



DELHI POLLUTION CONTROL COMMITTEE

ANNUAL REPORT

2020-21





Sh. Gopal Rai
Hon'ble Environment Minister

Message

Since environmental concerns have increased over the past few decades, it is the primary responsibility of organizations like DPCC to speak out and take action. It is our duty to inform the public about the environmental actions made in the previous year.

On October 9, 2020, Delhi established a "Green War Room" to control pollution risk levels and track continuous improvement in this area. It keeps track on the effectiveness of pollution prevention methods.

The difficulties with the Territory's environment will become widely known among Delhi residents thanks to this report. We want to make it very apparent to the general public through this study that everyone has a responsibility to combat pollution.

My best wishes go out to the DPCC for their continued success in transforming Delhi into a more environmentally friendly city



Sh. Sanjeev Khirwar
Chairman

Preface

The ecology in which we exist and the environment in which we reside both have limited resources that cannot be overused to support human development. The system needs to be maintained effectively, and sustainable development is the way to do this without permanently harming the environment.

In order to facilitate business in Delhi, work has begun on 17 Compliance under Regulatory Compliance Burden. These include Self-Certification for Green and Orange category units requiring consent under the Water Act, 1974, and the Air Act, 1981, as well as Auto renewal with online payment for green and orange category units.

The compliance also includes completing yearly returns in accordance with the Solid Waste Management Rules, 2016, E- Waste Management Rules, 2016, Construction and Demolition Waste Management Rules, etc.

The DPCC has a responsibility to address numerous public issues; this is our only obligation, and we have been working to meet public expectations. I appeal to the public to join us in our efforts to address environmental challenges through this report.



Dr. K S Jayachandran
Member Secretary

From the desk of Member Secretary

The country's rigorous development has made it necessary to take some severe environmental action. In metropolitan areas, population growth is another factor that is contributing to lower living standards, a lack of basic necessities like clean water and air, inadequate sewage treatment and waste disposal facilities, and an excessive strain on infrastructure like transportation and communications.

The DPCC is always working to guarantee the effective use of the available natural resources in order to ensure sustainable development. The efforts of DPCC in converting industrial units for the use of PNG were recognized by CPCB and at several other forums. Delhi is a leading state where industrial units have converted to the PNG.

Continuous Ambient Air & Noise Quality Monitoring Stations installed by DPCC allow for regular monitoring of Delhi's ambient air and noise levels.

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CHAPTER I

1. INTRODUCTION TO DPCC

The Central Pollution Control Board (CPCB) is empowered to perform the functions of the State Pollution Control Board for all Union Territories. However, Section 4(4) of the Water (Prevention and Control of Pollution) Act, 1974 and Section 6 of the Air (Prevention and Control of Pollution) Act, 1981 provides that CPCB may delegate all or any of its powers and functions of a State Board in a UT under the said Acts to such person or body of persons as the Central Government may specify. Accordingly Delhi Pollution Control Committee (DPCC) has been delegated all the powers and functions of State Pollution Control Board in relation to NCT of Delhi by the Central Pollution Control Board (CPCB) vide Notification dated 15.03.1991. DPCC acts as a regulatory body for implementation of various Pollution Control Acts, Rules, Notifications, Court orders in NCT of Delhi. In order to decide the applications for consent and authorization in a transparent manner, various consent management committees consisting of members from reputed academic institutes and research organizations have been constituted.

DPCC has also been vested with statutory Powers, Functions and Duties under Section 5 of the Environment (Protection) Act, 1986 and Rules made there under.

1.1 ACTS



The Water (Prevention and Control of Pollution) Act, 1974.



The Air (Prevention and Control of Pollution) Act, 1981



The Environment (Protection) Act, 1986.

1.2 RULES

- ✚ Environment (Protection) Rules, 1986
- ✚ The Water (Prevention & Control of Pollution) Rules, 1975.
- ✚ The Air (Prevention & Control of Pollution) (Union Territories) Rules, 1983.
- ✚ The Bio- Medical Waste Management Rules, 2016
- ✚ E Waste (Management) Rules, 2016
- ✚ Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016.
- ✚ Construction and Demolition Waste Management Rules, 2016
- ✚ The Plastic Waste Management Rules, 2016
- ✚ Solid Waste Management Rules , 2016
- ✚ The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989
- ✚ Noise Pollution (Regulation and Control) Amendment Rules, 2000
- ✚ Batteries (Management and Handling) Rules, 2001
- ✚ The Ozone Depleting Substances (Regulation & Control) Rules, 2000.

1.3 CONSTITUTION OF DPCC

As per the notification dated 29th May, 2012 S.O. 1729 (E) the Central Pollution Control Board hereby delegates all the powers vested in the said Board under the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 in respect of the Union Territory of Delhi (known as National Capital Territory of Delhi) to the following Committee ,as specified by the Central Government:

Table 1: DPCC Committee

1.	Secretary, Department of Environment, Govt. of National Capital Territory of Delhi.	Chairman
2.	Commissioner, Department of Transport, Govt. of National Capital Territory of Delhi.	Member
3.	Secretary, Department of Health & Family Welfare, Govt. of National Capital Territory of Delhi.	Member
4.	Secretary, Department of Urban Development, Govt. of National Capital Territory of Delhi.	Member
5.	Commissioner, Department of Industries, Govt. of National Capital Territory of Delhi.	Member

6.	Member Secretary, Central Pollution Control Board.	Member
7.	Advisor / Director, Control of Pollution Division, Ministry of Environment and Forest, New Delhi.	Member
8.	Medical Superintendent, All India Institute of Medical Science (AIIMS), New Delhi.	Member
9.	Director, School of Planning & Architecture, New Delhi.	Member
10.	Prof. S.K. Singh Professor & Head, Department of Environment Engineering, Delhi Technological University (DTU), Delhi.	Member
11.	Prof. A.K. Mittal, Professor, Department of Civil Engineering, Indian Institute of Technology (IIT), Delhi.	Member
12.	Dr. T.K. Joshi, Director, Centre for Occupational & Environmental Health (COEH), Maulana Azad Medical College (MAMC), New Delhi.	Member
13.	Dr. Ravi Aggarwal, Founder Director, Toxics Link Jangpura Extension, New Delhi.	Member
14.	Mrs. Bharti Chaturvedi, Director, Chintan Environment Research and Action Group, Siddhartha Enclave, New Delhi.	Member
15.	Director, Department of Environment, Govt. of National Capital Territory of Delhi.	Member
16.	Member Secretary, Delhi Pollution Control Committee.	Member Secretary

1.3.1 Area of Jurisdiction and Main Activities

- ✚ All Industrial units causing Air/Water/Noise pollution or generating Hazardous Waste.
- ✚ Dust pollution control from Construction projects/activities.
- ✚ Hospitals, Clinics, Nursing Homes, Pathological Labs, etc. for the implementation of Bio-Medical Waste Management Rules.
- ✚ Issuance of CTE & CTO to units under Section 25/26 of Water Act, 1974 and Section 21 of the Air Act, 1981.
- ✚ Issuance of Authorization to units under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, Solid Waste Management Rules, Bio Medical Waste Management Rules, Plastic Waste Management Rules, Construction and Demolition Waste Management Rules etc.
- ✚ To promote cleaner fuels /approved fuels in various industrial units.

- ✚ Monitoring & Analysis of effluent, air emissions and noise levels on payment of required fees by the units such as industries, hotels, malls, etc.
- ✚ Monitoring the performance of STPs, CETPs, Power Plants etc.
- ✚ Ambient Air quality monitoring in different parts of Delhi.
- ✚ Surface (river, drains etc.) and ground water monitoring & analysis.
- ✚ Providing guidance to Small Scale Industries regarding prevention & control of pollution.
- ✚ Redressal of pollution related public complaints.
- ✚ Mass awareness programs to ensure public participation in preventing and controlling pollution.
- ✚ Carrying out R&D Studies to control pollution.
- ✚ Providing subsidy to owner of Battery-Operated Vehicles.

1.4 Functions of DPCC

1.4.1 Following are the functions of DPCC as per section 17 of the Water (Prevention and Control of Pollution) Act, 1974:

- (a) To plan a comprehensive program for the prevention, control or abatement of pollution of streams and wells in the State and to secure the execution thereof;
- (b) To advise the State Government on any matter concerning the prevention, control or abatement of water pollution.
- (c) To collect and disseminate information relating to water pollution and the prevention, control or abatement thereof;
- (d) To encourage, conduct and participate in investigations and research relating to problems of water pollution and prevention, control or abatement of water pollution;
- (e) To collaborate with the Central Board in organizing the training of person engaged or to be engaged in programmes relating to prevention, control or abatement of water pollution and to organizes education programmes relating thereto;
- (f) To inspect sewage or trade effluents, works and plants for the treatment of sewage and trade effluents and to review plans, specifications or other data relating to plants set up for the treatment of water, works for the purification thereof and the system for the disposal of sewage or trade effluents or in connection with the grant of any consent are required by this Act;

- (g) Lay down, modify or amend effluent standards for the sewage and trade-effluents and for the quality of receiving waters (not being water in an inter- State stream) resulting from the discharge of effluents and to classify waters of the State;
- (h) To evolve economical and reliable methods of treatment of sewage and trade effluents, having regard to the peculiar conditions of soils, climate and water resources of different regions and more especially the prevailing flow characteristics of water in streams and wells which render it impossible to attain even the minimum degree of dilution;
- (i) To evolve methods of utilization of sewage and suitable trade effluents in agriculture;
- (j) To evolve efficient methods of disposal of sewage and trade effluents on land, as are necessary on account of the predominant conditions of scanty stream flows that do not provide for major part of the year the minimum degree of dilution;
- (k) To lay down standards of treatment of sewage and trade effluents to be discharged into any particular stream taking into account the minimum fair-weather dilution available in that stream and the tolerance limits of pollution permissible in the water of the stream, after the discharge of such effluents;
- (l) To make, vary or revoke any order-
 - ✚ For the prevention, control or abatement of discharges of waste into streams or wells;
 - ✚ Requiring any person concerned to construct new systems for the disposal of sewage and trade effluents or to modify, alter or extend any such existing system or to adopt such remedial measures as are necessary to prevent control or abate water pollution;
- (m) To lay down effluent standards to be complied with by persons while causing discharge of sewage or sullage or both and to lay down, modify or amend effluent standards for the sewage and trade effluents.
- (n) To advise the State Government with respect to the location of any industry the carrying on of which is likely to pollute a stream or well;
- (o) To perform such other functions as may be prescribed or as may, from time to time be entrusted to it by the Central Board or the State Government.
- (p) The Board may establish or recognize a laboratory or laboratories to enable the Board to perform its functions under this section efficiently, including the analysis of samples of water from any stream or well or of samples of any sewage or trade effluents.

1.4.2 Following are the functions of DPCC as per section 17 of the Air (Prevention and Control of Pollution) Act, 1981:

- (a) To plan a comprehensive programme for the prevention, control or abatement of air pollution and to secure the execution thereof;
- (b) To advise the State Government on any matter concerning the prevention, control or abatement of air pollution;
- (c) To collect and disseminate information relating to air pollution;
- (d) To collaborate with the Central Board in organizing the training of persons engaged in programmes relating to prevention, control or abatement of air pollution and to organize mass-education programme relating thereto;
- (e) To inspect air pollution control areas at such intervals as it may think necessary, assess the quality of air therein and take steps for the prevention, control or abatement of air pollution in such areas;
- (f) To inspect air pollution control areas at such intervals as it may think necessary, assess the quality of air therein and take steps for the prevention, control or abatement of air pollution in such areas;
- (g) To lay down, in consultation with the Central Board and having regard to the standards for the quality of air laid down by the Central Board and having regard to the standards for the quality of air laid down by the Central Board, standards for emission of air pollutants into the atmosphere from industrial plants and automobiles or for the discharge of any air pollutant into the atmosphere from any other source whatsoever not being a ship or an aircraft:
 Provided that different standards for emission may be laid down under this clause for different industrial plants having regard to the quantity and composition of emission of air pollutants into the atmosphere from such industrial plants;
- (h) To advise the State Government with respect to the suitability of any premises or location for carrying on any industry which is likely to cause air pollution;
- (i) To perform such other functions as may be prescribed or as may, from time to time, be entrusted to it by the Central Board or the State Government;

- (j) To do such other things and to perform such other acts as it may think necessary for the proper discharge of its functions and generally for the purpose of carrying into effect the purposes of this Act.
- (k) A State Board may establish or recognize a laboratory or laboratories to enable the State Board to perform its functions under this section efficiently.

CHAPTER II

2 ORGANISATIONAL STRUCTURE OF DPCC

2.1 Sr. Officers of DPCC

Table 2: Organizational structure of DPCC

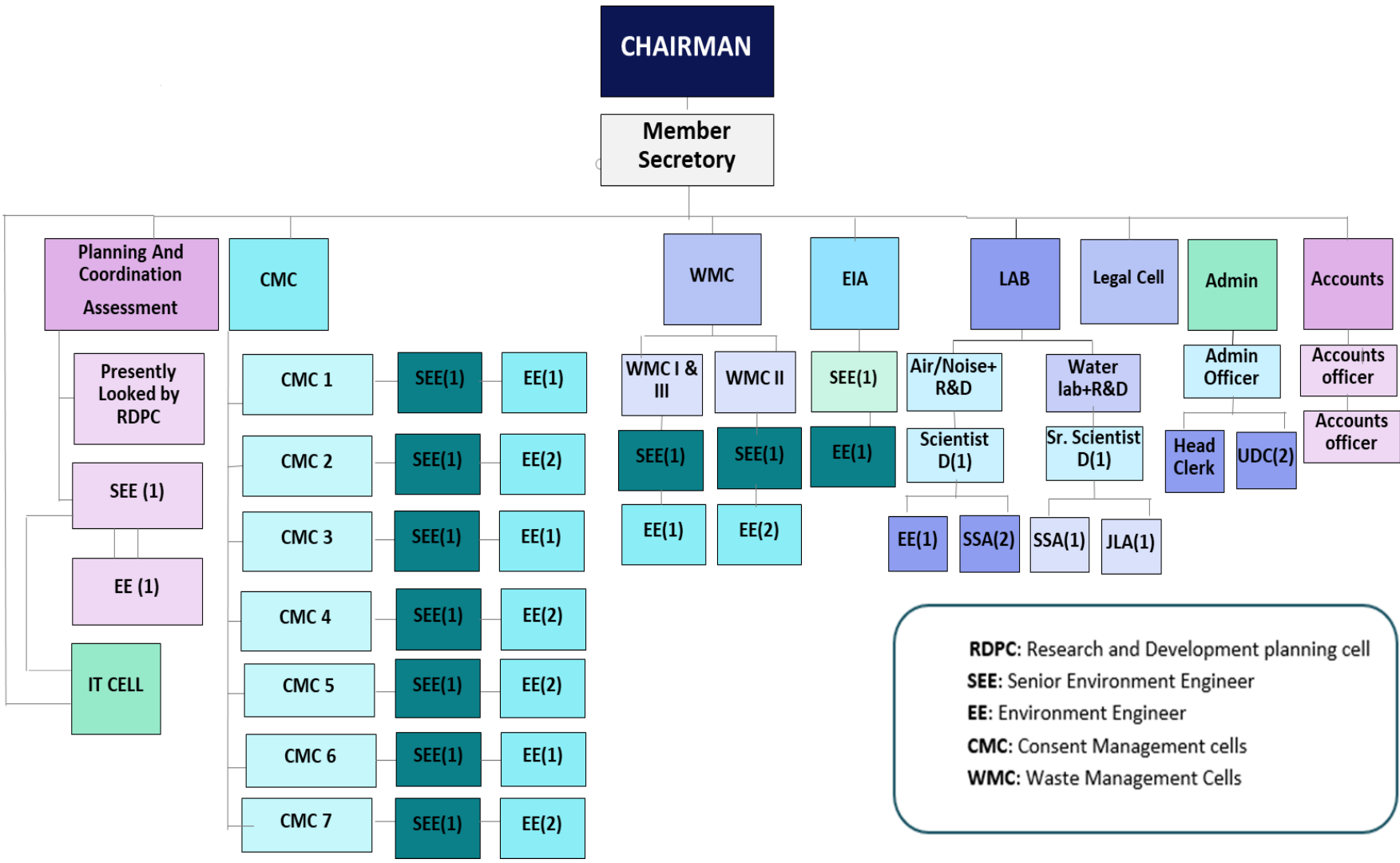
S.No.	Name	Designation	Department	Area of Jurisdiction	Phone	Email Address	Address
1.	Sh. Sanjeev Khirwar	Chairperson	DPCC	All matters of DPCC	23392108	chdpcc@nic.in	6th floor, C wing, Delhi Secretariat, I P Estate, Delhi-110002
2.	Dr. K.S Jayachandran	Member Secretary	DPCC	All matters of DPCC	23860389, 23392306	ssenv@delhi.gov.in	6th floor, C wing, Delhi Secretariat, I P Estate, Delhi-110002
4.	Sh. Deepak Kumar Singh	Sr. Environmental Engineer	WMC-II	All matters related to CETPs, STPs, Water Treatment Plants, Solid Waste Management, Construction & Demolition	9717593512	dksingh.dpcc@nic.in	5th Floor, ISBT Building, Kashmere Gate, Delhi -06

				Waste Management, Power Plants, TSDf for Hazardous Waste			
5.	Sh. Pankaj Kapil	Sr. Environmental Engineer	WMC-I and EIA	All matters related to Health Care Establishments, All projects to whom Environmental clearances have been issued by MOEF & CC / SEIAA-Delhi, except those pertaining to Health Care Establishments	9717593514	pankajkapil.dpcc @nic.in	5th Floor, ISBT Building, Kashmere Gate, Delhi -06

				and Power Plants/ Solid Waste Facilities.			
6.	Dr. M.P. George	Scientist C	Air Laboratory	All matters related to Air Lab (Air & Noise Monitoring).	9717593520	mohanpg.dpcc@ nic.in	5th Floor, ISBT Building, Kashmere Gate, Delhi -06
7.	Dr. Nandita Moitra	Scientist 'C'	Water Laboratory	All matters related to Water & Waste Water Monitoring	9717593521	namditamoitre.d pcc@gov.in	4th Floor, ISBT Building, Kashmere Gate, Delhi -06
8.	Sh. B. L. Chawla	Sr. Environmental Engineer	IT Cell, RDPC and SPIO under RTI Act	IT related work and all matters related to Planning and coordination and SPIO(RTI Act,2005).	9717593516	blchawla.dpcc@n ic.in	5th Floor, ISBT Building, Kashmere Gate, Delhi -06
9.	Sh. P. S. Pankaj	Sr. Environmental	CMC-I	All matters of East, Shahadara	9717593517	pspankaj.dpcc@ nic.in	1st floor, E Block, Vikas Bhawan-II, Civil Lines,

		Engineer		and North East district and BOV related work			Delhi-110054
10.	Smt. Ajeeta Dayal Aggarwal	Sr. Environmental Engineer	CMC-II and WMC-IV	All matters of South, South East & South West district and matters related to Covid-19 Health Care Establishments.	9717593511	ajeetaagarwal.dpcc@nic.in	2nd floor, C Block, Vikas Bhawan-II, Civil Lines, Delhi-110054
11.	Sh. Satender Kumar	Sr. Environmental Engineer	CMC III and CMC VII	All matters of North-West and Central district	9717593519	satender.dpcc@nic.in	4th Floor, ISBT Building, Kashmere Gate, Delhi -06
12.	Dr. B.M.S Reddy	Sr. Environmental Engineer	CMC-IV	All matters of New Delhi district. Matter related to E-Waste Rules, Battery Rules,	9717593543	bmsreddy.dpcc@nic.in	2nd floor, C Block, Vikas Bhawan-II, Civil Lines, Delhi-110054

				Import of HW & Other wastes under HWM Rules and Slaughter House.			
13.	Sh. Md. Arif	Sr. Environmental Engineer	CMC V	All matters of North district	9717593510	arifmohd.dpcc@ nic.in	1st floor, E Block, Vikas Bhawan-II, Civil Lines, Delhi-110054
14.	Dr. Anwar Ali Khan	Sr. Environmental Engineer	CMC VI and Climate Change	All matters of West district and Matter related to Climate Change.	8527411124	envanwar@gmail .com	2nd floor, C Block, Vikas Bhawan-II, Civil Lines, Delhi-110054



CHAPTER III

3 BOARD MEETINGS

3.1 Major Decisions of Last DPCC Board Meeting (i.e. 69th) Held on 30.12.2020

I. Benefits of GPF-cum-Pension Scheme and New Pension Scheme to the employees of DPCC

- ✚ The committee has in principle approved the proposal to extend the benefits of GPF-cum-Pension Scheme to all CPF beneficiaries of DPCC who joined before 01.01.2004 (Including those who have superannuated).
- ✚ The DPCC shall engage actuaries and framework for setting Terms of Reference shall be prepared and actuarial studies may be conducted. References may be taken from similar pension facility in other state boards and agencies in NCT of Delhi.
- ✚ The issue of corpus Fund for pension scheme with one time investment of Rs. 60 Crores shall be re-examined so that nothing comes out as financial liabilities on Govt. of NCT of Delhi. The DPCC shall maintain separate account of Corpus fund for pension scheme.
- ✚ The Committee also approved in principle of implementation of New Pension Scheme for all Employees of DPCC who joined after 01.01.2004. Financial Implications may be worked out. Necessary approval of Govt. of NCT of Delhi should be obtained.

II. Revised fee structure for Health Care Facility

- ✚ The Committee decided that that fee structure shall continue for health care facilities.
- ✚ The committee also decided that fee structure w.r.t Path Labs needs to be re-examined after comparison from other Pollution Control Boards/ Committees.

III. Registration of Battery Dealers under Batteries (Management & Handling) Rules, 2001

- ✚ The Committee approved the proposal to levy a fee of Rs. 10,000.
- ✚ Further Committee shall be constituted for better implementation of Battery Rules, 2001.

IV. Authorization Asst. Environment Engineer, Environment Engineer and Sr. Environment Engineer of Delhi Pollution Control Committee to file complaints under Water Act, 1974 and Air Act, 1981

- ✚ The committee ratified the decision of authorization of Senior Environmental Engineers, Environmental Engineers and Assistant Environmental Engineers to file complaints under the provisions of Air Act and Water Act.

V. Engagement of Trainees against 21 newly sanctioned post of Junior Env. Engineer

- The Committee approved the proposal of engaging trainee Engineers against the vacant sanctioned post of JEEs and also approved extension of additional 40 trainees till 31.03.2022.

VI. Engagement of Media Advisor on Contract Basis initially for period of one year.

- The committee ratified the decision of engagement of media advisor for period of 01 year.
- It was also decided that a media adviser may further be engaged for handling twitter handle of DPCC, Facebook and other Social Media on regular basis.

VII. Acceptance of Statutory Audit Report for financial year 2008-2009 & 2009-2010

- The Committee approved the statutory financial audit for the Financial year 2008-2009 and 2009-2010.

VIII. Annual Statement for financial year 2008-2009 & 2009-2010

- The committee approved the audit report of 2008-2009 and 2009-2010.

IX. To ratify the appointment of M/s. K. G. Sharma, Chartered Accountant for Statutory Audit and preparation of Balance Sheet for the financial year 2010-11 to 2012-13

- The committee ratified the appointment of M/s. K.G.Sharma & Co, CA for the statutory audit and preparation of the balance sheet of financial year 2010-2011 to 2012-2013.

X. To ratify the appointment of M/s. Deepesh Kingrani, Chartered Accountant for book writing work of Air Ambience Fund for the year 2008-09 to 2014-15

- The committee ratified the appointment of M/s. Deepesh Kingrani, Chartered Accountant for book writing work of Air Ambience Fund for the year 2008-09 to 2014-15.

XI. To ratify the appointment of M/s. Deepesh Kingrani & Associate, Chartered Accountant for book writing work of financial year 2016-17 to 2018-19.

- The committee ratified the appointment of M/s. Deepesh Kingrani, Chartered Accountant for book writing work of Air Ambience Fund for the year 2016-2017 to 2018-2019.

XII. Shifting of DPCC office to DMRC, Shastri IT Park Bldg. from ISBT, KG

- The Committee has approved in principle the proposal of shifting of office to IT park, Shastri Park.
- Space at MSO Building, ITO be explored first.

CHAPTER IV

4 ACHEIVEMENTS

1. OCMMS Project

-  Development & implementation of COVID-19 E-Pass Module.
-  Development & implementation of C&D Module.
-  Implementation of additional reports – i.e. New Consent Report, WMC III Report, E-District Report, E-Waste /Manza Report, Verify Application Payment Report etc.
-  Amendments as per SRAP

2. E-District OCMMS Integration (8 Online Services)

-  Issuance of the Consent certificate under Air & Water Act
-  Authorization under Bio-Medical Waste Management Rules, 2016
-  Authorization under the Hazardous Wastes Management Rules for import of Ferrous & non-ferrous scrap
-  Authorization under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016
-  Authorization under Solid Waste Management Rules, 2016
-  Registration under Plastic Waste Management Rules, 2016
-  Authorization for refurbishers/ dismantler for E-waste
-  Authorization under Construction and Demolition Waste Management Rules, 2016

3. MHA-OCMMS Integration

-  Development & Implementation of Workflow CMC wise.

4. Green Delhi App

-  Launch of Android App based on Public Grievances.
-  Official Web-Portal.

5. Establishment of Green War Room

-  For Monitoring Green Delhi App & OLMS.
-  Deputed 17 Green Marshal

6. Ease of doing Business – work started on 17 Compliance under Regulatory Compliance Burden:-

1. Auto renewal with online payment for Green category units requiring consent under Water Act, 1974 and Air Act, 1981
2. Self-Certification for Green category units requiring consent under Water Act, 1974 and Air Act, 1981
3. Auto renewal with online payment for Orange category units requiring consent under Water Act, 1974 and Air Act, 1981
4. Self-Certification for Orange category units requiring consent under Water Act, 1974 and Air Act, 1981
5. Auto renewal with online payment for Authorization under Bio-Medical Waste Management Rules, 2016
6. Filling of annual return under Bio-Medical Waste Management Rules, 2016.
7. Auto renewal with online payment for Authorization under Plastic Waste Management Rules, 2016.
8. Filling of annual return under Plastic Waste Management Rules, 2016.
9. Self-Certification for Authorization under Plastic Waste Management Rules, 2016.
10. Self-Certification for Authorization under E- Waste Management Rules, 2016.
11. Auto renewal with online payment for Authorization under E- Waste Management Rules, 2016
12. Increase periodicity of renewal for Authorization under E- Waste Management Rules, 2016.
13. Filling of annual return under E- Waste Management Rules, 2016.
14. Filling of annual return under Hazardous Wastes Management Rules for import of Ferrous & Non-ferrous scrap.
15. Filling of annual return under Hazardous and Other Waste (Management and Transboundary) Rules, 2016.
16. Filling of annual return under Solid Waste Management Rules, 2016.
17. Filling of annual return under Construction and Demolition Waste Management Rules, 2016.

7. Development of Common Hazardous Waste, Treatment, Storage & Disposal Facility (TSDF) at Bawana

Presently there is no TSDF for Hazardous Waste in Delhi. Delhi Govt. made a lot of efforts in the past for having its own TSDF in Delhi. 14 Acres of Land was procured from North DMC by Environment Dept. & was given to DSIIDC for constructing / Developing Common TSDF for Hazardous Waste at Bawana in Delhi. In the past Rs. 44.10 Crore was paid to North DMC from Air Ambience Fund on account of cost of Land and an amount of Rs. 8.05 Crores was given to DSIIDC as grant in aid towards 50 % of Capital cost of TSDF. Besides SLF for land filling TSDF will also be having Incinerator for disposal of Incinerable Hazardous Waste.

DSIIDC has awarded the work of development of TSDF for Hazardous Waste to M/s Tamil Nadu Waste Management Limited. Public Hearing for Environmental Clearance for TSDF was conducted by DPCC on 14.07.2020 and MoEF&CC has granted Environmental Clearance vide letter dated 23.11.2020. Consent to Establish under the Air & Water Acts was issued by DPCC to the Project Proponent on 31.12.2020. Work of development of TSDF for Hazardous Waste at Bawana is under progress & Landfill (SLF) for Hazardous Waste is expected to be completed by June / July, 2021 and whole TSDF including Incinerator is expected to be commissioned by December, 2021.

8. Improvement in the off take/lifting of C&D Recycled Materials and Enhancement of the Capacity of the C&D Waste Processing Facilities in Delhi

✚ Action taken by DPCC and meetings taken by the Chairman, DPCC from time to time resulted in improvement in the off take / lifting of C & D Recycled Materials from the existing C & D Waste Processing Facilities in Delhi at Jahangirpuri (Burari), Shastri Park, Mundka & Bakkarwala. Offtake of C & D Recycled Products by Govt. Departments increased from 4.13 Lakh Ton in 2019 – 2020 to 6.1 Lakh Ton in 2020-2021 (about 48 % increase).

✚ Total Capacity of C & D Waste Processing Facilities in Delhi increased from 2650 TPD in 2019 – 2020 to 4150 TPD by Commissioning of New C & D Waste Processing

Facility at Bakkarwala (1000 TPD) & Expansion of existing Facility at Shastri Park (from 500 TPD to 1000 TPD).

9. River Yamuna - Monitoring of Water Quality & various Projects of DJB and related NGT Cases

- ✚ DPCC is carrying out Water Quality Monitoring of River Yamuna at 9 locations, 18 major drains out falling into river Yamuna, 13 CETPs & all the operational STPs of Delhi Jal Board on monthly basis and Analysis Results are placed on the website of DPCC.
- ✚ Online Monitoring System for measuring the concentration of Ammonia commissioned at Palla.
- ✚ Various projects of Delhi Jal Board related to treatment of sewage/ waste water in drains (Interceptor Sewer Project, Trapping of Drains, Construction of New STPs at Coronation Pillar & Okhla, Rehabilitation of Existing STPs at Rithala, Kondli & Yamuna Vihar) were monitored through the meetings of Chief Secy. from time to time resulting in enhancement of treatment through STPs from 500 MGD in 2019 - 2020 to 535 MGD in year 2020-2021.
- ✚ Upgradation of CETPs through the study given by DSIIIDC to NEERI was monitored from time to time.
- ✚ **Works related to Yamuna Monitoring Committee (YMC)** constituted by the Hon'ble NGT vide order dated 26.07.2018 in O.A. No. 06 / 2012 in the matter of Manoj Mishra Vs Union of India & Ors. for control of pollution in river Yamuna in Delhi. No. of meetings taken by the YMC were attended and Information / Action Taken Reports etc. in respect of DPCC were provided to YMC from time to time.

YMC in its Final Report submitted to the Hon'ble NGT on 29.06.2020 has acknowledged the contribution of Chairman & Member Secretary, DPCC.

- ✚ **Dealt NGT case O.A. No. 673 / 2018 in the matter of "News item published in 'The Hindu' Authored by Shri Jacob Khoshy Titled "More river stretches are now critically polluted: CPCB" (Regarding Control of Pollution in Rivers in India and in case of Delhi River Yamuna) and related issues including preparation of Action**

Plan for Rejuvenation of River Yamuna in Delhi, compilation of Information / Action Taken Reports etc. in respect of Delhi.

- + Meetings of Chief Secy., were organized & held from time to time and progress / action taken by various departments (DJB,DDA,DSIIDC, Local Bodies etc.) related to their projects for control of pollution in river Yamuna were reviewed. Monthly Progress Report of Delhi were sent to Ministry of Jal Shakti & CPCB regularly.
- + Report on Foam Formation in River Yamuna was prepared in August, 2020 and submitted to Yamuna Monitoring Committee.
- + Action Plan for Prevention of Froth/ Foam formation in river Yamuna was prepared in November, 2020 and sent to all concerned Departments/Authorities for taking necessary action.

10. Solid Waste Management, Review Meetings & Related NGT Case :

- + Dealt NGT Case OA No.- 606 / 2018 regarding Compliance of Municipal Solid Waste Management Rules, 2016.
- + Meetings of Chief Secy., were organized & held from time to time to review the Solid Waste Management in Delhi and progress of various projects / action taken by various Local Bodies to fill the gap in Solid Waste Management.
- + Compiled Information / Action Taken Reports & Quarterly Reports of Govt. of NCT of Delhi were submitted to CPCB as per the orders of Hon'ble NGT.
- + Joint Inspection/ Monitoring of all the 3 operational Waste to Energy Plants in Delhi were carried out with team consisting of representatives of CPCB, MOEF&CC and IIT, Delhi and based on the Reports of the Team, total Environmental Compensation of Rs. Forty Lakh was imposed and received from the 3 operational Waste to Energy Plants in Delhi.

Regular meetings held for review of Solid Waste Management in Delhi resulted in:

- + Improvement in Segregation of Waste at Source particularly in Model Wards.
- + Enhancement in the Treatment & Processing of Municipal Solid Waste (5193 TPD in March, 2020 to 5741 TPD in March, 2021)

- + Reduction of timelines for completing / commissioning of various proposed projects related to treatment & processing of Municipal Solid Waste.
- + Improvement in Bio-mining of Legacy Waste at 3 Dumpsites at Ghazipur, Bhalaswa & Okhla [2.58 Lakh Ton on 12.03.2020 (Trommels-19) to 22.58 Lakh Ton on 15.03.2021 ((Trommels-51)]
- + Decentralized Bio-methanation plants capacity increased from 30 TPD (6 Nos of 5 TPD each) in March, 2020 to 40 TPD (8 Nos of 5 TPD each) in March, 2021.
- + Decentralized Composter Plants capacity increased from 12 TPD (12 Nos of 1 TPD each) in March, 2020 to 15 TPD (15 Nos of 1 TPD each) in March, 2021.
- + Following are the main proposed MSW Treatment & Processing Facilities in Delhi:
 - i. 2000 TPD Waste to Energy Plant at Tehkhand (Timeline for Commissioning - March,2022)
 - ii. 2000 TPD Integrated MSW Processing Facility at Ghonda Gujran (including 600 TPD WTE, 1200 TPD Bio-methanation & 200 TPD C&D Processing Plant) (Timeline for Commissioning- Sept, 2022)
 - iii. 2500 TPD Integrated MSW Processing Facility at Rani Khera (Timeline for Commissioning-Dec,2022)
 - iv. Engineered SLF at Tehkhand (Timeline for Commissioning- March,2022)

11. Consent Management

- + Total 372 consents have been granted.
- + Category I- 158, Category II(b)-204, Category II(a)-10

12. Smog Tower

Hon'ble Supreme Court of India in Writ Petition (Civil) 13029/1985 titled as M. C. Mehta V/s Union of India & Ors. dated 13.11.2019 has directed Delhi Govt. to put up concrete proposal for feasibility of Smog Towers in Delhi to contain Smog problem. In order to comply with the orders of Hon'ble Court following steps were taken:

1. DPCC roped in CPCB, IIT Bombay, IIT Delhi, Department of Science and Technology and started consultations and a High Level Committee was constituted to suggest the feasibility of smog towers in Delhi. Urgent meeting was called and experts were requested to submit report. Report was submitted and it was decided to set up one

smog tower on experimental basis and based on the successful performance requirement of other smog tower will be assessed. Affidavit was filed by Delhi Govt. on 5.12.2019 to set up one smog tower on experimental basis.

2. Hon'ble Supreme Court in its judgement on 13.1.2020 has asked Govt. of India as well as Delhi Govt. to set up 2 Smog Towers in Delhi. One by GOI and one by GNCTD.
3. Hon'ble Supreme Court of India vide order dated 31.08.2020 had further directed that the project be positively completed within 10 months, i.e. by June 14, 2021 and that any violation on any ground whatsoever shall be treated as contempt of the order passed by the Hon'ble Court.
4. After a great deal of efforts and persuasion and inspection of various sites two sites were identified, one at Connaught Place and other at Anand Vihar. Tremendous efforts were made to get the land transferred to DPCC followed by other clearances from other statutory agencies.
5. The Delhi Pollution Control Committee on behalf of GNCTD has entered into agreement with Tata Projects Limited, IIT Bombay by involving them as Project Executing agency and technical advisor respectively and NBCC has been taken in the Project as Management Consultant for installation of Smog Tower (An Air Purification Device) at Old NDMC Nursery, Baba Kharag Singh Marg, Connaught Place, New Delhi.
6. The smog tower project is almost completed and it is hoped that smog tower shall be functional by 5 Aug, 2021.

13. Important Court Cases Disposal

In a very important matter pending in NGT in OA no 56 of 2013: Satish Kumar vs Union of India and 57 of 2013, Mahavir Singh, wherein, Chief Secretary, GNCTD was issued strict directions and even heavy penalty was imposed on Delhi Govt. matter was regarding running of many plastic industries in Non-conforming areas in West District. Following rigorous actions were taken and ATR's were filed time to time to the satisfaction of NGT and case was later disposed of by NGT.

1. Teams were constituted and Joint inspection drive were conducted by the team of Revenue, DPCC, MCD, DISCOM and Police and app. 240 units were closed down and EDC was imposed on them.

2. A study was conducted by Jamia Millia Islamia for assessment of Ground water quality due to operation of such units. No contamination was observed in report.
3. Detailed Action Plan for EDC utilization was prepared and submitted to NGT.
4. After day night persuasion with SDMC, the cumulative amount of construction and demolition waste of 163275 MT dumped on road sides and vacant plots and drains was cleared from 08.11.2019 upto 12.02.2020 in Mundka and Tikri Area. During the same period garbage and plastic waste of 97596 MT has also been cleared, potholes of 6756 sq. meter of space were filled up and 226 km of road stretch have been paved in West District.
5. Coordinated, Step 2 and Step 3 drive conducted by North and South MCD for closing down illegal units operating in non-conforming areas in Delhi.

In other important case in OA no. 1008/2018 Deepak Dutta vs UOI at NGT following key actions were supervised:

1. Joint drive of DPCC and Revenue, DJB, Police and SDMC was conducted to check the compliance of environmental norms, parking norms, ground water extraction in 23 big banquet halls operating at Najafgarh Road in West District. All the banquet halls were either operating without DPCC consent or violating the prescribed norms. EDC was imposed on all 23 Banquet halls and closure directions to Banquet halls without DPCC consent. Consequent to these actions all Banquet halls obtained DPCC consent and complied all environmental norms.
2. After detailed study of existing The (Permission of Halls) Regulations, 2010 of DDA the suggestions with respect to incorporation of environmental regulations and parking policy was submitted to NGT. The NGT agreed to modifications suggested by DPCC and directed DDA to incorporate the suggestion of DPCC in revised Banquet Hall regulations and Master Plan.

14. Enforcement

DPCC officials regularly monitoring and doing surveillance on polluting activities in NCT of Delhi and ensuring implementation of various Environmental Acts and Rules and inspection is conducted wherever it is necessary.

