing with repair and maintenance of drains, the Committee has noted huge gap in generation and treatment of sewage. The Committee has rightly recommended that all the drains in which untreated sewage is being discharged need to be intercepted and diverted so that the untreated sewage is not conveyed to the river. Such gaps need to be bridged in UP and Haryana also. The IDMC and DJB have to ensure this for Delhi.** The monitoring by Additional Chief Secretary and Chief Secretary Delhi in terms of order of the Hon'ble Supreme Court dated 24.07.2017 has yet to take place. Necessary devices for sewage and effluent treatment have still not been installed to the required extent. In spite of availability of huge funds, DJB is not working in a professional manner, as observed by the YMC. Water quality remains highly deteriorated as pollutants are still being discharged into the drains. Flood plains are not being made encroachment free, affecting the riverine ecology. Awareness programmes are inadequate. Biodiversity parks and other measures have also been found to be inadequate. **Frothing frequently found is in absence of regulating composition of detergents, which find place in the river through sewage, for which action needs to be taken by DPCC/CPCB/Ministry of Consumer Affairs.** E-flow needs to be managed by resolving inter state issues administratively. Accountability needs to be enforced against failure of timelines which are being changed at leisure with no adverse consequences against non-performers. **Compensation regime needs to be strictly followed on 'polluter pays' principle which was not happening depicting failure of the regulators.** The observations in respect of authorities in Delhi equally apply to the States of Haryana and UP.

20. There is, thus, need for continuous and effective working of the IDMC to plan and oversee prevention of untreated sewage being discharged in the drains or the river. Apart from discharge of sewage, there is need to stop industries from discharging effluents by concerned statutory authorities, including the DPCC. The issue of protection of flood plains by the DDA remains to be satisfactorily addressed even though steps are said to have been taken for constitution of a SPV for the purpose. **Encroachment is huge and steps taken are miniscule. Meaningful working of SPV by DDA will depend on success to remove encroachment and keeping continuous vigilance.** Thus, on the part of concerned Authorities in the State of Delhi, Haryana and UP further actions in terms of the earlier orders of this Tribunal as well as the current recommendations of the Committee need to be taken, which may be overseen by the Chief Secretaries of concerned States on regular basis by constituting a cell of experts on the subject directly reporting to the Chief Secretary for meaningful monitoring in coordination with authorities like DDA, IDMC, DPCC, DJB etc.(in the context of Delhi). **Non-adherence to timelines must result in adequate and stringent action against accountable persons. Timely**

completion of projects must be ensured, otherwise for generations the problem will remain untackled, as vested interests will like the projects to remain pending and delayed to the detriment of the public interest. Interim measures like phytoremediation need to be employed where permanent solution is delayed. Earlier directions of the Tribunal, which by and large remain un-complied so far, need to be strictly followed with meaningful coercive measures against the erring officers and the violators.

21. As already noted, the matter has been dealt with by the Hon'ble Supreme Court for 23 years, before transfer of the matter to this Tribunal in the year 2017 and by this Tribunal for almost nine years. Finding inadequate compliance, the Tribunal constituted a Monitoring Committee on 26.07.2018 with the hope that day to day monitoring by an independent Committee may result in some improvement. The Committee has functioned for more than two years and contributed in a big way in steering the authorities with a clear road-map by its exhaustive reports on every aspect but the authorities' action has been every time found to be inadequate and continues to be so. This requires the authorities to change their attitude and rise to the occasion to discharge their Constitutional obligation to the citizens to provide clean environment by protecting the scarce sources of water by stringent steps against the erring officers and the violators and by effective monitoring at appropriate higher levels, reviewing/modifying the failed models and failed officers. All the issues have been duly identified and categorical directions issued. Recommendations made for future compliance need to be taken up seriously by the concerned statutory and administrative authorities."

5. The Tribunal disposed of the application with the observation that there has been judicial oversight of the matter for more than 23 years and issues stood identified and categorical directions were issued. It was directed that henceforth further monitoring be undertaken by the Chief Secretary, Delhi in coordination with other authorities in Delhi and similarly, by Chief Secretaries in Haryana and Uttar Pradesh as follows:

"23. Accordingly, we direct that in terms of directions of the Hon'ble Supreme Court and earlier orders of this Tribunal, henceforth the Chief Secretary, NCT of Delhi, in coordination with other authorities (such as, Additional Chief Secretary Urban Development, DDA, IDMC, DPCC, DJB) and the Chief Secretaries of Haryana and UP may personally monitor the progress, by evolving effective administrative mechanism to handle grim situation caused by years of neglect. Causes of failure of existing mechanism and remedial measures required be addressed in the light of reports of the Committee. This needs to be

*further overseen at National level by the Central Monitoring Committee, headed by Secretary Jalshakti, which also includes NMCG and CPCB, in terms of earlier orders of this Tribunal. To give effect to the orders of the Hon'ble Supreme Court, the Tribunal has already directed constitution of River Rejuvenation Committees (RRCs) in all the States/UTs by order passed in OA No. 673 of 2018 in Re: News item published in "The Hindu" authored by Shri Jacob Koshy titled "More river stretches are now critically polluted : CPCB, to be headed by the Environment Secretaries of States/UTs, to prepare and execute action plans for restoration of the polluted river stretches, under the oversight of the Chief Secretaries of the States/UTs. Such action plans are already in place. **The RRCs of Delhi, Haryana and UP may accordingly monitor execution of the action plans with proper inter-departmental coordination, to remedy the polluted stretches of river Yamuna in their respective jurisdiction, subject to oversight of the Chief Secretaries on quarterly basis, who may thereafter give their quarterly reports to the Central Monitoring Committee (CMC) headed by the Secretary, Jal Shakti in terms of order dated 21.09.2020 in O.A. No. 673/2018, supra.**"*

6. We may also mention that the applicant has referred to recent efforts to desilt Najafgarh drain with the object of restoring Sahibi river, which stands converted to dirty drain by discharge of pollution. It is stated that desilting has been done by DJB, Irrigation Department and Municipal Corporation with initiative of LG Delhi at 7.5 km stretch and huge amount of silt/garbage has been removed. While such effort may be useful, it cannot be substitute for stopping pollution in terms of order of the Tribunal dated 27.1.2021. Further, desilting material has to be duly managed. It is further stated that Rs.1500 crore has already been spent without much result and thus change of pattern of monitoring and processes used may be required. Data of extent pollution is also mentioned with the grievance that there is detriment to the environment and public health which needs to be effectively remedied in the light of already finalised directions of this Tribunal and the Hon'ble Supreme Court. It is thus stated that there is flagrant violation of environmental norms and binding orders of this Tribunal, without any accountability of the violators.

7. We may also mention here particulars of overlapping issues before the Tribunal atleast in three other matters. First matter is OA 6/2012, already referred to above. Second matter is OA 562/2022 in which the Tribunal has sought response from the Chief Secretaries of concerned States about the allegation of continuing non compliance and inadequate remedial action, as reported in media. This may involve coercive measures and fixing accountability of the violators in the light of response. Third matter is EA No. 16/2019 in OA No. 153/2014, *Indian National Trust for Art and Cultural Heritage vs. Govt. of NCT of Delhi & Ors.* on the issue of pollution of Najafgarh lake which is connected to Najafgarh drain which finally joins Yamuna. The Tribunal directed remedial action for restoration of lake by Haryana and Delhi to be coordinated by inter ministerial group constituted by MoEF, as per earlier orders of this Tribunal. The matter was disposed of but progress report has been sought for consideration which is yet to be received. The said three matters are listed for 7.2.2023.

8. We may now mention the background of the proceedings which led to passing of order dated 27.1.2021. Cognizance of Yamuna pollution was first taken by the Hon'ble Supreme Court in the year 1994 in WP No. 725/1994, *News Item "Hindustan Times" AQFM Yamuna v. Central Pollution Control Board & Anr.* From 1994 till 24.04.2017, when the matter was transferred to this Tribunal for further consideration, the Hon'ble Supreme Court passed several orders in 23 years, including orders dated 4.8.2004, 27.2.2012 and 10.10.2012, (2012) 13 SCC 736². By order dated 4.8.2004, a Committee headed by Secretary Urban Development, GoI with other concerned departments being members was constituted to oversee steps for bridging the gap in waste generation and treatment which was necessary for rejuvenation of Yamuna. By order dated 10.10.2012, it was

² News Item published in Hindustan Times titled "And Quite Flows the Maily Yamuna"

noted that even after monitoring by the Hon'ble Supreme Court for 18 years (till then), there remained high level of fecal coliform (FC) and BOD (which situation continues even now after 11 years of the said order). The Hon'ble Supreme Court directed that 'C' category quality of water be achieved by preventing industrial/domestic pollution and all encroachments atleast upto 300 meters on both sides of the river be removed. There should be action plan covering all relevant issues for rejuvenation of river Yamuna. Finally, the matter was transferred to this Tribunal on 24.04.2017 for further consideration as in the meanwhile, the Tribunal had taken up the issue in petitions filed before it, including OA No. 06/2012, *Manoj Mishra vs. Union of India & Ors.*

9. Before above order dated 24.4.2017, the Tribunal passed orders including orders dated 13.01.2015 (*2015 SCC Online NGT 840*), 08.05.2015 (*2015 SCC Online NGT 841*). Further orders include those dated 07.12.2017 in OA 65 of 2016³ and OA 76 of 2016⁴, final order dated 27.1.2021 in OA6/2012, *Manoj Mishra*, as already noted. By order dated 13.01.2015, two reports of Expert Committees constituted by the Tribunal dated 19.04.2014 and 13.10.2014 were accepted and on that basis, directions were issued for preventing discharge of pollutants into the river, maintaining environmental flow, protecting flood plain zones by river front development activities and removing encroachments. The work was to be completed by 31.3.2017, including provision for 32 additional STPs for 32 major and minor drains, upgradation and maintenance of existing sewer network. Committee was constituted to oversee compliance comprising MoEF&CC; Ministry of Water Resources; Chief Secretary, Delhi Administration; Vice Chairman, DDA; Commissioner of all the Municipal

³ *Manoj Misra v. Delhi Development Authority & Ors.*

⁴ *Pramod Kumar Tyagi Vs. Art of Living International Center & Ors.*

Corporations; Commissioner, DJB; Secretary, Department of Irrigation, NCT of Delhi and concerned Secretaries of the States of Haryana, Uttar Pradesh, Himachal Pradesh and Uttarakhand to oversee execution of orders of Tribunal. By order dated 24.07.2017, constitution of Committee was modified to the effect that it will be headed by Secretary, Ministry of Water Resources (now Jal Shakti). Proceedings for execution continued before the Tribunal. By order dated 26.07.2018, the Tribunal after noting that the progress remained inadequate, constituted Yamuna Monitoring Committee (YMC) to be headed by former Chief Secretary, Ms. Shailja Chandra and also comprising former Expert Member of this Tribunal, Mr. B.S. Sajwan. The Committee took stock of the situation and gave its first report dated 16.01.2019 flagging the issues to be focused and noting that FC count was upto 6,400 times above the prescribed standards. Only 14% of the 1797 colonies had sewage pipelines. DDA had failed to remove the debris and secure the area by erecting barbed wire fencing. It had not undertaken demarcation of flood plains. Next order of the Tribunal is order dated 11.09.2019 dealing with all the micro issues by laying down exhaustive guidelines and directions and timelines as well as action to be taken for violation of the timelines. Timelines extended till 31.12.2020. Steps to be taken included tapping 147 drains not covered by interceptor (ISP) project and diverting them to STPs, connecting unsewered areas to STPs., recovery of sewage charges from all generators of sewage. Further, order dated 05.03.2020 was passed while considering YMC's 3rd report dated 05.02.2020 recommending single agency to deal with control of pollution in all the drains of Delhi and also single coordinating authority by DDA for:

- Protection of the flood plain;
- Creation of wetlands at identified locations:

- Demolition plans and action taken to retrieve flood plain land and free it of encroachments,
- Enforcement against vehicles dumping debris in and around the flood plain
- Progress on financial devolution by the State of Uttar Pradesh on DDA to undertake
- Floodplain rejuvenation on the Eastern bank of the river,
- Progress of 10 identified projects which DDA had undertaken to complete by specific dates.
- Tree plantation drives,
- Closure of bore wells and plans for larger use of treated waste water dealt with in Chapter – 10, Use of Treated Waste Water.

10. The Tribunal directed constitution of Special Purpose Vehicle (SPV) by DDA for management of flood plains and Integrated Drain Management Cell (IDMC) by Delhi Government under the Chief Secretary with representatives from other concerned agencies including the DJB, Delhi Municipal Corporation and Irrigation Department, not below the level of Chief Engineers.

11. Other orders of Hon'ble Supreme Court which have been referred to by the Tribunal in its earlier order dealing with pollution of river Yamuna will include judgment of Hon'ble Supreme Court in *Paryavaran Suraksha Samiti & Anr. v. Union of India & Ors.* (2017) 5 SCC 326 to the effect that under Article 243 W, 243X and 243 Y read with entry 6 of the 12th Schedule to the Constitution, onus to handle public health sanitation and waste management was on Municipalities, to be coordinated by Urban Developments of the States. Under the Water Act, preventing water pollution is responsibility of Pollution Boards by enforcing consent conditions against concerned industries and local bodies. Pollution free environment being part of right to life, the States are under constitutional obligation to prevent pollution. It was directed that funding may be arranged by 31.3.2018 and pollution control devices be installed within three years from judgment i.e. 22.2.2017, failing which concerned Secretaries to the Government be prosecuted. NGT was directed to

implement the judgment. In pursuance of order of Hon'ble Supreme Court, directing this Tribunal to monitoring compliance, the Tribunal dealt with the matter in OA No. 593/2017, *Paryavaran Suraksha Samiti & Anr. v. Union of India & Ors.* and several orders have been passed and last order being dated 22.02.2021. In OA No. 673/2018, *In re: News item published in "The Hindu" authored by Shri Jacob Koshy titled "More river stretches are now critically polluted: CPCB*, the Tribunal considered the issue of pollution of rivers and constituted a Monitoring Committee to be headed by Secretary, Ministry of Jal Shakti, NMCG and CPCB as its members at National level. Last order passed in the said matter is dated 22.02.2021.

12. Vide order dated 02.09.2014 in WP No. 888/1996, *Almitra H. Patel Vs. Union of India & Ors.*, Hon'ble Supreme Court remitted the issue of solid waste management to this Tribunal which is currently being dealt with in OA No. 606/2018. Chief Secretaries of all States/UTs have been required to appear in person before NGT and directed to ensure that no untreated effluent/waste is discharged/dumped in water bodies/rivers. The Tribunal has also levied compensation @ Rs. 2 crore per MLD on States/UTs for gap in generation and treatment of sewage, on polluter pays principle, to be utilised for remedial measures in time bound manner. Some States have appeared while others have yet to appear. It will suffice to refer to order dated 10.11.2022 in OA No. 606/2018 with respect to State of Madhya Pradesh, particularly discussion in paras 38 to 46 on the subject which may need to be considered in the present context also.

13. Further, the Tribunal dealt with the issue of Najafgarh Jheel which is an overlapping issue. The said wetland is receiving pollution from Najafgarh drain from Haryana as well as Delhi. Vide order dated 21.01.2022 in *Indian National Trust for Art and Cultural Heritage vs. Govt.*

of *NCT of Delhi & Ors.*, the Tribunal noted that the MoEF&CC vide order dated 19.01.2022 has constituted 'Inter-Ministerial Expert Group' for taking measures for conservation and protection of the lake. The Tribunal accordingly disposed of the application with further directions that status reports be filed with the Registrar General of this Tribunal. In OA No. 365/2021, *Shamsher Singh vs. Govt. of NCT of Delhi*, the Tribunal dealt with the issue of unscientific disposal of sewage by vehicles of septic tank cleaners in Delhi and considering the report of the Committee headed by Justice S.P. Garg, former Judge of Delhi High Court, the Tribunal vide order dated 21.12.2022 in OA. No. 365/2021 directed remedial action. Needless to say that such action is necessary for control of pollution of river Yamuna. The direction in the said matter includes monitoring of dumping of septage into the drains and water bodies in Delhi which will include levy of compensation for the violations with reference to the provisions of the Water Act and the Air Act by the DPCC and also necessary action by Delhi Police as water pollution involved criminal offences. In OA No. 562/2022, *Ishika vs. Govt. of NCT of Delhi*, the Tribunal has taken up the same issue vide order dated 30.08.2022 and after noting earlier proceedings required the Chief Secretary to ascertain latest factual position and give his report with explanation why coercive penal measures be not taken in terms of fixing accountability for taking requisite measures. Similar reports have been sought from Haryana and UP. The relevant extracts from the said order are reproduced below:-

“5. Thus, while the proceedings were disposed of after specific directions with the expectation that the concerned authorities will show due sensitivity to the matter but unfortunately this does not appear to have happened. The present application depicts grim situation calling for further intervention of this Tribunal. The Chief Secretary of Delhi is required to ascertain latest factual position and give his report by email within two months with explanation why coercive and penal measures be not taken in terms of fixing accountability for such blatant failure of the authorities in protecting

the water quality of river Yamuna, which is tributary of Ganga, by preventing discharge of pollution. It may also be necessary to seek similar reports from Haryana and Uttar Pradesh. The reports of Chief Secretaries may be in a consolidated manner in the light of inter-departmental review and ground realities.

6. *It remains a matter of concern that authorities should not be able to maintain river flowing in the Capital of India clean inspite of clear roadmap for its rejuvenation and clear directions of Tribunal. How the continuing loss to environment and public health should be ignored is beyond anyone's comprehension. **It is shocking to note the data relating to water quality of river Yamuna and the pollution load posted by DPCC on its website depicting that drains remain un-trapped even after a year of the last order. This shows utter lack of adequate action and monitoring by higher authorities. Delhi, Haryana and UP have to review the situation at higher levels and take remedial action. They may place factual status on progress made in the last one year, whether the higher authorities are satisfied with the same, if not, further plan of action with timelines and fixing accountability, extent of sewage and trade effluents being still discharged. Based on these reports the Tribunal may have to fix accountability of concerned authorities and financial liability for compensation for damage to the environment.***

7. *Further, the Central Monitoring Committee constituted by this Tribunal by the last order referred to earlier, headed by Secretary, Ministry of Jal Shakti which also includes NMCG and CPCB may also file latest status report of compliance status in the matter and its action taken report and recommendations within one month 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.*

14. Another significant development which has taken place is issuance of Notification dated 07.10.2016 – River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016 (Ganga Order, 2016) constituting statutory authorities for superintendence and control of pollution of Ganga and all its tributaries and drains and conferring statutory powers on such authorities. Para 6 of the order prohibits pollution of Ganga and its Tributaries and drains connected thereto. NMCG is main authority empowered to issue any directions and to monitor compliance. Yamuna is principal tributary of Ganga and all drains connected thereto are governed by the said orders. Any violation thereof is offence under the EP Act, 1986, apart from offences under Water Act and

IPC. Violation of orders of this Tribunal is by itself offence under section 26 of the NGT Act. Order of this Tribunal is also executable as decree of civil court.

15. In the present application, it is suggested that following actions are critical for control of pollution of river Yamuna:

Sr. No.	Actions
1.	<i>Construction of 03 new Sewage Treatment Plants and 41 Decentralized Sewage Treatment Plants</i>
2.	<i>Rehabilitation of 3 existing Sewage Treatment Plants and upgradation of existing 16 Sewage Treatment Plants</i>
3.	<i>Trapping of all major drains out falling into river Yamuna</i>
4.	<i>Sewerage network in all 1799 unauthorised colonies and 630 JJ Clusters.</i>
5.	<i>Regulation of River Yamuna flood plain including removal of all encroachments/Dhobi Ghats</i>
6.	<i>Enforcement of Septage Management Regulations</i>
7.	<i>Utilisation of treated waste water</i>
8.	<i>Upgradation of 13 Common Effluent Treatment Plants</i>

16. In above background, we have pondered over the question as to how to enforce the order dated 27.1.2021, as directed by the Hon'ble Supreme Court. Substantial works remain unexecuted in terms of identified steps for rejuvenation of Yamuna. There is still huge gap in generation of sewage and available treatment facilities as shown by website of DPCC and as mentioned in the application. Estimated gap is said to be 194.5 MGD of sewage. Interception and diversion of about 147 drains (connected to Najafgarh and Shahdra drains) and other small drains joining bigger drains remains. Waste water from 1799 unauthorized colonies and 630 JJ clusters is reportedly going to Yamuna. Further, work of river front

development projects by DDA remains incomplete, besides desilting/desludging of drains.

17. Having multiple authorities in Delhi may be one of the reasons for not achieving success so far. There appears to be lack of ownership and accountability. Huge amount has already spent without desired results. Judicial oversight has continued for almost 29 years. DDA has to take measures for protecting flood plain zones while drain owning agencies – DJB, Irrigation Department, Municipal Corporation etc. have to maintain drains free from pollution. IDMC was directed to be constituted with Chief Secretary as head to coordinate with the concerned departments. In terms of directions of the Hon'ble Supreme Court, 'C' category water quality is to be achieved in Yamuna and all its connected drains. Mandate of Water Act requires preventing any industrial or domestic waste to be discharged or dumped into any stream or water body. Punishable offences are provided not only in Water Act but also under IPC. DPCC does not appear to be taking coercive measures against erring industries or even local authorities who rampantly continue to discharge pollution in Yamuna and the drains. There does not appear to be any meaningful penal action taken against the violators. There is also huge unauthorized dumping of septage and even solid waste at different locations in absence of satisfactory management of sewage from unauthorized colonies which have been set up and later regularised without requisite infrastructure for sewage treatment to the detriment of citizens. There appears to be reluctance in collecting necessary charges required for remedial measures and adopting effective methodology for prevention of pollution and availability of funds may be an excuse for not preventing pollution. Coercive and penal measures are not being taken against violators and erring officers. There is no meaningful engagement of citizens, who are the victims. While it is

for authorities to devise strategies, available options may be business or other models with involvement of stake holders. Beautification of flood plain zones and dense plantations can add great value to the aesthetics of national capital which has international significance. Meaningful remedial action in Delhi can lead way to tackle polluted rivers in the country. One of the sources of funding is the NMCG. The Tribunal in the earlier orders entrusted monitoring to the Secretary, MoJS, DDA and the Chief Secretaries of concerned States. It does appear that the situation to a great extent remains unsatisfactory, in violation of judgment of the Hon'ble Supreme Court and orders of this Tribunal, fixing rigid timelines which are being defied at whims, without accountability and without visible improvement in ground situation. Thus, effective execution regime appears to be necessary with involvement of topmost administrative authorities with flexibility of procedures for award of works for execution of pollution prevention projects. Involvement of stake holders is also required. There may be need for relaxing procedural requirements like statutory clearances, without compromising on compliance of environmental norms. Only agencies with track record of performance in time bound manner instead of mere lowest bidders may have to be considered. DPR/tender processes need to be simplified and shortened. The service provider should be able to produce expected results within stipulated time. Accountability of the officers through whom the work is to be executed has to be ensured. Huge amount of public money has been already spent without much results and without accountability, as noted by Hon'ble Supreme Court in the context of Yamuna. Further expenditure has to be incurred with a sense of responsibility, ensuring tangible results. Comprehensive planning is required for taking suitable measures for reduction of pollution load by in-situ and ex-situ treatment strategies,

prevention strategies and utilizing the treated water for non-potable purposes. There may be need to plant trees in coordination with the forest department on the flood plains of the river and buffer zones of the drains. There is need for comprehensive catchment area treatment plan and its execution which may include undertaking engineering, structural as well as biological measures. There is also need to consider utilization of treated sewage water for agriculture or other purposes, discouraging the use of chemical fertilizer and insecticides, to the extent viable. For maintaining and restoring ecological integrity of river Yamuna, eco technology may be used involving Ministry of Fisheries and Animal Husbandry. All other specific points are already mentioned in the order of the Tribunal dated 27.01.2021.

18. In the light of above discussion, we constitute High Level Committee (HLC) of concerned authorities in Delhi where pollution of Yamuna is higher (about 75%), compared to other river basin States. We request the Lieutenant Governor, Delhi, who is Chairman DDA and Administrator of Delhi under Article 239 of the Constitution, to head the Committee. Other members of the Committee will be Chief Secretary, Delhi, who will act as Convener, Secretaries, Irrigation, Forest and Environment, Agriculture, and Finance, Govt. of Delhi, CEO, DJB, Vice Chairman, DDA, Secretary or his nominee (not below the rank of Additional Secretary), Ministry of Agriculture, GoI, D.G. Forest or his nominee (not below the rank of DDG), MoEF&CC, GoI, Secretary, MoJS or his nominee not below the rank of Additional Secretary, Secretary, MoEF&CC or his nominee not below the rank of Additional Secretary, DG NMCG and Chairman CPCB.