15. Other Achievements

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Hon'ble Supreme Court "**M.C Mehta Vs UOI & Ors**" W.P 4677/ 1985 and Hon'ble NGT Matter of "**Mayank Manohar & Paras Singh, Reporter, Times of India Vs Govt of NCT of Delhi**" passed series of directions for taking action to prevent illegal units operating in non-conforming areas in violation of MPD-2021 and creating pollution. The work related to the case was co-ordinated as per office order dated 25.06.2020. Lists of illegal sealed units in Step- I (**1072 units**), Step-II (**711 Units**) and Step-III (**1415 Units**) were collected from commissioner of Industries/ DSIIDC. The area wise lists were sent to concerned CMCs for issuing the SCNs for imposing the Environmental Damages Compensation (**EDC**) and after considering the replies of the units, directions for imposing the EDC @ Rs 2 Lakh in White category, Rs 5 lakh for Green category, Rs 20 Lakhs for Orange and Rs 50 Lakh for Red category were issued by concerned CMCs. Total EDC of **Rs 61.16 Crore** on Step I units, **Rs 29.40 Crore** on Step-II and **Rs 103.45 Crore** were imposed on these units. In total EDC of **Rs 194.01 Crore** was imposed on **3198** illegal units. Further course of action is being taken for recovery of EDC imposed.
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That due to regular vigil and surveillance through inspections in early morning/ late night/ weekend's, S. S. Pickling units could not operate in Wazipur Industrial Area. Because of effective closure and enforcement action taken against the operation of S.S. Pickling units in Wazirpur industrial area, pH at the inlet of Wazirpur CETP has improved considerably. These units had also removed their plant and machinery so as to keep their chance of operation/ revival at the minimal. After preparing/ filing of detailed Action taken report in the Hon'ble NGT cases of **All India Lokadhikar (OA No. 159/2013)** and **Ashoka Mitra Mandal (OA NO.77/2016)** were disposed off. The Hon'ble Supreme Court has also stayed deposition of penalty of Rs 35 crores by the Delhi Govt. which was imposed by Hon'ble NGT.
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Directions were issued to all Air polluting units using unapproved fuel to convert to the PNG. Numerous meetings were held with IGL and Industrial Associations to facilitate their individual units to convert from other fuel to usage of PNG. Efforts continued for more than one year. Consequently, PNG line was laid and was provided by M/s IGL in 48 of the 50 industrial areas. Due to coordinated efforts of DPCC, more than 1500 individual units had registered for conversion to PNG. Out of which more than 1350 units are

successfully running on PNG. Delhi is leading State where industrial units had converted to the PNG, the efforts of DPCC in conversion of units for usage of PNG were appreciated by CPCB and at various other forums.

- ✚ There are many Hon'ble Supreme Court/ NGT cases which were dealt by CMC-III. In all these cases appropriate action has been taken and timely prepared the Action Taken Reports. In Hon'ble NGT important cases which were dealt are All India Lokadhikar (OA No.159/2013), Ashoka Mitra Mandal (OA NO.77/2016), Simran Gupta, Bachao (NGO) OA No. 827/2019), Anubhav Kumar. (OA.No 533/2019, Mayank Manohar & Paras Singh Reporter Times of India Vs Govt. of NCT of Delhi & Other (O.A NO. 601 OF 2018) and Mayank Manohar Case. All these cases were disposed off due to complete, appropriate action and timely filing of ATR in Hon'ble NGT.
- ✚ 451 Consent applications under Air and Water Act have been received, 337 (approx. 75%) were decided and disposed off during this period.
- ✚ Redressed the public complaints as per the office order dated 27.01.2012 and also complaints coming on portal of PGMS/ LG Listening/ CPGRAMs/ SAMEER App etc. in the area of jurisdiction.
- ✚ Inspections were carried out of Ready Mix Concrete Plants, Construction of Projects and vehicle cutting/ scrap units in compliance of various office orders with respect to Air Pollution/ Court orders. SCNs/ directions for closure/ SCNs for imposing EDCs of an amount of Rs 85 lakhs were issued for violations observed.

CHAPTER V

5 GREEN WAR ROOM AND GREEN DELHI APP



The Green War Room (GWR) is a 24x7 pollution monitoring and mitigation initiative that is situated at Delhi Secretariat. The GWR monitors complaints filed by the citizens of Delhi through the Green Delhi App. The Green Delhi App is a tool, developed by the Delhi Pollution Control Committee (DPCC) and NIC, which allows citizens to identify and report dispersed sources of air and noise pollution in the National Capital. The App then assigns the complaints to the concerned department(s) for resolution. The GWR facilitates the process of resolution for each complaint raised on the Green Delhi App.

For efficient functioning of the GWR, the following six stakeholders have been identified:

1. **Dept. of Environment:** The department has been given charge to manage overall operations of the GWR.
2. **Delhi Pollution Control Committee:** Senior Environmental Engineer (S.E.E) and Environmental Engineer (E.E), Individuals employed under DPCC given charge to take action for timely disposal of public grievances submitted through the Green Delhi App.
3. **DPCC Trainees:** A team of individuals given responsibility to carry out the day-to-day operations of the GWR.

4. **Green Marshals:** A group of Civil Defense volunteers given responsibility to assist in quick on-ground inspection and resolution of complaints. To ease operations, the Green Marshals have been grouped into two categories:
 - a. Green Marshal Field Teams: A team of civil defense volunteers responsible for carrying out inspections and on-ground verification.
 - b. Green Marshal Coordination Team: A team of Green Marshals has been given the responsibility to assist coordination between the GWR and Green Marshal Field Teams.
5. **Nodal Officers from Urban Local Bodies (Departments):** Officers given charge to manage timely resolution of complaints within their departments.
6. **Green Delhi App IT Team (DPCC):** A team of IT professionals given responsibility to manage the Green Delhi App dashboard and other IT requirements of the GWR.

Each stakeholder of the GWR would be provided with a Login ID and password to access the dashboard platform through the mobile app or desktop website.

The key responsibilities of each stakeholder is detailed below-

5.1 In-charge:

The In-charge will hold overall responsibility for the efficient running of the GWR. They are responsible for all outputs and will be the point of contact for all functions in the GWR. The In-charge for the GWR will be Sh. B.L. Chawla, SEE (RDPC).

The In-charge will be responsible for the following:

- i. Management of workforce at all levels: The In-charge will be responsible to ensure sufficient manpower is allocated for the smooth functioning of the Green War Room. The roster and allocation of DPCC Trainees and Green Marshals would be managed by the In-charge.
- ii. Facilitating weekly reviews: The In-charge will be responsible for facilitating conduct of weekly review meetings of unresolved issues to be chaired by the competent authority.
- iii. Preparation of daily/weekly status reports for higher authority: The In-charge will be responsible for all reports that are generated and shared for monitoring and review purposes.

The list of reports to be generated is detailed below:

1. Daily Status Report: The In-charge will send daily status reports to the Chairman and Member Secretary of DPCC.
2. Weekly Status Report: The In-charge will prepare and submit a weekly progress report that summarizes all operational successes and issues for the weekly review meeting.
- iv. Facilitating resolution of issues: The In-charge will facilitate the resolution of all complaints in the Green Delhi App by escalating issues to the relevant authorities. The In-charge will also suggest corrective actions that can be used to smoothen operations.
- v. Manage infrastructural requirements: The In-charge will ensure that all necessary requirements needed for the smooth operation of the GWR are met with support from the Deputy Secretary, Environment Department, Government of Delhi.
- vi. Coordination with Nodal Officers: The In-charge will ensure timely resolution of issues and escalate the unresolved/overdue issues to Nodal Officers in the Municipal Corporation Department.
- vii. Propose action against overdue/serious/recurring, etc. complaints: The In-charge will prepare a list of issues that are overdue/serious/recurring, etc. post escalation and take action accordingly as per direction of the competent authority.
 1. It is compulsory to take action on issues that have been overdue beyond certain time*.
 2. The In-charge will coordinate and provide official permission to the concerned S.E.E or E.E to take any action as deemed necessary.
- viii. Training of DPCC Trainees: The In-charge will prepare a guide to help Trainees and Green Marshals understand what the ideal response to issues raised on the Green Delhi App should be. It will cover the following areas:
 1. Image comparison between a partially resolved issue versus a completely resolved issue across all categories mentioned in the Green Delhi App.
 2. One-pager on what the response should be to incorrectly registered/resolved complaints.
 3. Contact list of all Nodal Officers across designations of all agencies.

4. Contact list of S.E.s and E.s of DPCC.

- ix. Conducting daily reviews meetings: The In-charge will conduct daily review meetings with the GWR to assess progress and shortfalls.
- x. Preparation of daily action taken report: The In-charge will prepare a daily action taken report for review meetings. This report will act as a guide to understand any gaps that can be plugged in the reporting and resolution of issues.
- xi. Ensure inspection by DPCC

5.2 DPCC Trainees:

There are 11 DPCC Trainees dedicated to running the GWR 24x7. The Trainees perform the core of the operations at the Green War Room. The primary function of the Trainees is to guide each complaint raised on the Green Delhi App to resolution. To facilitate this, each trainee will be allocated a department(s) they will be responsible for Contact details of nodal officers from these department(s) will be provided to the DPCC Trainees. The Trainees will coordinate with the nodal officer on a daily basis and are expected to work during holidays in case of any emergencies.

To ease the coordination between DPCC Trainees, department Nodal Officers and the Green Marshals, the Trainees will communicate over voice call or WhatsApp.

Their functions are as follows:

- i. To communicate with Nodal Officers of the departments.
- ii. To coordinate with Green Marshals for action, inspection and verification of resolution
- iii. To verify the correctness of details in each complaint raised using the Green Delhi App.

Verification process after filtration:

a. Process to verify for resolution of resolved complaints:

- i. Trainees will verify resolution of the complaint with help of the resolved photo' captured and uploaded by the concerned Nodal Officers.
- ii. If the trainee finds that the complaint has been satisfactorily resolved in the 'resolved photo' provided by the concerned official, the complaint is accepted as resolved and the trainee need not do anything further.

- iii. If the trainee finds that the complaint has been resolved unsatisfactorily or the resolved photo is unclear:
 1. The trainee will use the Green Delhi App dashboard and share a list of similar complaints along with the respective complaint ID and contact list of responsible nodal officers with the Green Marshal Coordination Team.
 2. The Green Marshal Coordination team will direct a Green Marshal Field Team to physically verify the resolution status of the complaint and report back.
- iv. Post inspection by the Green Marshal Field Team, if the complaint is found to be partially resolved or unresolved basis the communication received, the DPCC trainee will reopen the complaint and follow up on resolution with the responsible nodal officer on the same day.
 1. For this purpose, the GWR will share a reporting template with the Green Marshals.
 2. Basis the reporting template, DPCC Trainees will ensure that all complaints which have not been resolved by the end of day are reopened.

b. Process to verify details of pending complaints:

- i. The Trainees will use the Green Delhi App dashboard to check for the correctness of the following details:
 1. Selected Department.
 2. Selected Offence.
 3. Tagged Geo-location.
 4. Proof of issue along with the comment.
- ii. In case the complainant has selected the 'Don't know/Not listed' option, selected the incorrect department or selected the incorrect offence, the trainee has two options:
 1. If the trainee knows the correct department, offence category, Transfer the complaint to the correct department/nodal officer and Contact the nodal officer of the department via voice call/WhatsApp. Share the complaint ID and apprise them of the issue on WhatsApp. If there is no issue in the correctness of the above-mentioned details, the trainee need not do anything further.

2. In case the trainee does not know the correct department, offence category, consult the In-charge.
3. In case the trainee finds that the registered complaint does not relate to pollution or does not come under the ambit of the Green Delhi App:

c. Process to verify overdue complaints:

- i. Compile and share a list of overdue complaints with the responsible nodal officers from the concerned department.
- ii. The Trainees will verbally communicate with the nodal officer and ensure immediate resolution of the complaint.

5.3 Green Marshals

The Green Marshals are a team of 70 civil defense volunteers that assist the GWR in on-ground inspection, complaint registration and verification of resolved complaints. There are 14 teams of Green Marshalls deputed at the district level. They shall be under the overall coordination of the GWR. They shall attend to the daily and emergency tasks forwarded to them through the GWR as explained in the section of operating procedure.

For the purpose of the GWR, there are currently 14 teams, each consisting of 5 Green Marshals. A team of 11 Green Marshals have been directed by the In-charge to operate out of the GWR. Their purpose is to assist coordination between the DPCC Trainees and Green Marshal Field Teams inspecting on ground via vehicles assigned to them. Their prime functions are to:

- i. Report any serious polluting activities to the GWR.
- ii. Assist the GWR in verification of resolved complaints.
- iii. Assist the GWR in monitoring situation on ground in case of emergencies

Operating Procedure:

- i. Report any serious polluting activities to the GWR.
 1. Green Marshals will carefully survey the areas and report any serious polluting activities along with location to the GWR via WhatsApp or voice call in real-time.
 2. The Green Marshals will use the Green Delhi App to register such complaints only upon receiving specific instruction from the DPCC Trainees.

- ii. Assist the GWR in verification of resolved issues:
 1. Upon receiving a list of resolved issues from the Green Marshal Coordination team, a Green Marshal Field Team will physically inspect the area.
 2. Upon reaching the area, the Green Marshal Field Team will capture a picture of the issue and share it with the Green Marshal Coordination Team or DPCC Trainees via WhatsApp.
- iii. Assist the GWR in monitoring situation on ground in case of emergencies:
 1. In case of any emergencies, the nearest Green Marshal Field Team will reach the location of the incident.
 2. The Green Marshal Field Team will update the Green Marshal Coordination team hourly regarding the on-ground situation and action steps being taken.
 3. The Green Marshal Coordination team will alert all relevant departments and nodal officers to direct their efforts towards resolution of the emergency situation.
- iv. Daily Report of the Green Marshalls
 1. A specified number 20 of complaints would be forwarded to the Green Marshalls on the daily basis through the Green War Room. These complaints would consist of:
 2. The Green Marshalls shall send a daily report to the Green War Room in the format annexed. Refer to Annexure 1.
 3. A consolidated report of Green Marshalls shall be prepared on a daily basis in the Green War Room with the help of the Green Marshalls Coordination team. Refer to Annexure 2 for daily consolidated report format.

5.4 DPCC S.E.Es and E.Es

S.E.E's and E.E's from DPCC will be involved in the working of the GWR when actions need to be taken on complaints that are overdue beyond certain time*. The Engineers will operate based on permissions provided to them by either the In-charge. Their prime function is to:

- i. Take action or issue challan/impose a fine to defaulting authorities on issues overdue beyond certain time*.

Operating Procedure

Take action or issue challan/impose a fine to defaulting parties on issues overdue beyond certain time*.

1. Upon receiving intimation from either DPCC Trainees, In-charge or In-charge S.E.E's or E.E's will verify the situation on ground and contact the defaulting party.
2. The Engineer may then either, Address the concerns of the defaulting party and assist in resolution of the complaint and impose a fine of challan on the defaulting individual using the powers vested to them by the Air (Prevention and Control of Pollution) Act, 1981.

5.5 Nodal Officers from Urban Local Bodies (Departments)

Nodal Officers are the key people who are responsible for resolving issues raised using the Green Delhi App that concern their department. Their prime function is to:

- i. Resolve complaints raised on the Green Delhi App if they are the responsible official.
- ii. Correctly assign the complaint to the right official in their department.
- iii. Correctly assign the complaint to the right official in a different agency department within 24 hours if it does not pertain to their department.

Operating Procedure:

- i. Resolve complaints raised on the Green Delhi App if they are the responsible official:
 1. The Nodal Officer will take necessary actions to resolve the complaint raised on the Green Delhi App post receiving the complaint list from the DPCC Trainee.
 2. Upon resolution, the Nodal Officer will update the complaint with a 'resolved photo' and add any comment deemed necessary by the Green Delhi App dashboard.
- ii. Correctly assign the complaint to the right official in their own department:
 1. Upon receiving the report with complaints concerning their department, the Nodal Officer will forward or transfer the complaint to the responsible officer within their department.
 2. The Nodal Officer will be accessible to the DPCC trainee by either voice call or WhatsApp.

- iii. Correctly transfer the complaint to the concerned other department if they are not the concerned agency:
 1. Upon receiving the report with complaints concerning their department, the Nodal Officer will forward or transfer any complaint not concerning their department to the responsible officer within another agency's department using their personal judgement.

5.6 DPCC IT Team

The DPCC IT team is responsible for the functioning of the Green Delhi App dashboard. They assist in any IT related issues that hinder the functioning of the GWR. Since the Green App Dashboard is crucial to the GWR, the IT team is required to constantly monitor the dashboard and quickly address any issues that arise. Their functions are to:

- i. Assist the In-charge to conduct training sessions on application process flow and functioning of the Green Delhi App dashboard with the other GWR stakeholders.
- ii. Maintain an updated database of all GWR stakeholders. The IT team will maintain a database of all the mapped individuals' in the GWR. They will update the resolution status of respective complaints in order to keep a track of any progress or shortfalls. They will generate any specific report that is needed by the GWR.

Note:

* The timeline for the resolution of different nature of complaints be decided by the Chairman, DPCC and Secretary, Environment and the same be updated in the Green Delhi App.

5.7 Green Delhi App

Green Delhi app has been developed for information, awareness and redressal of grievances of the citizens at single platform. Green Delhi App has been launched by Hon'ble Chief Minister Govt. of Delhi on 29.10.2020 for redressal of grievances of citizens of Delhi with regard to various offences related to pollution. Green War Room is a 24X7 pollution monitoring and mitigation initiative setup at 7th level of Delhi Secretariat for monitoring the grievance uploaded on Green Delhi App. The app assigns the complaints to the concerned department(s) for resolution. Green Delhi App is aimed to resolve grievances related to Air and Noise pollution on priority by the 28 Agencies of Delhi. The GWR facilitates the process of resolution for each complaint raised on the Green Delhi App.

15,794 Complaints have been received on Green Delhi App (as on 26.12.2020) out of which 14,394 has been resolved by 28 Agencies and only 8.9% of the complaints are pending.

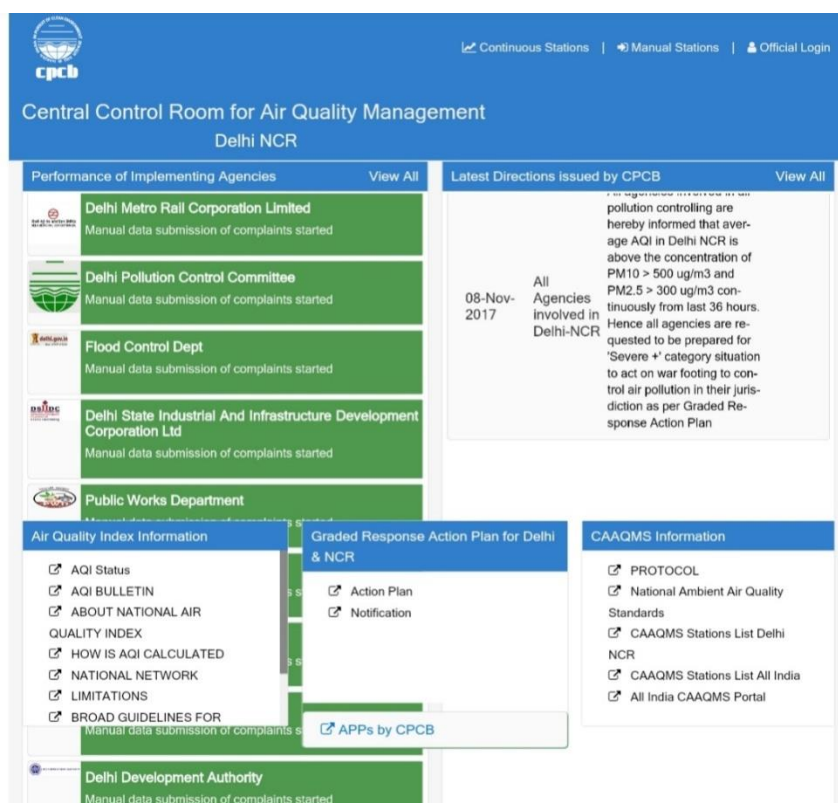
For efficient functioning of the GWR, the following six stakeholder are responsible:

1. In charge GWR: Responsible to carry out overall operation of the GWR.
2. DPCC Trainees: Responsible to carry out day to day operation of GWR.
3. Nodal officers of Agencies: Responsible for timely resolution of complaints within their departments.
4. Green Marshals: Group of Civil Defense volunteers have been deputed with the responsibility to assist in quick on ground inspection and verification & resolution of complaints. The Green Marshall have been grouped into two categories:
 - a. Green Marshall Field Team: Responsible for carrying out inspection and on ground verification.
 - b. Green Marshal Coordination Team: Responsible to assist coordination between GWR and Green Marshall Field Team.
5. DPCC Engineers: Cell Incharge(s) of DPCC are responsible for taking action on the complaints including imposing EDC on the agencies responsible for redressal of complaints, in case of default.
6. Green Delhi App IT Team (DPCC): Responsible to manage Green Delhi App Dashboard and other IT requirements of the GWR

CHAPTER VI

6 PUBLIC GRIEVANCE REDRESSAL

6.1 SAMEER



The SAMEER App, developed by the Central Pollution Control Board (CPCB), provides information of air quality for more than 100 cities across India.

The app is available on the Google Play Store and Apple App Store for both Android and iOS users, the Sameer India's AQI application can be conveniently

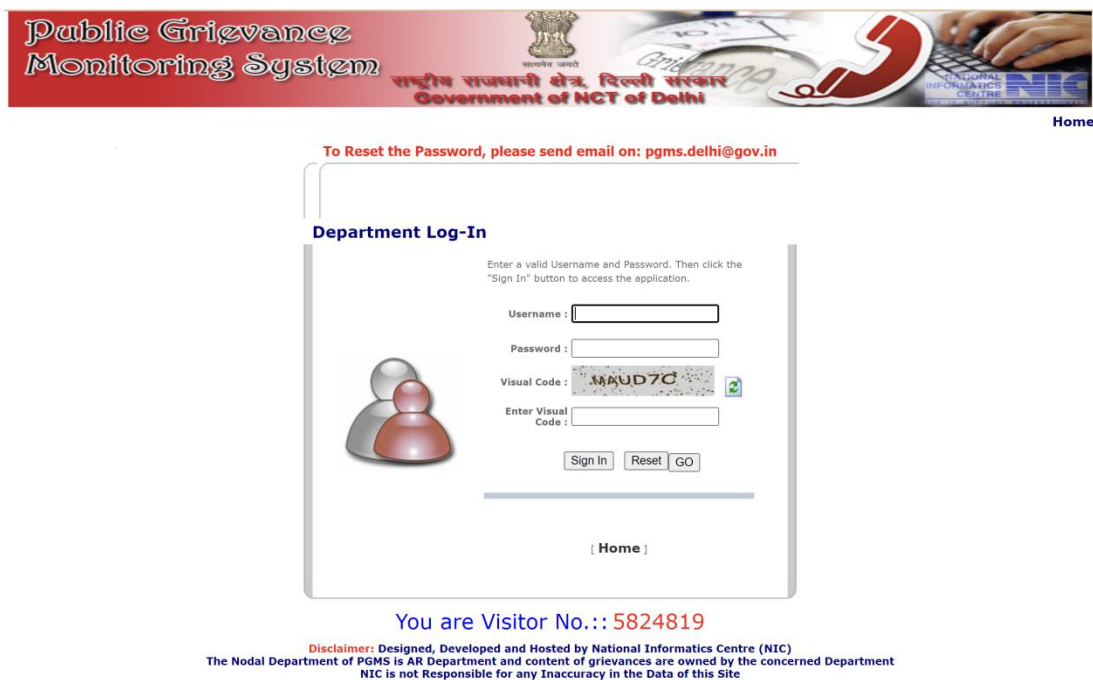
downloaded across personal mobile phones.

The app boasts of an intuitive UI, representing the listed cities in a colour-coded format based on their AQI levels.

Status of Complaints for the year 2020-21 is as follows:

-  Number of SAMEER App Complaint Redressal received: 5220
-  Number of SAMEER App Complaint Redressal pertains to DPCC: 53
-  Number of SAMEER App Complaint Redressal disposed by DPCC: 53

6.2 PGMS (Public Grievance Monitoring System)



Public Grievance Monitoring System

संघीय राजधानी क्षेत्र, दिल्ली सरकार
Government of NCT of Delhi

Home

To Reset the Password, please send email on: pgms.delhi@gov.in

Department Log-In

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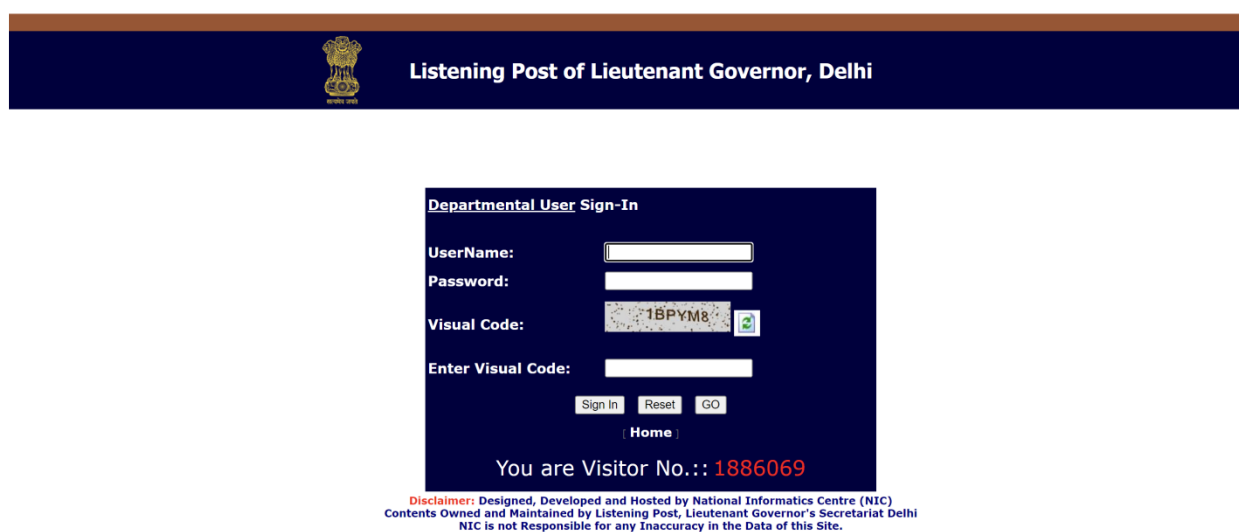
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Status of Complaints for the year 2020-21 is as follows:

Total Complaints received: 191

Total complaints resolved: 191

6.3 LG LISTENING (Listening Post of Lieutenant Governor)



Listening Post of Lieutenant Governor, Delhi

Departmental User Sign-In

Enter a valid Username and Password. Then click the "Sign In" button to access the application.

UserName:

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Visual Code : 1BPYM8

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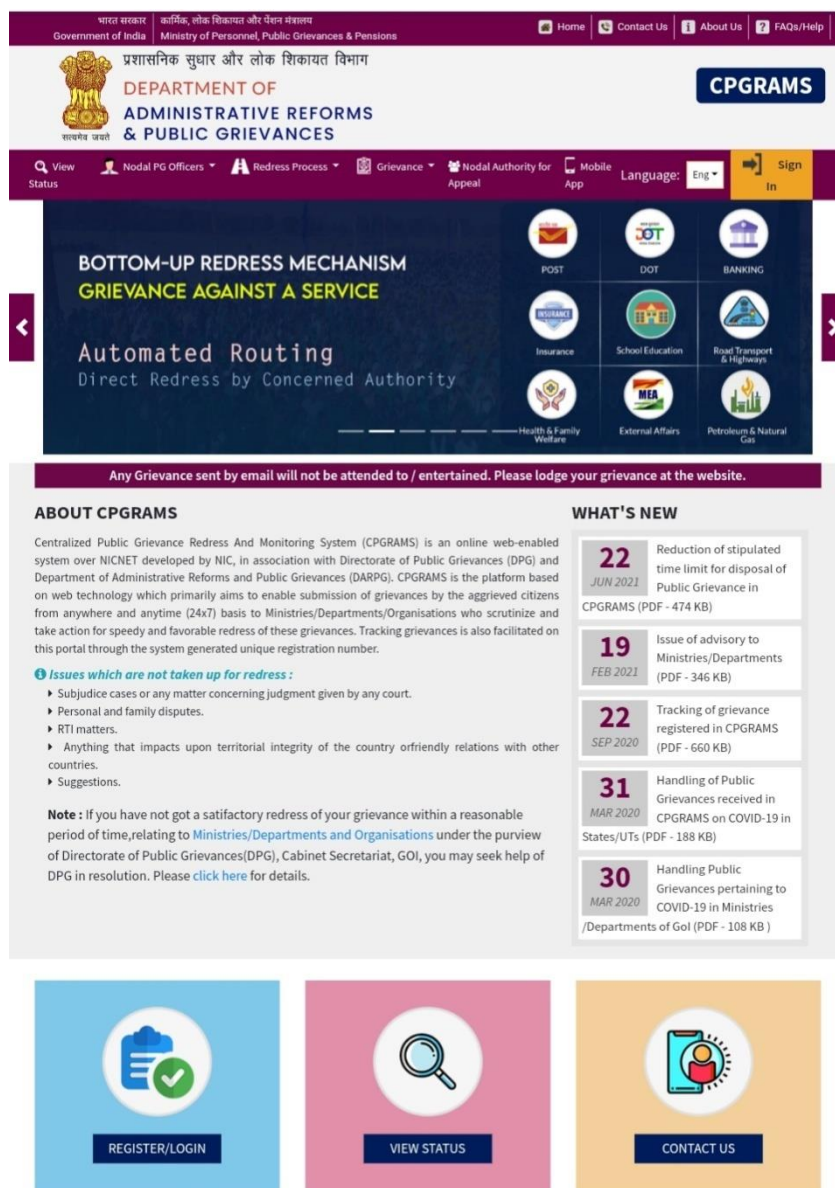
LG Listening is committed to facilitate genuine redressal to the grievances. The Scope of function of the portal includes Public Health, Blockage of sewer, Water Logging, Unclean Dhalao, Fire Hazard, Electricity fault, Water supply, Accidents, Building collapse, Road Repair, park maintenance, FIR Registration and Unauthorized construction.

Status of Complaints for the year 2020-21 is as follows:

Total Complaints received: 26

Total complaints resolved: 26

6.4 CPGRAM (Centralized Public Grievance Redress and Monitoring System)



Centralized Public Grievance Redress and Monitoring System (CPGRAMS) is an online web-enabled system over NICNET developed by NIC, in association with Directorate of Public Grievances (DPG) and Department of Administrative Reforms and Public Grievances (DARPG). CPGRAMS is the platform based on web technology which primarily aims to enable submission of grievances by the

aggrieved citizens from anywhere and anytime (24x7) basis to Ministries/Departments/Organisations who scrutinize and take action for speedy and favourable redress of these grievances. Tracking grievances is also facilitated on this portal through the system generated unique registration number.

Status of Complains for the year 2020-21 is as follows:

Total Complaints received: 31

Total complaints resolved: 29

CHAPTER VII

7 WATER POLLUTION

7.1 The River Yamuna

Yamuna, a major tributary of river Ganga, is a sacred river and supports the livelihoods of millions of people in its basin states. In order to fulfil the growing needs of drinking water and irrigation, several large dams and barrages have been built which divert large volumes of water from the river as it runs its course through the states of Uttarakhand, Haryana, the National Capital Territory of Delhi and Uttar Pradesh. In Delhi, the river is virtually reduced to a trickle and remains completely dry in stretches for almost nine months of the year. The stretch of the River Yamuna from Wazirabad (Downside of Wazirabad Barrage) to Asgarpur Village (after Okhla Barrage) in Delhi is highly polluted due to flow of untreated sewage from unauthorized colonies and the discharge of inadequately treated industrial effluents.

- ✚ There is 54 KM Stretch of river Yamuna in Delhi from Palla (Delhi-Haryana border) to Badarpur (Delhi-Haryana border).
- ✚ 22 KM Stretch from Wazirabad (Downside of Wazirabad Barrage) to Asgarpur Village (after Okhla Barrage), which is less than 2% of the total river length, accounts for about 76% of the pollution load in the river.
- ✚ During the dry season, spreading over nearly nine months of the year, the river has no fresh water downstream of Wazirabad Barrage and the only flow available is sewage (both treated and untreated).
- ✚ 18 Major Drains outfall into river Yamuna with discharge of about 3026 MLD (about 666 MGD) of waste water into the River Yamuna including 105 MGD waste water coming into Najafgarh Drain from Haryana and 14 MGD coming into Shahdara Drain from Ghaziabad. About 264 TPD is the pollution load in terms of BOD.
- ✚ 10 Cumecs of Water is released by the State of Haryana at Hathanikund during lean season. However, most of it evaporates or percolates before it reaches Wazirabad during the lean season and therefore it is highly inadequate to meet the dilution requirement to achieve the desired water quality of $BOD \leq 3 \text{ mg/l}$ & $DO \geq 5 \text{ mg/l}$.

7.2 Water Quality of River Yamuna:

- ✚ Water quality of river Yamuna is monitored both by DPCC (at 9 Locations) and CPCB (at 5 Locations) on monthly basis.
- ✚ Water Quality Monitoring of the drains are also monitored both by DPCC (at 24 locations including Sahibabad Drain & Indrapuri Drain coming from UP) and CPCB (17 major drains + 7 additional small drains) on monthly basis before their outfall into river Yamuna.

Water Quality Monitoring Locations Under CPCB		Water Quality Monitoring Locations Under DPCC
17 Major Drains	7 Additional Drains	24 Drains
Najafgarh Drain	Sonia Vihar drain	Najafgarh Drain
Metcalf House Drain	Shastri Park drain	Metcalf House Drain
Khyber Pass Drain	Kailash nagar drain	Khyber Pass Drain
Sweeper Colony Drain	Abul Fazal drain	Sweeper Colony Drain
Magazine Road Drain	Jaitpur drain	Magazine Road Drain
Tonga Stand Drain	Agra Canal near Okhla	ISBT Drain
Moat Drain	Old Agra Canal Okhla	Tonga Stand Drain
Civil Mill Drain		Moat Drain
Delhi Gate (Power House) Drain		Civil Mill Drain
Sen Nursing Home Drain		Power House Drain
Drain No. 14		Sen Nursing Home Drain
Barapulla Drain		Drain No. 12A
Maharani Bagh Drain		Drain No. 14
Kalkaji Drain		Barapulla Drain
Tehkhand Drain		Maharani Bagh Drain
Tuglakabad Drain		Kalkaji Drain
Shahdara Drain		Sarita Vihar Drain (Mathura
		Tehkhand Drain
		Tuglakabad Drain
		Drain Near LPG Bottling Plant
		Drain Near Sarita Vihar Bridge
		Shahdara Drain
		Sahibabad Drain
		Indrapuri Drain

- ✚ DPCC has taken over the Online Monitoring System at Wazirabad and Okhla from Central Pollution Control Board w.e.f. 15.02.2019.
- ✚ Online Monitoring System for measuring the concentration of Ammonia in river Yamuna at Palla has been installed by DPCC. This will help in issuing early alerts to the DJB water

treatment plant at Wazirabad in the event of deterioration in water quality received at Palla due to discharge of sewage/industrial effluent from Haryana.

Discharge of Waste Water and BOD Load from Major Drains into river Yamuna

Discharge of Waste Water and BOD Load from Major Drains into river Yamuna at Delhi (Based on CPCB Data for the year 2019 as mentioned in the 3rd Interim Report of the Yamuna Monitoring Committee appointed by Hon'ble NGT).

Name of Drain	Flow (in MLD) 2019	BOD Load (in TPD) 2019	Flow (in MLD) 2020	BOD Load (in TPD) 2020
Najafgarh Drain	1938.38	133.82	1769.76	86.88
Metcalf House Drain	3.45	0.11	3.1	0.11
Khyber Pass Drain	No Flow	No Flow	No Flow	No Flow
Sweeper Colony Drain	5.4	0.1	5.2	0.23
Magazine Road Drain	4.32	0.3	4.1	0.34
ISBT Drain	37.94	2.67	35.2	1.95
Tonga Stand Drain	4.46	0.59	5.8	0.16
Moat Drain	No Flow	No Flow	No Flow	No Flow
Civil Mill Drain	11.14	0.67	9.5	0.58
Power House Drain	39.02	3.43	40.45	2.74
Sen Nursing Home Drain	31.53	4.69	34.62	2.57
Drain No. 12A	No Flow	No Flow	No Flow	No Flow
Drain No. 14	6.54	0.07	4.8	0.19
Maharani Bagh Drain	30.16	3.51	28.3	2.81
Sarita Vihar Drain (Mathura)	35.68	7.73	31.7	3.22
Tuglakabad Drain	22.1	3.42	29.4	2.05
Drain Near LPG Bottling Plant	No Flow	No Flow	No Flow	No Flow
Shahdara Drain	500.97	61.44	468.14	57.71
Total	2671.09	222.55	2470.07	161.54

The Table shows that although the discharge into river Yamuna from various drains has reduced from 2671 MLD in 2019 to 2470 MLD in 2020, the reduction in BOD load per day is only marginal though there was substantial decline of 27.41% TPD during 2020 in comparison to 2019.

7.3 River Yamuna Water Quality Monitoring by DPCC

The water quality of river Yamuna is monitored both by CPCB and DPCC. CPCB monitors water quality of river Yamuna at 5 locations, while DPCC is carrying out water quality monitoring of River Yamuna at 9 locations as mentioned in the Table given below, for the parameters pH, BOD, COD, DO & faecal Coliform on monthly basis. Monthly reports on the water quality of river Yamuna are being placed on the website of DPCC and link has been given to CPCB.

Water Quality Monitoring Locations Under CPCB	Water Quality Monitoring Locations Under DPCC
Palla	Palla
Nizamuddin	Surghat (D/S of Wazirabad Barrage),
Okhla Bridge	Khajori Paltoon Pool (D/S of Najafgarh Drain)
Okhla (Downstream of Shahdara Drain)	Kudesia Ghat
Agra canal at Badarpur	ITO Bridge
	Nizamuddin Bridge
	Agra Canal (Okhla),
	Shahdara Drain (D/S of Okhla Barrage
	Agra Canal (Jaitpur).

DPCC has taken over the Online Monitoring System at Wazirabad and Okhla from Central Pollution Control Board w.e.f. 15.02.2019 and Delhi Jal Board has been given link to receive the data. Online Monitoring System for measuring the concentration of Ammonia in river Yamuna at Palla has been installed by DPCC and data is transferred to DJB, DPCC & CPCB.

Water quality monitoring reports of river Yamuna indicate that the water quality parameters are meeting the Water Quality criteria of "C" class, at Palla only, which is upstream of Wazirabad Barrage.

7.4 Annual Average Water Quality of River Yamuna

The highest annual average of DO is 7 mg/l at Palla. The annual average of BOD has ranged from 2.3 mg/l at Palla to 38.2 mg/l at D/S Okhla Barrage (after meeting Shahdara Drain). The water quality standards for DO and BOD as per CPCB norms are 5 mg/l and 3 mg/l respectively for class "C" of river water. The water quality monitoring results in the Delhi stretch clearly indicates river

water is grossly polluted. Annual Average Water Quality of River Yamuna at 9 locations being monitored by DPCC laboratory on monthly basis for the period of April 2020 to March 2021 is given in following Table:

**ANNUAL AVERAGE WATER QUALITY OF RIVER YAMUNA AT 9 LOCATIONS:
(APRIL 2020 – MARCH 2021)**

S. No.	Locations	pH (mg/l)	COD (mg/l)	BOD (mg/l)	DO (mg/l)
	Water Quality Criteria	6.5-8.5	-	3mg/l or less	5mg/l or more
1	Palla	7.7	12.7	2.3	7
2	Surghat	7.6	18.5	3.4	6.4
3	Khajori Paltoon Pool	7.4	111.3	34.5	1.4
4	Kudesia Ghat	7.3	82.4	28.5	2.3
5	ITO Bridge	7.4	80.7	25.4	2
6	Nizamuddin Bridge	7.2	84.5	26.3	2.3
7	Agra Canal Okhla	7.4	77.8	23.3	3.7
8	D/S Okhla Barrage (after meeting Shahdara Drain)	7.6	114.9	38.2	2.6
9	Agra Canal Jaitpur	7.3	88.4	28.6	2.4

Source: - Delhi Pollution Control Committee.

Annual Average Water Quality of Drains:

DPCC Laboratory is carrying out water quality monitoring of the 24 major drains including 2 Drains (Sahibabad Drain & Indrapuri Drain) coming from UP, on monthly basis before their outfall into river Yamuna. Annual Average Water Quality of Drains out falling into river Yamuna in Delhi for the period of April 2020 to March 2021 is given in following Table:

**ANNUAL AVERAGE WATER QUALITY OF DRAINS OUTFALLING INTO RIVER YAMUNA IN DELHI
(April-2020-March 2021)**

S. No.	Measure/Drains	pH	TSS	COD	BOD
	Water Quality Criteria	5.5-9.0	100 (mg/l)	250 (mg/l)	30 (mg/l)
1	Najafgarh Drain	7.3	95	154.36	49.09
2	Metcalf House Drain	7.1	75	100	35
3	Khyber Pass Drain	7.4	64.36	108.36	31.81

4	Sweeper Colony Drain	7.3	107.36	149.09	44.63
5	Magazine Road Drain	7.4	215.75	254.4	82.8
6	ISBT Drain	7.4	90.45	175.81	55.27
7	Tonga Stand Drain	7.3	71.5	95.11	27.33
8	Moat Drain	No Flow	No Flow	No Flow	No Flow
9	Civil Mill Drain	7.3	122.63	194.9	60.63
10	Power House Drain	7.2	126.27	214.54	67.63
11	Sen Nursing Home Drain	7.2	137.27	237.63	74.18
12	Drain No. 12A	No Flow	No Flow	No Flow	No Flow
13	Drain No. 14	7.3	76.18	114.36	40.11
14	Barapulla Drain	7.2	95.87	159.81	51.36
15	Maharani Bagh Drain	7.3	188.63	296.36	99.36
16	Kalkaji Drain	7.3	170.5	251.09	80.54
17	Sarita Vihar Drain (Mathura	7.3	184.1	274	101.5
18	Tehkhand Drain	7.4	180	268.18	98
19	Tuglakabad Drain	7.4	127.68	207.81	69.72
20	Drain Near LPG Bottling Plant	No Flow	No Flow	No Flow	No Flow
21	Drain Near Sarita Vihar Bridge	7.3	116.7	189.8	65.84
22	Shahdara Drain	7.3	236.54	359.27	123.27
23	Sahibabad Drain	7.3	270.65	375.8	152.3
24	Indrapuri Drain	7.4	317.59	439.45	154.54

Source: Delhi Pollution Control Committee.

Water quality monitoring results of the drains indicate that most of the drains are not meeting the standards with respect to Biochemical Oxygen Demand(BOD), Chemical Oxygen Demand (COD) and Total Suspended Solids (TSS).

Annual Average Treated Water Quality of STPs of DJB:

All the operational Sewage Treatment Plants (STPs) of Delhi Jal Board in Delhi are being monitored by DPCC Laboratory on monthly basis and Analysis Reports are placed on the website

of DPCC and also conveyed to the Delhi Jal Board for rectification of the deficiencies to meet the prescribed standards.

Annual Average Treated Water Quality of STPs for the period of April 2020 to March 2021 are given in following Table :

**ANNUAL AVERAGE TREATED WATER QUALITY OF STPs OF DJB AT DIFFERENT LOCATIONS:
(April-2020-March 2021)**

S. No	Name of STP	pH (6.5-9)	TSS (mg/l)	BOD (mg/l)	COD (mg/l)	Oil & Grease (mg/l)	Ammonical Nitrogen (mg/l)	Dissolved Phosphate (mg/l)
1	Coronation Pillar Ph-I,II STP (20MGD)	7.29	54.32	30	97.27	3.68	8.55	2.34
2	Coronation Pillar Ph-III STP (10MGD)	7.31	67.31	38.34	103.32	4.34	8.76	4.28
3	Delhi Gate STP New (15MGD)	7.23	8.76	4.63	19.45	0.6	2.24	0.63
4	Delhi Gate STP Ph-I (2.2MGD)	7.20	18.8	4.59	17.09	1.2	2.34	0.76
5	Keshopur STP New (12MGD)	7.53	17.50	10.05	34.18	3.14	3.76	1.60
6	Sen Nursing Home Nallah STP (2.2 MGD)	7.11	10.14	4.83	18.54	0.88	2.59	0.75
7	Nilothi STP-II (20MGD)	7.31	8.27	5.36	24.72	1.67	2.44	1.02
8	Nilothi STP (40MGD)	7.44	48	29.9	93.75	4.04	9.86	2.34
9	Najafgarh STP (5 MGD)	7.49	41.31	23.36	84.72	7.27	6.98	2.05
10	Rithala STP Ph-I (40MGD)	7.19	74.18	49.27	151.63	4.78	12.7	3.67
11	Rithala STP Ph-II (40MGD)	7.22	15.43	10.18	48	1.64	3.49	1.73
12	Pappankalan STP (20MGD)	7.40	51.83	32.90	106.90	4.14	7.84	2.77
13	Pappankalan STP-II (20MGD)	7.40	13.12	7.72	28.90	0.88	2.83	1.078
14	Narela STP (10 MGD)	7.58	19.36	12	47.63	1.46	3.38	1.25
15	Okhla STP New (30 MGD)	7.39	5.87	4.02	17.81	0.56	1.89	0.52
16	Kondli STP (25MGD)	7.460	23.83	14.72	56.36	2.6	5.037	1.45
17	Kondli STP New (45MGD)	7.31	65.8	37.6	126	4.35	9.17	2.96
18	Kapashera STP (5MGD)	7.38	16.34	10.90	44.90	1.38	3.60	1.20

19	Mehrauli STP (15MGD)	7.48	20.38	13	43.27	2.36	3.87	1.29
20	Vasant Kunj STP (2.2MGD)	7.44	22.08	15.3	53.2	2.8	4.89	1.36
21	Vasant Kunj STP (3MGD)	7.35	27.36	17.27	59.27	2.4	4.66	1.43
22	Yamuna Vihar STP Ph-III (25MGD)	7.3	46	26.36	84.72	4.10	8.23	2.72
23	Chilla STP (9 MGD)	7.37	8.36	5.63	26	0.64	2.94	0.82
24	Akshardham /Common Wealth Games Village STP (1 MGD)	7.43	4.09	2.53	11.63	1.62	1.37	0.42
25	Yamuna Vihar STP Ph I (10MGD)	7.41	23.54	14.18	48.18	2.28	6.62	1.578
26	Yamuna Vihar STP Ph-II (10MGD)	7.38	23.45	15	49.09	2.4	4.27	1.50
27	Molarband Mini STP (0.66 MGD)	7.43	29.29	18.63	64	3.18	6.95	2.11
28	Okhla STP (12MGD)	7.35	34.74	19.45	64.72	3.04	4.7	1.40
29	Okhla STP (16MGD)	7.36	27.27	16.18	57.09	1.6	3.14	1.50
30	Okhla STP (37MGD)	7.37	37.6	23	79.6	2.62	4.12	1.32
31	Okhla STP (45MGD)	7.44	28.52	17.90	62.36	2.36	3.90	1.24
32	Keshopur STP (40MGD)	7.319	58.96	35.72	112.72	3.96	18.29	2.42
33	Keshopur STP (20MGD)	7.37	72.54	41.81	118.54	4.87	9.190	2.39
34	Rohini STP (15 MGD)	7.37	18.83	13.09	42.65	2.2	6.09	1.66
35	Ghitorni STP (5 MGD)	Sample could not be taken						

Annual Average Treated Water Quality of CETPs

All the 13 operational CETPs in Delhi are being monitored by DPCC Laboratory on monthly basis and Analysis Reports are placed on the website of DPCC and also conveyed to the CETP Societies / Operator of CETPs for rectification of the deficiencies to meet the prescribed standards.

Annual Average Treated Water Quality of 13 CETPs for the period of April, 2020 to March, 2021 are given in following two Tables:

ANNUAL AVERAGE TREATED WATER QUALITY OF 13 CETPs FOR THE PERIOD April, 2020 to March, 2021[Excluding Heavy Metals]

S.No.	Name of CETP	Capacity (in MLD)	pH (6 - 9)	TSS (100 mg/l)	COD (250 mg/l)	BOD (30 mg/l, 3 days at 27°C)	Chlorides (1000 mg/l)	Sulpha tes (1000 mg/l)	Oil & Grease (10 mg/l)	TDS (2100 mg/l)	Ammoniacal Nitrogen as N (50 mg/l)	Sulphides as S (2 mg/l)
1	Wazirpur	24	7.36	59.68	129.4	35.7	596.5	640.47	4.58	1363.9	32.07	2.79
2	SMA	12	7.45	55.80	124.6	30.2	755.8	758.35	4.84	1740.3	33.02	3.03
3	Okhla	24	7.23	64.22	120.4	28.66	340.5	510.14	4.37	1227.4	39.51	2.9
4	Narela	22.5	7.28	53.46	106.6	29.8	808.2	791.95	3.65	2040.8	28.71	3.06
5	Naraina	21.6	7.28	43.62	84.8	22.8	357	422.33	4.02	853.6	25.52	2.46
6	Nangloi	12	7.26	64.75	116.2	35	1356.2	438	3.61	2588.75	28.22	3.325
7	Mangolpuri	2.4	7.17	74.80	138.6	40	1395.4	566.97	4.66	2475.2	28.84	2.57
8	Lawrence Road	12	6.87	104.4	181	61.7	975.3	885.7	5.77	2176	31.27	2.89
9	Jhilmil	16.8	7.15	45.28	84.4	24	652	534.74	5.17	1572.7	35.18	3.5
10	Bawana	35	7.41	50.88	96.2	27.8	1326	584.42	4.36	2776	24.49	3.05
11	Badli	12	7.25	56.02	109.7	32.14	249.2	376.11	4.68	884.21	27.47	4.06
12	GTK Road	6	7.44	48.06	95	27.1	555	457.29	3.86	1271.7	31.56	2.52
13	Mayapuri	12	7.27	39.60	83	24.2	687	541.45	3.68	1303	28.07	2.43

**ANNUAL AVERAGE TREATED WATER QUALITY OF 13 CETPs
FOR THE PERIOD April, 2020 to March, 2021[Heavy Metals]**

S.No.	Name of CETP	Capacity (in MLD)	Ni (3 mg/l)	Cu (3 mg/l)	Zn (5 mg/l)	Cr+3 (2 mg/l)	Pb (0.1 mg/l)	Cd (0.5 mg/l)
1	Wazirpur	24	0.63	0.019	1.72	0.17	0.0002	0.0002
2	SMA	12	0.81	0.019	1.81	0.17	0.001	0.0002
3	Okhla	24	0.98	0.02	1.50	0.44	0	0
4	Narela	22.5	0.76	0.01	1.40	0.14	0	0
5	Naraina	21.6	0.86	0.04	1.47	0.21	0	0
6	Nangloi	12	1.35	0.03	1.78	0.07	0	0
7	Mangolpuri	2.4	0.74	0.037	1.22	0.18	0	0
8	Lawrence Road	12	0.86	0.036	1.97	0.14	0	0
9	Jhilmil	16.8	0.75	0.02	2.29	0.24	0	0
10	Bawana	35	0.60	0.02	1.82	0.51	0	0
11	Badli	12	0.98	0.02	1.84	0	0	0
12	GTK Road	6	0.97	0.01	1.79	0.46	0	0
13	Mayapuri	12	0.84	0.03	1.96	0.25	0	0

7.5 Measures taken for Control of Pollution in River Yamuna

Major contributor of the water pollution in river Yamuna is sewage generated from domestic sector particularly untreated sewage discharge from the unauthorised colonies/clusters in Delhi. Besides domestic sector water pollution is also caused by inadequately treated effluent from the industries and also from the dumping of solid waste into the various drains outfalling into river Yamuna.

Sewage Treatment

Estimated Sewage Generation in Delhi is 3273 MLD (720 MGD). There are 35 operational STPs of Delhi Jal Board being monitored by DPCC on monthly basis & Analysis Results are placed on the website of DPCC and also communicated to DJB for taking rectification measures to meet the prescribed standards. Online Monitoring Systems (OLMS) have been installed at all the operational STPs of DJB to track the pollutant load in the wastewater discharged from these plants into the drains. Data from OLMS installed at STPs are received by CPCB & DPCC through the server connected to the OLMSs.

Sewage Treatment:

Estimated Sewage Generation	3273 (720 MGD)
Functional Sewage Treatment Plants (STPs)	35 (at 20 Locations)
Capacity of 35 Functional STPs	2715 MLD (597.26 MGD)
Treatment of Sewage (as on 31.03.2020)	2273 MLD (500 MGD) (84% of Installed Capacity)
Gap between Sewage Generation & Installed Capacity	559 MLD [123 MGD (17 %)]
Sewage Treatment Capacity after completion of Proposed Projects [Interceptor Sewer Project (ISP), Rehabilitation / Upgradation of 12 STPs & Construction of New 70 MGD STP at Coronation Pillar & 124 MGD STP at Okhla]	3214 MLD (707 MGD) (By 31.12.2022)

To augment the capacity of sewage treatment in Delhi, Delhi Jal Board has following main proposed/ on-going projects:

- i. Interceptor Sewer Project (ISP)
- ii. Trapping of Drains
- iii. Rehabilitation / Up-gradation of Existing STPs & Construction of New STPs at Okhla and Coronation Pillar
- iv. Decentralized STPs at various locations in Delhi
- v. Providing Sewerage Network in Unauthorised Colonies / Unsewered Areas in Delhi
- vi. Up-gradation of balance Existing STPs with Parameters of BOD/TSS as 10/10 mg/l

i. Interceptor Sewer Project (ISP):

DJB has Interceptor Sewer Project (ISP) comprising of Six packages for trapping of 108 sub-drains in the command area of 3 major drains viz. Najafgarh, Supplementary and Shahdara drains. The trapped waste water from the sub-drains are to be conveyed to the nearest Sewage Pumping Station for treatment in the nearest STP. After completion of the project about 1100 MLD (242 MGD) waste water shall be trapped. 71 sub-drains were trapped by January, 2020 and the project was scheduled to be completed by December, 2020 & subsequently by March, 2021. With the commissioning of all the six packages of Interceptor Sewer Project, the BOD load reduction in the river will be of the order of 165 TPD.

ii. Trapping of Drains:

There are 18 major drains which are directly discharging wastewater into river Yamuna in the Delhi stretch between Wazirabad to Okhla. Out of 18 drains, 13 drains have already been completely trapped. 02 major drains i.e. Najafgarh & Shahdara are included in Interceptor Sewer Project where substantial flow of sub-drains under its command areas will be trapped and treated. Further, in-situ treatment in these drains are also being proposed for which the consultants will be appointed shortly. For the balance 03 drains, action plan has been prepared which requires construction of STPs at the mouth of two drains i.e. Mori Gate and Barapullah drain. The land for these STPs is to be provided by DDA. In respect of the 3rd drain i.e. Maharani Bagh drain, the same has been partially trapped to the extent of 9-10 MLD flow and the balance 15 MLD flow will be trapped in the Batla House Sewerage System by 31.12.2021.

iii. Rehabilitation / Up-gradation of Existing STPs & Construction of New STPs at Okhla and Coronation Pillar:

Rehabilitation /Upgradation of STPs at Kondli, Rithala and Yamuna Vihar and Construction of New STPs at Okhla and Coronation Pillar are proposed/ under construction for meeting the new prescribed standards of BOD 10mg/l & TSS 10mg/l as given in following table:

S.No.	Name of STP	Capacity	Revised Timeline	Remarks
Rehabilitation / Up-gradation of Existing STPs				
1.	Yamuna Vihar STP Phase II	10 MGD	March , 2022	Plant has already been made operational as per existing parameters. Contract for rehabilitation is yet to be awarded.
2.	Kondli STP Phase I, II & III	45 MGD [10+25+10]	Phase I- December, 2021 Phase II- December, 2022 Phase III- December, 2021	Contract awarded.
3.	Rithala STP Phase I	40 MGD	December, 2022	
Construction of New STPs				
4.	Existing STPs at Coronation Pillar Phase- I, II & III	30 MGD [10+10+10]	June, 2021	A New 70 MGD (318 MLD) Capacity STP at Coronation Pillar is under construction & after commissioning capacity

				will be enhanced by 40 MGD.
5.	Existing STPs at Okhla Phase I , II, III & IV	124 MGD [30+12+37+45]	December, 2022	A New 124 MGD (564 ML D) Capacity STP will be constructed at Okhla at new location in place of existing STPs (Phase I to IV). Till commissioning of new STP existing STPs will remain in operation.
	Total (12 STPs)	249 MGD (1132 MLD)		Capacity - 289 MGD (1313.8 MLD)

iv. Decentralized STPs at various locations in Delhi:

As per Sewerage Master Plan- SMP 2031, 32 nos. STPs are to be constructed. 14 STPs are to be constructed in Najafgarh Drainage Zone and 18 STPs in Narela, Okhla, Outer South Delhi, Kanjhawala, Bawana, Shahdara Zone. Due to land constraint, it has earlier been decided to construct Decentralized STPs at 42 locations in place of 18 STPs. For setting up 56 DSTPs (42+14) and 02 STPs at the mouth of drain, land at 73 locations is required which includes 15 locations of Sewage Pumping Stations (SPS). Out of total 73 locations, land at 09 locations is already available with DJB and for the balance 64 locations, land would have to be made available by different agencies as follows;

- (i) Land and Building Department, GNCTD after acquisition from Private persons: 10 locations
- (ii) Gaon Sabha lands : 14 locations
- (iii) DDA : 40 locations

Status of 56 DSTPs

S.N	Name of STP	Timeline	Remark	Estimated Cost (in Crores)
1.	14 (7+7) STPs in Najafgarh Drainage Zone	18 to 30 months after approval of funding of balance STP by NMCG and allotment of land	Out of 14 locations, land is available only at 08 locations and land at balance 06 locations is yet to be allotted.	Cost of 56 Nos. Decentralized STPs having treatment capacity of about 92 MGD is about Rs. 828 Crores. Further the land cost for these new DSTPs will be about Rs. 300 Crores. Thus
2.	42 Decentralized	24 to 36 months	Land for	

STPs at various locations	after allotment of land	construction of 42 DSTPs and connecting SPSs have been identified at various locations and it is still in the process of allotment by Revenue department of GNCT Delhi. Necessary action will be taken by DJB after allotment of land.	total cost for construction of new DSTPs work out to about Rs. 1128 crores.
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v. Providing Sewerage Network in Unauthorised Colonies / Unsewered Areas in Delhi:

In Delhi, about 78% of population is already connected to sewerage network. The unsewered areas mainly consist of unauthorized colonies. There are 1799 unauthorized colonies out of which sewer lines have been laid and notified in 434 colonies and the work is in progress in 546 colonies. In 819 colonies, sewer network is yet to be laid, out of these 819 colonies, 116 are under tendering stage, 56 colonies are under O Zone and for 96 colonies, NOC is awaited on account of being on Forest, ASI land etc. Thus, sewerage system is to be laid in about 819 colonies for which about **Rs. 3276 Crore @ Rs. 4 Crore per colony** on an average are required for providing sewer network.

Status of Sewerage Network in Unauthorised Colonies as in February, 2020 (as provided by DJB):

S. No	Status	No. of Unauthorized Colonies	Time lines
1	Sewer line laid and notified	434	Completed
2	Work of sewer network was in progress	597	Up to December, 2022 in phased manner
3	Work of sewer network at tendering stage	116	March, 2023
4	Colonies where NOC is awaited/O-Zone	131	About 03 years after receipt of NOC / Clearance from concerned department

5	Colonies where sewerage network is to be laid along with Decentralized STP	521	For laying sewerage network in these colonies 3 years time will be required after availability of land for DSTPs and committed fund of Rs. 3072 Crores @ 4 Crore per Colony(Total Balance Colonies 116+131+521 = 768 Nos)
	Total	1799	

vi. Up-gradation of balance Existing STPs with Parameters of BOD/TSS as 10/10 mg/l :

Up-gradation of balance Existing STPs with Parameters of BOD/TSS as 10/10 mg/l including Bio-nutrient & pathogen removal & sludge management is proposed by DJB however, subject to availability of funds as mentioned in following table:

Up-gradation of balance Existing STPs with Parameters of BOD/TSS as 10/10 mg/l (including Bio-nutrient & pathogen removal & sludge management)						
S. No.	Name of STP	Phase Wise Breakup	Design Capacity (in MGD)	Design Outlet Parameters BOD/TSS	Estimated Cost for Upgradation to 10/10 Parameters (Rs. Crore)	Expected Timelines of Completion (subject to availability of funds)
1	Rithala	Phase – II	40	15/20	312.76	The completion period for up-gradation of STPs is 3 to 4 years from the date of availability of funds.
2	Okhla	Phase-V	16	30/50	125.10	
		Phase-VI	30	20/30	234.57	
3	Kondli	Phase – IV	45	20/30	351.86	
4	Keshopur	Phase-I	12	20/30	93.83	
		Phase-II	20	30/50	156.38	
		Phase-III	40	30/50	312.76	
5	Yamuna Vihar	Phase – I	10	30/50	78.19	
		Phase-III	25	20/30	195.48	
6	Vasant Kunj	Phase – I	2	30/50	15.64	
		Phase – II	3	30/50	23.46	
7	Mehrauli	Mehrauli	5	20/30	39.10	
8	Narela	Narela	10	30/50	78.19	
9	Nilothi	Phase – I	40	30/50	312.76	
10	Najafgarh	Najafgarh	5	30/50	39.10	
11	Pappankalan	Phase – I	20	30/50	156.38	
12	Dr.Sen Nursing Home Nalla	Dr. Sen Nursing Home Nalla	2.2	10/15	17.20	
13	Delhi Gate	Phase – I	2.2	10/15	17.20	
14	Rohini	Rohini	15	30/50	117.29	
15	Ghitorni	Ghitorni	5	30/50	39.10	
16	Molar Bandh	Molar Bandh	0.66	30/50	5.16	
		Total	348.06 MGD		2721	
Total fund requirement for 348.06 MGD @7.82 Crore/MGD = Rs. 2721 Crores						

Status of Sewerage Network:**Providing Sewerage Network in Unsewered Areas in Delhi**

In Delhi, about 78% of population is already connected to sewerage network. The unsewered areas mainly consist of unauthorized colonies. There are 1799 unauthorized colonies out of which sewer lines have been laid and notified in 434 colonies and the work is in progress in 546 colonies. In 819 colonies, sewer network is yet to be laid, out of these 819 colonies, 116 are under tendering stage, 56 colonies are under O Zone and for 96 colonies, NOC is awaited on account of being on Forest, ASI land etc. Thus, sewerage system was to be laid in about 819 colonies for which about **Rs. 3276 Crore @ Rs. 4 Crore per colony** on an average are required for providing sewer network.

The detailed action plan for providing sewerage facility in unauthorized areas as per SMP 2031 is as under:

S. No	Status	No. of Unauthorised Colonies	Time lines
1	Sewer line laid and notified	434	Completed
2	Work of sewer network was in progress	597	Up to December, 2022 in phased manner
3	Work of sewer network at tendering stage	116	March, 2023
4	Colonies where NOC was awaited/O-Zone	131	About 03 years after receipt of NOC / Clearance from concerned department
5	Colonies where sewerage network was to be laid along with Decentralized STP	521	For laying sewerage network in these colonies 3 years time will be required after availability of land for DSTPs and committed fund of Rs. 3072 Crores @ 4 Crore per Colony(Total Balance Colonies 116+131+521 = 768 Nos)
	Total	1799	

Sewage and Faecal Sludge Management (Septage Management):

Septage Management Regulations have been notified by the Urban Development Department, GNCTD on 12.11.2018 and necessary action is to be taken by Delhi Jal Board, District Magistrates and Local Bodies / Municipal Corporations as per the provisions of the said Notification. The main features of the Regulation are as under:

- a. Septic Tank Waste (Septage) shall be collected and transported only by vendor(s) having a valid License for this purpose issued by the Delhi Jal Board
- b. The Septage shall be transported only in the Vehicles approved for these purposes by the designated Officer of Delhi Jal Board.
- c. The Licensee shall dispose of Septage only at the locations notified by the Delhi Jal Board from time to time.
- d. The worker(s) deployed by the Licensee shall be insured to cover compensation to be paid to the victims /their legal.
- e. Public Notice was issued for inviting applications from vendors/individuals engaged in the activity of cleaning of Septic Tank Waste for licensing.
- f. The work of collection, transportation and disposal of septic tank waste by the licensed vendors began from April, 2019.
- g. Concerned District Magistrates to enforce the provisions of the regulation to prevent unauthorized disposal of septage in drains etc. and to form a committee in this regard. DJB member will be Member Secretary of the Committee.

Integrated Drain Management Cell (IDMC) for In-situ Bioremediation / Phytoremediation of Sewage in Drains:

In compliance to the orders dated 05.03.2020 of Hon'ble NGT in OA No. 06/2012 in the matter of Manoj Mishra Vs. Union of India & Ors. an Integrated Drain Management Cell (IDMC) headed by Chief Secretary, Delhi has been constituted vide order dated 17.03.2020 issued by Urban Development Department, Govt. of NCT of Delhi for remediation and management of all drains of Delhi. IDMC is having members from all the Drain Owning Agencies (DOAs). Meetings of IDMC are held on regular basis.

Re-use of Treated Water:

Action Plan for use of treated waste water from STPs was prepared by Delhi Jal Board and submitted to CPCB in compliance of the Orders of Hon'ble NGT in OA No. 148/2016 in the matter of Mahesh Chandra Saxena Vs. South Delhi Municipal Corporation & Ors.

Out of 500 MGD of treated waste water from STPs about 90 MGD was being used for various purpose e.g. Horticulture, Irrigation, DTC Depot etc.

Common Effluent Treatment Plants (CETPs) in Delhi

There are 13 CETPs operating in Delhi with total installed treatment capacity of 212.3 MLD. These 13 CETPs are connected to 17 Approved Industrial Areas in Delhi. All the 13 CETPs have been designed to treat mix waste i.e. industrial effluent & sewage generated from the Industries / Units in the Industrial Areas connected with the CETPs. These CETPs are treating about 55 to 60 MLD of waste water.

For smooth functioning of CETPs, Department of Industries, Govt. of NCT of Delhi enacted the CETP Act, 2000 and CETP Rules 2001. Under the said CETP Act & Rules Industries Department is the Prescribed Appropriate Authority to take necessary action w.r.t the provisions under the said Act & Rules. As per the directions of the Hon'ble Supreme Court, CETPs were handed over by DSIIDC to CETP Societies. Presently 11 CETPs are being operated & maintained by the concerned CETP Societies and rest 2 at Narela & Bawana are being operated & maintained by DSIIDC through the private operators. All the 13 CETPs are being monitored by DPCC Laboratory on monthly basis and Analysis Reports are placed on the website of DPCC and also conveyed to the CETP Societies / Operator of CETPs for rectification of the deficiencies to meet the prescribed standards.

Sufficient treatment capacity (212.3 MLD) is available with existing 13 CETPs to treat the effluent generated from 17 approved industrial areas connected with these CETPs. Besides CETPs, Water Polluting Industries / Units in 17 Approved Industrial Areas connected to 13 CETPs have individual Effluent Treatment System (ETP etc.) to treat the Trade / Industrial Effluent generated from their Activities / Processes.

CETPs have installed Flow Meters at the Inlet & Outlet of the CETPs. Online Monitoring Systems (OLMS) have been installed by all the 13 CETPs for measuring pH, TSS, BOD & COD at the outlet of the CETPs. All these OCEMS are connected to the servers of DPCC and CPCB. Calibration of OLMS installed at CETPs is being carried out by DPCC Water Laboratory. The data of OLMS is also displayed at the gate of each CETP. Besides this, Calibration of OLMS at CETPs is being carried out by DPCC Water Laboratory.

Common Effluent Treatment Plants (CETPs) in Delhi

S. No.	Name of CETP	Name of CETP Society/ Operator of CETP	Industrial Areas Connected with CETP	Capacity (in MLD)	Flow (in MLD) (Feb, 2021)
1	Narela	PNC Delhi Industrial Infra Pvt. Ltd.	Narela Indl. Area	22.5	10.98
2	Nangloi	DSIDC & Udyog Nagar CETP Society	Nangloi & Udyog Nagar Indl. Areas	12	2.642
3	Mayapuri	Mayapuri Industrial Area CETP Society	Mayapuri Indl Area	12	3.25
4	Naraina	Naraina Industrial Area CETP Society	Naraina Indl Area	21.6	3.96
5	Bawana	Bawana Infra Development Pvt. Ltd	Bawana Indl. Area	35	24.5
6	Badli	Badli Industrial Estate CETP Society	Badli Industrial Estate	12	1.8
7	Okhla	Okhla Industrial Area CETP Society	Okhla Indl. Area	24	1.526
8	SMA	North West Industrial Area CET P Society	SMA, Rajasthani Udyog Nagar and SSI Industrial Areas	12	1.957
9	GTK Road	GTK Road Industrial Estate CET P Society	GTK Road Indl. Area	6	1.5
10	Wazirpur	Wazirpur Industrial Pollution Control(CETP) Society	Wazirpur Indl Area	24	2.251
11	Lawrence Road	Keshav Puram Industrial Area (KESPIA) CETP Society	Lawrence Road Indl. Area	12	1.26
12	Jhilmil	Jhilmil and Friends Colony Industrial Area CETP Society	Jhilmil and Friends Colony Indl. Areas	16.8	2.95
13	Mangolpuri	Mangolpuri Industrial Area CET P Society	Mangolpuri Indl. Area	2.4	1.5
		Total		212.3 MLD	60.07 MLD

Upgradation of CETPs :

Since CETPs in Delhi are old ones (more than 15 years old) and characteristic of effluent has also been changed due to closure of Water Polluting Industries / Units in the past several years, DSIDC has engaged CSIR-NEERI vide letter dated 05.11.2019 for providing consultancy w.r.t various issues related to CETPs including up gradation of CETPs as per following scope of work :

- a. Formulating an action plan for the survey of the individual industries in various industrial areas for ensuring their connectivity with the waste water conveyance system of CETPs

and identifying industrial units violating environmental pollution norms.

- b. To assess the overall functioning of all 13 CETPs through a physical survey.
- c. To formulate an action plan for 13 CETPs after the study of the survey report in terms of:
 - i. Required up-gradation and retrofitting of CETPs to make them compatible with the composition of effluent reaching CETP for capacity utilisation (use of CETP as STP) and to confirm the effluent discharge standards and to work out cost associated with this task.
 - ii. Management of the hazardous sludge being generated by CETPs.
 - iii. Maximizing utilization of treated water from CETPs in order to achieve Zero Liquid Discharge and reducing dependency of greenbelts/parks in and around CETPs on ground water.
- d. Study regarding requirement of CETPs in 11 industrial areas which are presently not having CETP. NEERI had conducted preliminary survey of CETP Wazirpur, CETP SMA along with connected industrial areas by February, 2020. DSIIIDC is monitoring the work of upgradation of CETPs.

Efforts made by DJB for better utilisation of treated waste water of STPs :

1. DJB had written to respective stakeholders/ park owning agencies vide letter dated 23/5/2019 & subsequent reminders dated 11/6/2019, 17/6/2019, 21/6/2019, 16/7/2019 & 19/7/2019 requesting them to start taking treated effluent from DJB STPs for the parks which are falling within the radius of 5 KM of DJB STP by tankers as an interim arrangement as desired by the monitoring committee. DJB has installed filling points at its all major STPs for filling the tankers.
2. DJB sent the request letter dated 5/9/2019 to all District Magistrate to seal the bore well in parks which are used for horticulture purposes. Subsequently multiple reminders dated 7/10/2019, 11/11/2019 & 25/11/2019 by Member were also sent to District Magistrates to seal the bore well in parks which used for horticulture purposes.
3. Further, in order to utilise treated effluent for horticulture purposes in the nearby park, a study has been conducted by M/s. WAPCOS, and a DPR amounting to Rs. 936.36 Crore for utilizing 39.79 MGD treated wastewater from different STPs of Delhi Jal Board has been prepared. As per the demand received from various stakeholders, the STPs wise DPRs has been prepared by M/s WAPCOS Ltd. for laying of peripheral pipe line network for reuse of

treated effluent for horticulture purpose in Delhi and sent to all stakeholders for scrutiny and further action by the respective departments/stakeholders. The scheme shall be implemented after consent of stake holders to share the proportionate cost of the scheme. In the DPR the peripheral network from each STP has been extended upto a tapping point in the park owned by the respective agencies. From these tapping points the respective agencies can extend the internal network in their park or can create hydrant for filling tankers as per their convenience.

Protection of Flood Plain of River Yamuna & Prevention of Encroachment by DDA :

a. Demarcation of 1 in 25 years Flood Plains & Fixing up of Bollards and Fencing :

The demarcation of 1 : 25 years flood plain of river Yamuna pertains from Wazirabad to Jaitpur on both banks. Work for reinstallation of bollards along with Geo –reference was initiated / awarded to M/s M & G Associates on 29.08.2019. The flood plains from Wazirabad to ISBT (50 Nos.) and from Sun Dial to Dhobi ghat (56 Nos.) was marked and 106 Bollards were installed. The ring road from Yamuna Bazaar to Sun Dial and the road number 13 /A from Dhobi Ghat to Jaitpur Ghat and further embankment upto Delhi Haryana Border acts / mark the flood plain boundary on western bank. Similarly, the Pustha road on the eastern Bank marks the entire flood plain boundary. 90% work for demarcation of flood plains was completed and the balance was held up due to construction ban.

b. Engagement of Private Security to Stop Illegal Dumping:

Private security was engaged by DDA to stop illegal dumping: 100 Nos. of Security Guards were deployed by DDA.

c. Installation of Electronic Surveillance System:

CCTV cameras were installed by DDA from Old Railway Bridge to Yamuna Bank Metro Station, Khijrabad and MCRs (1) at Geeta Colony, (2) at Golden Jubilee Park and Khijrabad respectively.

d. Removal of Encroachment from the Flood Plain:

550 Nos. Jhuggis / Chappers were demolished and an area of 5500 Sq. Meter was freed from encroachment. In, all out of 1026 Jhuggis / Structures existing of nearly 11.0 Acres of land in Okhla, Khijrabad and Jogabai 600 Jhuggis were removed and 5.00 Acres of land was reclaimed nearly 2.0 acres of land with 150 Jhuggis could not be removed due to stay by Courts. Balanced Jhuggis are proposed to be removed in due course.

e. Use of Technology like Artificial Intelligence for Aerial Mapping etc.

Possibility of using technology like Artificial Intelligence, Aerial Mapping etc. or Drones to keep a track of quantum and location of debris being dumped is being explored by DDA. An Electronic Surveillance System with patrolling along with a static party has been deployed by DDA. For monitoring of encroachments on vacant land using satellite imageries the subject has been taken up with ISRO and DDA has signed MOU with ISRO on 6th July 2018. If successful, will be implemented in monitoring of Yamuna River Flood Plain.

f. Restoration and Rejuvenation of the Floodplains of River Yamuna.

DDA is going ahead with the Restoration and Rejuvenation of the floodplains of River Yamuna. The complete stretch of Zone-'O' falling under the jurisdiction of DDA has been subdivided into 10 Projects including the development of Bio-diversity park near Kalindi Colony. Brief Status of 10 Projects taken up / to be taken up by DDA for development of Yamuna River Front as in March, 2020 are given in following table:

7.6 Requirement of Minimum Environmental Flow in River Yamuna

Minimum Environmental Flow for the dilution of the polluted water in river Yamuna in Delhi is required to meet the desired water quality levels in river Yamuna for bathing purpose i.e. BOD ≤ 3 mg/l & DO ≥ 5 mg/l. To assess the minimum required environmental flow of river Yamuna for stretch between Hathini Kund to Okhla, a comprehensive study was assigned by National Mission for Clean Ganga (NMCG) to National Institute of Hydrology (NIH), Roorkee on 24.12.2018.

Final Draft Report has been submitted by NIH to NMCG. E-flow of 23 cumecs in the lean season has been recommended in the NIH study. Ministry of Jal Shakti (MoJ) is to take necessary action for maintaining the E-flow as recommended in the said Report of NIH. However Ministry of Jal Shakti (MoJ) / National Mission for Clean Ganga (NMCG) has observed that the water sharing agreement of 1994 among the riparian states of Uttarakhand, HP, UP, Haryana, Rajasthan and NCT Delhi is due for revision only in 2025 unless any of the states so demand implying that no revision of water sharing will be possible to achieve the E-flow in river Yamuna.

7.7 Prevention of Dumping of Solid Waste in Drains and River Yamuna

- ✚ As per the orders of Hon'ble NGT there is Environmental Compensation of Rs 5000 on dumping of Pooja Material/ Flowers, etc. and Rs. 50,000 on the dumping of Construction Material /Malba in River Yamuna.
- ✚ For preventing the dumping of solid waste in the drains, all the concerned Departments / Agencies have been directed vide order dated 09.01.2019 of Chief Secretary and Order dated 15.01.2019 of Urban Development Department, GNCTD for taking necessary action against the violators including imposition of Environmental Compensation of Rs. 50,000.
- ✚ Wire Nets etc. have been provided at the Bridges across river Yamuna by the Bridge Owning Agencies in Delhi to prevent throwing of Pooja Material/ Flowers etc. into river Yamuna.