19. The Committee will deal with all issues as set out in order dated 27.1.2021 and other ancilliary matters mentioned above. It may also

coordinate with all other departments, to the extent necessary. It may meet physically within one week and take stock of the situation with regard to the directions of the Tribunal, extent of compliance, extent of non-compliance, proposed remedial action for compliance of law, updated plan for compliance of directions, sources of funding, accountability for past failures, methodology for execution of the projects, timelines consistent with the spirit of orders of the Hon'ble Supreme Court and this Tribunal. After its first meeting, the Committee may continue to meet at least once in every week for next six months so as to achieve tangible results within the said period. The Committee may consider opening separate dedicated account, hire dedicated subject matter experts, coordinate with and take on board existing departments, agencies and stake holders, civil society, including voluntary organisations. It may also set up its website and place its proceedings on the said website for information of all concerned and also to enable public participation.

20. The Committee will also be free to interact with corporates interested in their duty to the society and not merely in commercial interest. The timelines prepared be adhered to with laid down penal consequences against violations. Officers of rank of Chief Engineers, given responsibility, be named for fixing responsibility. The Committee may compile data of pollution as on 1.1.1994, 1.1.2012, 1.1.2017, 1.1.2019, 1.1.2021 and 1.1.2023. Thereafter, pollution graph may be prepared on quarterly basis with goal of substantial reduction by 1.7.2023. As already observed, planning may include all action points as per last report of YMC, incorporated in order of this Tribunal dated 27.1.2021, including plan for using treated water for agriculture, horticulture or industrial purposes, preventing discharge/dumping of any waste, protection of flood plain zones, maintaining e-flow, plantations, de-silting and dredging of drains

and the river. MoJS and MoEF&CC may be consulted for norms for dredging and utilising dredged material for developing river front works. The Committee may explore provision for separate channels for carriage of sewage instead of mixing the same with storm water. Treated water may be used for non-potable purposes and not mixed with potable river water. The Committee may ensure that de-silt/de-sludged/dredged material is disposed of as per norms at the earliest, preventing re-entry in the river and damage to the flood plains.

21. Success of the Committee will be viewed by outcome in terms of reduction of pollution load and thus targets of the Committee should be measurable and identifiable. If experiment is successful at Delhi, it may help the country as a whole facing huge problem of water pollution. The Committee will be free to conduct proceedings online/hybrid as found necessary. It will also be free to undertake field visits.

22. The Committee may give its first report by 31.01.2023 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.

23. Chief Secretaries of Haryana and Uttar Pradesh may also give their respective reports in the matter by that date, as directed in connected matter.

24. Any interstate issues may be resolved by the Committee comprising Secretary, MoEF & CC, DG, NMCG and Chairman, CPCB.

25. CPCB will monitor water quality of river Yamuna at interstate borders and compile the results. CPCB will also compile data about the quality of effluents being drained into river Yamuna and compliance of STPs and the mode of disposal / utilisation of treated sewage.

26. Authorities already undertaking remedial measures may continue in tandem with and subject to control of the Committee.

27. Inter-Ministerial Expert Group constituted for remediation of Nazafgarh Lake in EA No. 16/2019 in OA No. 153/2014, *Indian National Trust for Art and Cultural Heritage vs. Govt. of NCT of Delhi & Ors.* may also continue till completion of remedial measures in tandem with the working of the Committee.

28. Dr. A.B. Akolkar, retired Member Secretary, CPCB, who had been required to facilitate working of Committees, appointed by the Tribunal, vide order dated 31.05.2022, for monitoring waste management issues in OA No. 606/2018, may continue to facilitate working of the Committee, without any extra financial implications. He will not be a part of the Committee nor involved in its working as such.

List for further consideration on 07.02.2023 alongwith OA No. 562/2022, *Ishika vs. Govt. of NCT of Delhi* and OA No. 06/2012, *Manoj Mishra vs. Union of India & Ors.* and other connected matters.

A copy of this order be forwarded to Chief Secretaries of Delhi, Haryana and Uttar Pradesh, Lieutenant Governor of Delhi, Secretaries, Irrigation, Forest and Environment, Agriculture, Finance, Govt. of Delhi, CEO, DJB, Vice Chairman, DDA, Secretaries of Ministry of Agriculture, MoJS, MoEF&CC, GoI, D.G. Forest, MoEF&CC, GoI, DG NMCG and Chairman, CPCB by e-mail for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Arun Kumar Tyagi, JM

Prof. A. Senthil Vel, EM

Dr. Afroz Ahmad, EM

January 09, 2023
Original Application No. 21/2023

TREND ANALYSIS CARRIED OUT AT INTER-STATE LOCATIONS ON RIVER YAMUNA AT PALLA AND ASGARPUR DURING 2018- 2022

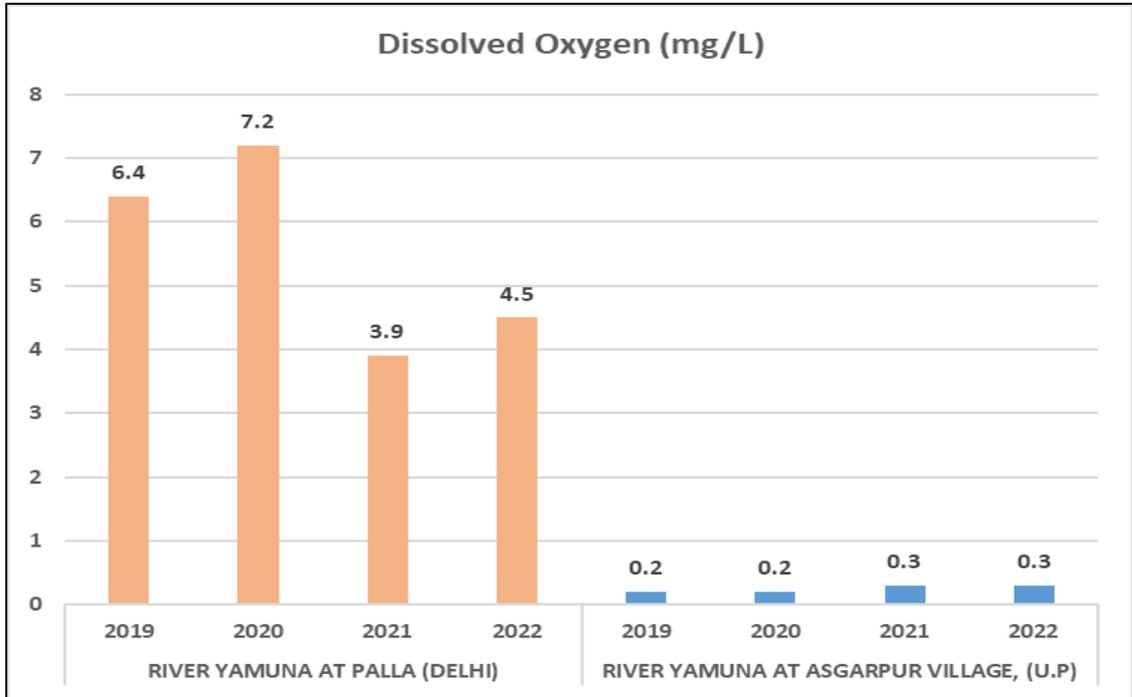


Fig 8: Trend analysis of Dissolved Oxygen at Palla and Asgarpur during 2019- 2022

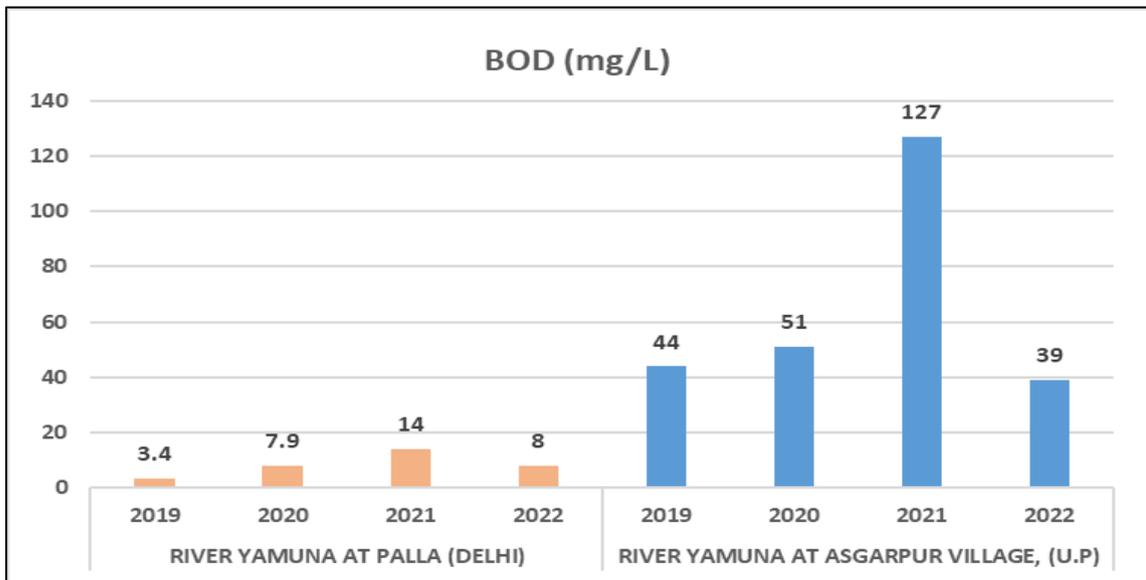


Fig 9: Trend analysis of Biochemical Oxygen Demand at Palla and Asgarpur during 2019- 2022

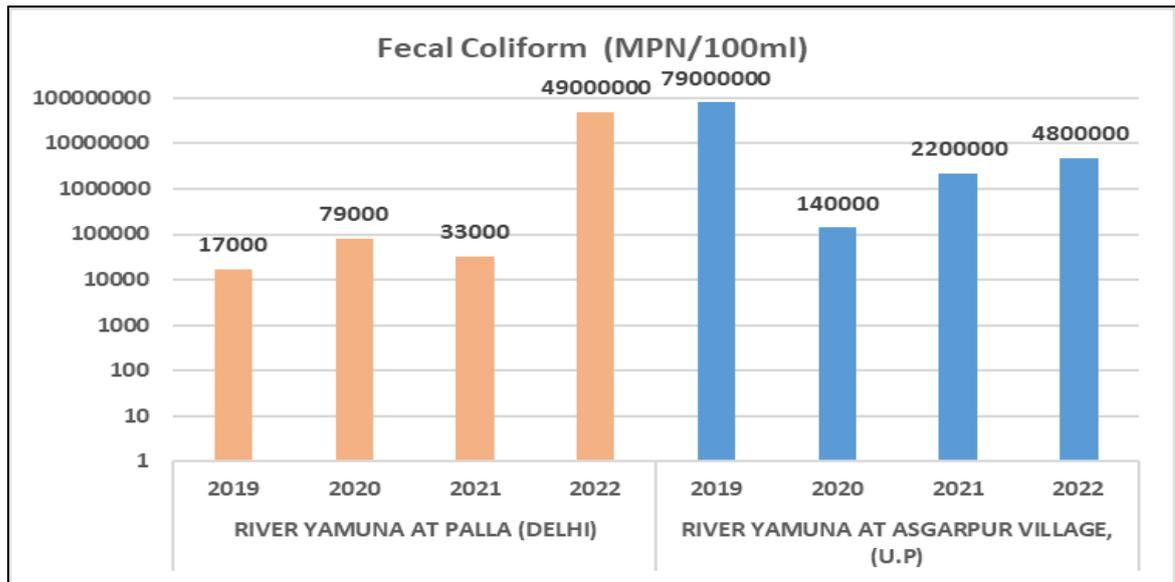


Fig 10: Trend analysis of Fecal Coliform at Palla and Asgarpur during 2019 2022

TABLE 5: WATER QUALITY DATA OF DELHI DRAINS MONITORED DURING 2018-2022

Sl.No.	Name of Monitoring Location	Year	BOD (mg/L)		COD (mg/L)		Total Suspended Solids (mg/L)	
			Min	Max	Min	Max	Min	Max
General standards for discharge of Environmental pollutants into inland surface water, under Section VI of the Environment (Protection) Rules, 1986			30 mg/L		250 mg/L		100 mg/L	
1.	NAJAFGARH DRAIN AT WAZIRABAD BEFORE CONF. TO RIV.YAMUNA, DELHI	2018	32	89	140	319	25	289
		2019	43	128	127	323	114	277
		2020	37	78	125	271	106	197
		2022	70.0	75.0	346.0	384.0	168	172
2.	BURARI DRAIN B/C WITH NAZAFGARH DRAIN, DELHI	2022	55.0	68.0	192.0	288.0	100	136
3.	CIVIL MILL DRAIN (DELHI)	2018	21	140	48	317	61	352
		2019	31	88	104	222	50	116
		2020	10	75	48	195	15	91
		2021	20.0	66.0	88.0	208.0	80	188
		2022	50.0	68.0	192.0	336.0	112	132
4.	POWER HOUSE DRAIN (DELHI)	2018	11	141	28	358	33	126
		2019	19	168	70	348	18	205
		2020	6	169	10	460	67	199
		2021	50.0	100.0	192.0	384.0	92	280
		2022	48.0	75.0	240.0	320.0	136	172
5.	SEN NURSING HOME DRAIN (DELHI)	2018	66	242	217	645	99	374
		2019	65	248	203	698	126	539
		2020	26	240	82	647	81	352
		2021	58.0	153.0	264.0	384.0	68	340
		2022	60.0	90.0	256.0	352.0	144	176
6.	BARAPULLA DRAIN (DELHI)	2018	26	129	107	265	49	226
		2019	40	119	138	351	39	315
		2020	33	87	98	281	48	187
		2021	26.0	93.0	96.0	352.0	40	180
		2022	56.0	73.0	266.0	346.0	108	128
7.	SHAHDARA DRAIN (DELHI)	2018	26	195	96	530	104	504
		2019	51	215	170	570	155	578
		2020	54	163	168	574	150	464
		2021	60.0	173.0	240.0	448.0	104	380
		2022	63.0	93.0	304.0	373.0	120	144
8.	MAHARANI BAGH DRAIN (DELHI)	2018	43	162	179	413	101	274
		2019	78	171	176	468	50	368
		2020	49	153	122	481	93	321