7.7.1 Ban on Idol Immersion:

- ✚ As per the directions of the Hon'ble NGT appointed Yamuna Monitoring Committee, idol immersion was performed by devotees in artificial ponds constructed all across Delhi by Revenue Department. Environment Department had launched mass awareness drive regarding idol immersion. Awareness advertisements were published in 11 National Dailies (English, Hindi, Urdu, Punjabi) every week for about 1 ½ month. Awareness workshop for Eco-Club school teachers on idol immersion was conducted on 29.08.2019.
- ✚ As per report from Revenue Department, 116 artificial ponds were constructed during Ganeshotsav and 89 artificial ponds were constructed during Durga Pooja. Around 10500 idols were immersed during both the festivals.
- ✚ Further, water quality of river Yamuna was found to be improved (in post immersion) during this year, as per DPCC reports for both the festivals of Ganeshotsav and Durga Pooja.

7.7.2 Orders of Hon'ble Supreme Court & Hon'ble National Green Tribunal for control of Pollution and Rejuvenation of River Yamuna

- ✚ Hon'ble Supreme Court and Hon'ble National Green Tribunal have passed various orders from time to time for control of pollution in river Yamuna and its rejuvenation.
- ✚ Hon'ble National Green Tribunal vide judgment dated 13.01.2015 in OA No. 06/2012 in the matter of Manoj Mishra Vs Union of India and Ors. has passed detailed orders giving various directions to all the concerned Agencies for control of pollution in river Yamuna and also constituted a Monitoring Committee vide order dated 26.07.2018 known as

Yamuna Monitoring Committee for monitoring of the compliance of its directions given in various orders.

- ✚ Yamuna Monitoring Committee submitted its Action Plan dated 22.10.2018 for rejuvenation of River Yamuna to Hon'ble NGT and also submitted its 3 interim reports to Hon'ble NGT after taking various meetings and monitoring the issues / action points with concerned Departments. DJB, DDA,DMCs , DSIIDC , IFCD etc. are the main Departments which are required to take action in time bound manner to complete the works / projects in given time frame.
- ✚ As per the timelines given by DJB in the Action Plan in respect of No. of STPs (Commissioning/ Rehabilitation/ Upgradation etc.) the projects shall be completed by 31.12.2022 whereas as per the orders of Hon'ble NGT in OA No. 06/2012 in the matter of Manoj Mishra Vs. U.O.I & Ors., all the projects were to be completed by 31.12.2020.
- ✚ DPCC submitted its action taken/ status report to Hon'ble NGT and to the Yamuna Monitoring Committee from time to time as per the various orders of Hon'ble NGT in the said matter and direction of Yamuna Monitoring Committee.

7.7.3 River Rejuvenation Committee:

In compliance to the directions of the Hon'ble National Green Tribunal issued vide orders dated 20.09.2018 in O.A. No. 673/2018 in the matter of: News item published in 'The Hindu' Authored by Shri Jacob Khoshy Titled "More river stretches are now critically polluted: CPCB" , River Rejuvenation Committee (RRC)for Delhi was constituted vide office order dated 22.10.2018 for preparation of action plan and rejuvenation of river Yamuna in Delhi in terms of said order. The RRC is to function under the overall supervision and coordination of Principal Secretary, Environment, Department of Environment, Government of National Capital Territory of Delhi. As per said order of the Hon'ble NGT, in case of Delhi, the polluted stretch of River Yamuna have been identified from Wazirabad to Asgarpur village (22 km) which is a Priority I Stretch.

The said Committee consists of Director (Environment), Director (Urban Development Dept.), Director (Industries Dept.) & Member Secretary, DPCC. Action Plan prepared by RRC Delhi in compliance to the directions of the Hon'ble NGT in said matter was submitted to CPCB on 21.02.2020. Task Team of CPCB in its 10th meeting held on 26.02.2020 has recommended the

said Action Plan subject to revision of action plan as per suggestions given by Task Team in the said meeting.

As per the orders of Hon'ble NGT dated 06.12.2019 in the said matter (O.A. No. 673/2018) Delhi is to submit Monthly Progress Report to the Secretary, Ministry of Jal Shakti, Govt. of India with copy to Member Secretary, CPCB. Monthly Progress Report of Delhi is being submitted to Secretary, Ministry of Jal Shakti, Govt. of India with copy to Member Secretary, CPCB regularly.

ANALYSIS REPORT OF GROUND WATER NEARBY GHAZIPUR LAND FILL SITE: (April 2020 to March 2021)

Sampling Location	PH	TDS (mg/l)	Cl (mg/l)	Hardness as CaCO ₃ (mg/l)	Ca (mg/l)	SO ₄ (mg/l)	Turbidity NTU	Nitrate (mg/l)	Arsenic (mg/l)	Zinc (mg/l)	Fe (mg/l)	PB (mg/l)	Cu (mg/l)	Cr (mg/l)	Ni (mg/l)	Cd (mg/l)
Desirable Limit for Drinking Water	6.5-8.5	500	250	300	75	200	5	45	1	5	0.3	0.05	0.05	0.05	-	0.01
Ghazipur Dairy Farm, Gali no. 4	6.57	1021.5	922.5	455	81.2	594.45	0	23.715	0.065	0	0	0	0	0	0	0
Ghazipur Dairy near Masjid	6.84	1010	245.5	555	88	597.8	NIL	21.6	0.04	0.49	0.255	0	0	0	0	0
Ghazipur landfill site near entry gate	6.68	902.5	920	600	173.5	493.9	0	14.4	0.12	1.01	0.255	0	0	0	0	0
Fish market Landfill Site Ghazipur	7.125	992.5	304.5	525	151.5	529.4	0	17.39	0.16	0.02	0.045	0	0	0	0	0

ANALYSIS REPORT OF GROUND WATER NEARBY BHALASWA OKHLA LANDFILL SITE: APRIL 2020– MARCH 2021

Sampling Location	PH	TDS (mg/)	Cl (mg/)	Hardness as CaCO ₃ (mg/l)	Ca (mg/)	SO ₄ (mg/l)	Turbidity NTU	Nitrate (mg/)	Fluoride (mg/l)	Zinc (mg/l)	Fe (mg/)	PB (mg/l)	Cu (mg/l)	Cr (mg/)	Ni (mg/)	Cd (mg/)
Desirable Limit for Drinking Water	6.5-8.5	500	250	300	75	200	5	45	1	5	0.3	0.05	0.05	0.05	-	0.01
Okhla Landfill Site	7.10	974	755	850	208	358	0	32	-	2.5	0.12	0	0	0	0	0
ESI Hospital Okhla	7.5	307	85	290	152	468	0	26	-	0.5	0.08	0	0	0	0	0
Okhla Bus Depot	6.92	890	113	1090	116	634	0	49	-	1.2	0.45	0	0	0	0	0
PB Singh Camp Colony, Near Shiv Mandir	6.63	1155	170	780	176	373	0	26	-	1.12	0.10	0	0	0	0	0

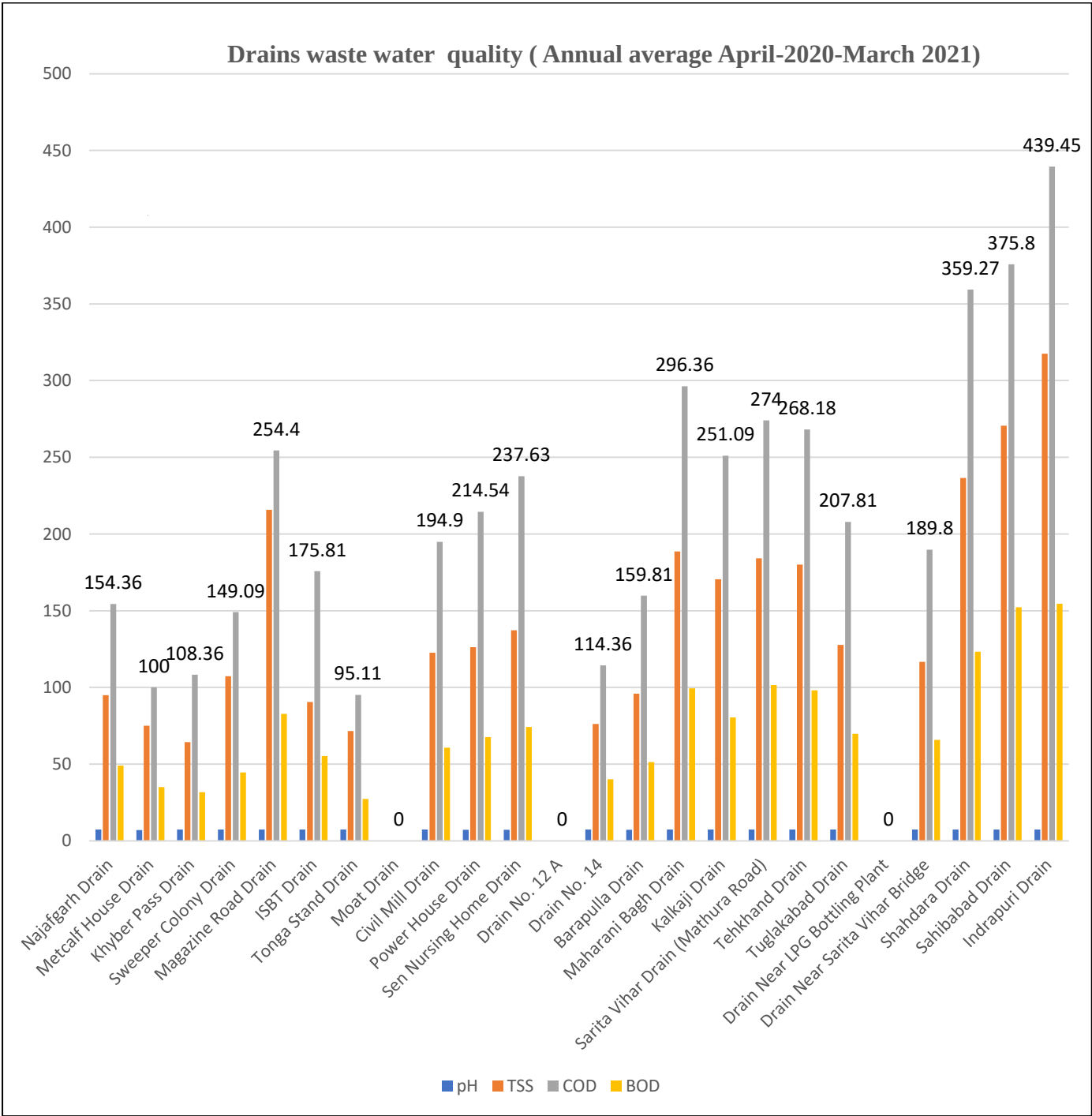
ANALYSIS REPORT OF GROUND WATER NEARBY BHALASWA LADFILL SITE: April, 2020 to March, 2021

Sampling Location	PH	TDS (mg/l)	Cl (mg/l)	Hardness as CaCO ₃ (mg/l)	Ca (mg/l)	SO ₄ (mg/l)	Turbidity NTU	Nitrate (mg/l)	Arsenic (mg/l)	Zinc (mg/l)	Fe (mg/l)	PB (mg/l)	Cu (mg/l)	Cr (mg/l)	Ni (mg/l)	Cd (mg/l)
Desirable Limit for Drinking Water	6.5-8.5	500	250	300	75	200	5	45	1	5	0.3	0.05	0.05	0.05	-	0.01
Bhalaswa Sanjay Gandhi Transport	6.715	1515	500	535	115	378.45	0	16.55	0.11	1.02	0.205	0	0	0	0	0
Bhalaswa Dairy	6.75	3015	1382.5	575	299	317	0	18.215	0.86	0.635	1.715	0	0	0	0	0
Bhalaswa Landfill Site	6.67	4420	2537.5	1515	179	613.5	0	26.25	0.43	2.365	0.42	0	0	0	0	0
Bhalaswa Janta Colony	7.225	2005	797.5	680	109.25	488.5	0	16.475	0.24	0.975	1.55	0	0	0	0	0

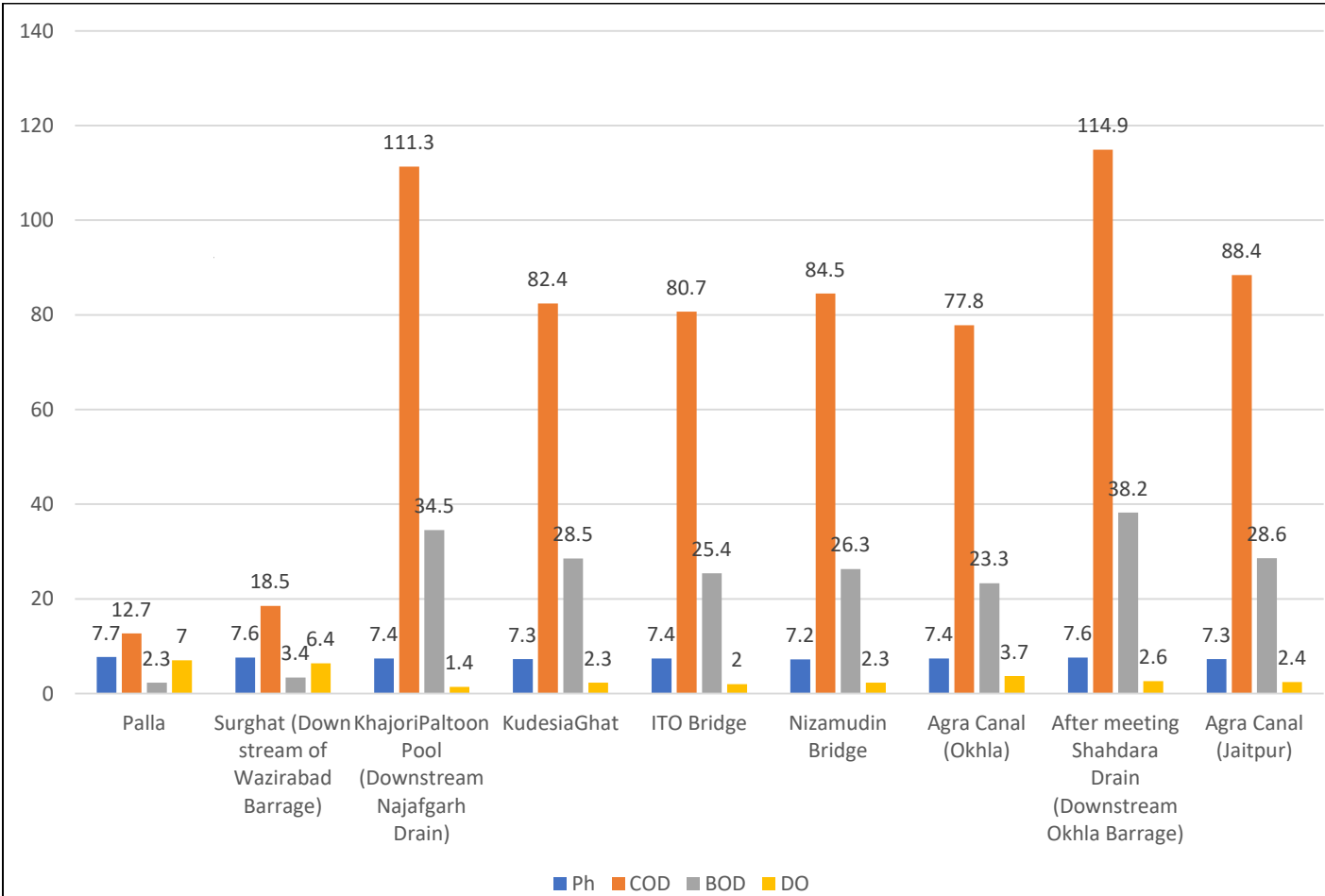
ANALYSIS REPORT OG GROUND WATER NEARBY BAWANA LANDFILL SITE: April, 2020 to March, 2021

Sampling Location	PH	TDS (mg/l)	Cl (mg/l)	Hardness as CaCO ₃ (mg/l)	Ca (mg/l)	SO ₄ (mg/l)	Turbidity NTU	Nitrate (mg/l)	Arsenic (mg/l)	Zinc (mg/l)	Fe (mg/l)	PB (mg/l)	Cu (mg/l)	Cr (mg/l)	Ni (mg/l)	Cd (mg/l)
Desirable Limit for Drinking Water	6.5-8.5	500	250	300	75	200	5	45	1	5	0.3	0.05	0.05	0.05	-	0.01
Main Gate Bawana (SLF)	7.535	533	177.5	495	114	308.2	0	19	0.13	0.485	0.45	0	0	0	0	0
Store Waste to Energy	7.35	872	550	315	149	277.35	0	43	0.11	0.79	0.3	0	0	0	0	0
Sonot Village Bawana	7.385	1516.5	1190	1615	90	477.8	0	31	0.2	1.07	0.145	0	0	0	0	0
Bawana Village	7.195	2472.5	1052.5	355	95	490.45	0	50	0.18	0.92	0.555	0	0	0	0	0
Sector 5 Bawana	6.8	1790	1372.5	635	120	441.95	0	62	0.25	1.11	0.115	0	0	0	0	0

DRAIN WASTE WATER QUALITY (ANNUAL AVERAGE April-2020-March 2021)



RIVER WATER QUALITY (ANNUAL AVERAGE April, 2020 to March, 2021)



The data is presented in the form of a graph as below

The following are the important observations.

-  **pH** varied from 7.2 to 7.7. The minimum value was observed at Nizamuddin and maximum value was observed at Palla.
-  **BOD** varied from 2.3 mg/l to 38.2 mg/l respectively at Palla and Okhla Barrage(after meeting Shahdara drain) respectively.
-  **COD** varied from 12.7 mg/l to 114.9 mg/l respectively at Palla and Okhla Barrage (after meeting Shahdara drain) respectively.
-  **Dissolved Oxygen** varied from 1.4 mg/l to 7 mg/l at different locations. Dissolved oxygen was present at Palla and Surghat throughout the year.

CHAPTER VIII

8 AIR POLLUTION

Delhi, the capital city, is situated in the Indo-Gangetic plain, and wind blown dust is a primary environmental concern. The city has one of the most robust Ambient Air Quality Network consisting of 40 CAAQMS operated by three different agencies DPCC, CPCB and IMD. DPCC is operating a real-time Air Monitoring Network with 26 stations. Four stations have been operational since 2010, and 20 more were added to the existing network in 2017, which spread out in different land-use areas of Delhi. PM2.5 & PM10, Carbon Monoxide, Nitrogen Dioxide, Sulphur Dioxide, Benzene, Ozone, and Ammonia are among the pollutants monitored at these sites. Meteorological data such as Wind Speed, Wind Direction, Temperature, Humidity, Solar Radiation, Barometric Pressure, and Rainfall are measured at these locations. While Gaseous Pollutants were monitored every minute and a 15-minute average is released in the public domain. The data generated by these stations is used by CPCB for AQI calculation and IMD uses this data for weather prediction purposes. Different departments and agencies use the data for the development of policies. Various academic institutes and agencies extensively use the data for research purposes.

The geographical distribution of Air Quality Monitoring Stations is depicted in Figure 1, and the Location with address is shown in Table 1.

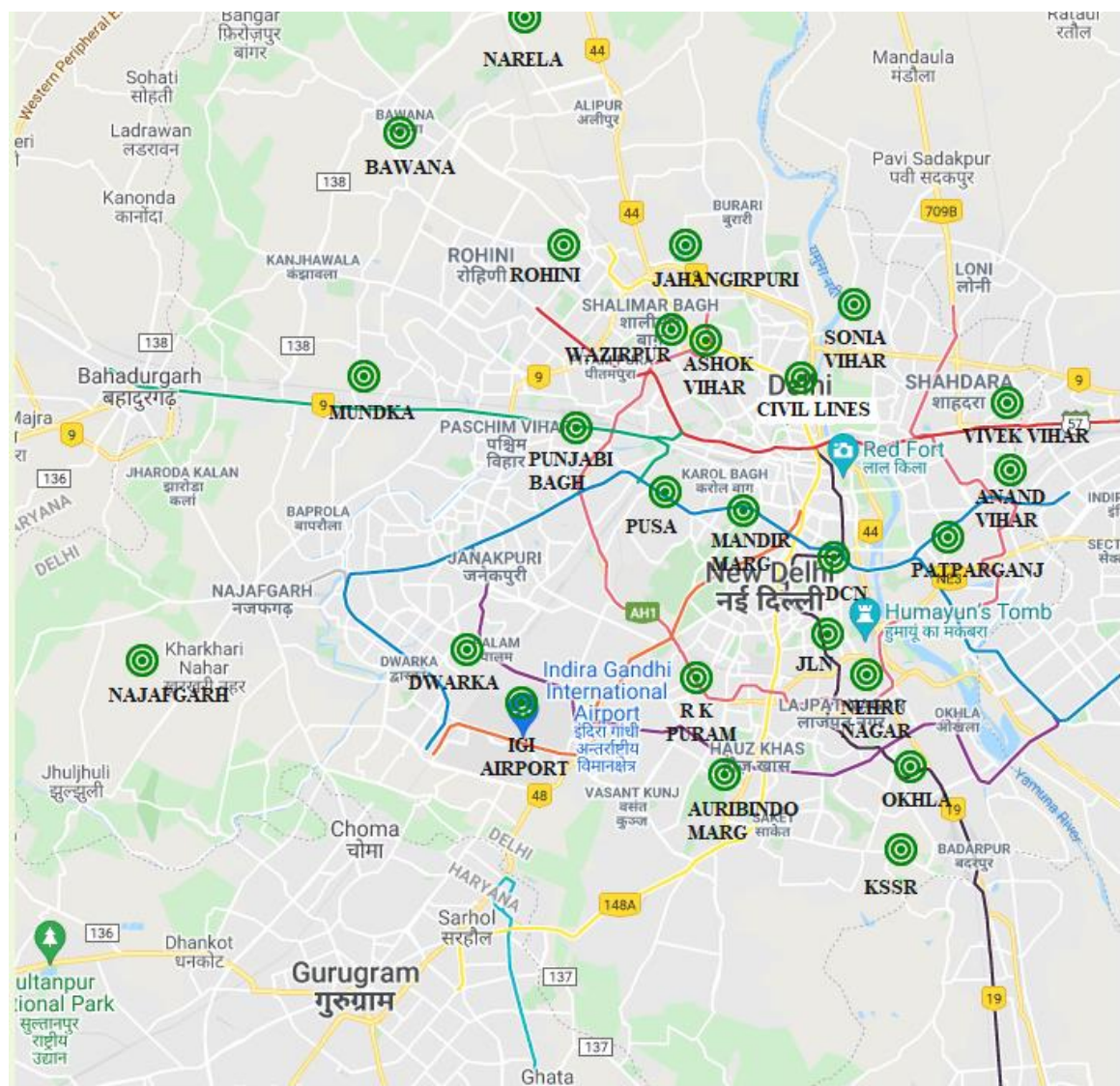


Figure 1: Geographical Distribution of Air Quality Monitoring Stations

Table 3: Air Quality Monitoring Stations Address

S.NO	Name	Address
1	Mahatma Gandhi Institute for Combating Climate Change	Alipur, Bakthawarpur Road, Bakoli, Delhi-110036
2	Industrial Training Institute,	K Block, Near Babu Jagjeevan Ram Hospital, Bhalswa, Jahangirpuri, Delhi-110033
3	ITI, Narela	Shahpur Garhi, Narela, New Delhi- 110040
4	Sonia Vihar Water Treatment Plant (DJB)	Wazirabad Rd, JagatPuri, Sonia Vihar, New Delhi-110094
5	Mother Dairy Plant,	30, New Patparganj Road, Block D, Patparganj, New Delhi-110092
6	Satyawati College, G.T Karnal Road	Ashok Vihar, Phase- III, Delhi-110052
7	PGDAV College, Srinivaspuri	Nehru Nagar, Opposite Shrinivaspuri, New Delhi- 110065
8	National Institute of Tuberculosis & Respiratory Diseases,	Sri Aurobindo Marg, New Delhi
9	Bramprakash Ayurvedic Hospital, Najafgarh	Khera Dabar, Najafgarh, Delhi-110073
10	ITI Shahdara (Jhilmil Industrial Area),	C176, Block C, Vivek Vihar Phase I, Vivek Vihar, Delhi, 110095
11	IARI	PUSA, PUSA institutional Area
12	Dhayanchand Stadium	India Gate, New Delhi-110002
13	J.L.N Stadium	Pragati Vihar, New Delhi-110003
14	Dr Karni Singh Shooting Range, Asola	Suraj Kund Road, Tuglakabad, New Delhi-110044
15	National Institute of Malaria Research	Sector 8, Dwarka, New Delhi, Delhi 110077
16	Mundka Metro Residential Colony	Mundka Metro Residential Colony, Delhi-110041
17	Shaheed Sukhdev College of Business Studies, Rohini	PSP Area-IV, Dr K.N. Katju Marg, Sector-16, Rohini, Delhi- 110089
18	Delhi Institute of Tool Engineering,	Wazirpur Industrial Area, Wazirpur, Delhi, 110052

19	DITE, Okhla Industrial Area, New Delhi	Block A, Okhla Phase-II, Okhla Industrial Area, New Delhi-110020
20	Maharshi Valmiki Hospital, Bawana	Bawana Industrial Area, Pooth Khurd, New Delhi, Delhi 110039
21	Anand Vihar, ISBT	ISBT
22	Mandir Marg	N.P. Boys Sr. Sec. School, Mandir Marg
23	Punjabi Bagh	SARVODAYA Kanya Vidyalaya, No. 2, Near Central Market
24	R.K.Puram	Kendriya Vidyalaya, Sec-2

8.1 Ambient Air Quality (2020-21)

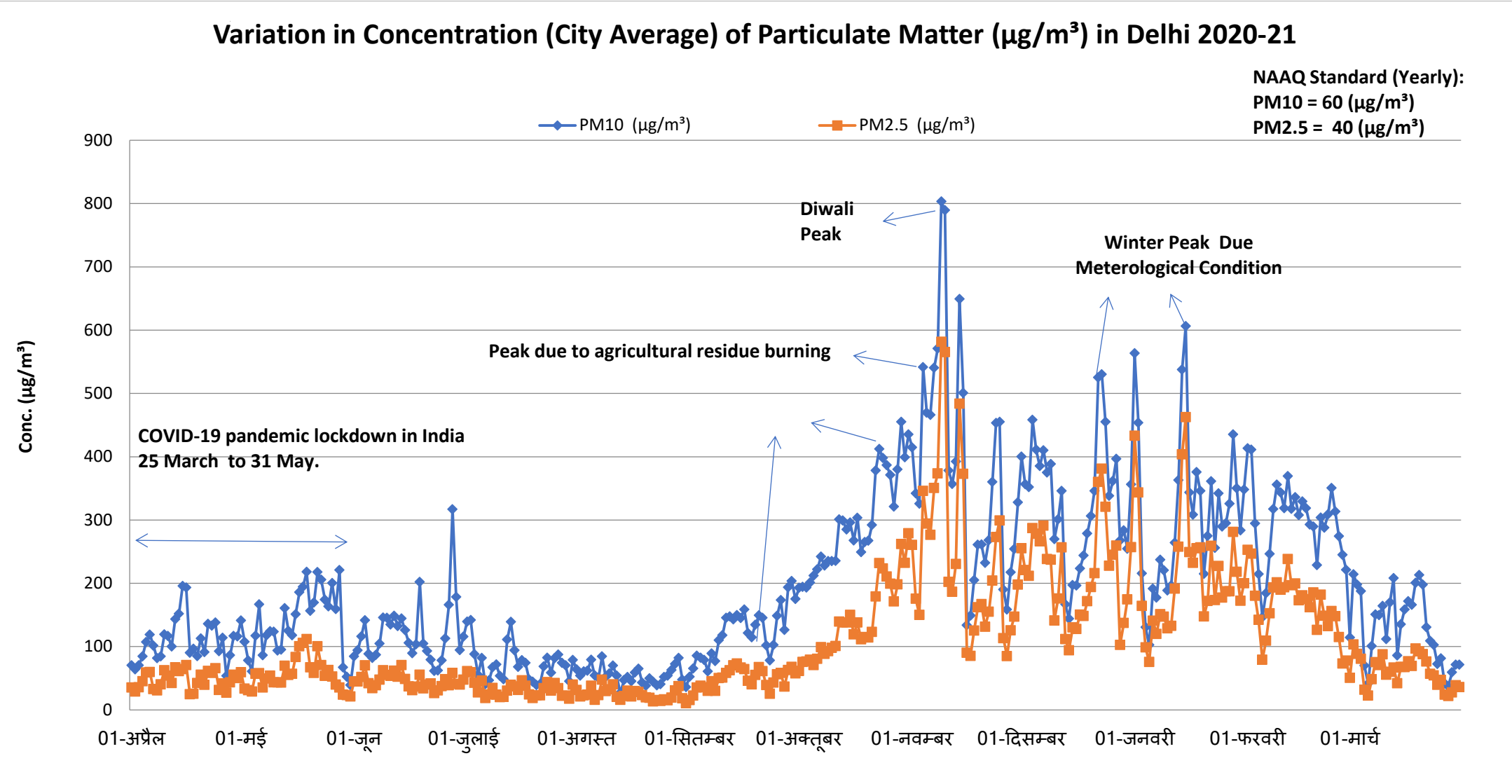
The yearly average of various pollutants during the previous ten years (2011-2021).

Yearly City Average of Various Pollutants of DPCC CAAQMS								
Year	PM ₁₀	PM _{2.5}	SO ₂	NO ₂	O ₃	NH ₃	CO	C ₆ H ₆
Annual Standard	60 (µg/m ³)	40 (µg/m ³)	50 (µg/m ³)	40 (µg/m ³)	100 (µg/m ³)*	100 (µg/m ³)	2 (mg/m ³)*	5 (µg/m ³)
2011-12	298	145	20.56	75.99	49.00	46.55	1.76	2.39
2012-13	368	162	16.00	93.63	41.73	59.45	1.80	3.03
2013-14	341	150	20.76	71.03	33.94	44.80	2.06	5.23
2014-15	309	144	15.90	83.60	42.83	49.44	1.37	4.38
2015-16	304	139	19.78	72.95	46.72	41.84	1.56	5.23
2016-17	230	112	14.76	48.18	34.69	41.60	1.44	6.15
2017-18	352	193	23.12	67.32	35.85	38.61	1.87	4.45
2018-19	257	119	17.23	49.23	37.01	39.77	1.50	3.68
2019-20	217	107	13.63	45.36	34.44	37.28	1.37	4.09
2020-21	208	111	14.40	41.49	35.73	37.25	1.37	3.58
Yearly City Average of 4 stations till 2017 from 2018 onwards 24 stations.								
*8-hours Standard								

Table-2:Yearly City Average of Various Pollutants of DPCC CAAQMS (2011 – 2021)

8.1.1 Particulate matter

One of the primary causes of Delhi's high particulate levels is the city's geographic position. Every year, three peak in the concentration of particles were recorded. Dust-laden breezes from the western portion of the nation deliver particles during the summer, by which concentration of PM_{10} is get peaked in the summer. With the onset of winter paddy harvesting in neighbouring states starts and it initiates agriculture residue burning which is widespread, contributes to high $PM_{2.5}$ concentrations in October & November. Meteorological conditions such as calm conditions, low wind speed, low mixing height, and low temperature-induced low dispersion of pollutants, results in higher concentrations in November & December. For more understanding, the variation in concentration of particulate matter is shown in Graph 1.



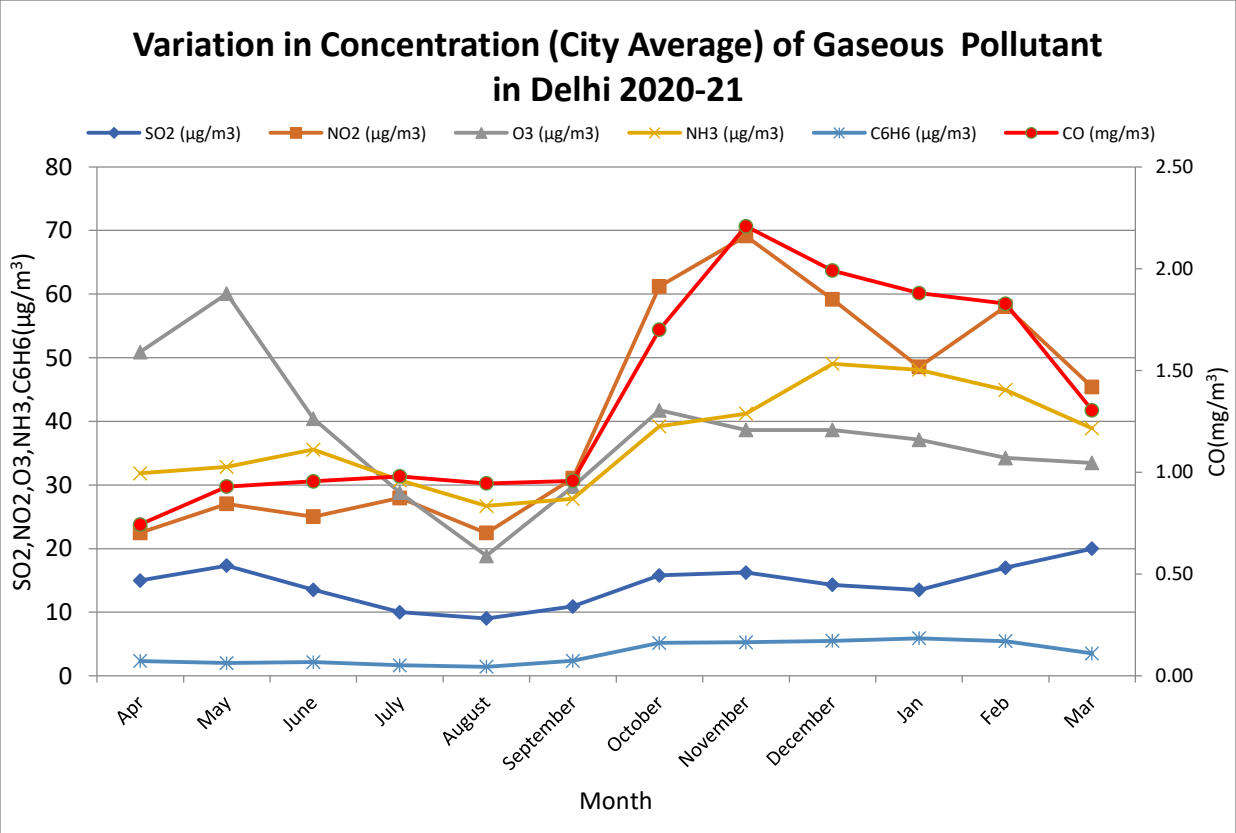
Graph 1: Variation in Concentration (City Average) of Particulate Pollutants in Delhi 2020-21

8.1.2 Gaseous Pollutants

Six Gaseous Pollutants are monitored by DPCC i.e., SO₂, NO₂, O₃, NH₃, C₆H₆ and CO. The primary gaseous air pollutants are Carbon Monoxide (CO), Nitrogen Dioxide (NO₂), and Sulfur Dioxide (SO₂) that are emitted by various sources, including transportation, power generation, refuse incineration, industrial and domestic fuel combustion. Extensive use of fossil fuels in urban transportation and industry has led to significant increases in gaseous pollutant concentrations, mainly through combustion.

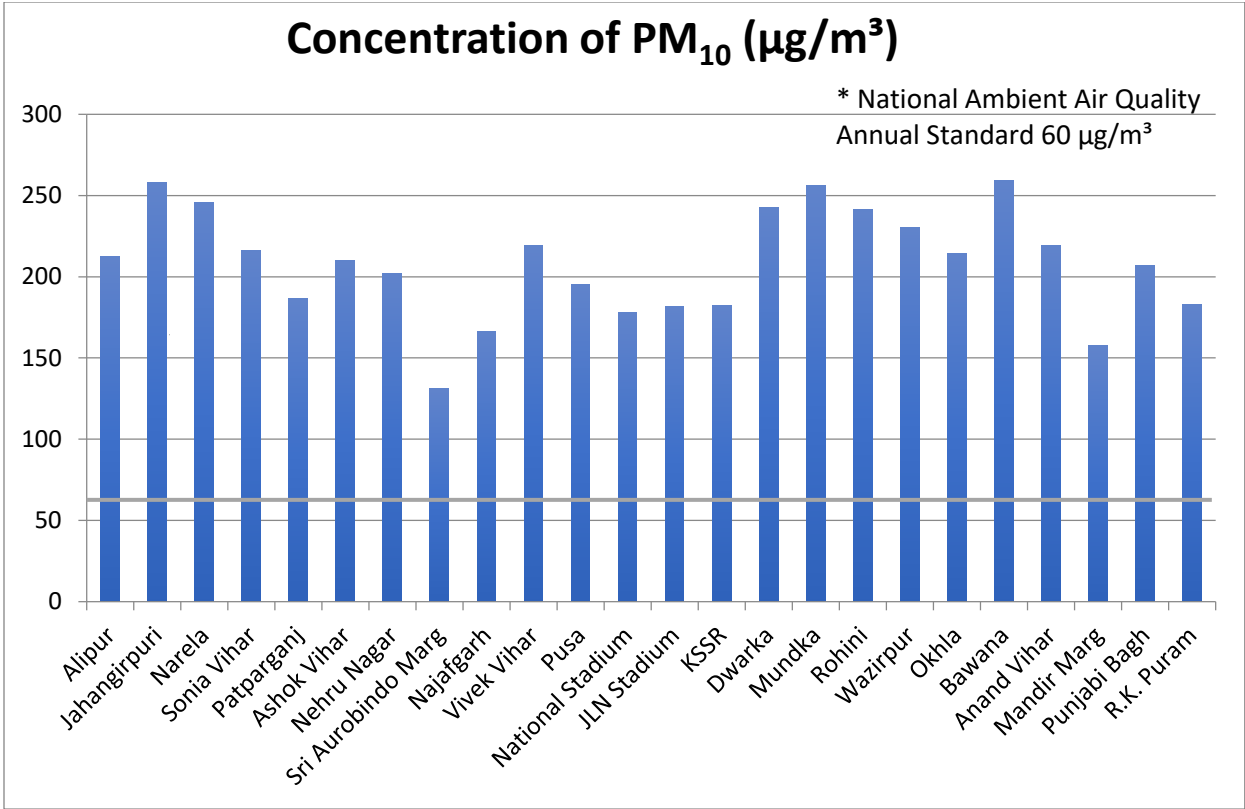
One of the other major gaseous pollutants over the northern India is agricultural residue burning. The Trend of Concentration of various Gaseous Pollutants in Delhi during 2020-21 is shown in Graph2.