Sl.No.	Name of Monitoring Location	Year	BOD (mg/L)		COD (mg/L)		Total Suspended Solids (mg/L)	
			Min	Max	Min	Max	Min	Max
General standards for discharge of Environmental pollutants into inland surface water, under Section VI of the Environment (Protection) Rules, 1986			30 mg/L		250 mg/L		100 mg/L	
		2021	34.0	74.0	152.0	280.0	72	196
		2022	45.0	73.0	186.0	346.0	84	120
9.	SARITA VIHAR DRAIN (DELHI)	2018	73	397	285	866	137	657
		2019	121	403	447	803	235	406
		2020	77	260	213	854	101	522
		2021	27.0	70.0	96.0	320.0	52	168
		2022	56.0	62.0	288.0	304.0	120	128
		2018	27	150	70	315	54	166
10.	MAGZINE ROAD DRAIN (DELHI)	2019	55	92	187	227	100	134
		2020	139	139	270	270	136	136
		2021	40.0	50.0	128.0	192.0	76	142
		2022	70.0	70.0	304.0	304.0	148	148
		2018	5	107	26	274	24	174
11.	SWEEPER COLONY DRAIN (DELHI)	2019	10	27	35	87	26	229
		2020	0	0	0	0	0	0
		2021	26.0	160.0	96.0	728.0	52	408
		2022	50.0	78.0	208.0	288.0	160	184
		2018						
12.	KHYBER PASS DRAIN (DELHI)	2019	0	0	0	0	0	0
		2020	53	53	95	95	215	215
		2021	30.0	44.0	120.0	168.0	64	108
		2022	44.0	50.0	176.0	208.0	100	112
		2018	27	27	103	103	64	64
13.	METCALF HOUSE DRAIN (DELHI)	2019	22	50	56	118	47	79
		2020	0	0	0	0	0	0
		2021	24.0	24.0	88.0	88.0	44	44
		2022	24.0	30.0	64.0	88.0	44	52
		2018	18	101	58	320	51	213
14.	ISBT + MORI GATE DRAIN (DELHI)	2019	36	134	103	325	44	179
		2020	27	109	70	246	46	118
		2021	24.0	70.0	104.0	288.0	56	176
		2022	54.0	68.0	208.0	320.0	140	180
		2018	20	263	70	688	103	384
15.	TONGA STAND DRAIN (DELHI)	2019	57	229	175	892	80	400
		2020	28	201	66	958	54	559
		2021	40.0	60.0	168.0	240.0	88	140
		2022	30.0	48.0	85.0	165.0	50	92
		2018	40	180	181	709	47	416
16.	SHASTRI PARK DRAIN	2019	61	233	212	645	78	599
		2020	37	137	116	428	46	206

Sl.No.	Name of Monitoring Location	Year	BOD (mg/L)		COD (mg/L)		Total Suspended Solids (mg/L)	
			Min	Max	Min	Max	Min	Max
General standards for discharge of Environmental pollutants into inland surface water, under Section VI of the Environment (Protection) Rules, 1986			30 mg/L		250 mg/L		100 mg/L	
		2021	27.0	86.0	128.0	344.0	56	248
		2022	53.0	90.0	224.0	288.0	108	136
17.	KAILASH NAGAR DRAIN (DELHI)	2018	3	540	28	2755	49	1081
		2019	137	795	390	1743	165	1032
		2020	122	428	232	1085	129	699
		2021	43.0	123.0	160.0	352.0	88	360
		2022	62.0	105.0	192.0	368.0	168	216
		2018	5	31	12	92	14	61
18.	DRAIN NO.14 (DELHI)	2019	6	58	32	160	19	73
		2020	0	0	0	0	0	0
		2021	32.0	77.0	128.0	320.0	64	260
		2022	16.0	36.0	64.0	144.0	24	54
		2018	6	71	30	169	33	2376
19.	ABU FAZAL DRAIN (DELHI)	2019	13	53	64	160	44	122
		2020	11	124	100	320	67	222
		2021	42.0	73.0	160.0	296.0	96	196
		2022	56.0	72.0	266.0	360.0	104	124
		2018	59	279	263	449	175	392
20.	JAITPUR DRAIN (DELHI)	2019	91	230	209	506	75	446
		2020	90	237	182	610	100	383
		2021	37.0	82.0	160.0	344.0	68	196
		2022	40.0	66.0	160.0	266.0	80	124
		2018	41	127	136	355	83	178
21.	TUGLAKABAD DRAIN (DELHI)	2019	77	334	235	701	81	528
		2020	59	171	173	608	96	511
		2021	43.0	97.0	208.0	416.0	88	208
		2022	11.0	45.0	60.0	160.0	20	76
		22.	CONTRIBUTION OF OUT FALLS IN OLD AGRA CANAL	2021	66.0	66.0	240.0	240.0
23.	MOLARBAND DRAIN (DELHI)	2018	48	254	164	477	68	260
		2019	64	212	233	584	59	298
		2020	102	163	234	512	76	306
		2021	63.0	120.0	224.0	432.0	120	176
		2022	48.0	72.0	192.0	280.0	84	108
24.	SONIA VIHAR DRAIN	2018	21	42	94	234	142	443
		2019	4	66	28	210	126	865
		2020	70	70	250	250	353	353
		2021	42.0	88.0	160.0	408.0	84	268
		2022	75.0	100.0	240.0	426.0	96	220

Trend Analysis for drains monitored in Delhi during 2018- 2022

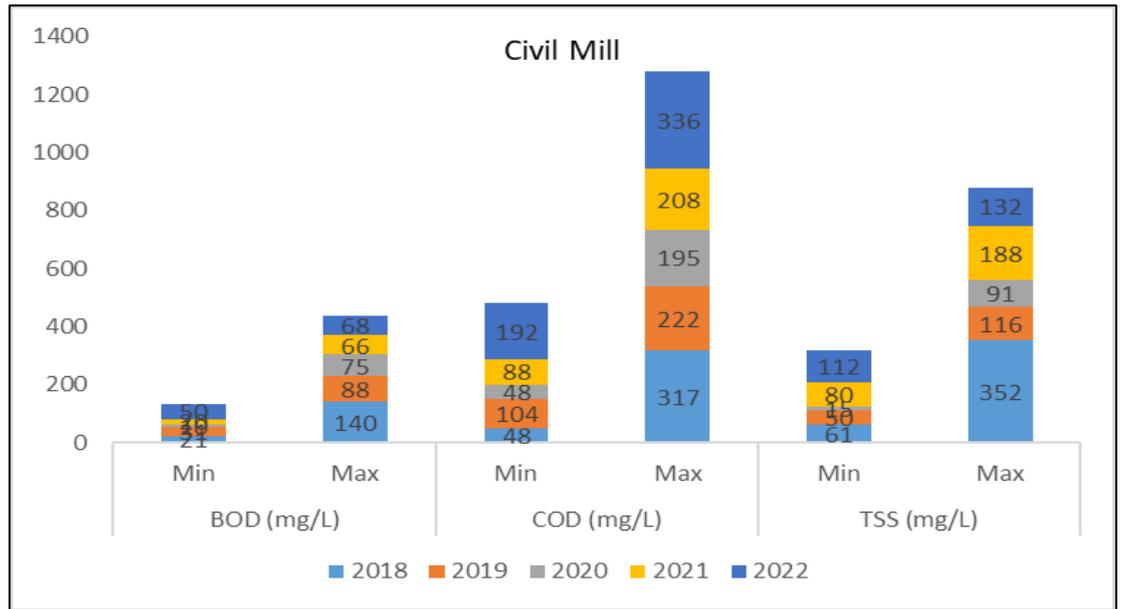


Figure 11: Trend analysis of water quality of Civil Mill Drain during the period 2018-2022

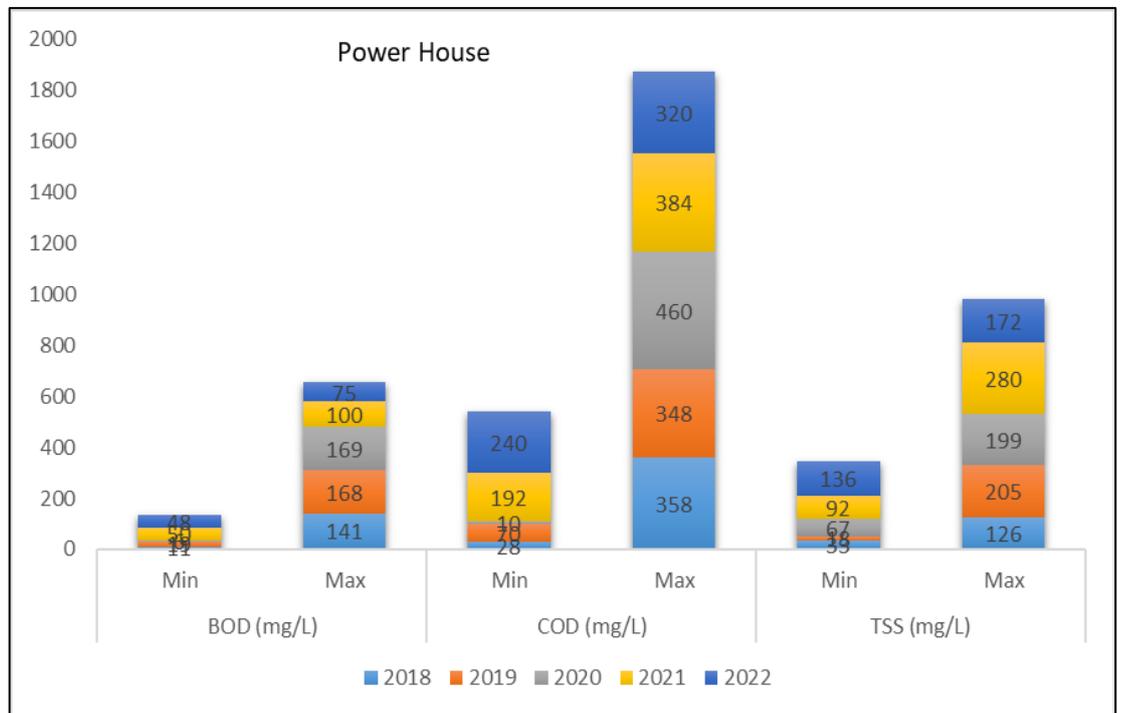


Figure 12: Trend analysis of water quality of Power House Drain during the period 2018-2022

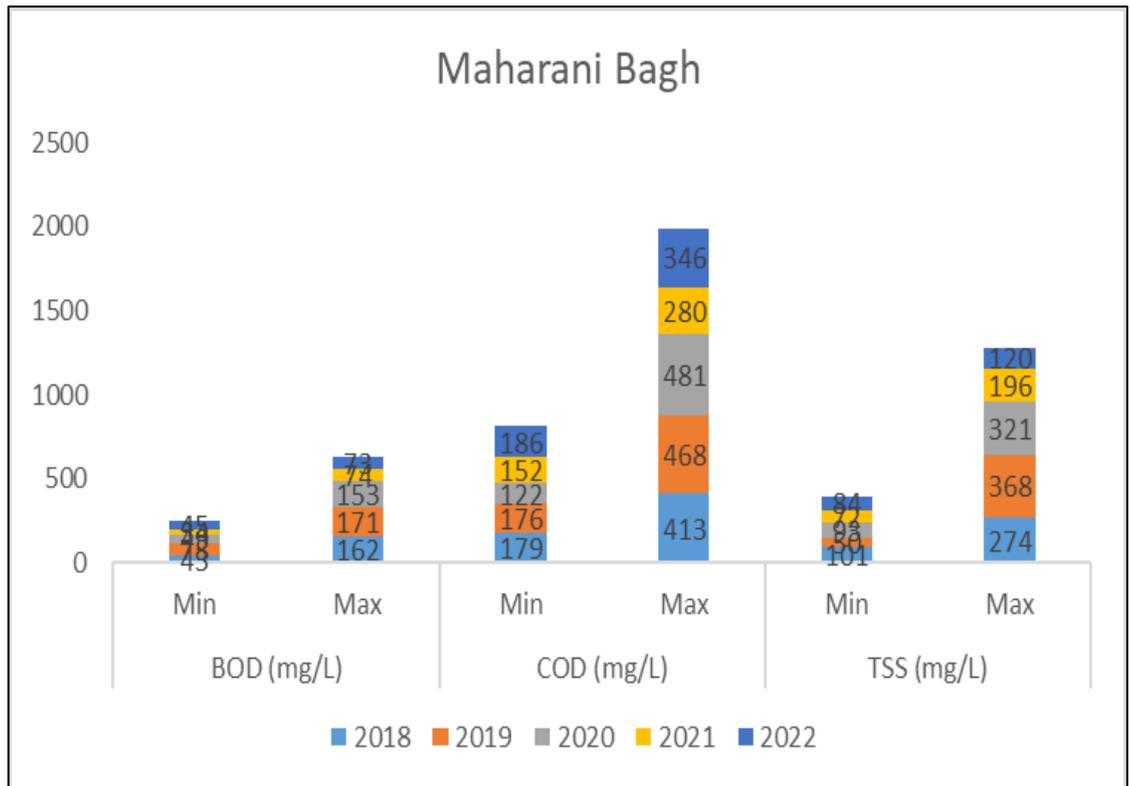


Figure 13: Trend analysis of water quality of Maharani Bagh Drain during the period 2018-2022

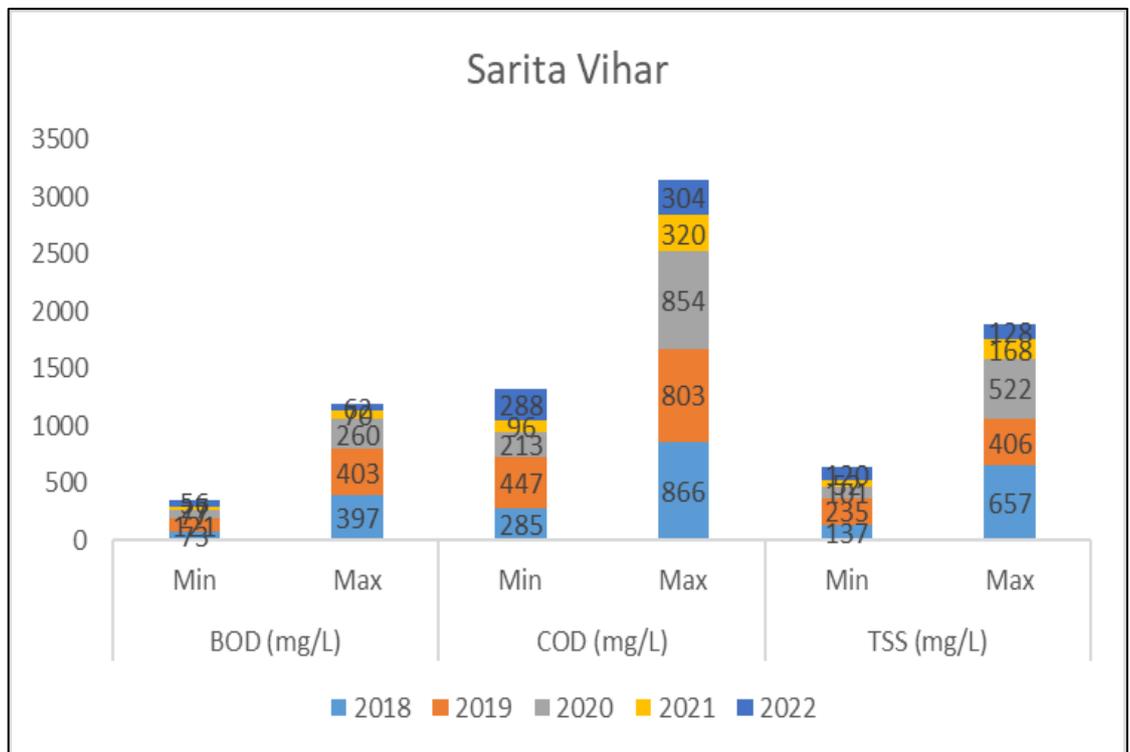


Figure 14: Trend analysis of water quality of Sarita Vihar Drain during the period 2018-2022

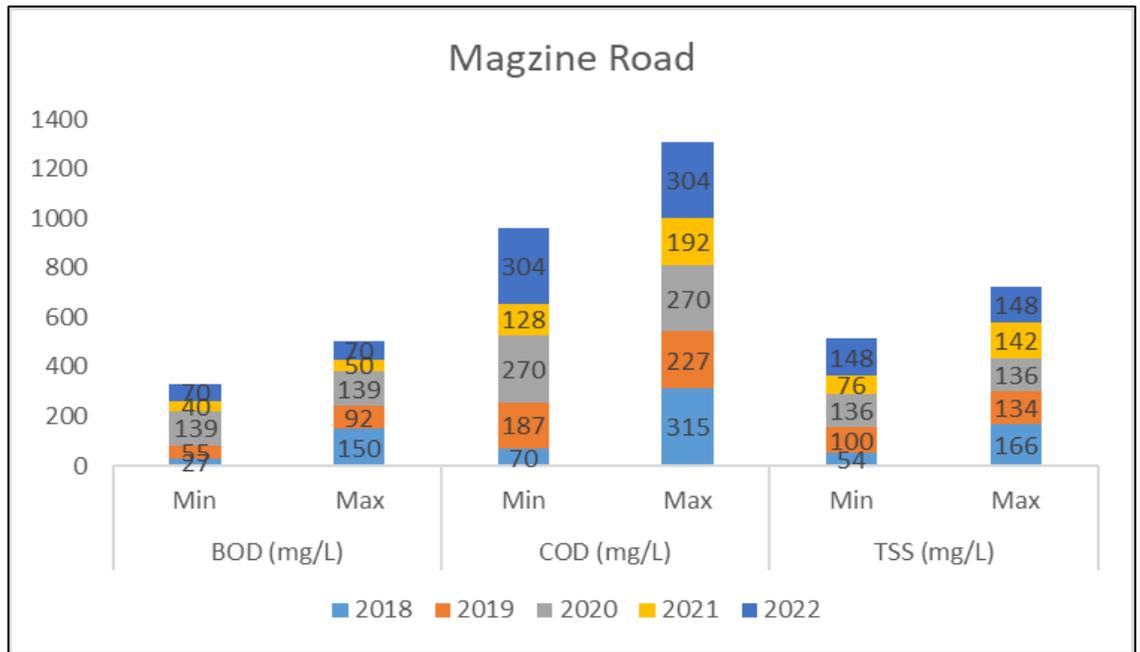


Figure 15: Trend analysis of water quality of Magazine Road Drain during the period 2018-2022

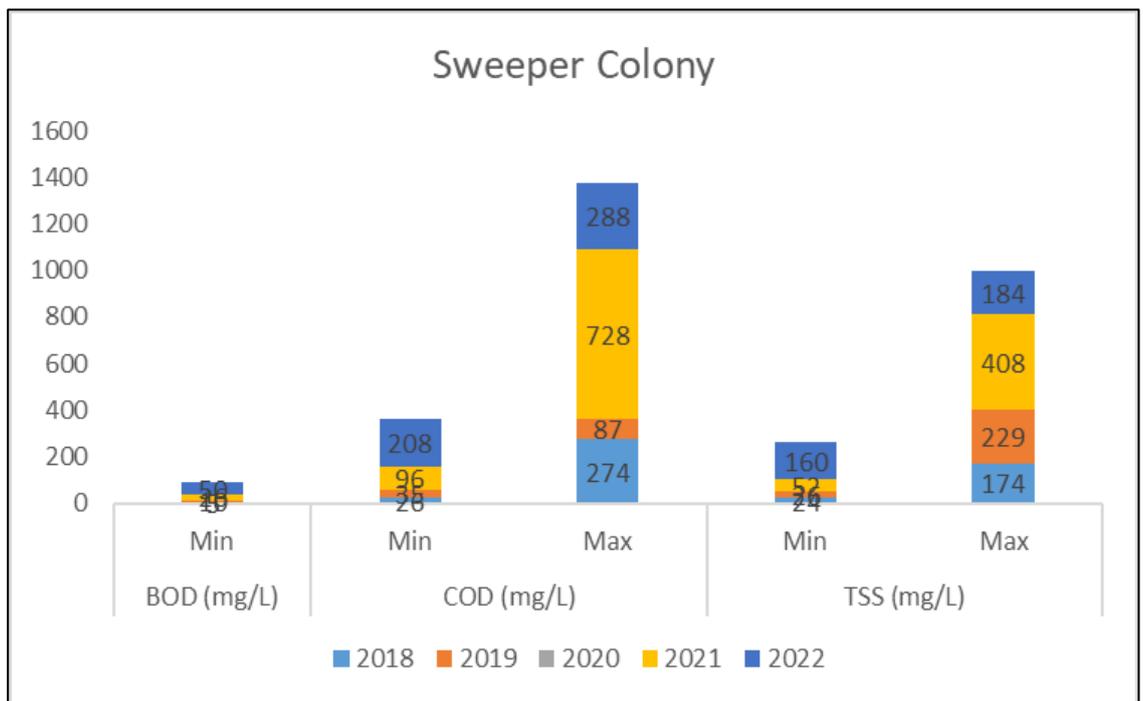


Figure 16: Trend analysis of water quality of Sweeper Colony Drain during the period 2018-2022

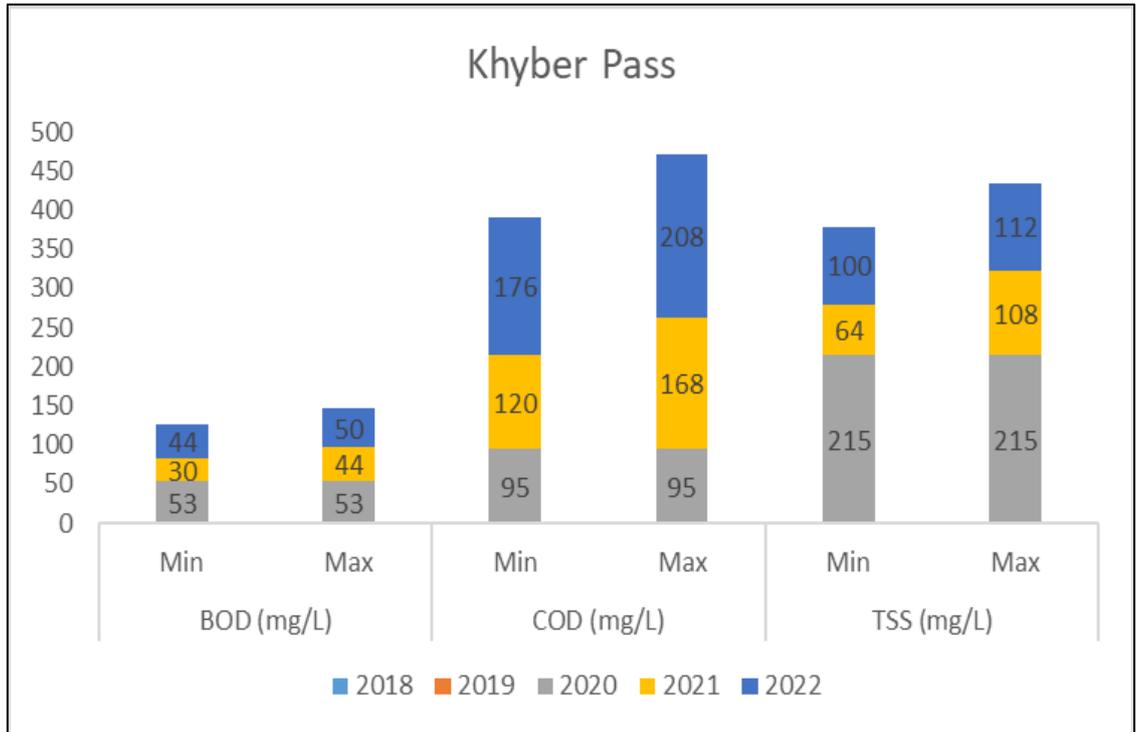


Figure 17: Trend analysis of water quality of Khyber Pass Drain during the period 2018-2022.