Graph2: Variation in Concentration (City Average) of Gaseous Pollutants in Delhi 2020-21



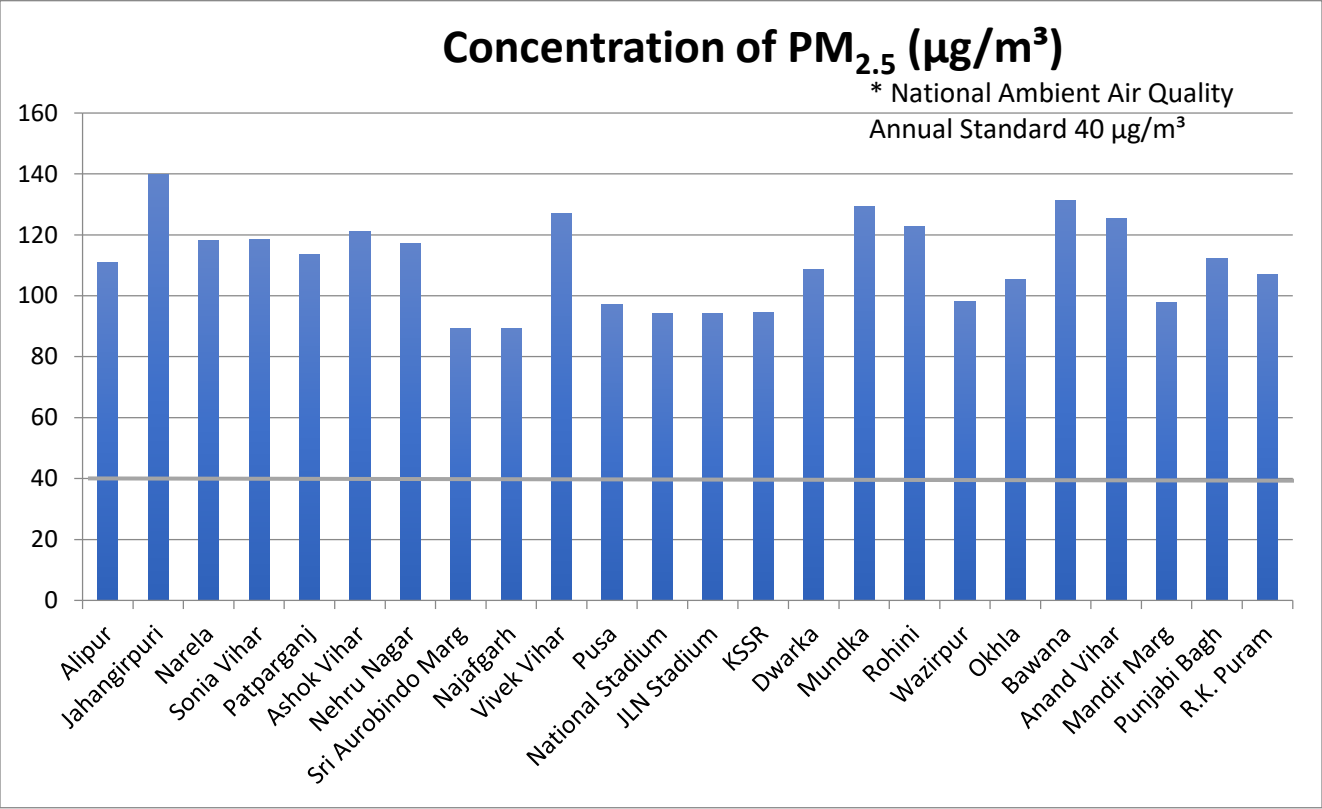
8.1.3 Particulate Matter (PM₁₀):-

The Concentration of PM₁₀ annual average varied between 131 µg/m³ at Sri Aurobindo Marg to 259 µg/m³ at Bawana, against the annual prescribed standard of 60 µg/m³. The concentration of more than 200 µg/m³ was observed at 15 locations, and only 2 locations shows concentration less than 160 µg/m³ i.e Sri Aurobindo Marg and Mandir Marg. Aurobindo Marg CAAQMS is located inside the campus of Hospitals with thick foliage, and the major roads are relatively away, and vehicular emissions are not directly impacting the locations. Mandir Marg CAAQMS is located inside the school and very close to ridge. The city average observed was 208 µg/m³.



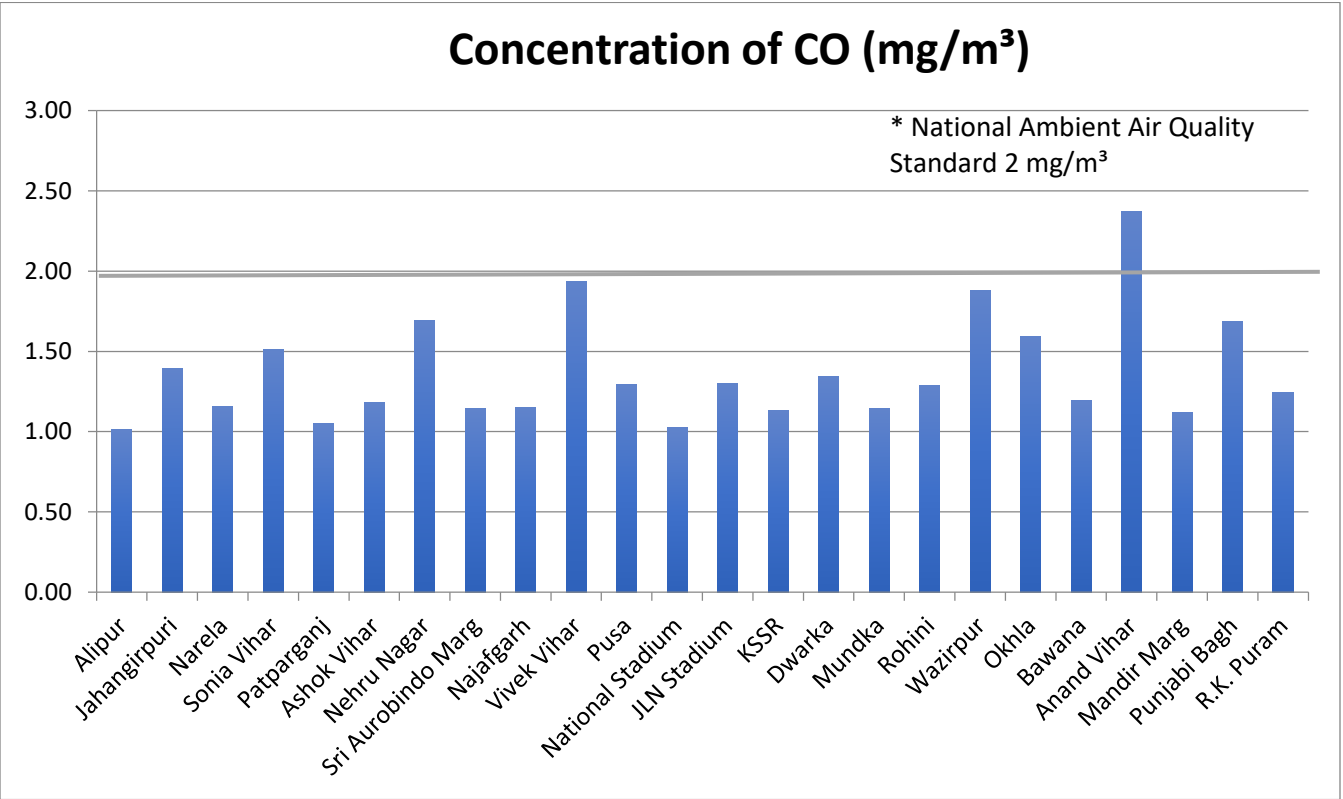
8.1.4 Particulate Matter (PM_{2.5}):-

The concentration of PM_{2.5} varied between 89 µg/m³ at Sri Aurobindo Marg and Najafgarh to 140 µg/m³ at Jahagirpuri, against the annual prescribed standard of 40 µg/m³. A concentration of more than 100 µg/m³ was observed at 16 locations. 2 locations showed a value less than 90 µg/m³ i.e., Sri Aurobindo Marg and Najafgarh. Both CAAQMS are located inside hospitals' campuses with thick foliage, and the major roads are relatively away, and vehicular emissions not directly impacting the locations. The city average for the year in question is 101 µg/m³.



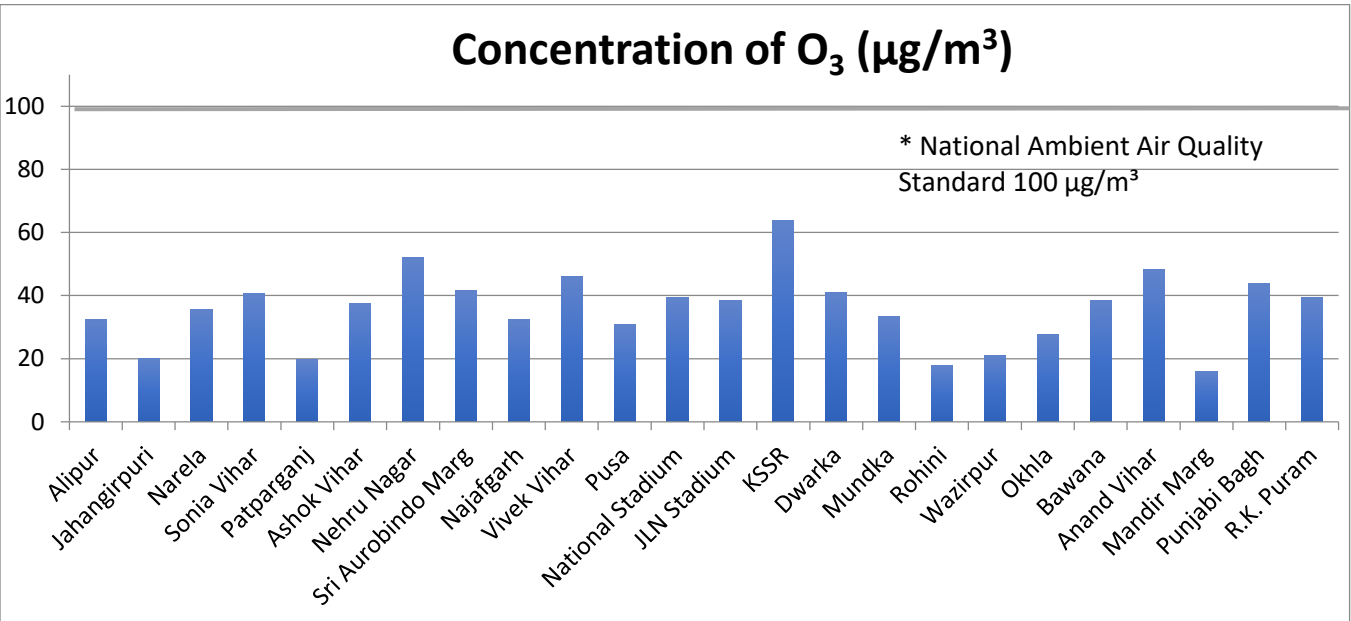
8.1.5 Carbon Monoxide (CO):-

The Concentration of CO varied between 1.02 mg/m³ at Alipur and National Stadium to 2.37 mg/m³ at Anand Vihar against the prescribed standard for 8 hours of 2 mg/m³. The maximum concentration of CO was observed at Anand Vihar, which is a hotspot influenced by vehicular emission and trans-state movement of pollutants. Open waste burning also contributes significantly.



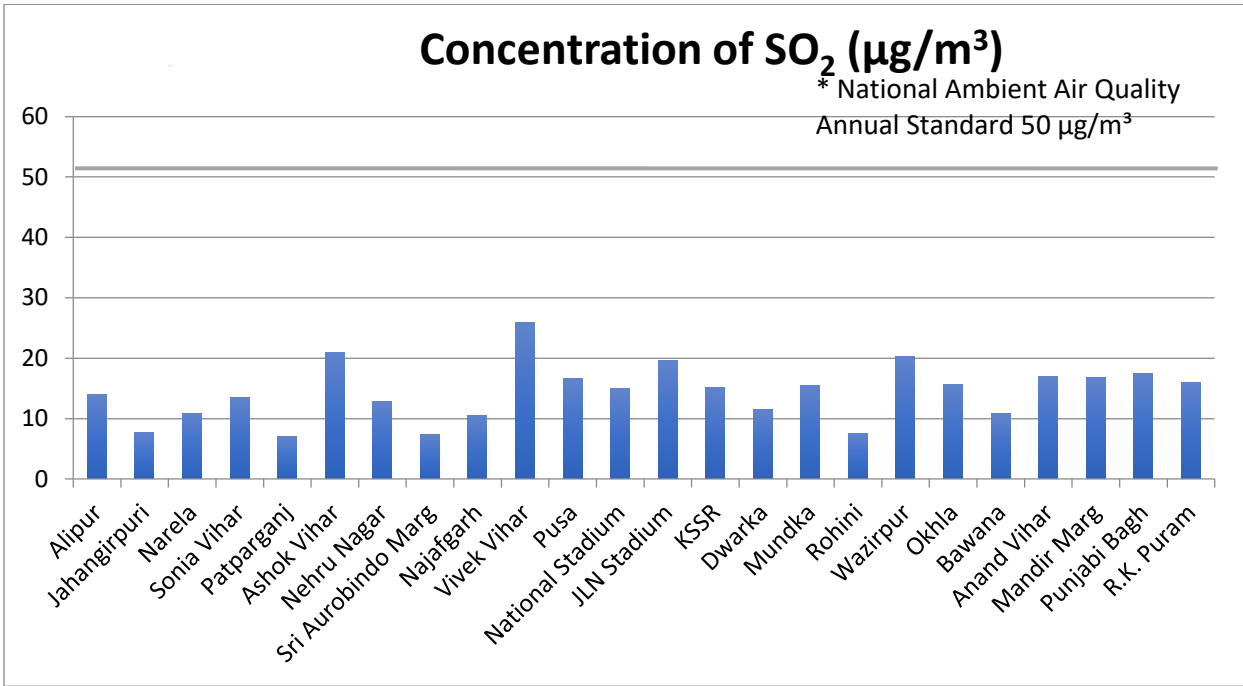
8.1.6 Ozone (O₃):-

The prescribed standard for Ozone is one hour and eight hours based; the hourly average is generally met at all the locations except for few hours, in the summer afternoon. The range of O₃ varied between 16.08 µg/m³ at Mandir Marg to 63.85 µg/m³ at Dr. Karni Singh Shooting Range against the 8-hour prescribed standard of 100 µg/m³. Six locations show value less than 30 µg/m³ though hourly value exceed prescribed standard sometimes, mainly in summer season.



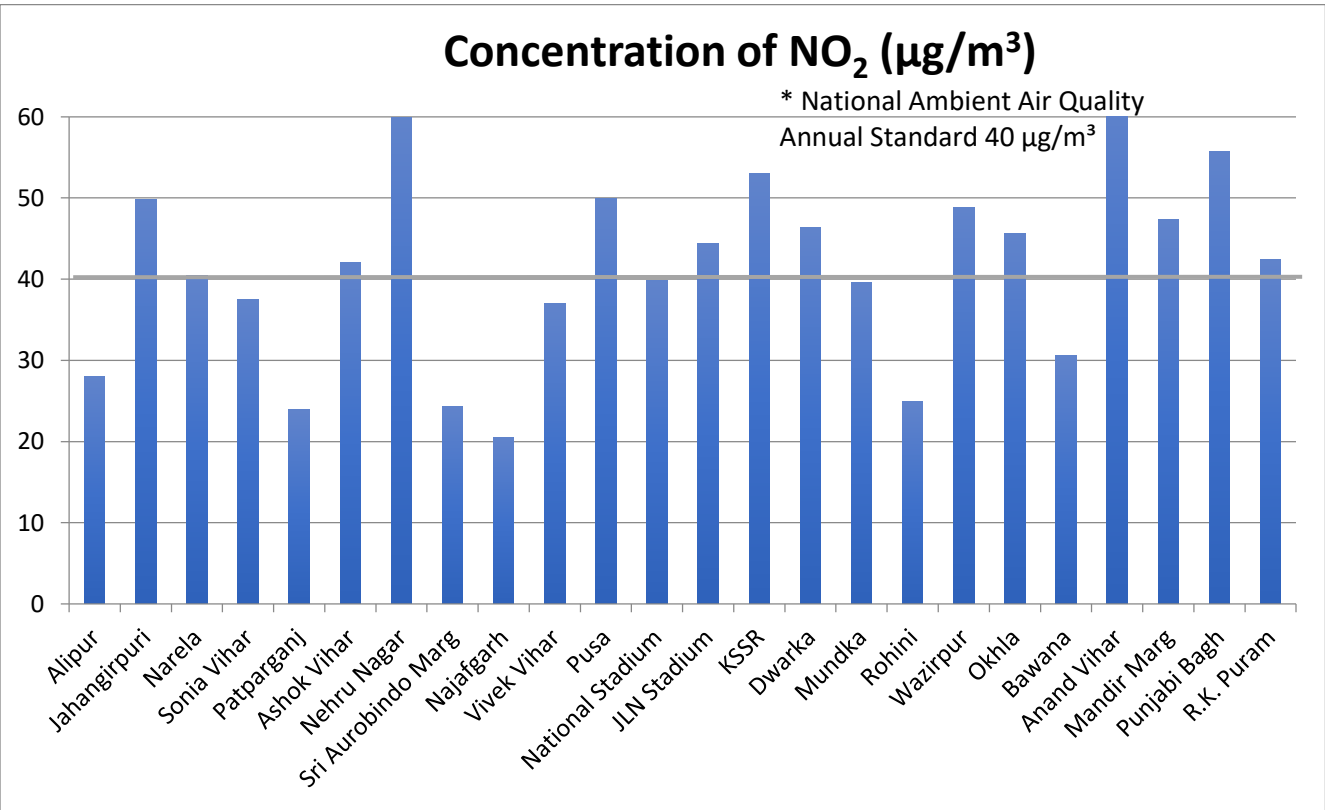
8.1.7 Sulphur Dioxide (SO₂):-

The concentration of SO₂ varied between 7.02 µg/m³ at Patparganj to 25.9 µg/m³ at Vivek Vihar against the annual prescribed standard of 50 µg/m³.The concentration of Sulfur Dioxide is always well within the prescribed limits of (50 µg/m³).



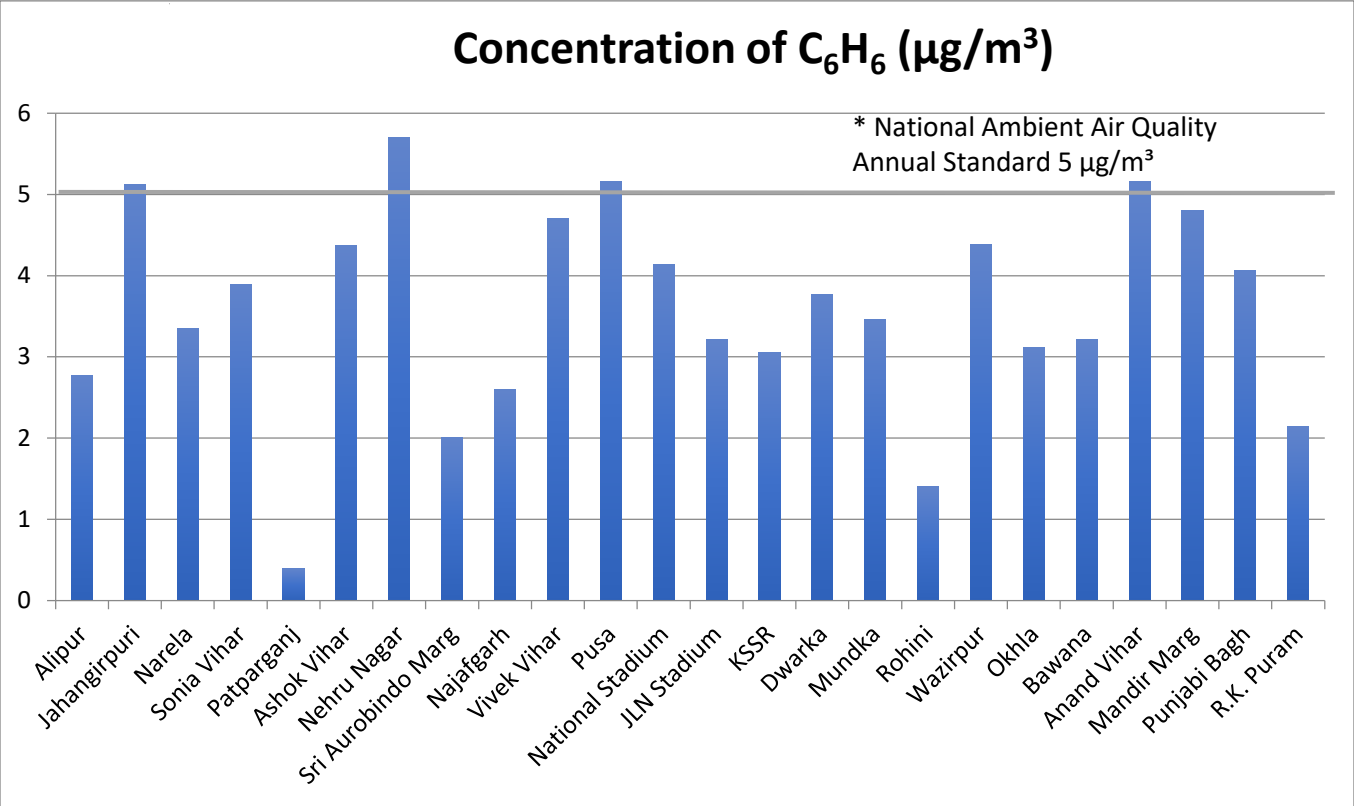
8.1.8 Nitrogen Dioxide (NO₂):-

The average annual concentration of NO₂ varied between 20.53 µg/m³ at Najafgarh to 63.63 µg/m³ at Anand Vihar against the annual prescribed standard of 40 µg/m³. The 14 monitored locations show concentrations exceeding the prescribed standard (40 µg/m³), which may be attributed to vehicular emission.



8.1.9 Benzene (C₆H₆):-

The Concentration of Benzene varied from 0.39 µg/m³ at Patparganj to 5.70 µg/m³ at Nehru Nagar against the annual prescribed standard of 5 µg/m³. The 4 Locations shows value more than the prescribed standard value. The highest concentration was observed at Nehru Nagar and exceeded the prescribed standard (5 µg/m³) may be due to high vehicular density.



8.2 Industrial, Incinerator, and Waste to energy plant

Stack monitoring is conducted by DPCC Air Lab at the request of the units for their Self-Assessment and by the concerned cell. A total of 880 source emissions were monitored to determine the emissions from various industries. These consist of Boilers, Furnaces and Ovens etc. The other monitored units are Buffing units, Dal Mills and Flour Mills provided with Air Pollution Control Systems. Delhi city has three Waste to Energy Plants which was monitored jointly by DPCC and CPCB.

8.3 Conclusion

The year 2020 is a different year highly influenced by Lockdowns and Pandemic related restrictions. The year gave a chance to assess the background level in Delhi or the lowest values which can be achieved.

Particulate exceeded the prescribed standard and Gaseous Pollutant achieved the standard. However, some exceedance were observed in concentrations of NO₂ and Ozone. However, it is observed that the pollutants are showing the downward trend.

8.4 Ambient Noise Quality: -

Noise pollution, unwanted or excessive sound that can have deleterious effects on human health, wildlife, and environmental quality. Noise pollution is commonly generated inside many industrial

facilities and some other workplaces, but it also comes from highway, railway, and airplane traffic and from outdoor construction activities. Noise pollution is one of several environmental pollutions across the world. It can be described as the propagation of noise with a harmful impact on the physiological and psychological lives of humans or animals.

DPCC recently strengthened the Noise Monitoring Network in Delhi with 31 Noise monitoring stations. These stations were installed in different land-use areas to assess the real time noise levels. Seven stations are situated in silence zone which includes educational institutions and hospitals, Eleven station is situated in a commercial zone which includes markets and stadiums, Eight stations are situated in a residential zone and five stations is situated in the industrial area. The map of Real Time Ambient Noise Monitoring stations is shown in fig 1.

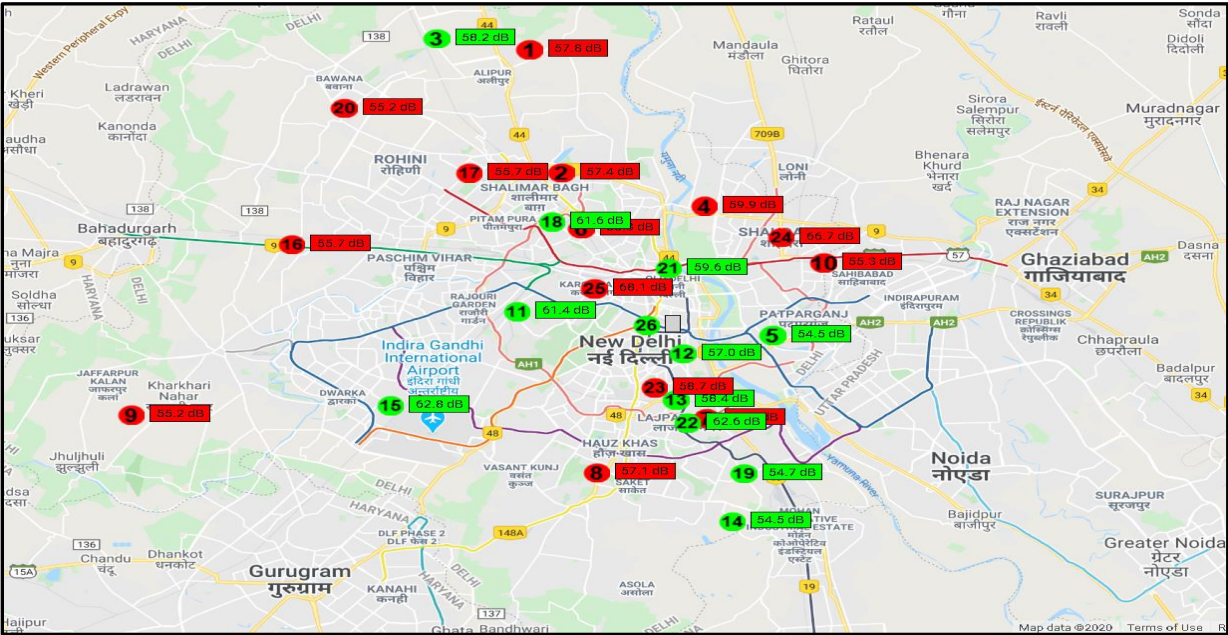


Figure 1. Map of Ambient Noise Monitoring Installed in Delhi.

Delhi city has one of the highest vehicular density in India and more than 30,000 kms. of road length exist in 1484 sq. km. geographical area of Delhi which induce the Ambient Noise of the city. DPCC installed 31 Noise Monitoring Stations (05 NMT in the month of October 2014 and 26 NMT in the month of June 2020) in different land use area of Delhi. Analysis of these data shows that the Ambient Noise Level exceeded in all land use areas except industrial areas.

Table 1 List of 31 Real Time Ambient Noise Monitoring Stations across Delhi

S.No.	Location Name	Zone/Area	Day (6 AM to 10 PM) Standard in dB(A)	Night (10 PM to 6 AM) Standard in dB(A)
1	Alipur	Silence Zone	50	40
2	Sri Aurobindo Marg	Silence Zone	50	40
3	Najafgarh	Silence Zone	50	40
4	Rohini	Silence Zone	50	40
5	Poot Khurd Bawana	Silence Zone	50	40
6	Mandir Marg	Silence Zone	50	40
7	R.K. Puram	Silence Zone	50	40

8	Jahangirpuri	Residential Area	55	45
9	Narela	Industrial Area	75	70
10	Sonia Vihar	Residential Area	55	45
11	Patparganj	Industrial Area	75	70
12	Ashok Vihar	Residential Area	55	45
13	Nehru Nagar	Residential Area	55	45
14	Vivek Vihar	Residential Area	55	45
15	PUSA	Industrial Area	75	70
16	Mundka	Residential Area	55	45
17	Wazirpur	Industrial Area	75	70
18	Okhla	Industrial Area	75	70
19	IMD, Lodhi Road	Residential Area	55	45
20	Punjabi Bagh	Residential Area	55	45
21	National Stadium	Commercial Area	65	55
22	J.L.N Stadium	Commercial Area	65	55
23	Dr. Karni Singh Shooting Range	Commercial Area	65	55
24	Dwarka	Commercial Area	65	55
25	Kashmere Gate	Commercial Area	65	55
26	Lajpat Nagar	Commercial Area	65	55
27	Shahdara	Commercial Area	65	55
28	Karol Bagh	Commercial Area	65	55
29	Connaught Place	Commercial Area	65	55
30	Anand Vihar	Commercial Area	65	55
31	Civil Lines	Commercial Area	65	55

Alipur

The ambient noise levels in the month of June, July, August-2020 and in Feb & March-21 are showing 100% exceedance of notified standards during day time and night time both. The noise levels in the month of September, October, November, December-2020 and January-2021 are showing 100% exceedance during night time.

Ashok Vihar

The ambient noise levels in the month of June, July, August, November, December-2020 and in January, February & March-21 are showing 100% exceedance of notified standards during day time and night time both. The noise levels in the month of September, October-2020 are showing 100% exceedance during night time.

Connaught Place

The noise levels in the month of July, October, November, December-2020, February & March-21 are showing 100% exceedance during night time. The noise levels in the month of August, September & January are showing exceedance to notified standards either at day or night time.

Dr. Karni Singh Shooting Range

The Noise levels in the month of September, October, November, -2020, January & March-2021 are showing 0% exceedance during day time and night time both. The noise levels are not exceeding above 10 dB(A) in Day & Night in any of the month from the prescribed standards.

Dwarka

The ambient noise levels in the month of February-2021 are showing 100% exceedance during both day & night time. The noise levels in the month of August, October, November, December -2020, January & March-2021 are showing 100% exceedance during night time. The noise levels in the month of June, July and September are showing exceedance to notified standards either at day or night time.

IMD, Lodhi Road

The ambient noise levels in the month of June, July-2020 are showing 100% exceedance during both day & night time. The noise levels in the month of August, September, October, November-2020, February & March-2021 are showing 100% exceedance during night time. The noise levels in the month of December & January are showing exceedance to notified standards either at day or night time.

Jahangirpuri

The ambient noise levels from the month of June-2020 to March-2021 are showing 100% exceedance during both day & night time.

JLN Stadium

The noise levels in the month of June-2020 to March-2021 are showing exceedance to notified standards either at day or night time.

Karol Bagh

The ambient noise levels in the month of July, September, October, November, December -2020, January, February & March-2021 are showing 100% exceedance during both day & night time. The noise levels in the month of June and August-2020 are showing 100% exceedance during night time.

Kashmere Gate

The noise levels in the month of July, September, October, November, December-2020, January February & March-2021 are showing 100% exceedance during night time. The noise levels in the month of June and August-2020 are showing exceedance to notified standards either at day or night time.

Lajpat Nagar

The noise levels in the month of June-2020 to March-2021 are showing exceedance to notified standards either at day or night time.

Mundka

The noise levels in the month of January & February -2021 are showing 100% exceedance during both day & night time. The noise levels in the month of June, July, August, September, October, November, December -2020 & March-2021 are showing 100% exceedance during night time.

Najafgarh

The noise levels in the month of September -2020 are showing 100% exceedance during both day & night time. The noise levels in the month of June-2020 to March-2021 except September-2020 are showing 100% exceedance during night time.

Narela

The noise levels in the month of June -2020 to February -2021 are showing 0% exceedance during day time and night time both. The noise levels in the month of March-2021 are showing exceedance to notified standards either at day or night time.

National Stadium

The noise levels in the month from June-2020 to March-2021 are showing exceedance to notified standards either at day or night time.

Nehru Nagar

The noise levels in the month of June to March-2021 are showing 100% exceedance during night time.

Okhla

The noise levels in the month of June -2020 to March -2021 are showing 0% exceedance during day time and night time both.

Patparganj

The noise levels in the month of June -2020 to March -2021 are showing 0% exceedance during day time and night time both.

Poot Khurd Bawana

The noise levels in the month of June -2020 to March -2021 are showing 100% exceedance during day time and night time both.

Pusa

The noise levels in the month of June -2020 to March -2021 are showing 0% exceedance during day time and night time both.

Rohini

The noise levels in the month of June -2020 to March -2021 are showing 100% exceedance during day time and night time both.

Shahdara

The noise levels in the month of July, September, October, November, December-2020, January and February -2021 are showing 100% exceedance during both day & night time. The noise levels in the month of June-2020 & March-2021 except September-2020 are showing 100% exceedance during night time.

Sonia Vihar

The noise levels in the month of February & March -2021 are showing 100% exceedance during both day & night time. The noise levels in the month of June, July, September, October, November, December-2020 and January-2021 are showing 100% exceedance during night time. The noise levels in the month of August-2020 are showing exceedance to notified standards either at day or night time.

Sri Aurobindo Marg

The noise levels in the month of June -2020 to March -2021 are showing 100% exceedance during day time and night time both.

Vivek Vihar

The noise levels from July -2020 to March -2021 are showing 100% exceedance during day time and night time both. The noise levels in the month of June-2020 are showing 100% exceedance during night time.

Wazirpur

The noise levels in the month of June -2020 to March -2021 are showing 0% exceedance during day time and night time both.

Anand Vihar

The noise levels in the month of September, October, November, December-2020, January, February and March -2021 are showing 100% exceedance during night time. The noise levels in the month of June, July and August-2020 are showing exceedance to notified standards either at day or night time.

Civil Lines

The noise levels in the month of June, July, August, September, October, November -2020, January, February and March -2021 are showing 100% exceedance during night time. The noise levels in the month of December -2020 are showing exceedance to notified standards either at day or night time.

Mandir Marg

The noise levels in the month of June, July, September-2020 & February -2021 are showing 100% exceedance during both day & night time. The noise levels in the month of August, October, November, December-2020, January and March-2021 are showing 100% exceedance during night time.

Punjabi Bagh

The noise levels from June-2020 to March-2021 are showing 100% exceedance during night time.

R.K. Puram

The noise levels in the month of June -2020 to March -2021 are showing 100% exceedance during day time and night time both.

8.5 Conclusion

The annual noise data compared to prescribed standard shows that ambient noise levels exceeded the prescribed standards at silence zones, residential areas and commercial areas. At industrial areas, the noise level meets the prescribed standards in both day and night time except in Narela NMT station in March-2021. The noise levels in Jahangirpuri, Nehru Nagar, Poot Khurd Bawana, Rohini, Sri Aurobindo Marg, Punjabi Bagh and R.K. Puram Noise Monitoring (NMT) Stations are showing 100% exceedance during both day & night time from June-2020 to March-2021. The noise levels in JLN Stadium and National Stadium NMT Stations are showing exceedance to notified standards either in day or night time from June-2020 to March-2021. The ambient noise is indicative in nature and shows the community activity. Though in general it seems the primary source is vehicular noise, traffic congestions, honking of horns, congestion at improper behaviour of traffic signals chaotic condition at parking sites. The other significant source is construction activity etc.

CHAPTER IX

9 CARRYING CAPACITY ASSESSMENT

Carrying capacity study of Delhi has been conducted by School of Planning and Architecture. The brief of the report is depicted in the chapter to have a grasp on the carrying capacity of Delhi with suggestive measures of capacity building.

9.1 Brief Introduction

9.1.1 Scope of Work

The study is limited only to NCT Delhi and does not cover National Capital Region. The scope of work includes: Study of existing source apportionment reports (IIT-K,2016 & TERI 2018),Compilation & baseline study for 2019, Projections for short, medium and long term of all the selected parameters, Spatial mapping of Parameters & Overlay Analysis of Pollutants, Revision in carrying capacity assessment framework, carrying capacity assessment and proposing action plan and recommendations.

9.1.2 Study Area: National Capital Territory of Delhi

Delhi faces a severe air pollution problem due to the number of sources which are impacting the ambient air quality. Vehicular pollution in Delhi has grown from 64% to 72% from 1990 to 2000, whereas petrol and diesel consumption have grown by 400% and 300% respectively. Other sources such as biomass burning, refuse burning, construction dust and other unregulated sources are becoming major sources in some areas of high pollution levels. Two previous studies (IIT Kanpur and TERI) show considerable trend in the emission inventory of the city which further needs to be enhanced and reciprocated in upcoming years.

9.1.3 Source Apportionment Study

The source apportionment study of NCT of Delhi has already been carried previously. Two studies (CPCB and IIT Kanpur) were limited to Delhi and three (Guttikunda, SAFAR, and TERI) to the NCR. Among the studies of the NCR, Guttikunda (2018) covered only urban areas of NCR - Gurugram, Faridabad, and Ghaziabad – and excluded rural areas. The SAFAR study considered Gurugram, Faridabad, Sonapat, and Jhajjar(Haryana) and Ghaziabad, Baghpat, and Gautam Buddha Nagar (Uttar Pradesh).These studies extensively provide the information of various sources of pollution in Delhi. They can be used for analysing the trend of pollutants and emission sources over the course of time.

9.1.4 Baseline Study

It includes the comprehensive studies of land-use, demography, transportation, tourism and air pollution trend. These parameters are required to carry out the correlation between air pollution, land use, economic activities and infrastructure. It will serve as a determinant for formulation of carrying capacity framework and establish carrying capacity of Delhi city.

9.1.5 Projections

The projections for the above mentioned parameters would be calculated for short term (5 years), medium term (10 years) and long term (20years).

9.1.6 Analysis

Operating air quality monitoring stations for measurement of air quality is highly resource intensive in terms of time and cost. The appropriate spatial interpolation techniques can be used to estimate concentration where air quality monitoring stations are not available. Spatial mapping of air pollutants and the above mentioned parameters (land use, transportation, etc.) would help in establishing correlation between the same.

9.1.7 Development of suitable framework for calculating carrying capacity

Based on the above mentioned baseline data, a suitable framework would be developed considering the air environment for Delhi city. As of now, there is no carrying capacity framework established with respect to air environment.

9.1.8 Carrying capacity assessment

The terms “Carrying Capacity” and “Assimilative Capacity” of the atmosphere are interchangeably used. Assimilative Capacity of the atmosphere gives roughly an idea of the extent to which atmosphere is capable of sustaining the pollution load from various emission sources. The assimilative capacity depends upon the various physical parameters such as atmospheric stability and the topography of the region. Understanding of both the capacities is essential for establishing action plans.

9.1.9 Recommendations

As per the estimated carrying capacity and assimilative capacity interventions would be suggested at different scales and suitable action plans (short, medium and long term) will be formulated.