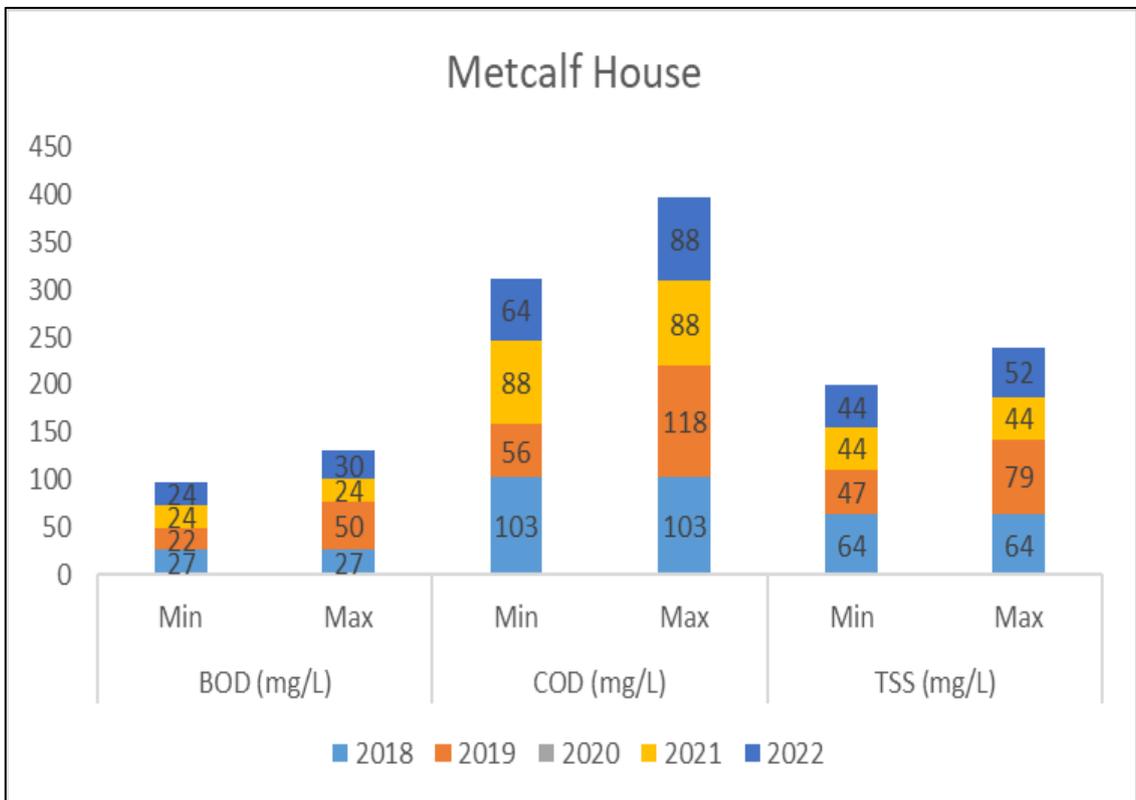


Figure 18: Trend analysis of water quality of Metcalf House Drain during the period 2018-2022.

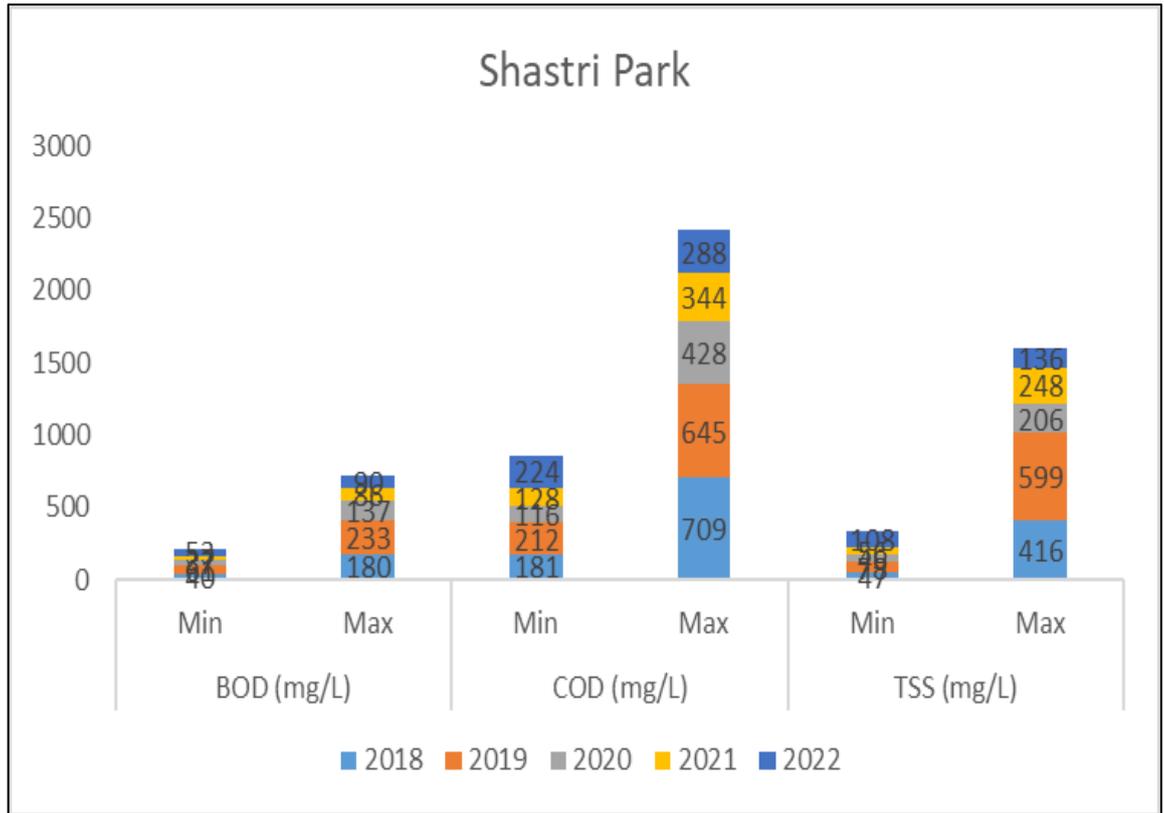


Figure 19: Trend analysis of water quality of Shastri Park Drain during the period 2018-2022.

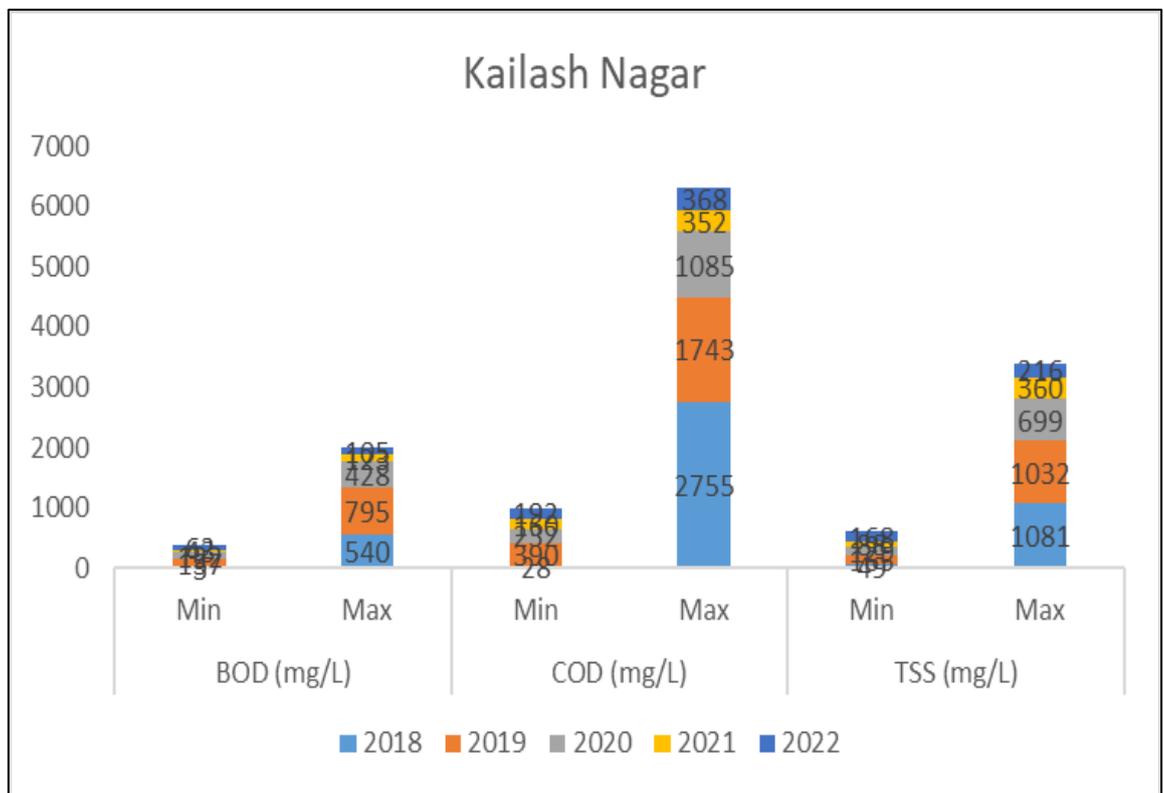


Figure 20: Trend analysis of water quality of Kailash Nagar Drain during the period 2018-2022.

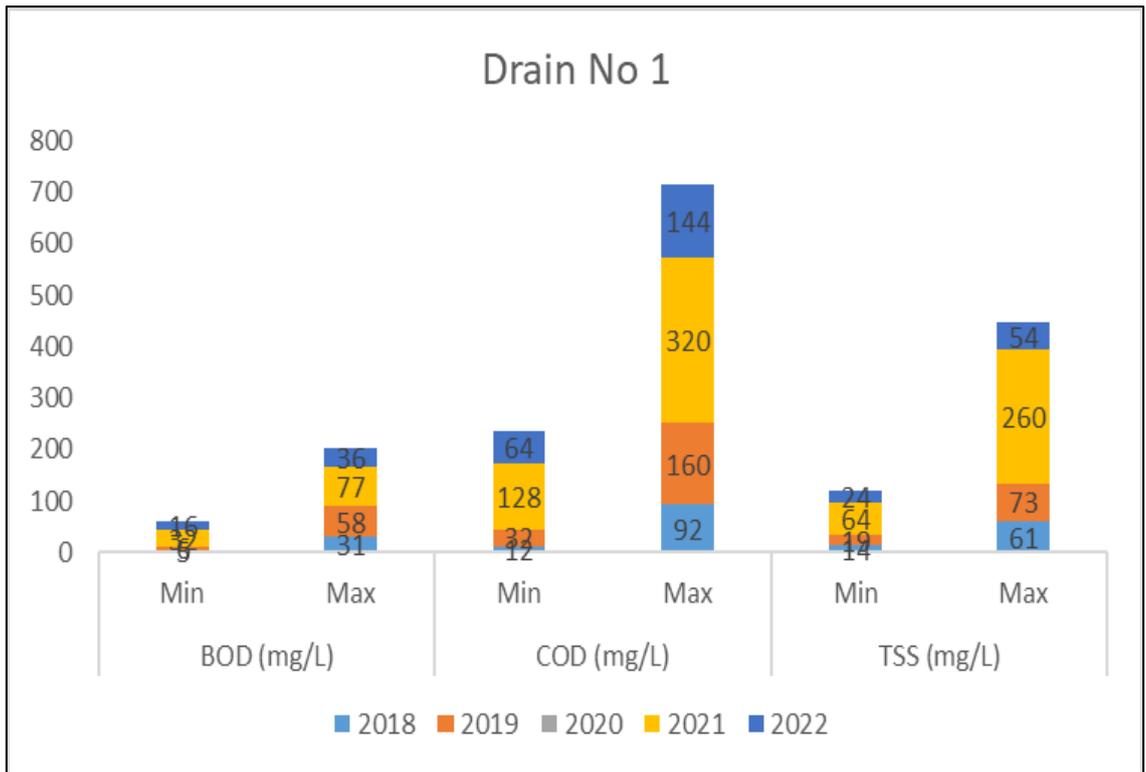


Figure 21: Trend analysis of water quality of Drain No. 1 during the period 2018-2022.