9.2 Source apportionment study by IIT Kanpur

Objectively the project GHG aimed to achieve the following:

- A. Identification of source/sinks of greenhouse gases (GHG) (CO₂, CH₄, N₂O, and anthropogenic fluorinated gases);
- B. Development of GIS-based gridded emission inventory of GHG (2 km × 2 km resolution) from identified sources;
- C. Estimation of losses of GHG through various sinks;
- D. Generation of GIS-based carbon emission maps from various sources, such as transportation, industrial, residential, commercial, and power plants;
- E. Develop reduction strategies for GHG;
- F. Develop a control plan for GHG mitigation.

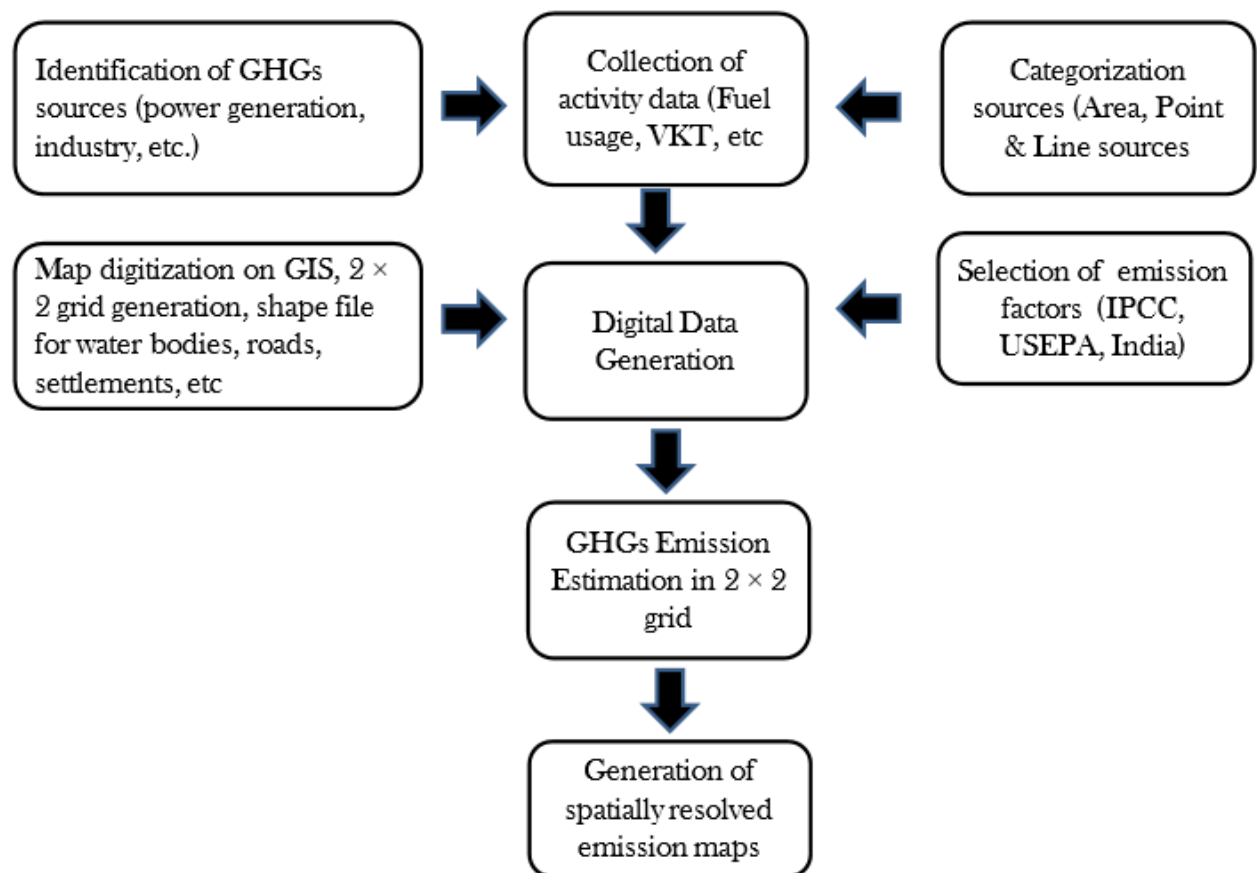
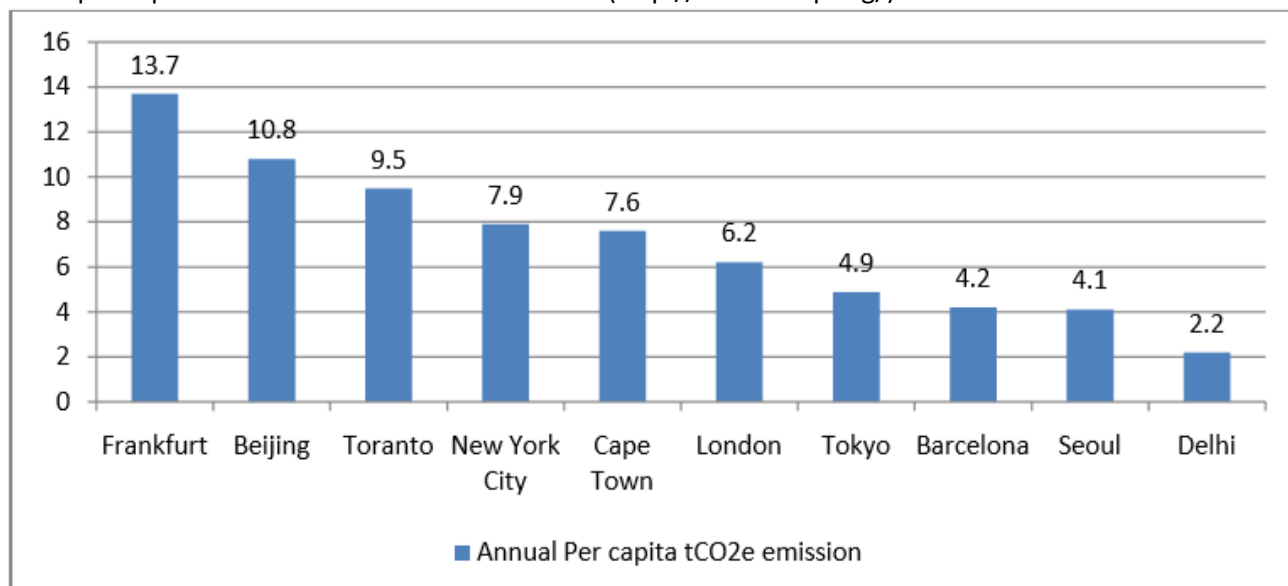


Figure 2: Stepwise methodology adopted for the study

GHG emission in Delhi and comparison with other cities:

In Delhi, the total annual GHG emission was estimated to be 37.91 million tonne of tCO₂e. The fossil fuel consumption of coal and natural gas for electricity generation and fuels used in vehicles accounted for the major emissions in the city (82%). The per capita emission of Delhi city is 2.26 tonne per year tCO₂e, which is lower than many of the top GHG emitting cities: The green areas of the Delhi consist of forests, plantations, avenue trees, gardens and parks. The total estimated green area is 327.62 sq. km; of which, 176.62 sq. km is forest and 151 sq. km is mixed species in gardens, parks and major avenues. The data related to annual CO₂ capture by trees and plants in the city of Delhi are estimated as: (i) total biomass: 1.7 million tonnes; (ii) total carbon: 0.85 million tonnes and (iii) total CO₂ captured 3.1 million tonnes.

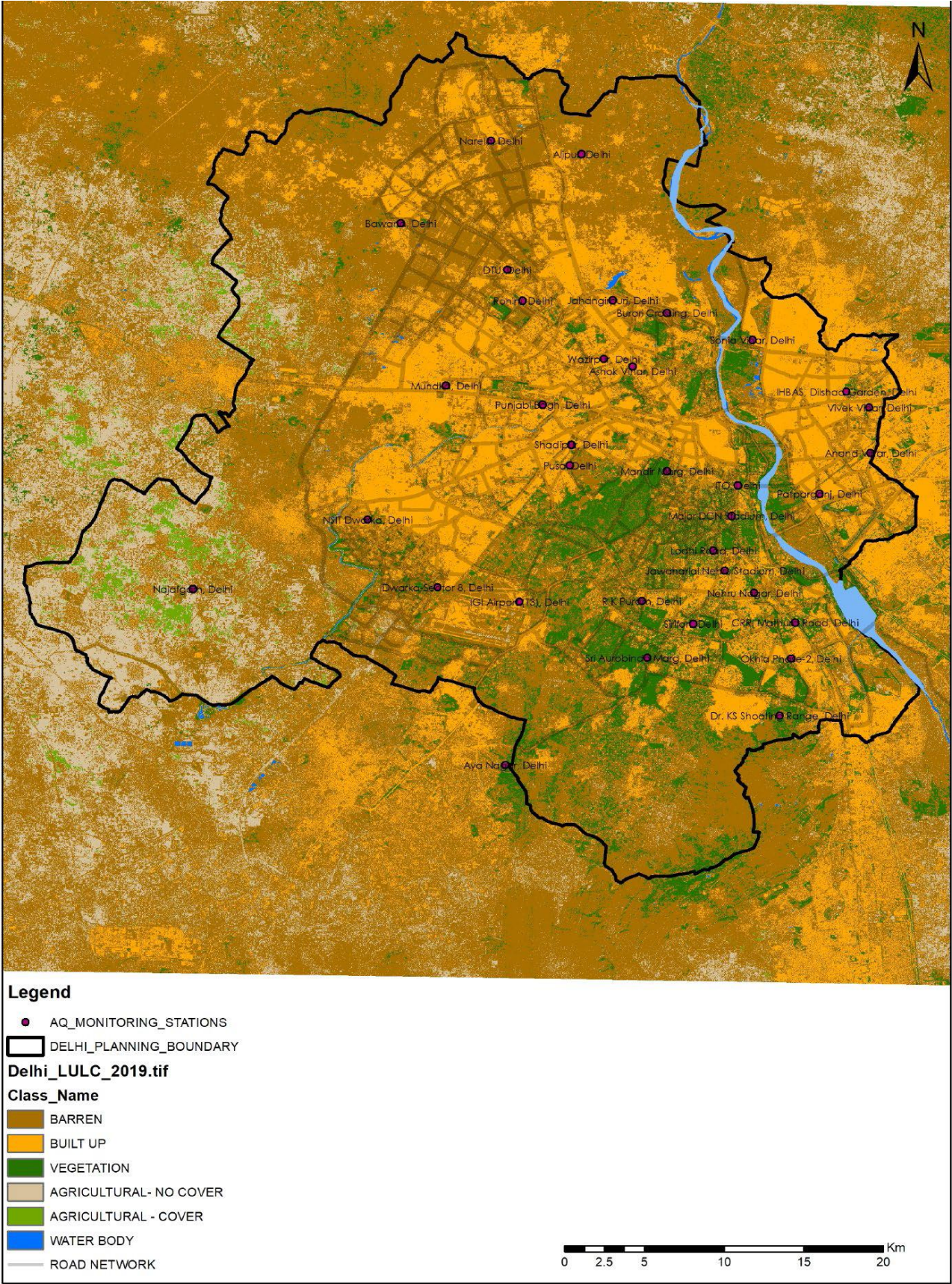
Annual per capita tCO₂e emission of different cities (<http://www.unep.org/>)



9.2.1 Dispersion Modelling for Existing Scenario by IIT Kanpur:

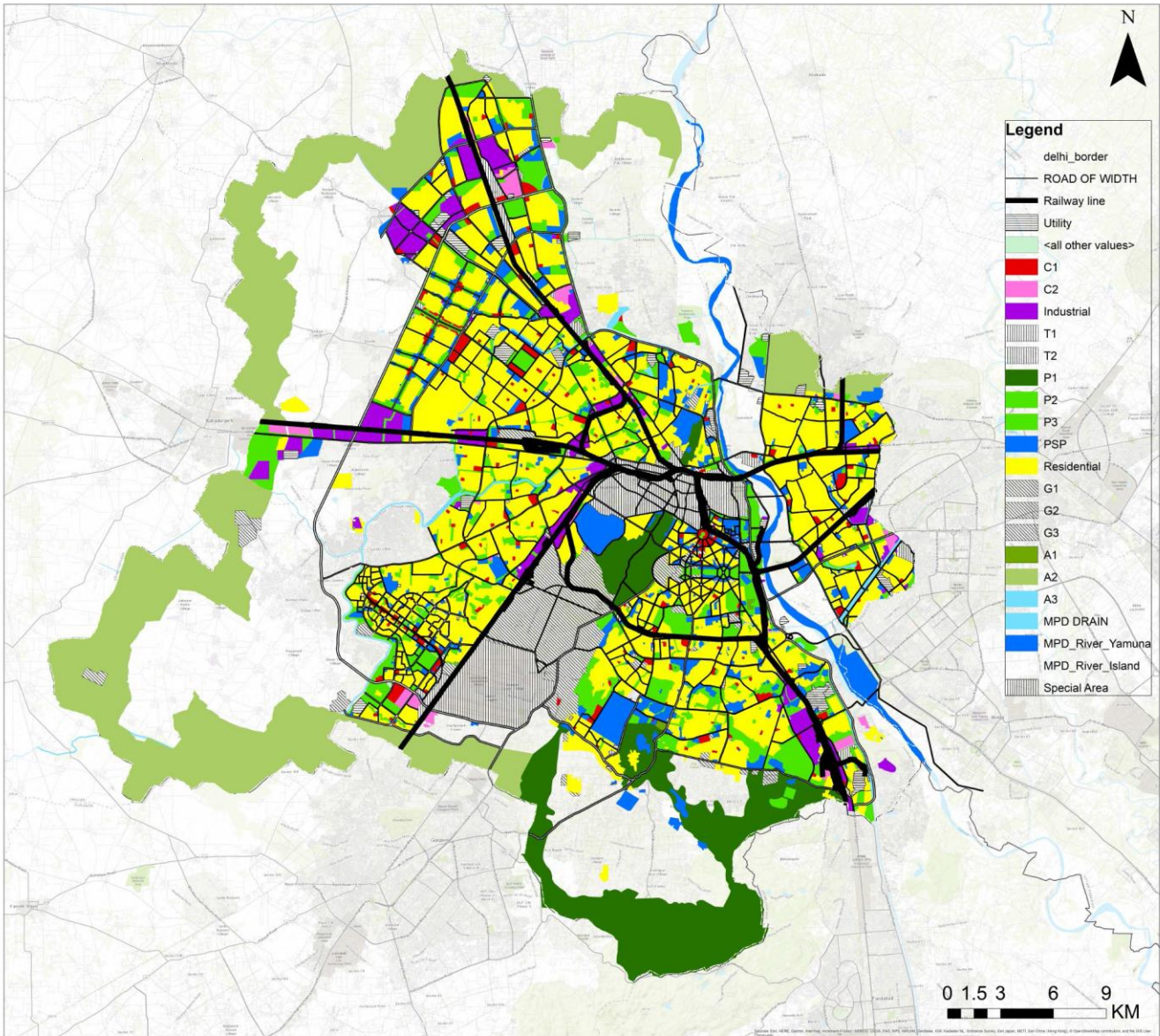
USEPA’s AERMOD model (described later) was run for PM10, PM2.5 and NOx to understand the impact of emissions occurring within Delhi on the ambient air at multiple locations.

9.2.2 LULC MAP OF DELHI



9.2.3 Master plan of NCT Delhi

2021 Master Plan of Delhi is depicted in the figure below, which plays an important role in defining the Carrying Capacity of NCT of Delhi.



9.3 Methodology followed by SPA

The study is limited only to NCT Delhi and does not cover National Capital Region. The scope of work includes: Study of existing source apportionment reports (IIT-K,2016 & TERI 2018),Compilation & baseline study for 2019, Projections for short, medium and long term of all the selected parameters, Spatial mapping of Parameters & Overlay Analysis of Pollutants, Revision in carrying capacity assessment framework, carrying capacity assessment and proposing action plan and recommendations.

SNO.	ASPECTS	PARAMETERS	ELEMENTS
1	Literature Study: Source Apportionment Study Report	2016	PM10,PM2.5
		2018	PM10,PM2.5
2	Baseline Study(Delhi)	Study Area Profile	Physiography, Climate & Natural Resources
		Demography	Existing Population And Projections- Domestic & Floating Population
		Land Use Study	Residential, Commercial, , Industry, Mixed Use & Recreational
		Transportation	Traffic Movement, Modal Split, V/C Ratio
		Industries	Type Of Industries And Their Emissions
		Tourism	Trend
		Air Pollution (Emission Loads)	Emission Inventory(As per secondary survey)
3	Projections	Short Term(2025)	Projections Of Above Mentioned Parameters(land-use, demography, infrastructure, transportation, tourism, air
		Medium Term (2030)	
		Long Term(2040)	
4	Analysis	Demography	Spatial Mapping of Parameters and Overlay Analysis of Pollutants
		Land-use	
		Urban Built-Form	
		Wind Speed & Direction	
		Transportation	
		Emission Estimation	
		Air Pollution	Air Quality at all monitoring stations with respect to land use and local activities, Air Quality During COVID-19Pandemic Lock-down In Delhi and Effect of lockdown at few monitoring stations selected based on predominant land uses
5	Development Of Suitable Framework For Calculating Carrying Capacity*	*(Note: The existing urban land carrying capacity formulated by IIT Guwahati represents only the urban aspect and doesn't Consider the air environment thence a framework for addressing air environment needs to be worked out)	
6	Carrying Capacity Assessment	Based on the framework developed	
7	Scales Of Interventions	Regional, City and Local level	

8	Action Plan	Short Term(2025)	Recommendations
		Medium Term (2030)	
		Long Term(2040)	

9.3.1 Carrying Capacity Assessment

The ventilation coefficient, which is the product of mixing depth and the average wind speed, is an atmospheric condition which gives an indication of the air quality and pollution potential, i.e., the ability of the atmosphere to dilute and disperse the pollutants over a region.

The ventilation coefficient (VC) is computed as:

Ventilation Coefficient = Mixing Height × Mean wind speed

	PM _{2.5}	PM ₁₀	Wind Speed(m/s)	Mixing Height(m)	Ventilation Coefficient*
Morning	≤60	≤100	> 4	>500	>2000
Afternoon			> 4	>1500	>6000

Ventilation Coefficient simply provides a broad indication of the dispersion potential in terms of low (<2000 m²/s), medium (2000-6000 m²/s) or high (>6000 m²/s) of the atmosphere. But it does not give any idea about the amount of emission loads that can be assimilated in the given air shed of the region.

Carrying capacity is the ‘maximum capacity of environment that can support the existing emission load by a land use and its associated activities over a particular time period”.

The concentrations of substances in the atmosphere are determined by: 1) transport, 2) diffusion, 3) chemical transformation, and 4) ground deposition.

Based on Anthropogenic activity:

Emission Concentration ∝ a * K

Where, a – activity rate (units/hour), K – emission factor (g/unit)

Based on Meteorological factors:

Emission Concentration ∝ $\frac{1}{\text{Wind Speed}}$ ∝ $\frac{1}{\text{Mixing Height}}$ ∝ $\frac{1}{\text{Temperature}}$ ∝ $\frac{1}{\text{R.H}}$ ∝ Pressure

Therefore, we can say that;

Emission Concentration ∝ $\frac{\text{Activity Rate} * \text{Emission Factor}}{\text{Wind Speed} * \text{Mixing Height}}$ ∝ $\frac{1}{\text{Temperature}}$ ∝ $\frac{1}{\text{R.H}}$ ∝ Pressure

It is expressed as:

CarryingCapacity=(EmissionStandardasperCPCB)/(PollutantConcentration)×

Ventilation Coefficient

Carrying Capacity = ($\frac{\text{Emission Standard as per CPCB}}{\text{Pollution Concentration at monitoring station}}$ × Ventilation Coefficient) – Ventilation Coefficient
i.e.,

The Ventilation coefficient shows only the dispersion potential. So, to actual capture the Real Carrying Capacity (RCC), the parameters such as diffusion, chemical transformation and ground deposition needs to be factored in the calculations.

The carrying capacity changes over time as it depends on atmospheric stability and emission load over a certain period of time.

Carrying Capacity is said to be good when the estimated C.C is greater than the ventilation coefficient. Thus, the carrying capacity is dependent majorly on the activities i.e., emission load per day generated by land use based activities. This suggests that no matter what the ventilation coefficient is, the goal is to keep the emission below its standard.

The meteorological factors such as wind speed, temperature, mixing height, pressure, relative humidity and emission loading have been considered in preparation of Carrying Capacity Profile of Delhi. This however does not represent the Real Carrying Capacity as factors such as diffusion, chemical transformation and ground deposition have not been factored in. This is possible only through air quality modelling.

All the Maps used in the study developed through Raster analysis and Carrying Capacity formula.

The Carrying Capacity is negative in the month of January and February owing to the fact that the low temperature (winter) giving rise to low mixing height and lower wind speeds. The emission loads are high as usual which worsens the situation. The meteorological data supplements the situation for low carrying capacity during this month owing to high pressure profile, low temperature & low wind speeds.

The Carrying Capacity begins to improve from July as monsoon season starts from July to September. The month of August experiences cleaner air with high amount of precipitation to wash away the pollutants. From November onwards the Carrying Capacity begins to remain negative throughout the winter season until February. The low mixing height, lower temperature and lower wind speeds deteriorates the air quality during winter season.

Subsequent to Source Apportionment Studies for Delhi carried (i) IIT Kanpur in May,2016, (ii) The Energy and Research Institute (TERI) in August,2018 and (iii) Centre for Science and Environment (CSE) in 2019, Hon'ble National Green Tribunal in a matter of: News Item Published in the The Times of India authored Sh. Vishwa Mohan titled "NCAP with multiple timelines to clean air in 102 cities to be released around August 15", has issued directions for study to assess Carrying Capacity of NCT Delhi on the environmental aspects. So, Delhi Pollution Control Committee (DPCC), Delhi has sponsored this project "Study on Carrying Capacity of Air Environment in NCT Delhi" to SPA Delhi. This document constitutes the report that has addressed all important points of scope of work and methodology for carrying out the carrying capacity with respect to land-use. The study extensively used spatial techniques using GIS and has concluded with strategies and recommendations to take forward the National Policies and regulations by embedding them into all the sectors of development. The study analyses the data of PM_{2.5} and PM₁₀ of 2019, carried out for 37 monitoring stations (CPCB, DPCC and IMD) spread all over the city. Some major findings of sources of air pollution at regional, city and local levels, emission inventory, analysis based on land use, built form and activities around monitoring

stations of Delhi before and after lockdown and future projections are summarized in subsequent paragraphs. Physiography, Climate, Natural Resources & Demography Physiographically, Delhi lies between Indo-Gangetic alluvial plains in the north and east, the Thar Desert in the west and the Aravalli Range in the south. The Indo-Gangetic Plains (IGP) experiences frequent dust storms every year during the pre-monsoon season. Dust storms observed in India come either from the Thar Desert located in the western parts of India or from distant source of the Arabian Peninsula. In cities, closer to the coast, the sea breeze and moisture helps in dispersion of pollutants. But, the Indo-Gangetic Plain is land-locked by the Himalayas and other mountain ranges. Polluted air in this region is unable to escape due to low wind speed. This results in smog over most of North-India. The city has around 11.88% of the forest or vegetation cover which is also responsible for the biogenic emissions. The biogenic volatile organic compounds (BVOCs) emissions are functions of the species leaf mass (Leaf Area Index), emission factors, temperature and light conditions. BVOC emissions requires an emission inventory model with region-specific input databases and a high degree of spatial and temporal resolution. Delhi accounts for 1.38% of the total country's population and its annual growth rate is 1.92% As per the Best Fit Curve model, the population of Delhi is likely to increase to around 25 million by 2030 and 31 million by 2040.

9.3.2 Land-Use

Delhi as the National Capital has a distinct and unique character. It is a growing and expanding magnet of attraction for people from all across the country and also a hub for the region surrounding it. With the imperatives of growth and development, the problems of Delhi have become complex, which have to be viewed both as a challenge in terms of the pressures of regular and floating in-migration, as well as an opportunity in terms of planning and development in a regional context. In order to control the development in Delhi, the areas were designated as one of the 27 use zones. These use zones have been classified broadly in nine categories of land uses namely Residential, Commercial, Industrial, Recreational, Transportation, Utility, Government, Public & Semi - Public Facilities and Agriculture & Water Body. As there was no study conducted on existing land-use of the city lately, so land-use as per the Master Plan of Delhi, 2021 was assumed to be the land use for 2020. As per the master plan, Major development and construction activities will be proliferating in Dwarka, Rohini, Narela to accommodate additional population. Population growth induces vehicular growth to meet the demands of movement of people, goods and services. Vehicles discharge gases that harm the environment and human health.

9.3.3 Emission Inventory

The values show the daily estimated ground concentration of PM_{2.5} and PM₁₀. PM_{2.5} Emission load has been observed to increase (48%) in 2019 from the levels in 2013, but have reduced (10%) when compared to the levels of 2016. And PM₁₀ emission load has reduced (69%) from the levels in 2013. The values have decreased over the years due to improvement in fuel standards and shift to clean fuel in industries. Variation in contribution of sources, such as vehicles, biomass burning, and dust, at

various sites may be attributed to the variation in activities at the local level. Contribution from sources outside Delhi, such as agricultural waste burning, and dust particles may be expected.

9.3.4 Air Pollution at Regional Scale Air shed

Management of air pollution sources, particularly those which affect territories over thousands of kilometres such as stubble burning, require high levels of co-ordination and cooperation. In the current administrative and legal framework, where state looks at air quality within their respective administrative boundaries, it is bound to catastrophically fail, as can be seen all around us. We will need to evolve new frameworks which will focus on reducing air pollution in an 'air shed', i.e. the entire area over which the pollutants disperse due to meteorological and geographical factors. Such air shed- based air quality management has been successfully tried in many places across the world, especially in California, United States. The concept is very similar to 'watershed', an area of land that drains all the streams and rainfall into a common outlet like a river. The region of the Indo-Gangetic plain, for example, may be considered as one air shed. The region extends from Rawalpindi in Pakistan to Rangpur in northern Bangladesh and passes through some of the most populous states of India - Punjab, Delhi, Haryana, Uttar Pradesh, Bihar and West Bengal

9.3.5 Methodology at Sub City Level

Land Use: The concentration of emissions is closely related to the land use type and type of activities involved. Studies have shown a positive correlation between the spatial patterns of air pollutants and urban built-up density. However, the study on degree of land-use contribution to pollution has not been explored to such depth. It gives a generally overview of how the sources are spatially distributed on the land-use map of the city.

9.3.6 Methodology at local level

Activities: The local level assessment was done for 38 monitoring stations present in Delhi. For this a buffer of 1 Km (influence area/zone) around the monitoring stations was earmarked and accordingly the broad land uses, activities and LCZs were mapped.

9.3.7 Strategies to enhance Carrying Capacity Management Capacity: -

Factors if properly managed will increase the capacity further such as

(i) Biomass Burning:

- Increase in LPG penetration in city
- Zero open burning and
- Use of residue briquettes in power plants

(ii) Transport:

- Public transportations system on electric vehicles followed by private vehicles
- Fleet modernization – all vehicles to BS-VI

- c. Reducing emissions from vehicles by congestion management
- d. Shift of cars and 2w to shared commuter transport.

(iii) Industries:

- a. Power plant controls with continuous monitoring
- b. Strict PM control on all industries
- c. Fuel switch to gas from solid fuels

(iv) Road Dust and Construction:

- a. Vacuum cleaning of roads
- b. control of dust from construction activities without proper control measures

(v) Other

- a. Use of refuse in WTE – reducing emissions from refuse burning in WTE plants fitted with controls
- b. 24 x 7 electricity supply – reduce DG set emissions
- c. Control of burning of waste in landfill sites

9.3.8 Action Plan

An action plan has been proposed phase wise for short term, medium term and long term strategies.

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SHORT TERM(2025)				
S.no.	Strategies	Description	Timeframe	Responsible Agency
Land Use Based Activities				
1	Relocating warehouses for minimizing goods movement into the city via HCV sand LCVs.	Goods movement into the city via HCVs and LCVs should be controlled via limiting movement to city limits. This would mean relocating a better site for warehouses.	3-4 years	DDA, MoUD and states urban development and transport departments
2	SOP for organized and unorganized activities	Standard Operating Procedures should be identified for organized and unorganized activities to minimize the emissions (as observed during lockdown period).	1year	Municipal corporations
3	Vehicular Restrictions in clusters of Public & Semi-Public(PSP) and use	Restricted vehicular entry to major work centres encouraging use of last mile connectivity should been forced.	1-2 year	DDA, MoUD and states urban development and transport departments
4	Elevated bicycle corridors, dedicated cycle lanes	Strategies for encouraging cycles as mode of travel to work should be introduced. Dedicated bicycle lane, elevated bicycle corridors or shaded bicycle corridors should be identified to encourage more bicycle users.	3-4 years	DDA, MoUD and states urban development and transport departments

SHORT TERM(2025)				
S. no.	Strategies	Description	Timeframe	Responsible Agency
5	Fuel switch to gas from solid fuels	Eliminate use of coals which are still used for barbeques	2years	DPCC, Municipal corporations
6	Increase in LPG penetration in residential sector	Slum settlements continuous solid fuels which needs to be replaced by LPG	2-3 years	DPCC, Municipal corporations
7	Better alternate routes during infrastructure development	City Infrastructure under construction should prevent congestion of Traffic caused by it.	as per project	DDA, MoUD and states urban development and transport departments
8	Covering open areas(non-vegetative)through proper plantation or green cover.	All the open areas(exposed to soil) should be covered with vegetation.	1year	DDA, Cantonment Board ,Municipal corporations
Emission Budget				
1	Limiting emissions from various activities	Emission budget(allowable emissions in kgs/day)should be identified based on various observations. The case of lockdown can be taken in such case and emission limits from various activities highlighted in emission inventory should be prepared.	1year	DPCC and CPCB

MEDIUM TERM(2030)				
S.no.	Strategies	Description	Timeframe	Responsible Agency
Land Use Based Activities				
1	Identification of corridors where pollution builds up due to microclimatic factor	Transport corridors connecting Delhi with nearby cities should be managed such that heavy traffic volumes are diverted away from the observed monthly wind direction pattern.	Study needs to be done within 2-3years and actions can be implemented after pilot testing of the strategy.	"State transport Departments NCR(Delhi, up, Haryana ,Rajasthan),MoRTH.
2	Use of agricultural residues in power plants	Management Plan for solid waste & agricultural waste should be brought with focus on discouraging burning of waste.	It should be brought into practice within 2 years and should be 80% implemented by 2030	DPCC, Municipal corporations
3	Limiting building height since certain areas based on air pollution simulation studies	Height restrictions should be enforced based on fluid dynamics/air movement.	5-6 years	DDA, MoUD and states urban development and transport departments

MEDIUM TERM(2030)				
S.no.	Strategies	Description	Timeframe	Responsible Agency
4	Controlling land use based activities	Land use based activities should be controlled based on its scale of trip generation & attraction	Control mechanism should be brought in place with in next 8-10 years.	DDA, MoUD and states urban development and transport departments
5	Public transportation system based on last mile connectivity	Efficiency of public transport should be increased thus reducing dependencies on personal vehicles for daily trips. The focus should be on minimizing vehicular kilometer travel(VKT) of each individual.	Within 6-7 years it should be efficiently brought down to practice.	Transport department
Appropriate zoning mechanisms				
1	Incorporation of land use implications on air quality into master plan	The Master Plan of Delhi should incorporate land use implications on air quality and device appropriate land use mix.	Should be incorporated into the 2041 master plan and efforts on enforcement should be initiated within next 2-3 years	DDA, MoUD and states urban development and transport departments
2	Improved inspection and maintenance system	Routine checks and disposal of activity-based strategies should be done in frequent interval every month.	Full Implementation by 2030	Municipal corporations

LONG TERM(2040)				
S	Strategies	Description	Timeframe	Responsible Agency
Land Use Based Activities				
1	Developments & Development controls based on wind movement towards city	Developments & Development controls governed by FAR should incorporate study of wind movement towards city and should help in better pollutant dispersion potential.	It should be incorporated as part of 2041 master plan	DDA ,MoU and states urban development departments
2	Plantation in green belt and peri-urban areas of Delhi.	Management of desertification-vegetation/greencover and urban wetlands should be developed in the greenbelt and peri-urban areas of Delhi.		Municipal corporations
3	Green cover inside city should be properly maintained based on the wind directions	Green cover should be maintained based on its influence Over air quality. It should not act as a barrier.	Should be part of the Zonal plans and implemented widely within next 10-15 years	Municipal corporations
LONGTERM(2040)				
Sno.	Strategies	Description	Timeframe	Responsible Agency
4	Discourage allocation of land use of high levels of activities in areas which already shows high level of pollution	Location of land use which attracts high levels of activities should be discouraged in North West, North East and South East Delhi which show high level of air pollution	It should be incorporated as part of 2041 master plan	DDA, MoUD and states urban development departments
5	Siting of industries should be away from sensitive land uses.	Proposed industries should not be located in areas around sensitive land uses.	It should be incorporated as part of 2041 master plan	DDA, MoUD and states urban development departments
Appropriate zoning mechanisms				
1	Proper zoning of land use based on implications of its associated activities on air quality	Zoning of Land uses should be done only with detail study on the implications of land use and its associated activities on air quality. Long term average meteorological conditions or climate simulation modelling should be taken into consideration.	It should be incorporated as part of 2041 master plan	Proper zoning of land use based on implications of its associated activities on air quality

9.4 Location Specific Strategies For Delhi

a) Urban Development Strategies:

1. Low Density Residential Areas (LDRA)
2. Regulation on Transfer of Development Rights
3. Development of State of Art Climate Modelling and Air Pollution Modelling Centre.
4. Development Authorities to share GIS datasets of city under 'The National Data Sharing and Accessibility Policy (NDSAP)'
5. Preparation of Emission Budget (base as attainment year)
6. Legal mandate for reviewing and updating plan
7. Delineation of Air shed for Regional Air Pollution Management
8. Energy Production Strategies
9. Increase uptake of solar rooftop in Delhi by scaling up the existing schemes.

b) Urban Transport Strategies

1. Preparation of Comprehensive Mobility Plan (CMP)
2. Preparation of Annual Transport Survey primarily focused on household traffic surveys.
3. Cycling and Walkability
4. Traffic Calming Measures
5. Roadside automatic sprinkling system

c) Agricultural Strategies

1. Promotion of skill development in Sustainable agricultural practices and Crop Rotation within city, NCR especially Indo-Gangetic Belt.
2. Conversion of Farm Stubble into CNG.
3. Development of Biogenic Emission Inventory – Agriculture & Green Belt.

d) Industrial Strategies

1. Zoning of Industries
2. Revised CEPI Evaluation Methodology
3. Study of Traffic Demand of Industrial Units to capture intensity of traffic movement for good and supply.

4. Regulation of Household industries primarily contributing to Particulate Matter concentration.
5. Lockdown of industries such as stone crushing, hot mix plants, brick kilns generating dust pollution in Delhi and NCR districts from October to December.

e) Waste Strategies

1. Strict ban & regulations on Agricultural Refuse Burning, Biomass burning, Solid Waste Burning and Landfill fires.
2. Improving efficiency of solid waste segregation, collection & transportation.
3. Setting up of Waste to Energy Plants.
4. Development of Circular Economy Package.

f) Residential Strategies

1. 100% usage of LPG/PNG for domestic and commercial cooking.
2. Commercial Strategies.
3. Fiscal incentives to dhabas, hotels and restaurants for conversion into PNG from conventional fuel.
4. Storage of goods/warehouses.
5. Control of traffic movement in Sub-City Level Markets.

g) Construction Strategies

1. Dust Suppression Method

h) Dust Strategies

1. Maintenance of vegetation and covering of loose soil.
2. Creation of green buffers
3. Maintaining pot-hole free roads

9.5 Further Studies suggestions

SPA has suggested study related to land use, built form vegetation for control of air pollution in NCT Delhi. NCT Delhi spread over an area of 1483 sq. kms. with a population of 16.75 million (Census 2011) and a density of 11,297 persons per sq.km is proposed to grow to 230 lakhs by 2021 and as per best fit curve model of population projection could reach

upto 250 lakhs by 2030. The major environmental issue in the city is the high levels of pollution especially PM2.5 and PM10.

The urban sprawl, built from density needs to be studied to control local level increase in pollution levels. The Source Apportionment Studies and Carrying Capacity Analysis has identified zones reporting high pollution levels or hotspots. Detailed scientific studies need to be undertaken both in the hotspot areas and the other areas to arrive at patterns of land use, built form and vegetation types that would help to contain the rise an air pollution levels.

1. Scientific study to correlate land use activities and air pollution.
2. Built- form characteristics, air flow and ventilation coefficient
3. Air pollution and tolerant vegetation
4. Delineation of air shed of NCT Delhi

CHAPTER X

10 WASTE MANAGEMENT

10.1 Municipal Solid Waste

10.1.1 Waste Management Cell II (WMC II):

WMC II Cell deals with the matters related to STPs of DJB, CETPs, Water Treatment Plants (WTPs) of DJB, Thermal Power Plants (TPPs), Waste Processing Facilities including Waste to Energy Plants & Compost Plants, TSDF for Hazardous Waste.

10.2.1 Municipal Solid Waste Management

Municipal Solid Waste is to be managed as per the provisions of the Solid Waste Management Rules, 2016 notified by the Ministry of Environment, Forest and Climate Change (MoEF&CC), Govt. of India on 08.04.2016. Earlier Municipal Waste was to be managed as per the provisions of the Municipal Solid Waste (Management and Handling) Rules, 2000. Duties and responsibilities of Local Authorities & Village Panchayats, Urban Development Department, Waste Generators, District Magistrates and other Departments / Agencies / Ministries are mentioned in the said Rules. National Capital Territory of Delhi is having population of about 2 Crores. There are following 5 Local Authorities/ Local Bodies / Municipal Corporations in Delhi which are responsible for proper Solid Waste Management including its collection, processing & disposal :

- (i) North Delhi Municipal Corporation (North DMC)
- (ii) East Delhi Municipal Corporation (EDMC)
- (iii) South Delhi Municipal Corporation (SDMC)
- (iv) New Delhi Municipal Council (NDMC)
- (v) Delhi Cantonment Board(DCB)

Municipal Solid Waste Generation, Processing / Treatment and Disposal is briefed in following Table :

Solid Waste Generation, Processing / Treatment & Disposal (As per Annual Report for 2020-2021)

S.No.	Particulars	North DMC	SDMC	EDMC	NDMC	DCB	Total
1.	Area (in Sq. Km)	636	656.91	105.98	42.67	42.8	1484.36
2.	Population (in Lakh)	90	64	50	2.57	1.332	207.902
3.	No. of Wards	104	104	64	14 (Circles)	8	294
4.	No. of Households (in Lakh)	16.5	16.818	10.5	0.474	0.101	44.393
5.	Solid Waste Generation (in TPD)	4400	3600	2700	218.432	72	10990.432

6.	Collection of MSW in TPD (in %)	4400 (100%)	3600 (100%)	2700 (100%)	218.132 (100%)	72 (100%)	10990.432 (100%)
7.	Premises Segregating the waste at Source (in %)	80 % (in 3 Model Wards)	80-100% (in 15 Model Wards), 60 - 80% (in 9 Wards), 50-60% (in 4 Wards), 40-50% (in 9 Wards), 20-40% (in 13 Wards), 10-20% (in 8 Wards)	30%	90%	90% in Civil Area & 60% in Army Area	---
8.	Processing / Treatment of Solid Waste in TPD (in %)	2078 (47.2 %)	1800 (50%)	1320 (50.77%)	218.432 (100%)	41 (56.94%)	5457.432 (49.65 %)
9.	Disposal of Solid Waste in Landfill/ Dumpsite Sites (at Bhalaswa, Ghazipur&Okhla)	2322* (50%) (at Bhalaswa)	1800 (50%) (at Okhla)	1380 (51.11%) (at Ghazipur)	Nil	31 (43.1%) (at Okhla)	5533 (50.35%)
10.	Engineered Sanitary Land Fill(SLF)	One (Operational at Bawana)	- (Proposed at Tehkhand)	-	-	-	One
11.	Operational Waste to Energy Plant	One (at Bawana – 1300 TPD)	One (at Okhla- 1950 TPD)	One (at Ghazipur – 1300 TPD)	-	-	3 (4550 TPD)
12.	Operational Centralised Compost Plants	One (at Bawana)	One (at Okhla)	-	-	-	2
13.	Operational Bio-methanation + Decentralised Compost Plants	2 + 3	3 + 3	2 + 9	6 (Bio-Gas Plant)	2 (Food Waste Composters)	30

*Excluding 425 TPD of rejects landfilled at Engineered Landfill Facility at Bawana.