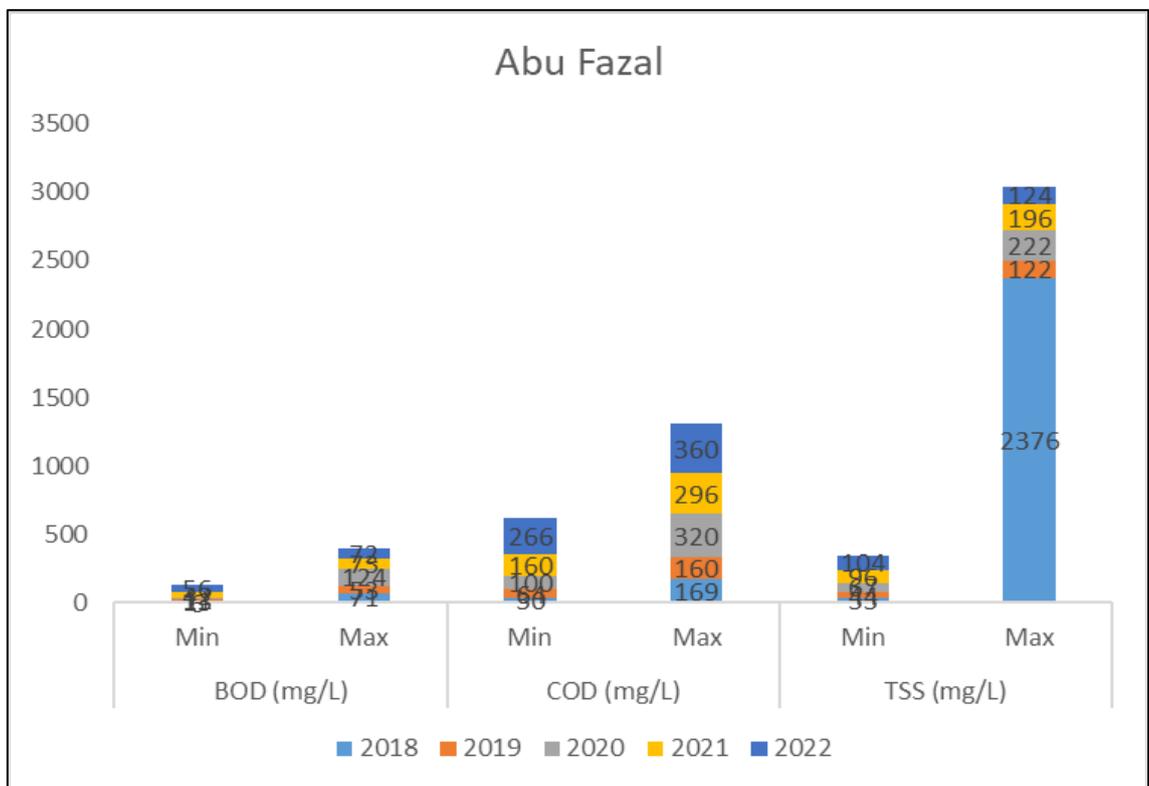


Figure 22: Trend analysis of water quality of Abu Fazal during the period 2018-2022.

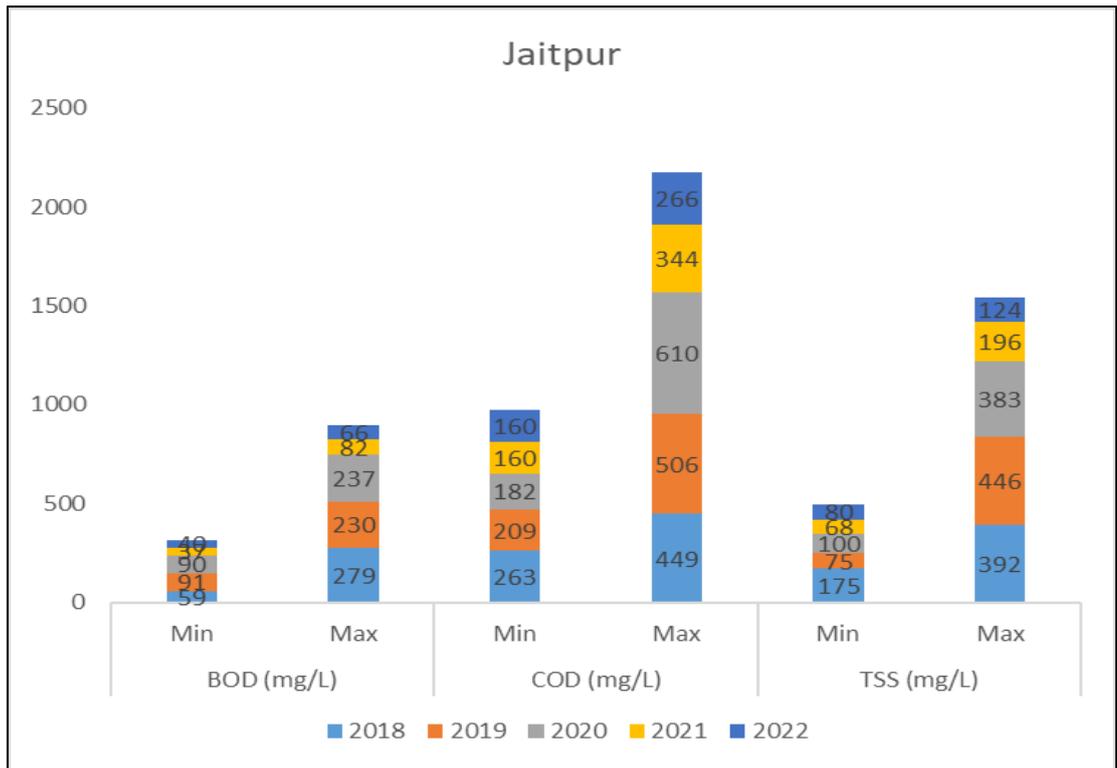


Figure 23: Trend analysis of water quality of Jaitpur during the period 2018-2022.

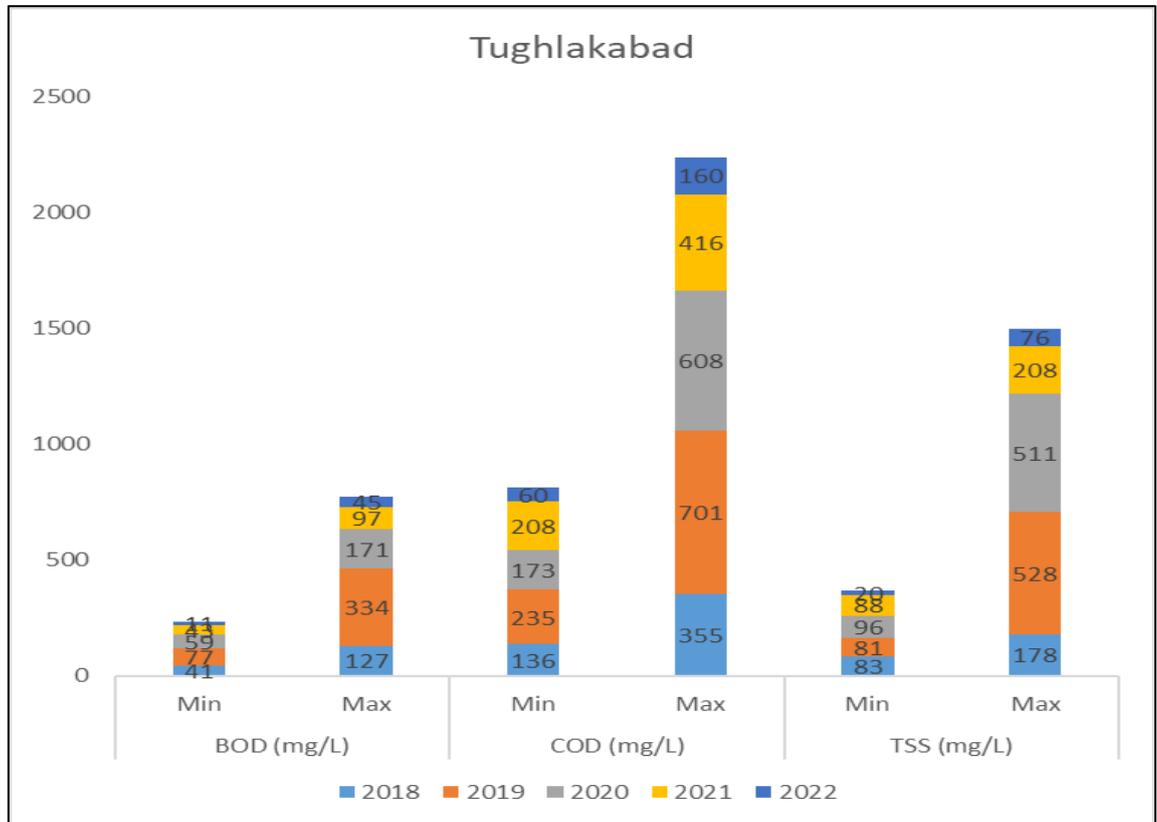


Figure 23: Trend analysis of water quality of Tughlakabad drain during the period 2018-2022.

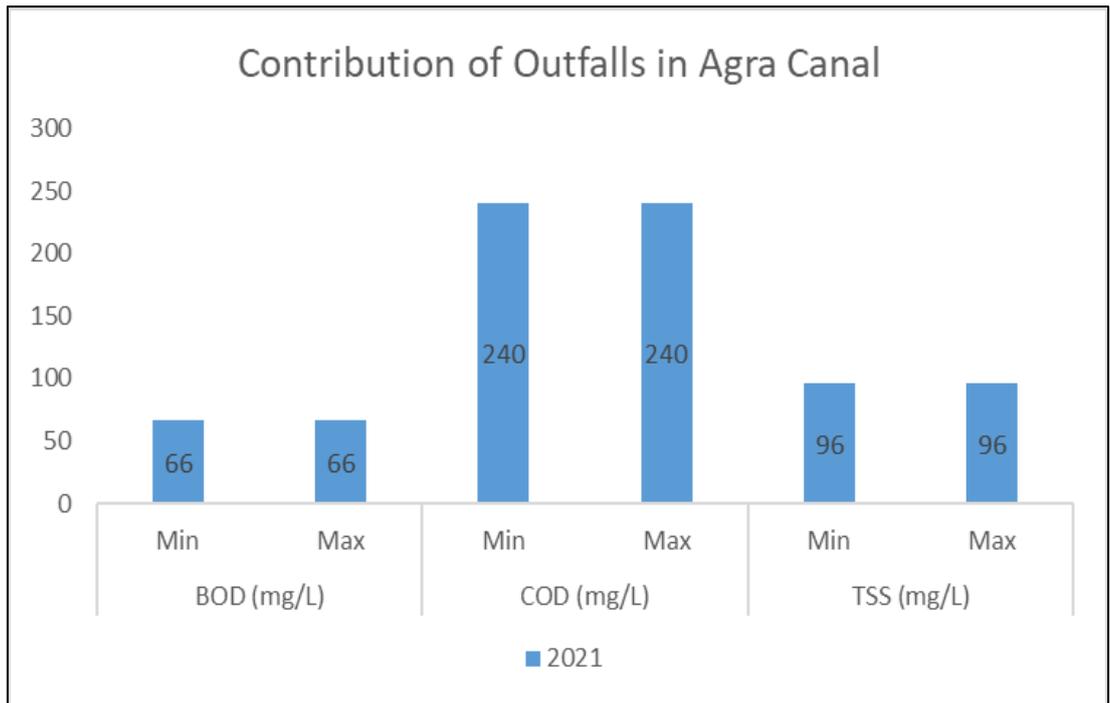


Figure 24: Trend analysis of water quality of Contribution of outfalls in Agra Canal during 2021.