Note : 1. There are 118 Compost Pits in various Parks etc., 2 Organic Waste Convertor (OWC) & 6 Biogas Plants in NDMC area having total capacity of 78.6 TPD + 2 Food Waste Composters of Total Capacity of 0.175 TPD (0.125 TPD + 0.05 TPD)

2. Most of the Five & Four Star Hotels and Major Hospitals having 50 Beds or more have installed Organic Waste Convertor.

• **Collection, Segregation & Transportation of Municipal Solid Waste:**

Total Municipal Solid Waste generation in Delhi was **10990.432** Tonnes per day (TPD) in year 2020-2021. Local Bodies are implementing waste segregation at source, door to door collection, intermediate storage and transport facility with GPS for the transportation of the collected solid

waste to the operational Solid Waste Processing / Treatment Facilities or at the 3 existing Landfill / Dumpsites at Bhalaswa, Ghazipur & Okhla in Delhi.

NDMC & Delhi Cantonment Board (DCB) are implementing the provisions of the SWM Rules, 2016 in their areas in a better way. However other Local Bodies (North DMC, SDMC, EDMC) are also making all efforts and taking measures to implement the provisions of the SWM Rules, 2016 in their areas.

NDMC has reported that 90% Premises in the area are segregating the waste at source. Delhi Cantonment Board (DCB) has reported that 90% Premises in Civil Area & 60% Premises in Army Area are segregating the waste at source. SDMC - 80 – 100 % (in 15 Model Wards), 60 - 80% (in 9 Wards), 50-60% (in 4 Wards), 40-50% (in 9 Wards), 20-40% (in 13 Wards), 10-20% (in 8 Wards). EDMC has reported that 30% Premises in their areas are segregating the waste at source. North DMC has reported that 80 % Premises in their 3 Selected Model Wards are segregating the waste at source however information not provided for other wards in their areas.

- **Municipal Solid Waste Processing and Disposal Facilities:**

Total Municipal Solid Waste generation in Delhi was **10990** Tonnes per day (TPD) in 2020-21 out of which 49.65 % (5457 TPD) was processed / treated & disposed through the existing 3 Waste to Energy Plants & Compost Plants in Delhi and rest 50.35 % (5533 TPD) was being dumped at the 3 Dumpsites at Ghazipur, Bhalaswa & Okhla.

There is one functional Integrated Solid Waste Management Facility at Bawana for processing of 2000 TPD of municipal solid waste having Waste to Energy Plant (1300 TPD), Compost Plant and Engineered Sanitary Land Fill. This Integrated Solid Waste Management Facility is being operated by M/s Delhi MSW Solutions Ltd. There are 3 operational Waste to Energy Plants (WTE Plants) of total capacity of 4550 TPD at 3 different locations in Delhi namely Okhla, Ghazipur and Bawana. Besides these facilities there is one Centralised Compost Plant at Okhla with 200 TPD capacity.

One new Waste to Energy Plant of capacity of 2000 TPD is under construction at Tehkhand. One new Engineered Sanitary Land Fill is proposed to be developed by South Delhi Municipal Corporation (SDMC) at Tehkhand. An Integrated Solid Waste Management Facility for 2000 TPD is proposed to be developed by East Delhi Municipal Corporation (SDMC) in joint venture with NTPC at Ghonda Gujran. The said facility will be having Waste to Energy Plant of 600 TPD, Bio-methanation Plant of 1200 TPD & C & D Waste Processing Plant of 200 TPD.

One 2500 TPD Integrated Waste Collection, Segregation, Transportation, Processing & Disposal in 3 Zones of North DMC(City–SP, Karol Bagh & Narela Zone) is also proposed by North DMC.

- **Waste to Energy Plants :**

Delhi has 3 operational Waste to Energy Plants (WTE Plants) of capacity 4550 TPD at 3 different locations in Delhi namely Okhla, Ghazipur and Bawana. One New Waste to Energy Plant of capacity of 2000 TPD is under construction at Tehkhand and another of 600 TPD is proposed in the Integrated Waste Complex at Ghonda Gujran. After commissioning of these 2 proposed WTEs capacity of WTE Plants will increase from 4550 TPD to 7150 TPD by September, 2022.

Operational Waste to Energy Plants in Delhi

S. No	Name of Waste to Energy Plant	Year of Commissioning	Existing Capacity	
			Waste Processing (in TPD)	Electricity Generation(in MW)
1.	Timarpur Okhla Waste Management Company Ltd., Old NDMC Compost Site, Okhla, Delhi-20	2012 (January)	1950	23
2.	East Delhi Waste Processing Company Ltd., Ghazipur, Delhi-94	2016 (June)	1300	12
3.	Delhi MSW Solutions Ltd, Narela Bawana Road, Bawana, Delhi-39	2016 (December)	1300	24
	Total		4550	59

Waste Handling Concepts in WTE Plants in Delhi

Okhla WTE Plant	SDMC provides MSW at the WTE Plant. The WTE Plant processes MSW for RDF making and production of Electricity. Compost is also produced from the Organic Bio-degradable fraction of MSW.
Bawana WTE Plant	MSW is collected from the House Holds by the company / firm which is operating the WTE Plant & collected MSW is transported to the Integrated MSW Management Facility at Bawana for processing, Composting, Electricity production through WTE Plant and disposal of inerts / rejects at the Engineered Sanitary Landfil (SLF).
Ghazipur WTE Plant	EDMC provides MSW at the WTE Plant. The WTE Plant processes MSW for RDF making and production of Electricity. Organic Bio-degradable fraction of MSW is sent to Okhla Compost Plant for production of compost.

The Waste to Energy Plants (WTE Plants) use combustible fraction of MSW and Refused Derived Fuel (RDF) and generate electricity.

- **Inspection & Monitoring of Existing Operational Waste to Energy Plants in Delhi :**

As per the orders of the Hon'ble National Green Tribunal in Application No. 281 of 2016 in the matter of Kudrat Sandhu Vs. Govt. of NCT & Ors. and Application No.22 (THC) of 2013 in the matter of Sukhdev Vihar Residents Welfare Association & Others Vs State of NCT of Delhi & Others, joint inspections of all the 3 operational Waste to Energy Plants in Delhi are carried out by a team consisting of representatives of CPCB, DPCC, MOEF&CC and IIT, Delhi once in four months. Monitoring of the stack emissions and Ambient Air Quality is also carried out by CPCB during the joint inspections and report is submitted by CPCB to the Hon'ble NGT from time to time. Online Continuous Emission Monitoring System (OCEMS) has been installed by all the 3 operational Waste to Energy Plants in Delhi and the same are also connected to the server of CPCB & DPCC.

Joint inspection of all the 3 operational Waste to Energy Plants in Delhi were carried out with team consisting of representatives of CPCB, MOEF&CC and IIT, Delhi in the months of September/ October, 2020. Monitoring of the stack emissions and Ambient Air Quality were also carried out during the inspections.

Gap in MSW Generation & Processing and Proposed Facilities to fill the Gap:

Generation (in TPD)	Processing (in TPD)	Gap (in TPD)	Proposed Facilities to fill the Gap
10990	5457	5533	1) 2000 TPD WTE Plant at Tehkhand by 31.03.2022 (SDMC). 2) 2000 TPD Integrated Municipal Waste Processing Facility at Ghonda Gujran (including 1200 TPD Bio-Methanation, 600 TPD Waste to Energy Plant & 200 TPD C&D Waste Processing Facility) by 30.09.2022 (as a Joint Venture between NTPC & EDMC). 3) Engineered Sanitary Landfill at Tehkhand by 31.12.2022 4) 2500 TPD Integrated Waste Collection, Segregation, Transportation, Processing & Disposal at Ranikhera by 31.12.2022. 5) Two Bio-CNG Plants of 550 TPD each at Tehkhand & Keshopur by December, 2022. 6) One RDF Processing plant of 50 TPD capacity at

			Tehkhand by December, 2022 7) 30 TPD Biomethanation Plant by NDMC by Dec., 2021 200 TPD Biogas plant at Ghogha Dairy* by Dec, 2023 8) 2 Bio-Gas Plants of 200 TPD each at Goyala & Nangli Dairies* by February, 2022 9) (x) 100 TPD Bio-Gas Plant at Ghazipur Dairy* (work held up due to public hindrance) [* - Not included in Total MSW generation in Delhi.] Total Capacity of Proposed MSW Processing Facilities- 7680 TPD (excluding abovementioned Bio-Gas Plants of Dairies & decentralized Composters/Bio-methanation Plants)
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- **Decentralized Waste Management Facilities (Compost Plants /Biomethanation Plants)**

The Government is in the process of installation of decentralized Waste Management Facilities (Compost Plants / Bio- Methanation Plants) so that the solid waste generated is segregated & treated near the source of generation and the transport and dumping of waste in faraway areas can be done away with. The details of the decentralized plants already commissioned and proposed as in March, 2020 are as follows:

(a) NORTH DMC

(i) Decentralised Composters of 1 TPD Capacity (6 Nos)

- 3 Plants commissioned at Bhorgarh Nursery, Rajendra Nagar Nursery and Maurya Enclave at Pitampura.
- 3 Plants (at Sector 11 Rohini, Haiderpur Water Treatment Plant and one at some other location) to be commissioned by August, 2021.

(ii) Bio-Methanation Plants 5-TPD Capacity (4 Nos)

- 2 Plants commissioned at Roshanara Bagh and MVID Hospital.

- 2 Plants at Naraina Industrial Area Ph-I & Mangolpuri Industrial Area Ph-I are expected to be commissioned by August, 2021.

(b) EAST DMC

(i) Decentralised Composters of 1 TPD Capacity (10 Nos)

- 9 Plants commissioned
- 1 Plant at Gokalpur is to be commissioned by August, 2021.

(ii) Bio-Methanation Plants 5-TPD Capacity (2 Nos)

- Two Plants at Geeta Colony and Shastri Park have been commissioned.

(c) SOUTH DMC

(i) Decentralised Composters of 1 TPD Capacity (4 Nos)

- Three plants commissioned at Chirag Delhi, Punjabi Bagh Nursery and near Lady Sriram College, East of Kailash.
- One plant at Dwarka Sec-14 is to be commissioned by August, 2021.

(ii) Bio-Methanation Plants 5-TPD Capacity (4 Nos)

- Three Plants commissioned at Sarita Vihar, Dwarka Sec-14, Punjabi Bagh Nursery.
- One Plant at Masood Pur in Vasant Kunj was ready for commissioning.

Status of ULB wise Management of Municipal Solid Waste in Delhi in 2020-2021

ULB	Total MSW Generation in TPD	Total MSW being Processed in TPD	Existing MSW Facilities	Utilization Capacity of the Existing MSW Facilities	Proposed MSW Facilities & Completion Timeline
North DMC	4400	2078 (47.2 %)	• One WTE Plant at Bawana Integrated MSW Facility - 2000 TPD (including 750 TPD Compost Plant) • 2 Bio-Methanation Plants - 10 TPD (5 TPD each at Roshanara Bagh & MVID Hospital) • 3 Composter Plants – 3 TPD (1 TPD each at Bhorgarh Nursery, Rajendra Nagar & Maurya Enclave.)	Installed Capacity of Existing MSW Processing Facilities is being utilised.	• 2500 TPD Integrated Waste Collection, Segregation, Transportation, Processing & Disposal in 3 Zones of North DMC(City-SP, Karol Bagh & Narela Zone) by 31.12.2023 • Two Bio-Methanation Plants of 5 TPD each at Mangolpuri Industrial Area Ph-I & Naraina Industrial Area Ph-I by August, 2021) • 3 Composter Plants – 3 TPD (1 TPD each at Sector - 11 Rohini & Mori Gate by July, 2021 and 3rd at Nursery of Ramleela Ground by August, 2021.

SDMC	3600	1800 (50%)	- One WTE Plant at Okhla – 1950 TPD 4 Bio-Methanation Plants – 20 TPD (5 TPD each at Sarita Vihar, Dwarka Sec-14, Punjabi Bagh Nursery & Masood Pur in Vasant Kunj) 3 Composter Plants – 3 TPD (1 TPD each at Chirag Delhi, Punjabi Bagh Nursery & Near Lady Shri Ram College East of Kailash.)	Installed Capacity of Existing MSW Processing Facilities is being utilised.	2000 TPD WTE Plant at Tehkhand by 31.03.2022 - Engineered Sanitary Landfill at Tehkhand by 31.12.2022 - One Composter Plant - 1 TPD at Dwarka Sector 14 by August, 2021 2 Bio CNG Plants of 550 TPD each at Tehkhand & Kesopur by December, 2022. - One RDF Processing Plant of 50 TPD at Tehkhand by March, 2022.
EDMC	2700	1320 (50.77%)	- One WTE Plant at Ghazipur – 1300 TPD - Two Bio-Methanation Plants of 5 TPD each at Geeta Colony & Shastri Park 9 Composter Plants – 9 TPD (1 TPD each at Trilokpuri near Block-13, Mayur Vihar Ph-II, Preet Vihar, Jhilmil, New Trilokpuri near Block-13, Saini Enclave, Usmanpur, Kheda Village & Sunder Nagri)	Installed Capacity of Existing MSW Processing Facilities is being utilised.	2000 TPD Integrated Municipal Waste Processing Facility (including Waste to Energy Plant) at Ghonda Gujran by 30.09.2022 (Joint Venture between NTPC & EDMC). - One Composter Plant - 1 TPD at Gokalpur by August, 2021.
NDMC	218	218(100%)	2 Organic Waste Converter – 2 TPD (1 TPD each at Madhulimey Marg & Raza Bazar in New Delhi) 118 Compost Pits, 23 Organic Waste Converter (OWC) & 6 Biogas Plants in NDMC area having total capacity of 78.6 TPD	Installed Capacity of Existing MSW Processing Facilities is being utilised.	One Bio –methanation Plant of 30 TPD by December, 2021.
DCB	72	41 (57%)	2 Food Waste Composter (One of 0.125 TPD at Tigris Road and One of 0.05 TPD at Tigris Road, New Delhi.)	Installed Capacity of Existing MSW Processing Facilities is being utilised.	5 Sorting cum composters at Tigris Road & Kirby place, Delhi Cantt. of total capacity of 70 TPD [(3 Nos – 20 TPD) & (2 Nos – 5 TPD)] by December, 2021.
Total	10990	5457 (49.65 %)			

Note – 1. Most of the Five & Four Star Hotels and Major Hospitals having 50 Beds or more have installed Organic Waste Converter.

2. Bio-Gas Plants of 200 TPD capacity each are proposed at Nangli & Goyla Dairies in SDMC Area & at Ghogha Village Dairy in North DMC Area and 100 TPD capacity Bio-gas plant at Ghazipur in EDMC Area..

Remediation of Legacy Waste (Old MSW):

There are 3 Dumpsites at Ghazipur, Bhalaswa and Okhla in Delhi where Municipal Solid Waste have been dumped and there was legacy waste of 28 Million Tons in July, 2019. Brief about these dumpsites is given in following Table:

Brief of Landfill / Dump Sites in NCT of Delhi as in March,2021

S. No.	Name of Dump Site	Concerned Municipal Corporation	Starting Year of Operation	Area (in Acres)	Height of Dump Site (Appx.) (in Meters)	Legacy Waste (in Million Tons)
1	Ghazipur (East Delhi)	East DMC	1984	70	65	13.5
2	Bhalaswa (North Delhi)	North DMC	1994	36	62	6.62
3	Okhla (South East Delhi)	South DMC	1996	46	40	5.6
	Total			152		28

Hon'ble National Green Tribunal vide order dated 17.07.2019 in OA No. 519 / 2019 in the matter of News item published in "The Times of India" Authored by Jasjeev Gandhiok & Paras Singh Titled "Below mountains of trash lie poison lakes" and OA No. 386/2019 in the matter of "Centre for Wildlife and Environment Litigation" Vs Union of India & Ors." had passed detailed order regarding Disposal of 'Legacy' Waste dumped at Bhalswa, Ghazipur and Okhla Dumpsites and given various directions. Hon'ble NGT had directed the Municipal Corporations to go for bio mining using trommels instead of capping of the dump sites at Bhalswa, Ghazipur and Okhla. The estimated cost to clear the above three dump sites at Delhi may be approx. Rs. 250 Crores as given below:

- i. EDMC - Rs. 125 Crores
- ii. North MCD - Rs. 75 Crores
- iii. SDMC - Rs. 50 Crores

As per the directions of the Hon'ble Tribunal the contributions towards said amount of Rs. 250 Crores in three separate ESCROW accounts will be as follows:

i	EDMC	(i) NCT Delhi (ii) EDMC (iii) NDMC* (iv) DCB**	Rs. 65 Crore Rs. 40 Crore Rs. 10 Crore Rs. 10 Crore	Total Rs. 125 Crore
ii	North MCD	(i) NCT Delhi (ii) North MCD (iii) NDMC (iv) DCB	Rs. 35 Crore Rs. 30 Crore Rs. 05 Crore Rs. 05 Crore	Total Rs. 75 Crore

iii	SDMC	(i)	NCT Delhi	Rs. 25 Crore	Total Rs. 50 Crore
		(ii)	SDMC	Rs. 15 Crore	
		(iii)	NDMC	Rs. 05 Crore	
		(iv)	DCB	Rs. 05 Crore	

As per the said order legacy waste dumpsites was to be cleared within one year and substantial progress was to be made and demonstrated within six months.

Out of Rs. 250 Crores, an amount of Rs. 245 Crores have been contributed by the DPCC, DMCs, DCB & NDMC. DCB has deposited only 15 Crores (out of Rs. 20 Crores) and filed an application before the Hon'ble Supreme Court for exemption of Rs. 5 Crores to be deposited to North DMC, because DCB is not dumping its MSW at Bhalswa landfill site.

As directed by the Hon'ble NGT, the Committee headed by Chief Secretary, Govt. of NCT of Delhi was constituted by the Urban Development Department, Govt. of NCT of Delhi vide order dated 25.07.2019. The ESCROW accounts for North DMC, East DMC and South DMC were opened. Regular meetings of the Committee headed by Chief Secretary were held to review the progress in the said matter.

The Committee prepared the plan for "Bio-mining" of the Legacy waste from the above mentioned 3 dumpsites in Delhi. North DMC was appointed as Nodal Corporation among all the three Municipal Corporations for tendering process for hiring trommels for bio mining and bio remediation of dump sites on rental basis. Tenders were called on 30.8.2019. The rates of lowest tender were Rs. 629944/- per month per trommel as per requirement of tender documents. Panel of 9 Contractors was approved by the competent authority. The implementation of the project started w.e.f. 01.10.2019. Inert material generated during the process is about 60% to 70% by weight or 40% by volume of the waste being processed, which needs to be disposed of in a scientific manner. It is a major challenge before the municipal corporations to make suitable land available for disposal of this inert material particularly since the availability of land is extremely scarce in Delhi.

Bio-mining of legacy waste by the 3 Municipal Corporations by March, 2021 is given in following Table :

Bio-Mining of Legacy Waste at 3 Dumpsites in Delhi (As on March, 2021)

S. No.	Name of the Dumpsite	Quantity of Legacy Waste Dumped (As on 17.07.2019 in Lakh Ton)	Total Quantity of Legacy Waste Processed (Approx. in Lakh Ton)	No. of Trommels Operational
1	Ghazipur	140	5.47	20
2	Okhla	60	04	12
3	Bhalaswa	80	14.04	24
Total		280 Lakh Ton	23.51 Lakh Ton	56

NGT Case OA No. 606 / 2018 regarding Compliance of Municipal Solid Waste Management Rules, 2016.

This NGT case covered almost all the important matters / issues related to control of pollution and management of various types of waste including Solid Waste Management. In compliance of the orders of Hon'ble Tribunal in the said matter passed from time to time, meetings were taken by the Chief Secretary, GNCTD from time to time and compiled Information / Action Taken Reports of Govt. of NCT of Delhi were submitted to Hon'ble NGT. In compliance to the orders dated 16.01.2020 of Hon'ble NGT, a State Level Committee (SLC) headed by Chief Secretary was constituted vide office order dated 15.02.2020 for 6 months period (later on term of the SLC was extended by 6 months vide office order dated 27.09.2019 & further 6 months vide office order dated 15.12.2020) and status report was filed before the Hon'ble NGT on 08.03.2019. Special Task Forces (STFs) for each District were constituted by Environment Department vide office order dated 07.03.2019 & 16.04.2019. Subsequently modified office order dated 20.03.2020 was issued for STFs to be headed by concerned ADMs of the Districts. In compliance to the order Dated 11.03.2019, Model Wards were notified by the 3 DMCs & DCB (3 Model Wards by each DMC & DCB) and whole of the NDMC area (14 Circles) was notified as model area.

As per the orders dated 16.01.2019 & 11.03.2019 in the said matter Chief Secy., GNCTD was required to personally monitor the progress w.r.t compliance of said Rules & orders of Hon'ble NGT and to submit Quarterly Report to Hon'ble NGT. 1st & 2nd Quarterly Reports of Govt. of NCT of Delhi were filed before the Hon'ble NGT on 29.06.2019 and 10.10.2019

respectively. Subsequently orders dated 12.09.2019 & 07.01.2020 were passed by the Hon'ble NGT and in compliance to the said orders Compliance Reports of Govt. of NCT of Delhi in respect of following 14 Thematic Areas were submitted to CPCB vide letters dated 01.11.2019 and 28.02.2020 respectively :

- (i) Compliance to Solid Waste Rules including Legacy Waste.
- (ii) Compliance to Bio-medical Waste Rules.
- (iii) Compliance to Construction & Demolition Waste.
- (iv) Compliance to Hazardous Waste Rules.
- (v) Compliance to E-waste Rules.
- (vi) 351 Polluter Stretches in the country.
- (vii) 122 Non-attainment cities.
- (viii) 100 industrial clusters.
- (ix) Status of STPs and re-use of treated water.
- (x) Status of CETPs/ETPs including performance.
- (xi) Ground water extraction/contamination and re-charge.
- (xii) Air pollution including noise pollution.
- (xiii) Illegal sand mining.
- (xiv) Rejuvenation of water bodies.

Vide order dated 14.12.2020 it was directed by the Hon'ble NGT that henceforth the present matter will primarily deal with the issues of solid waste management only, other issues being subject matter of separate proceedings. Meetings of Chief Secy., were organized & held from time to time to review the Solid Waste Management in Delhi and progress of various projects / action taken by various Local Bodies to fill the gap in Solid Waste Management.

Compiled Information / Action Taken Reports & Quarterly Reports of Govt. of NCT of Delhi were submitted to CPCB as per the orders of Hon'ble NGT. Information sought by CPCB in the prescribed formats for the quarters ending June, 2020, September, 2020, December, 2020 and March 2021 were sent to CPCB.

Main Provisions of the Solid Waste Management Rules, 2016 and Requirement of Authorisation under the Rules & Consent under the Air & Water Acts.

Duties and Responsibilities of the Local Authorities and Village Panchayats of Census Towns and urban Agglomerations are mentioned at **Rule 15 of the Solid Waste Management Rules, 2016** including preparation of solid waste management plan as per state policy and strategy on solid waste management within 6 months from the date of notification of state policy and strategy , arrange for door to door collection of segregated solid waste from all households slums and informal settlements, commercial, institutional and other non-residential premises,

direct waste generators not to litter i.e. throw or dispose of any waste, setup material recovery facilities or secondary storage facilities with sufficient space for sorting of recyclable materials, establish waste deposition centres for domestic hazardous waste, direct street sweepers not to burn tree leaves collected from street sweeping, facilitate construction, operation and maintenance of solid waste processing facilities and associated infrastructure, undertake on own or through any other agency construction, operation and maintenance of sanitary landfill and associated infrastructure as per Schedule 1 for disposal of residual wastes ,frame bye-laws and prescribe criteria for levying of spot fine for persons who litters or fails to comply with the provisions of these rules, create public awareness through information, education and communication campaign and educate the waste generators etc.

As per the **Rule 18** of the Solid Waste Management Rules, 2016, “All industrial units using fuel and located within one hundred km from a solid waste based refused derived fuel plant shall make arrangements within six months from the date of notification of these rules to replace at least five percent of their fuel requirement by refused derived fuel so produced.

It is pertinent to mention that Delhi Pollution Control Committee with the approval of Hon’ble Lt. Governor, GNCTD has issued Notification on 29.06.2018 regarding “**List of Approved Fuels in The National Capital Territory of Delhi**”.

As per the said Notification Refuse Derived Fuel is permitted to be used only for Waste-to-Energy Plants. In view of the said Notification, Refuse Derived Fuel is not permitted to be used by the Industrial Units in National Capital Territory of Delhi.

As per **Rule 22** of the Solid Waste Management Rules, 2016, necessary infrastructure for implementation of these rules shall be created by the local bodies and other concerned authorities, as the case may be, on their own, by directly or engaging agencies within the time frame for various activities specified in the Table given under the said Rule.

As per **Rule 24 (1)** of the Solid Waste Management Rules, 2016, The operator of facility shall submit the annual report to the local body in Form-III on or before the 30th day of April every year.

As per **Rule 24 (2)** of the Solid Waste Management Rules, 2016, the Local Body shall submit its Annual Report in Form-IV to State Pollution Control Board or Pollution Committee (Delhi Pollution Control Committee in case of Delhi) and the Secretary-in-Charge of the Department of Urban Development of the concerned State or Union Territory in case of metropolitan city

and to the Director of Municipal Administration or Commissioner of Municipal Administration or Officer in -Charge of Urban Local Bodies in the state in case of all other local bodies of state **on or before the 30th day of June every year.**

As per **Rule 24 (3)** of the Solid Waste Management Rules, 2016, Each State Pollution Control Board or Pollution Control Committee (DPCC in case of Delhi) as the case may be, shall prepare and submit the consolidated annual report to the Central Pollution Control Board and Ministry of Urban Development on the implementation of these rules and action taken against non-complying local body by the 31st day of July of each year in Form-V.

Urban Development Department, Govt. of NCT of Delhi, has notified State Policy and Solid Waste Management Strategy for Delhi on 03.11.2017, as per Rule, 11 of the Solid Waste Management Rules, 2016.

Govt. of NCT of Delhi, has also notified Bye –Laws for Management of Solid Waste on 15.01.2018 in respect of all the 5 Urban Local Bodies/ Municipal Bodies in Delhi. In these Bye –Laws there is provision of levying user fee and penalty charges.

Requirement of Authorisation under the Solid Waste Management Rules, 2016 and Consent under the Air & Water Acts :

As per **Rule 15 (y)** of the Solid Waste Management Rules, 2016, Local Authorities (Local Bodies/ Municipal Corporations) are required to “make an application in Form-I for grant of authorisation for setting up waste processing, treatment or disposal facility, if the volume of waste is exceeding five metric tones per day including sanitary landfills from the State Pollution Control Board or the Pollution Control Committee, as the case may be.

As per **Rule 19 (2), (3) & (6)** of the Solid Waste Management Rules, 2016 regarding setting up Solid Waste Processing and Treatment Facility:

Rule 19 (2) : “The operator of the facility shall design and set up the facility as per the technical guidelines issued by the Central Pollution Control Board in this regard from time to time and the manual on solid waste management prepared by the Ministry of Urban Development”.

Rule 19 (3) : “The operator of the facility shall obtain necessary approvals from the State Pollution Control Board or Pollution Control Committee”.

Rule 19 (6) : “The operator of the solid waste processing and treatment facility shall submit annual report in Form III each year by 30th April to the State Pollution Control Board or Pollution Committee and concerned local body”.

In view of the above provisions under the Solid Waste Management Rules, 2016 and also considering the provisions under the Air & Water Acts, Local Authorities (Local Bodies/ Municipal Corporations) and operators of the Solid Waste Processing and Treatment Facilities are required to obtain Authorisation under the Solid Waste Management Rules, 2016 and Consent to Establish & Consent to Operate under the Air & Water Acts from Delhi Pollution Control Committee prior to Establishing and starting operation of such facilities in NCT of Delhi.

Groundwater samples were collected near the Ghazipur, Bhalaswa & Okhla Dumpsites and also near the Engineered Sanitary Landfill at Bawana in March, 2021. Concentration of various physico-chemical parameters including heavy metal concentration and microbiological parameters were determined in groundwater samples.

Annual Report on Solid Waste Management was prepared by DPCC for the Year 2020 – 2021 in Form V and submitted to CPCB & Ministry of Housing & Urban Affairs (MoUHA) vide letter dated 29.07.2021.

10.2 Construction and Demolition Waste Management

Construction and Demolition Waste is required to be managed as per the provisions of the Construction and Demolition Waste Management Rules, 2016 notified by MoEF&CC vide Notification Dated 29.03.2016. These Rules came into force with effect from 27.04.2016 i.e. date of publication in Gazette of India. Earlier Construction and Demolition Waste was covered under the then existing Municipal Solid Waste (Management and Handling) Rules, 2000.

Main Provisions of the Construction and Demolition Waste Management Rules, 2016 :

These Rules are applicable to every waste resulting from Construction, re-modelling, repair and demolition of any civil structure of individual or organization or Authority who generates construction and demolition waste such as building materials, debris, rubble.

Duties of Waste Generators, Local Authorities (Local Bodies/ Municipal Corporations), Service Providers / Contractors , operators of the Processing or Recycling Facilities for C & D Waste, SPCBs/ PCCs, State Govt. /Union Territory Administration , CPCB, Bureau of Indian Standards & Indian Roads Congress , Central Govt. etc. are given in the Construction and Demolition Waste Management Rules, 2016.

As per **Rule 6** of the Construction and Demolition Waste Management Rules, 2016 , it is the responsibility of Local Authorities (Local Bodies/ Municipal Corporations) to issue directions with regard to proper management of construction and demolition waste within their jurisdiction and final clean up after completion of the construction and demolition activity. Local Authorities (Local Bodies/ Municipal Corporations) are required to make arrangements and place appropriate containers for collection of waste and to remove at regular intervals; or when they are filled, either through own resources or by appointing private operators.

Local Authorities (Local Bodies/ Municipal Corporations) are required to get collected waste transported to appropriate sites for processing and disposal either through own resources or by appointing private operators. Local Authorities (Local Bodies/ Municipal Corporations) are also required to examine and sanction the waste management plan of the generators within a period of one month or from the date of approval of building plan, whichever is earlier from the date of its submission; keep track of the generation of construction and demolition waste within its jurisdiction and establish a data base and update once in a year.

As per **Rule 7** of the Construction and Demolition Waste Management Rules, 2016, the operator of the Processing or Recycling Facilities for C & D Waste shall apply in Form I for authorization from SPCBs / PCCs and shall also submit Annual Report to SPCBs / PCCs.

As per **Rule 8** of the Construction and Demolition Waste Management Rules, 2016, SPCBs / PCCs shall (1) Monitor the implementation of these rules by the concerned local bodies and the competent authorities (2) Grant authorization to construction and demolition waste processing facilities (3) Prepare Annual Report in Form IV with special emphasis on the implementation status of compliance of these rules and forward report to CPCB before the 31st July for each financial year.

C & D Waste Management in Delhi

There are following 5 Local Bodies / Municipal Corporations which are mainly responsible for the proper management of the Construction and Demolition Waste (C & D Waste) and implementation of the Construction and Demolition Waste Management Rules, 2016 in NCT of Delhi. As per the Annual Reports submitted by the Local Bodies in Delhi about 3711 TPD of Construction and Demolition Waste (C&D Waste) is generated in Delhi:

- (i) North Delhi Municipal Corporation (North DMC)
- (ii) East Delhi Municipal Corporation (East DMC)
- (iii) South Delhi Municipal Corporation (South DMC)
- (iv) New Delhi Municipal Council (NDMC)
- (v) Delhi Cantonment Board(DCB)

Separate collection and transport infrastructure of C&D Waste has been set up under which the C&D Waste is collected at 255 designated sites identified by the 3 Municipal Corporations(North DMC, EDMC & SDMC), NDMC & DCB and briefed in following Table :

C&D Waste Generation & Designated Collection Centres in Delhi

S. No.	Name of Local Body	Quantum of C & D Waste Generation (in TPD)	No of Designated Collection Centres for C & D Waste
1	North DMC	1946.35	104
2	East DMC	775	60
3	South DMC	925	65
4	NDMC	61.46	25
5	Delhi Cantonment Board (DCB)	3.83	1
	Total	3711.64 TPD	255

Separate Collection and Transport Infrastructure for C & D Waste has been set up under which the C & D Waste Collection at ear marked sites identified by 3 Municipal Corporations (North DMC, East DMC & South DMC), NDMC & Delhi Cantonment Board (DCB) and the same is transported to the 4 Existing Construction and Demolition Waste Processing / Recycling Facility/ Plants Functioning in Delhi. The Capacity of 4 Existing Construction and Demolition Waste Processing / Recycling Facility is 4150 TPD. Four Construction and Demolition Waste Processing Facilities operating in Delhi are given in following Table:

Construction and Demolition Waste Processing Facilities functioning in Delhi

S. No.	Location of C& D Waste Processing Facility	Name of Operator	Local Body / Authority	Year of Commissioning	Plot Area (in Acres)	Capacity (in TPD)
1	Jahangirpuri (Burari)	M/s IL&FS Environmental Infrastructure and Services Limited	North DMC	2009	7	2000
2	Shastri Park	M/s IL&FS Environmental Infrastructure and Services Limited	East DMC	2016	2.5	1000

3	Mundka (DMRC Site)	M/s IL&FS Environmental Infrastructure and Services Limited	DMRC	2018	2.95	150
4.	Bakkarwala Village	M/s Rise Eleven Delhi Waste Management Co.	South DMC	2020	5	1000
	Total					4150

In these processing facilities, Paver Blocks, Kerb Stones, Bricks, Aggregates, Sand and Soil of BIS standards are being produced out of the C&D waste which is further used in the infrastructure projects, thus fresh requirement of natural resources is minimized. With the existing and proposed processing facilities, it is expected that the entire C&D waste generated in Delhi will be managed properly in a scientific manner.

Proposed New Construction and Demolition Waste Processing Facilities in Delhi

S. No	Location of Proposed C& D Waste Processing Facility	Local Body / Authority	Capacity (in TPD)	Remarks
1	Ranikhera	North DMC	1000	Under Construction by M/s IL & FS Environmental Infrastructure and Services Limited. Part of the Facility with Dry Processing of the C & D Waste is expected to be commissioned by August, 2021. Whole Facility including wet processing of C & D Waste is expected to be commissioned by 01.11.2021.
2	Tekhhand Okhla	South DMC	1000	DDA is in advance stage for allotting land for C& D Waste Processing Facility
3	Libaspur (PWD)		500	Matter is pending with DDA for change of land use of the site.
	Total		2500	

Proposed New Construction and Demolition Waste Processing Facilities in Delhi

S.No	Proposed Site of C& D Waste Processing Facility	Proposed Waste Processing Capacity (in TPD)
1	Tekhhand (South DMC)	1000
2	Ranikhera (North DMC)	1000
3	Libaspur(PWD)	500
	Total	2500 TPD

Processing of Construction and Demolition Waste consists of:

- ✚ Receiving of Construction and Demolition Waste at site
- ✚ Weighing (weigh bridge provided near gate/office)
- ✚ Grading (loose soil to landfill and road building)
- ✚ Sizing unit/breaking/processing
- ✚ Output [different sizes of Aggregates, used in making of Paver Blocks, Kerb Stones , Tiles , Brick , Road building, RMC (Ready Mix Concrete) and Sand and Soil of BIS standards for uses in various purposes.

Waste received and processed in these facilities is given in the table below:

Sl No.	Description	Quantum (Year 2020-21)			
		Jahangirpuri (Burari)	Shastri Park	Bakkarwala	Rani Khara
1	C & D Waste Received	710419 MT	273673 MT	122610 MT (335 TPD)	47660 MT
2	Non-Structural Concrete Aggregate	146820 MT	Nil	26382 MT	Nil
3	Manufactured Sand	27041 MT	20779 MT	28580	2182
4	Ready Mix Concrete	Nil	Nil	3927	Nil
5	Paving Blocks/ Tiles	6195 m ³	Nil	7610 m ³	2794 m ³
6	Granular Sub Base (GCB)	22756 MT	44189 MT	Nil	4744 MT
7	Soil	572113 MT	216695 MT	89930 MT (others)	32635 MT
8	Cement Concrete Bricks	2046 m ³	5456 m ³		Nil

Department of Urban Development, Govt. of NCT of Delhi has already issued Order Dated 06.07.2019 regarding use of Recycled Products from C&D Waste including following measures to be taken for compliance by all Municipal / Local Govt. Bodies in Delhi, Public Works

Department, Irrigation & Flood Control, DSIIDC, DJB & Departments and Organisations of GNCTD involved in Construction/Maintenance of Civil Works:

- (i) A minimum of 2% of C&D Recycled Products shall be used for building works.
- (ii) 10% of C&D Products shall be used for Road works.
- (iii) Urban Local Bodies (ULBs) in Delhi shall mandate 5% use of C&D recycled products for non-structural application by all, including private individuals. This condition shall be introduced by modifications in byelaws if necessary, & by including the same condition in the building plan approval.
- (iv) Compliance of these conditions shall be verified and certified by the concerned Executive Engineer before verifying and certifying the bills for payments in any such contract.
- (v) Intimation of the action taken/compliance report.