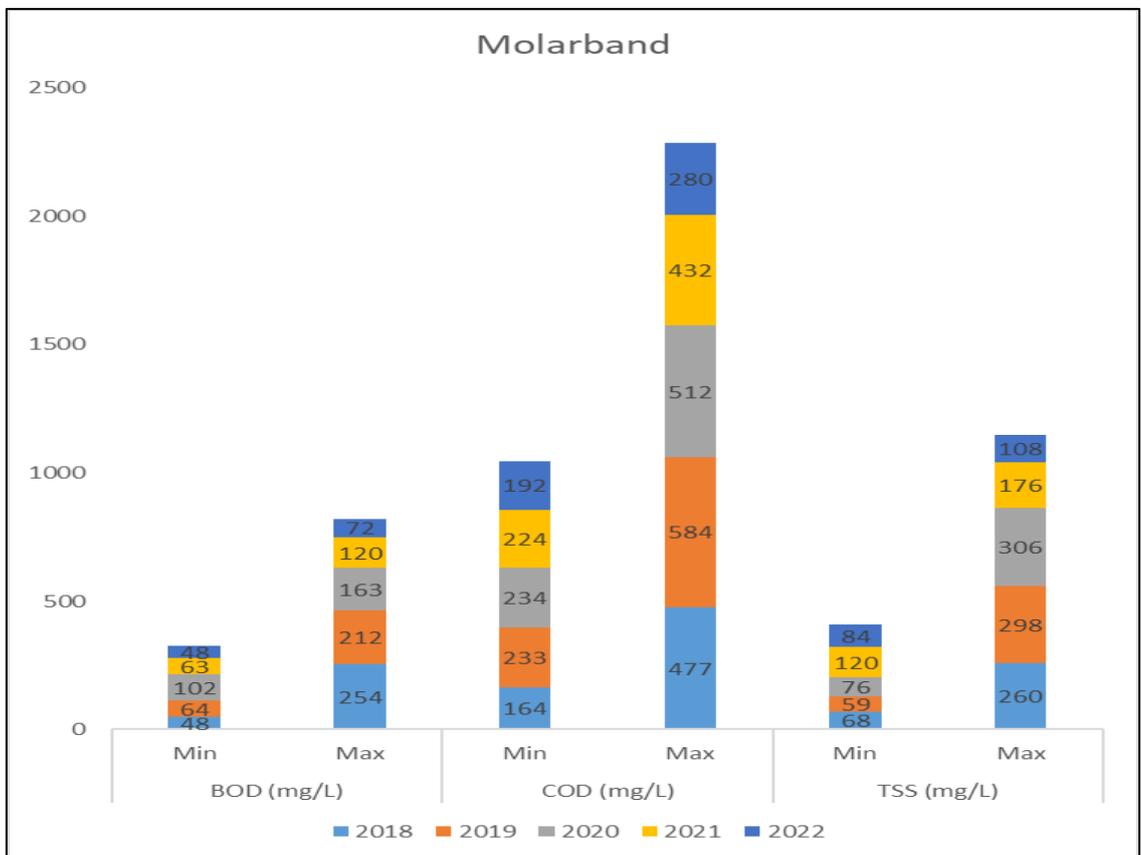


Figure 25: Trend analysis of water quality of Molarband drain during the period 2018-2022.

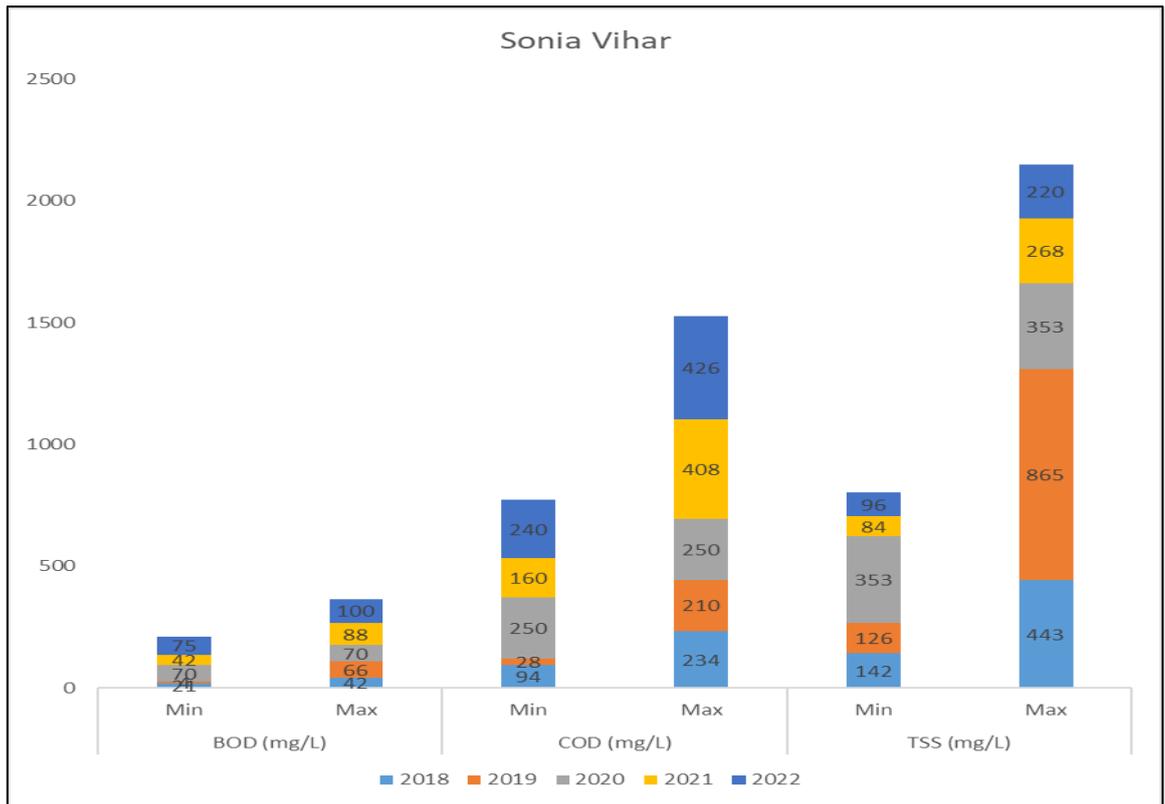


Figure 26: Trend analysis of water quality of Sonia Vihar drain during the period 2018-2022.

STATUS OF STPS IN DELHI

Table 6: Detailed Compliance Status of STPs in Delhi During April-December, 2022

S. No.	Name of STP	Capacity (in MGD)	Month wise compliance status of STPs							
			April	May	July	August	Sep	Oct	Nov	Dec
1	Akshardham	1	-	C	C	C	C	C	C	C
2	Chilla	9	NC	NC	C	C	C	C	NC	NC
3	Coronation Pillar Phase I & II	20	-	NC	NC	NC	NC	NC	NC	NC
4	Coronation Pillar New	70	-	NC	C	C	C	C	C	C
5	Delhi Gate Old	2.2	C	NC	C	C	C	C	NC	C
6	Delhi Gate New	15	C	NC	C	C	C	C	C	C
7	Ghitorni	5	-	NA	NA	NA	NA	NC	NC	NC
8	Kapashera	5	NC	C	C	C	C	C	C	C
9	Keshopur Phase I	12	-	NC	NC	C	NC	NC	NC	NC
10	Keshopur Phase II	20	-	NC	NC	NC	NC	NC	NC	NC
11	Keshopur Phase III	40	-	NC	NC	NC	NC	NC	NC	NC
12	Kondli Phase I	10	By pass	-	NC	NC	NC	NC	NC	NC
13	Kondli Phase II	25	-	NC	-	-	-	-	NC	-
14	Kondli Phase III		-	-	-	-	C	NC	NC	NC
15	Kondli Phase IV	45	NC	NC	NC	NC	NC	NC	-	NC
16	Mehrauli	15	NC	NC	NC	NC	NC	NC	NC	NC
17	Molarband	0.66	NC	NC	NC	NC	NC	NC	NC	NC
18	Najafgarh	5	-	NC	NC	NC	NC	NC	NC	NC
19	Narela	10	NC	NC	NC	NC	NC	NC	NC	NC
20	Nilothi Phase I	40	-	NC	NC	NC	NC	NC	NC	NC
21	Nilothi Phase II	20	-	C	C	C	C	C	C	C
22	Okhla Phase II	12	NC	NC	NC	NC	NC	NC	NC	NC
23	Okhla Phase III	37	NC	NC	NC	NC	NC	NC	NC	NC
24	Okhla Phase IV	45	NC	NC	NC	NC	NC	NC	NC	NC
25	Okhla Phase V	16	NC	NC	NC	NC	NC	NC	NC	NC
26	Okhla Phase VI	30	C	C	C	C	-	NC	NC	NC
27	Pappankalan Phase I	20	-	NC	NC	NC	NC	NC	NC	NC
28	Pappankalan Phase II	20	-	C	C	NC	C	C	C	C
29	Rithala Phase II	40	NC	C	C	C	C	NC	NC	C
30	Rohini	15	NC	NC	NC	NC	NC	NC	NC	NC
31	Sen Nursing Home	2.2	C	C	C	C		C	C	C
32	Vasant Kunj Phase I	2.2	NC	NC	NC	NC	NC	NC	NC	NC
33	Vasant Kunj Phase II	3	NC	NC	NC	NC	NC	NC	NC	NC
34	Yamuna Vihar Phase I	10	-	NC	NC	NC	NC	NC	NC	NC
35	Yamuna Vihar Phase II	10	-	NC	NC	NC	NC	NC	NC	NC
36	Yamuna Vihar Phase III	25	-	NC	NC	NC	NC	NC	NC	NC

Note: NA- Sample not received, C- Complying, NC- Non-Complying

Table 7: Information regarding mode of disposal mode of disposal / utilisation of treated sewage in Delhi

S. No.	Name of STP	Capacity (in MGD)	Mode of disposal	Use of treated sewage (90 MGD*)
1	Akshardham	1	-	In-house use
2	Chilla	9	Shahdara Drain	-
3	Coronation Pillar Phase I & II	20	Supplementary Drain	-
4	Coronation Pillar New	70		
5	Delhi Gate Old	2.2	Delhi Gate Drain	PPCL Power Plant
6	Delhi Gate New	15		
7	Ghitomi	5	Saket D block drain	-
8	Kapashera	5	Najafgarh Drain	
9	Keshopur Phase I	12	Najafgarh Drain	-
10	Keshopur Phase II	20		
11	Keshopur Phase III	40		
12	Kondli Phase I	10	Shahdara Drain	-
13	Kondli Phase II	25		
14	Kondli Phase III			
15	Kondli Phase IV	45		
16	Mehrauli	15	Saket D block drain	Horticulture
17	Molarband	0.66	Yamuna River	-
18	Najafgarh	5	Najafgarh Drain	-
19	Narela	10	Drain No. 6	-
20	Nilothi Phase I	40	Najafgarh Drain	-
21	Nilothi Phase II	20		
22	Okhla Phase II	12	Agra Canal	Horticulture in various parks in Delhi including Millennium Park in I.P Estate, Japanese Garden in Rohini and various parks in NDMC area and DTC Depots
23	Okhla Phase III	37		
24	Okhla Phase IV	45		
25	Okhla Phase V	16		
26	Okhla Phase VI	30		
27	Pappankalan Phase I	20	Najafgarh Drain	-
28	Pappankalan Phase II	20		
29	Rithala Phase II	40	Supplementary Drain	-
30	Rohini	15		
31	Sen Nursing Home	2.2	Sen Nursing Home Drain	PPCL Power Plant
32	Vasant Kunj Phase I	2.2		Horticulture

216

S. No.	Name of STP	Capacity (in MGD)	Mode of disposal	Use of treated sewage (90 MGD*)
33	Vasant Kunj Phase II	3	Hauz Khas Lake via Sanjay Van	
34	Yamuna Vihar Phase I	10	Yamuna River	-
35	Yamuna Vihar Phase II	10		
36	Yamuna Vihar Phase III	25		

Table 8: Current Utilization of Treated Effluent (break up of 90 MGD)

Municipal Agency	Quantity of effluent (MGD)	Mode of Conveyance
CPWD	22	Through piped network. Although DJB has laid a 1500 mm dia rising main from its Okhla STP upto CPWD network at ITO and is capable of carrying upto 40 MGD of Treated Effluent. But due to very old and weak network of CPWD full capacity of DJB pipelines is not being utilized. Through this pipeline CPWD is supplying treated effluent for maintaining Rajghat, Vijayghat, Kisanghat, President Estate, India Gate, and NDMC area etc. CPWD has been advised to strengthen their network by relaying the old network so that full 40 MGD can be supplied.
I & FCD	33.5	Through Irrigation canals
PWD Delhi	0.522	Through 45 Nos. of Tankers lifting treated effluent from filling points created by DJB at various STPs of Delhi
DJB STP	10.25	Through pipe network
CRRI	0.015	Through pipe network
SDMC- Okhla WZE MSW plant	0.069	Through pipe network
DTC	0.008	Through pipe network and 10 Nos. of Tankers lifting treated effluent from filling points created by DJB at various STPs of Delhi
DDA (Sanjay Van, Horti, Bhalswa lake, Garden of 5 senses)	10.3	Through open gravity channel and pipe network
PPCL	9.5	Through pipe network
MISC HORTICULTURE (MCD, NBCC)	4	Through Tankers lifting treated effluent from filling points created by DJB at various STPs of Delhi
PRIVATE AGENCIES	0.073	Through 60 Nos. of Tankers lifting treated effluent from filling points created by DJB at various STPs of Delhi