Ministry of Housing and Urban Affairs, Govt. of India, (MoHUA) had fixed the target of 15,80,000 MT for use of Construction and Demolition recycled materials by various Govt. Departments in the Financial Year 2020-21.

Intake Quantity , Processed Quantity & off-take of C&D Recycled Products from the Existing 4 C & D Waste Processing Facilities in Delhi [at Jahangirpuri (Burari), Shastri Park, Mundka and Bakkarwala] for the Financial Year 2020-2021

C&D Waste Intake Quantity (Lakh MT)	C&D Waste Processed Quantity (Lakh MT)	Off-take		
		Off-take by Govt. Departments (Lakh MT)	Off-take by Private Parties (Lakh MT)	Total Off-take (Lakh MT)
11.52	12.16 (including C&D Waste received in previous years)	7.04	6.07	13.11

Action Taken by DPCC and main Achievements in respect of C & D Waste Management in Delhi :

NGT Case O.A No. 02/2019 in the matter of "Pawan Kumar Sharma, MLA vs Govt. of NCT Delhi" related to C & D Waste Management in Delhi and C & D Waste Processing Facility at Jahangirpuri and related issues was dealt by WMC II and following are the brief of action taken by DPCC:

Meetings were taken by the Chairman, DPCC from time to time to review the C & D Waste Management and off take / lifting of C & D Recycled Materials from the existing C & D Waste Processing Facilities in Delhi.

Directions u/s 5 of the EP Act were issued on 14.01.2020 to various Govt. Departments / Agencies for expediting & maximizing the utilization of C&D Waste Recycled Materials / Products of the 3 C & D Waste Processing Facilities in Delhi in their projects to meet the targets fixed by MoHUA.

Consent to Operate under the Air & Water Acts and Authorization under the Construction and Demolition Waste Management Rules, 2016, were granted to M/s Rise Eleven Delhi Waste Management Co. in respect of C & D Waste Processing Facility at Bakkarwala Village with validity upto 18.12.2024.

Consent to Operate under the Air & Water Acts granted to M/s IL&FS Environmental Infrastructure and Services Ltd. in respect of C & D Waste Processing Facility at Shastri Park with validity upto 18.02.2025.

Consent to Establish under the Air & Water Acts granted to M/s IL&FS Environmental Infrastructure and Services Ltd. in respect of C & D Waste Processing Facility of 1000 TPD coming up at Ranikhera.

Directions u/s 5 of the EP Act, 1986 were issued by DPCC on 09.02.2021 to various Govt. Departments / Agencies for expediting & maximizing the utilization of C&D Waste Recycled Materials / Products of the C & D Waste Processing Facilities operating in Delhi in their projects to meet the targets fixed by MoHUA. DO Letters were also issued by Secy (Env.) Cum Chairman, DPCC to NHAI, NBCC, CPWD, DDA etc. for increasing the lifting / off-take of C&D Recycled Materials to meet the targets set by MoHUA for Financial Year 2020-2021. Similar

Directions and DO Letters were also issued in the past year to meet the targets set by MoHUA.

Achievements in respect of C & D Waste Management in Delhi:

- Total Capacity of C & D Waste Processing Facilities in Delhi increased from 2650 TPD to 4150 TPD by expansion of the existing C & D Waste Processing Facility at Shastri Park from 500 TPD to 1000 TPD.
- Besides this Additional 2500 TPD facilities are proposed at Tehkhand (1000 TPD), Ranikhera (1000 TPD) & Libaspur (500 TPD).
- Action taken by DPCC & meetings taken by the Chief Secretary, GNCTD & Chairman, DPCC from time to time resulted in improvement in the off take / lifting of C & D Recycled Materials from the existing C & D Waste Processing Facilities in Delhi at Jahangirpuri (Burari), Shastri Park, Mundka & Bakkarwala. Offtake of C & D Recycled Products by Govt. Departments & Private Parties increased from 8.83 Lakh Ton in 2019 – 2020 to 13.11 Lakh Ton in 2020-2021 (about 48.4 % increase).

Annual Report on Construction & Demolition Waste Management was prepared by DPCC for the Year 2020 - 2021 in Form IV and submitted to CPCB vide letter dated 29.07.2021.

10.3 Hazardous Waste

Disposal of Incinerable Waste & Development of TSDF for Hazardous Waste

There is no Treatment, Storage and Disposal Facility (TSDF) for Hazardous Waste (TSDF) in Delhi. Industries / Units and CETPs are storing their Hazardous Waste (ETP/CETP Sludge etc.) at the site.

Disposal of Incinerable Waste :

Authorisation was given by DPCC to following two Operators of TSDF for Hazardous Waste in Uttar Pradesh (Kanpur Dehat) for Collection, Reception, Transportation and Disposal of incinerable hazardous waste generated by the units operating in NCT of Delhi:

- M/s Bharat Oil and Waste Management Ltd (TSDF at Gata No. 672, Village Kumbhi, Tehsil-Akbarpur, District- Kanpur Dehat, Uttar Pradesh- 209101).

- (ii) M/s Uttar Pradesh Waste Management Project (a division of M/s Ramky Enviro Engineers Ltd.) (TSDF at Plot No. 672, Village Kumbhi, Tehsil-Akbarpur, District- Kanpur Dehat, Uttar Pradesh- 209101.

Besides above, Authorisation under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 has been granted to Gujrat Enviro Protection & Infrastructure Limited, for collection, transportation, pre-processing, co-processing and disposal of sludge from CETPs in Delhi to its facility at Chittorgarh in Rajasthan.

Development of TSDF for Hazardous Waste in Delhi :

In the matter of Balam Singh Rawat vs Govt. of NCT of Delhi & Ors, Hon'ble NGT directed vide order dated 30.03.2015 that the TSDF Project is to be developed by DSIIDC in collaboration with DPCC. Accordingly, 14 Acres of land at Bawana was procured by the Environment Department, Govt. of NCT of Delhi from the North Delhi Municipal Corporation (North DMC) and the same was handed over to DSIIDC for development of TSDF for Hazardous Waste. Subsequently the approval of Delhi Cabinet was sought for setting up of TSDF for Hazardous Waste at Bawana. DPCC made a payment of Rs. 44.10 Crore to North DMC from the Air Ambience Fund on account of cost of Land for setting up of TSDF for Hazardous Waste at Bawana. An amount of Rs. 8.05 Crores has also been given to DSIIDC as grant in aid towards 50 % of Capital cost of TSDF. TSDF will also be having Incinerator for disposal of Incinerable Hazardous Waste.

DSIIDC awarded the work of development of TSDF for Hazardous Waste at Bawana to M/s Tamil Nadu Waste Management Limited (M/s TNWML) on 30.11.2019. Concession Agreement was signed by DSIIDC & M/s TNWML on 18.12.2019. MoEF& CC vide letter dated 06.01.2020 had given Terms of Reference (TOR) for Environmental Clearance for the said project. Public hearing for Environmental Clearance for TSDF was scheduled to be held on 06.04.2020 however could not be conducted due to Covid- 19 Pandemic and Lockdown in Delhi.

Public Hearing for Environmental Clearance for TSDF was held on 14.07.2020. MoEF&CC granted Environmental Clearance vide letter dated 23.11.2020. Consent to Establish under the Air & Water Acts has been issued by DPCC to the Project Proponent (M/s Tamil Nadu Waste Management Limited) on 31.12.2020. Work of development of TSDF for

Hazardous Waste at Bawana is Under Progress and expected to be completed by August, 2021 in respect of Landfilling activity and whole TSDF including Incinerator is expected to be commissioned by December, 2021.

10.4 Plastic Waste

Regarding implementation of Plastic Waste Management Rules 2016 amended till date.

-  Total plastic waste generation in Delhi: 1060 TPD, which is 10.10 % of the total solid waste generation in Delhi and Single Use Plastic waste is 5.6 % of the total Solid waste generated in Delhi which is more than around half the total quantity of plastic waste generated in Delhi. The per capita per day waste generation in Delhi is calculated to be 53.6 gram.
-  DPCC is regularly conducting inspections and in the year 2020-2021, total 16 inspections have been conducted out of which notices for closure issued to 14 nos. of units, which were found non-compliant with respect to PWM Rules. Further, EC of Rs.16, 97,500/- was imposed on these units. 10 out of 14 units have deposited EC amount of Rs.13, 17,500/-.
-  All the concerned Municipal Corporations and Delhi Cantonment Board were requested on 09.03.2021 to furnish the details as per Rule (6) of PWM for setting up of infrastructure for segregation collection, storage, transportation, processing and disposal of plastic waste and as per Rule 9 (1&2) of PWM, to provide the details of waste Management Agencies registered with the respective corporation to facilitate producer, importers and brand owners to submit EPR Action Plan.
-  There are 930 plastic manufacturing or recycling (including multilayer, compostable) units registered with DPCC including 251 producers (Bag/Sheet/Multilayer like), 315 recyclers and 364 manufacturer. All the 251 producer industrial units were directed on 11.08.2020 and 11.11.2020 to furnish EPR Action Plan.

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 CPCB has evolved and uploaded SOPs on its website in the month of March 2021 for Registration of all the Producers, Importers & Brand Owners (PIBOs) under PWM Rules 2016 (as amended). Same has been uploaded on DPCC website on 31.03.2021. The SOPs have been circulated to all the Producers, Importers, and Brand Owners PIBOs to file EPR Action Plan.
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 Awareness camps were organized in the month of March, 2021 at Bawana and Narela Industrial Areas for the plastic Industrial Areas for the plastic Industries (producers) to educate and guide them about their responsibility and regarding preparation of EPR Action Plan.
- 
 Draft notification was also issued by the Central Government on 11th March, 2021, for making certain amendments in the PWM Rules, 2016, for information of the public for making any objection or suggestion on the proposals contained in the draft notification in writing within sixty days w.r.t. thickness of Plastic Bags, Sheets and like shall not be less than 120 microns and non-woven Plastic Carry Bags shall not be less than 240 microns in thickness w.e.f. 30.09.2021. Further, complete ban on single use plastic since 01.01.2022 (single use plastic items: Plates, cups, glasses, cutlery such as forks, spoons, knives, straw, trays, wrapping/ packing films around sweet boxes; invitation cards; and cigarette packets, plastic/ PVC banners less than 100 microns, stirrers. However, above provisions shall not apply to commodities (including carry bags) made of compostable plastic materials.

10.5 E-Waste

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 According to the E-waste (Management) Rules, 2016 every producer of electrical and electronic equipment listed in Schedule-I, shall apply for Extended Producer Responsibility (EPR) in Form-I and obtain authorization from CPCB. As well as maintain records in Form-2 and shall file returns of previous year in Form-3 to CPCB on or before 30th day of June every year.
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 "Dismantler of E-Waste" can apply for Authorization in Form- IV in DPCC under E-Waste (Management) Rules, 2016 and also has to obtain consent to establish (CTE) and consent to operate (CTO) in Green Category under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981.

-  "Refurbishers of E-waste" can apply for Authorization in Form-I in DPCC under E-Waste (Management) Rules, 2016 and also has to obtain Consent to Establish (CTE) and Consent to Operate (CTO) in Green category under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981.

It is mandatory for the Producers, Bulk Consumers/ Consumers of the Electrical and Electronic equipment, Collection Centers, Dismantlers, Recyclers of the E-waste to comply with the provisions of the E- waste (Management) Rules, 2016. Majority of the functions under the said Rules have been vested with the Central Pollution Control Board as the manufacturers/producers are operational in multiple states. CPCB grants authorization for Extended Producer Responsibility (EPR). DPCC is responsible to ensure compliance of the terms and conditions of the authorization granted by the CPCB.

- DPCC has taken the action against units found indulged in illegal storage, handling & dismantling of E-Waste. 197 premises were inspected and 153 premises were effectively closed and the rest were found vacated.
- DPCC verified the collection centres of E-Waste under EPR issued by CPCB through inspections of 44 collection centres and letter was sent to CPCB for necessary action against the units found in non-compliant.

Granting of authorization for import of Ferrous & Non-Ferrous Material under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016

Authorisation is granted for import of Wastes [i.e. Basel No. (a) B-1010, (b) B-1050 and (c) B-1100] mentioned in Part-D of Schedule III of the Hazardous & Other Wastes (Management & Transboundary Movement) Rules, 2016 without possessing any of the Hazardous Characteristics specified in Part C of the Schedule III.

The import is permitted only on behalf of actual user(s) having valid Authorization under Hazardous & Other Wastes (Management & Transboundary Movement) Rules, 2016, and Consent to Establish & Consent to Operate under Water (Prevention & Control of Pollution) Act 1974 and Air (Prevention & Control of Pollution) Act, 1981, from the concerned State Pollution Control Board/ Committee. Authorization under the prescribed rules is one time authorization.

The importer of the hazardous and other wastes is required to file an annual return in the Form- 4 to Delhi Pollution Control committee on or before the 30th day of June following the financial year to which that return relates.

The importer is required to obtain a letter/ certificate from the actual user(s) stating that the importer has imported the waste on their behalf. All the imported waste(s) shall be directly transferred to the actual user(s) from the port directly or through the importers registered from CPCB/ State Pollution Control Board/ Committee.

In case of non-compliance of any of the conditions or illegal import or import other than the Other Waste(s), or possessing any of the hazardous Characteristics specified in Part C of the Schedule in respect of import or export of such wastes in accordance with rule 11, 12 and 13, the waste shall be re-exported by the importer at his cost within a period of ninety days from the date of the arrival into India.

The importer, if importing waste for recycling purpose, is required to give the imported metal scrap to only authorized recyclers located outside of NCT of Delhi.

10.6 Biomedical Waste

Bio medical waste management in Delhi:

-  DPCC has taken initiatives for simplifying the application process and has developed an online portal and all applications for authorizations under Bio-Medical waste Management Rules, 2016 (BMWM Rules, 2016) are filed by Health Care Facilities (HCFs) on-line in DPCC. The authorizations against the complete applications are also issued online mode thereby quickening the process of disposal of the applications. Health Care Facilities not generating any biomedical waste are issued automatic authorisation/acknowledgement at the time of filing of application. Due to the above steps taken by DPCC against the violators of BMWM Rules, 2016, there is substantial increase in the number of HCFs which have applied in DPCC for authorization. More than 10000 HCFs of NCT of Delhi have been brought into the ambit of the provisions of BMWM Rules, 2016.
-  Before applying for authorization, every health care facility is required to enter into an agreement with the concerned CBWTF for collection, transportation, treatment and disposal of the waste generated by it. Biomedical waste is collected, transported and treated by two Common Biomedical Waste Management Facilities (CBWTFs) operating in Delhi namely M/s SMS Water Grace (P) Ltd. and M/s Biotic Waste Solutions (P) Ltd.
-  Segregation of the waste as per the provisions of BMWM Rules, 2016 plays an important role and all the HCFs are required to ensure proper segregation before the

said waste is handed over to Common Biomedical Waste Management Facilities (CBMWTFs) for transportation, treatment and disposal. Whenever any instance of violation wrt segregation of waste is observed or comes to the notice of DPCC, action such as effective closure, levy of Environmental Compensation (EC) are taken.

- ✚ CBMWTFs are having compartmentalised vehicles for storing different types of waste in the transportation vehicle and the vehicles are properly disinfected on periodical basis. Workers also wear protective gear to avoid any infection and training is also given to the workforce from time to time to comply with the provisions of the BMWM Rules, 2016.
- ✚ Barcode system for tracking of biomedical waste collected and transported to CBWTF for treatment and disposal has been implemented in Delhi. Both CBWTFs which are operational in NCT of Delhi have installed the software for the same. As per the CPCB Guidelines, the HCFs having bed strength of 30 and above are required to scan the bar coded waste bags/containers by using the software themselves. 234 such HCFs have adopted this bar code system.
- ✚ Both the CBMWTFs in Delhi have installed Online Emission Monitoring systems (OCEMS) with the incinerators in their facilities and the data is being shared with the CPCB as well as DPCC. Parameters like temperature in Primary & Secondary chambers of the incinerator, Particulate Matter, Carbon Monoxide, Carbon Dioxide are monitored and shared the data online.

10.7 COVID-19 Waste in NCT of Delhi

Subsequent to the issuance of Guidelines of CPCB for scientific management of COVID-19 waste and the order of Hon'ble NGT dated 23.4.2020 in OA No. 72/2020, following steps have been taken:

1. The order of Hon'ble NGT dated 23.4.2020 has been circulated to all District Magistrates, Dept. of Health, ULBs and UD Department of Govt. of NCT of Delhi for compliance of directions.

2. Guidelines of CPCB have been circulated to all Health Care Facilities with capacity of 51 beds and above, ULBs, Director General of Health Services and District Magistrates time to time for compliance in letter and spirit.
3. DPCC has apprised all the 11 District Magistrates about the specific responsibilities of the persons operating quarantine camps including segregation of waste into biomedical and general solid waste as per CPCB guidelines, vide letters dated 11.5.2020.
4. Directions under section 5 of EP Act, 1986 have been issued on 12.5.2020 to both CBWTFs to impart training to the management of Covid Quarantine Camps and hospitals for segregation of the waste and ensure lifting of COVID-19 bio-medical waste as per the guidelines of CPCB. These CBWTFs have also been directed, vide letters dated 26.5.2020, to collect and transport Covid-19 waste from isolated wards within the hospital and testing labs through bar code manifest system
5. DGHS of GNCTD has also been instructed to ensure segregation of waste, generated by the Quarantine Camps & designated COVID-19 hospitals, as per CPCB guidelines vide letter dated 14.5.2020 in order to avoid collection of entire waste in yellow bag and to reduce pressure on incineration capacity of CBWTFs .
6. Directions have been issued on 27.5.2020 to designated COVID-19 health care facilities and both CBWTFs for downloading of the COVID-19 waste tracking App developed by CPCB. With continuous persuasion, all COVID-19 facilities have registered themselves on Mobile tracking App (COVID19BWM) and data of waste generated is being uploaded on the said Mobile App on regular basis.
7. Webinar has been conducted on 03.6.2020 for imparting training to the officers who are in-charge of the COVID-19 facilities. Dr. TK Joshi, former Director of Centre for Occupational and Environmental Health (COEH), GNCTD and Dr. Malini Kapoor, Professor, Safdarjung Hospital were the resource persons in the webinar. Doctors from 42 Covid facilities have attended the said webinar. Apart from this, DPCC has circulated the URL of the webpage hosting CPCB guidelines/pictorial guidelines/video clip/visuals for COVID-19 waste handling facilities.
8. A separate link for the educative material related to COVID 19 waste has been created on the home page of DPCC which displays the Guidelines of CPCB, Hon'ble NGT order dated 23/04/2020 in O.A. No. 72/2020, Do's and Don'ts for the

management of waste from Quarantine Centers, Do's and Don'ts for the management of waste by Urban Local Bodies, Pictorial Guide related to biomedical waste management including COVID-19 waste, Video Clip on management of COVID 19 waste, Posters on management of COVID 19 waste from isolation wards and storage of waste.

9. Both the CBWTFs have an arrangement to handover material/ posters on the COVID waste management to the facilities visited by them for collection of the waste.
10. Both the CBWTFs have been assigned the responsibility to collect COVID-19 waste in yellow and red bags from Covid-19 hospitals/isolation wards, Covid-19 care centers, quarantine camps and collection points identified by the local bodies (where waste from home quarantine points is collected) so that no facility where Covid-19 waste is generated is left out from the waste management network.
11. Separate vans/carriage vehicles managed by trained staff with PPE have been deployed to collect Covid-19 waste by both the CBWTFs on daily basis. Covid-19 waste signages are pasted on bags carrying waste so that they are not mixed up with the other bio-medical waste or domestic solid waste.
12. Biomedical waste generated from COVID-19 patients is collected by both CBWTFs from Hospitals/ Fever Clinics/Covid-19 Examination Centres, isolation wards, Sampling/Collection Centres, test labs and quarantined facilities.
13. Total 3768945.87 Kg of COVID-19 waste and 9970488.29 Kg regular bio medical waste has been collected, treated and disposed off by both CBWTFs from 1st February, 2020 to 31st March, 2021.
14. In initial stages, segregation was observed to be very poor as entire waste, including general waste, from COVID 19 treatment facilities was being handed over to the CBWTFs in yellow bags i.e. for incineration. To address this problem and for better segregation of waste, concerned nodal officers were trained online and were asked to send a report on further trainings conducted by them. As a result, over the time, better segregation is being practised and the quantity of COVID 19 waste has come down. The amount of COVID 19 waste has seen reduction despite increase in the number of patients/ suspected patients.

CHAPTER XI

11 ENVIRONMENT IMPACT ASSESSMENT

EIA Cell has also been created separately to look after Consent Management Committee work related to cases in which Environmental Clearances have been issued (except those pertaining to Healthcare Establishments and Power Plants/Solid Waste Facilities) and various drives were undertaken for implementation of Dust control norms in large construction projects and Environmental Compensation of Rs. 70,00,000/- (Rs. Seventy Lakhs Only) were imposed on the defaulters projects. Rs. 65, 00,000/- (Rs. Sixty Five Lakhs only) were realized till March, 2021.

In pursuance of Hon'ble Supreme Court order dated 13.01.2020 all the construction projects requiring environmental Clearance were directed to install Anti-Smog Guns and on the action taken Hon'ble Supreme Court on record appreciated the action taken in its order dated 24.08.2020 in IA No.13029.

Delhi Pollution Control Committee has conducted Public Hearing for the project namely "Development of Urban Extension Road-II (NH-344M) from Design chainage Km 0.000 to Km 38.111. Development of link road (new NH-344P) (Km 0.000 to Km 29.600) between Bawana Industrial Area Delhi (from Km 7.750 of UER-II) till bypass of NH-352A at village Barwasni, Sonipat in Haryana as spur of Urban Extension Road-II(NH-344N) in the state of Delhi/Haryana. Development of link road (new NH-344N) (Km 0.000 to Km 7.500) between Dichaon Kalan till Bahadurgarh Bypass/NH-10 in the state of Delhi/Haryana (Total length of project: 75.211km) by M/s National Highway Authority of India (NHAI) on 30.09.2020, 05.10.2020, 07.10.2020 & 09.10.2020 in North, North-West, West, and South-West Districts respectively at the Offices of Concerned District Magistrate.

CHAPTER XII

12 CONSENT MANAGEMENT

Consent Management Cell (CMC) processes the applications for Consent under the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981, wherein any industry, operation or processor an extension and addition thereto, which is likely to discharge sewerage or trade effluent into the environment or likely to emit any air pollution into the atmosphere will have to obtain consent of Delhi Pollution Control Committee, and to prevent and control pollution of water and air through education, awareness and offering scientific and technological solutions to achieve its goal of a cleaner and greener environment. This cell also deals with the applications under Hazardous Rules and Environmental Clearance.

The CMC has been divided in seven CMCs as per the details given below: -

- i. CMC-I: East District, Shahadara and North East District
- ii. CMC-II: South, South East and South west district.
- iii. CMC-III: North west District.
- iv. CMC IV: New Delhi
- v. CMC-V: North District
- vi. CMC-VI: West District
- vii. CMC-VII: Central Delhi

*EIA Cell has also been created separately to look after Consent Management Committee work related to cases in which Environmental Clearances have been issued (except those pertaining to Healthcare Establishments and Power Plants/Solid Waste Facilities) and for coordinating the Meetings of SEIAA and SEAC (Tenure of erstwhile SEIAA and SEAC expired on 31.03.2018 and reconstitution under process). The Cell also implements dust control norms in Environmental Clearance Projects.

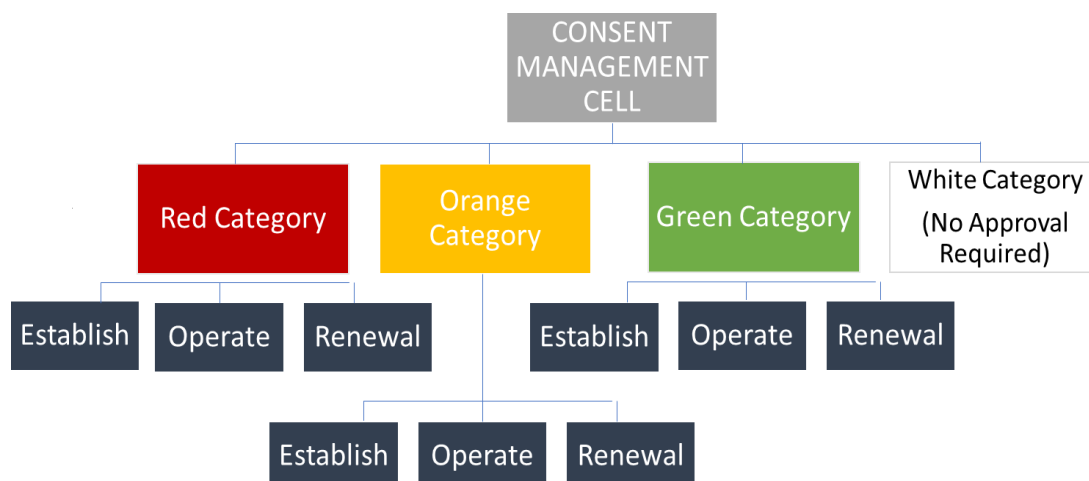


Table 4: Consent Status of the CMCs during the year 2020-21

Sl. No.	Consent status	Total Number
1.	Total number of applications received for Consent under Water and Air Acts during reference period:	7886
2.	Total number of Consent granted under Water and Air Acts during reference period	6342
3.	Total number of Consent refused under Water and Air Acts during reference period:	440
4.	Total number of pending applications for Consent under Water and Air Acts at the end of financial year/ reference period	1085

CHAPTER XIII

13 CITIZEN CHARTER

13.1 Consent to Establish / Operate under Air & Water Acts:

Consequent upon the directions issued by Chairman, CPCB u/s 18 (1) (b) of Water and Air Act regarding classification of industries and decisions taken by DPCC in the Board meeting held on 27.02.2017, the following is ordered vide order dt: 17.04.2017 & 31.05.2017.

1. Category II(a) cases by the committee headed by Chairman DPCC.
2. Category II(b) cases by the committee headed by Member Secretary, DPCC
3. Category I cases by the concerned Sr. Env. Engineer / Cell In-charge.

 The industries in Delhi has been classified in Red/ Orange/ Green/ White category as per the list, indicating the classification of 637 industries as uploaded on DPCC website.

 The industries categorized under White category shall not be required to obtain the Consent to Establish / Operate under the Air & Water Acts and submit an undertaking to DPCC online and send the signed copy of the undertaking within 30 days to DPCC.

 The industries categorized under Red, Orange and Green category only need to apply for Consent to Establish/ Operate under the Air & Water Acts. The period of Consent to Establish shall be from one year to seven years as requested by the Project Proponent. However, the Consent to Operate / Renewal shall be granted for 5 years in case of Red/Orange Category and 10 years in case of Green category of Industries.

 The consent under Air and Water Acts & Authorization/ Registration under the applicable Rules shall be decided by following:-

- Prohibited / Negative List of Industries mentioned in "Annexure-7.0 (III)" of the Master Plan for Delhi- 2021 are not permitted in NCT of Delhi and therefore application for Consent/ Authorization Registration shall not be accepted from such units.
- The categorization of any new industrial activity etc. will be done by the existing Committee for harmonization of classification of the industries with approval of MS and Chairman, DPCC and the above mentioned list shall be appended accordingly.

Category	Classification	Deciding Authority	Timeline	Remarks
II(a)	Activities/Process which require installation of pollution control device(s) for controlling pollution in emission/effluent in respect of : (a) SPIs/STPs of DJB, WTPs of DJB, CETPs/Power Plant/MSW Plants etc.	Committee comprising of : (a) Chairman, DPCC-Chairman (b) Member Secretary, DPCC-Member (c) Dr. S.K. Gupta, Professor, IIT, Delhi-Member (d) Prof. C.R. Babu, Professor Emeritus(CEMDE), University of Delhi-Member (e) Dr. Anil Kumar, Director DoE-Member (f) All SEEs of concerned Cell-Member (g) All EEs of concerned Cell-Member	Within 30 days from the date of receipt of the application.	Inspection will be necessary before the case is placed before the committee.
II(b)	Activities/Process other than those falling under clause II(a)	Committee of the following: (a) Member Secretary, DPCC-Chairman (b) All SEEs of concerned Cell-Member (c) All EEs of concerned Cell-Member	Within 30 days from the date of receipt of the application.	Inspection post-decision or pre-decision as may be ordered by the committee.
I	Activities under Green Category except activities / process which require installation of pollution	Cell In-Charge/Sr. Env. Engineer Concerned	Within 07 days from the date of receipt of	The application shall be decided within 7 days from the date of receipt itself

	control device(s) such as Emission control system(ECS) or Effluent Treatment Plant(ETP)/Sewage Treatment Plant(STP)/ Ready Mix Concrete Plants(RMCs).		the application.	except where there is ambiguity with respect to classification which needs clarity /examination
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- ✚ It is mandatory to apply for consent through online DPCC portal and unit is required to send by post hard copy of the application along with required documents to DPCC.
- ✚ The above mentioned committees are taking decisions online in its meetings.
- ✚ DPCC is receiving application for consent and authorisation from the areas notified for redevelopment under MPD-2021 as per office order dated 14.12.2016.
- ✚ DPCC also accepts application for registration online under the Plastic Waste Management Rules 2016.
- ✚ Authorizations are granted under the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 for the Hazardous Waste Generating Units.
- ✚ Meetings of the two Committees constituted for deciding consent and authorization are held regularly and decisions taken are implemented by the concerned CMC.
- ✚ Inspection is conducted on the directions of the Consent Management Committee or the Competent Authority.
- ✚ CMC also ensures all industrial units adhere to the pollution control norms.
- ✚ No consent to operate is granted until industrial unit has obtained consent to establish.
- ✚ Redressal of public complaints received through web portals of PGMS. Listening post of LG, GMS, CP Grams etc. as per the policy.
- ✚ Household industries as per the criteria given in MPD-2021 have to obtain No Objection certificate from the high powered committee constituted under the Chairmanship of Commissioner of Industries, Department of Industries and

Government of Delhi in reference to the Hon'ble Supreme Court orders in I.A. No 22 in WP(C) No. 4677 of 1985 titled as M.C. Mehta Vs. Union of India & Others.

Units Operating in Residential Area/Non-Conforming Areas:

- ✚ With regard to closure of the illegal units from the residential / non-conforming areas, Hon'ble Supreme Court has passed an order on 07.05.2004 in I.A. No 22 in WP(C) No. 4677 of 1985 titled as M.C. Mehta Vs. Union of India & Others. As per the order all industrial units that have come up in residential / non-conforming areas in Delhi on or after 1st August, 1990 shall close down.
- ✚ As per the meetings held before Chief Secretary, Govt. of NCT of Delhi lastly on 05.06.2015, it has already been decided that action on industries operating in non - conforming areas and violating the Master Plan of Delhi will be taken under the Delhi Development Act by the Delhi Development Authority in development areas and Municipal Corporation of Delhi in all other areas. Commissioner of Industries is working as a Nodal Officer on behalf of the Hon'ble Supreme Court Monitoring Committee as constituted by the Hon'ble Supreme Court of India in the order dated 07.05.2004.
- ✚ Municipal Corporation of Delhi, which have been entrusted with the powers to enforce the Master Plan has original jurisdiction to ensure that no industry runs in violation of MPD-2021.
- ✚ Household industries as per the criteria given in MPD-2021 have to obtain No Objection certificate from the high powered committee constituted under the Chairmanship of Commissioner of Industries, Department of Industries and Government of Delhi in reference to the Hon'ble Supreme Court orders in I.A. No 22 in WP(C) No. 4677 of 1985 titled as M.C. Mehta Vs. Union of India & Others

13.2 Authorization under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016:

As per the rule 6 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, as amended to date, every occupier of facility, handling, generation, collection, storage, packaging, transportation, use, treatment, processing, recycling, recovery, pre-processing, co-processing, utilization, offering for sale, transfer or disposal of the hazardous waste and other wastes shall be required to obtain an authorization from Delhi Pollution Control Committee (DPCC).

Time Frame for deciding Authorization under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

Within 30 days from the date of receipt of application for Authorization, if complete in all respects, as per provisions of the said Rules.

The application of Authorization will be decided along with the consent application as per procedure mentioned above.

13.3 Authorization under Bio-Medical Waste Management Rules, 2016:

For deciding applications for Authorization under BMW Rules and Consent under Air & Water Act, in respect of Hospitals/Health Care Establishments/ Nursing Homes/etc. Having bed strength of 51 & above and operators and transporter of Common Bio-Medical Waste Treatment Facilities (CBWTFs) and any other Industry assigned to WMC-1:-

S.No.	Member of the Committee	Category
1.	<u>BMW Committee No. 1</u> - Chairman, DPCC - Member Secretary, DPCC - Dr. Anil Kumar, Director(Environment) - Member Secretary, Centre for Occupational and Environmental Health (COEH) - Medical Superintendent, GB Pant Hospital - Smt. Bharti Chaturvedi, Chintan Environmental Research and Action Group - Dr. T. K Joshi, COEH - Concerned Sr. Env. Engineer. - Concerned Env. Engineer.	Hospital/ Nursing Homes/Health Care Establishments etc. having bed strength of 200 and above including operators of Common Bio- Medical Waste (CBWTF) and Transportation of Bio-medical Waste and EIA cases.
2	<u>BMW Committee No. 2</u> - Member Secretary, DPCC - Dr. Anil Kumar, Director(Environment) - Medical Superintendent, Aruna Asaf Ali Hospital - Concerned Sr. Env. Engineer. - Concerned Env. Engineer.	Hospital/ Nursing Homes/ Health Care Establishments etc. with bed strength of 51 to 199.

13.3.1 Common Bio-Medical Waste Treatment Facilities (CBWTFs) in Delhi :

There are two operators of CBWTFs in Delhi :

 **M/s Biotic Waste Solutions Pvt. Ltd.**, 46 , SSI Industrial Area, G.T. Karnal Road, Delhi-33 Phone (O) : 011 - 47528106, 47528107 .

 **M/s SMS Water Grace BMW Pvt. Ltd**, Nilothi Sewage Treatment Plant Complex of DJB, Nilothi, Delhi-41 Phone No. 011-28363691, 28363692, 28363693, 28363079. Fax No: 011-28363690 Mob: 09560521112, 09871222338.

Following two agencies have been identified by DPCC for collection of the mercury from the Hospital/Health Care Establishments in Delhi.

 **Shri Rohit Talwar , M/s Supreme Surgico , 262 / 425 , Lane No. 8, Friends Colony Industrial Area, Shadara, Delhi. (Mobile No. 9958527527)**

 **Shri Sandeep Kalra, M/s Anita Industries, 29, Bhagat Singh Market, New Delhi. (Mobile No. 9810240250)**

These agencies are engaged in manufacture of Thermometers / B.P. measuring Apparatus etc. and the collected mercury from hospitals which is almost in elemental form is used in their manufacturing process.

Time frame for deciding Consent to Establish/Operate under Air/Water Act

Within 30 days from the date of receipt of application for Consent, if complete in all respect, as per provision of Air & Water Act.

Time Frame for deciding Authorization under Bio-Medical Waste Management Rules, 2016

Within 30 days from the date of receipt of application for Consent, if complete in all respect, as per provision of Bio Medical Waste Management Rules, 2016.

13.4 Authorization under Solid Waste Management Rules, 2016:

 Every Local body/Municipal Authority shall, within its territorial area , be responsible for the implementation of the provisions of these Rules, and for any infrastructure development for collection, storage, segregation, transportation, processing and disposal of municipal solid wastes and shall make an application in Form-I for grant

of authorization for setting up waste processing, facility, if the volume of waste is exceeding five metric tons per day including sanitary landfills from DPCC.

- ✚ The operator of Solid Waste Processing and treatment facility shall obtain necessary approvals(Consent under Air & Water Acts, and Authorization under Solid Waste Management Rules, 2016) from DPCC.
- ✚ Authorization granted shall be valid for a period of 5 years and after the validity is over, a fresh Authorization shall be required to be submitted to DPCC.
- ✚ Validity of Authorization shall be synchronized with validity of Consent.

13.5 Authorization under Construction and Demolition Waste Management Rules, 2016

The operator of Construction and Demolition Waste processing facilities are required to apply for authorization under Construction and Demolition Waste Management Rule, 2016 in Form-I to DPCC.

13.6 Authorization under E-Waste (Management) Rules, 2016:

- ✚ Ministry of Environment, Forest and Climate Change has notified E-waste (Management) Rules, 2016 on 23.03.2016 which are effective from 01.10.2016.
- ✚ According to the E-waste (Management) Rules, 2016 every producer of electrical and electronic equipment listed in Schedule-I, can apply for Extended Producer Responsibility (EPR) in Form-I and obtain authorization from CPCB. As well as maintain records in Form-2 and shall file returns of previous year in Form-3 to CPCB on or before 30th day of June every year.
- ✚ "Dismantler of E-Waste" can apply for Authorization in Form- IV in DPCC under E-Waste (Management) Rules, 2016 and also has to obtain consent to establish (CTE) and consent to operate (CTO) in Green Category under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981.
- ✚ "Refurbishers of E-waste" can apply for Authorization in Form-I in DPCC under E-Waste (Management) Rules, 2016 and also has to obtain consent to establish (CTE) and consent to operate (CTO) in Green category under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981.

13.7 Public Complaint Redressal

- ✚ Complaint against the unit operating in non-commercial/residential areas are forwarded to concerned Municipal Corporation for closure of the units operating in violation of MPD 2021 in view of the Hon'ble Supreme Court Order.
- ✚ Inspection w.r.t. Redressal of public complaints as approved/directed by Competent Authority.
- ✚ Redressal of public complaints received through web portals of PGMS, Listening post of LG, CP Grams etc. as per the policy.

13.8 Right To Information

The Government of India and Government of Delhi have given an important right to the citizens to obtain information under the Right to Information Act, 2005 (RTI-2005) & Delhi Right to Information Act, 2001 (DRTI-2001), respectively. Citizens can file an application to the State Public Information Officer (SPIO)/Competent Authority. A nominal fee of Rs.10/- Under RTI-2005 & Rs.25 /- under DRTI-2001 is charged for information. In case the applicant does not feel fully satisfied with the information provided by the SPIO/Competent Authority, an appeal may be filed before the Member Secretary, DPCC, under RTI-2005 & before Secretary, Public Grievance Commission under DRTI-2001. Mrs. Ajeeta Aggarwal, SEE, DPCC has been nominated as the SPIO under Right to Information Act, 2005, & EE (Planning) has been nominated as the Competent Authority under Delhi Right to Information Act, 2001.

13.9 Website Of DPCC

DPCC website which is recently redesigned gives information as regards various pollution control laws & decisions of various committees constituted for deciding the applications for grant of Consent and Authorization. The available information is updated regularly. The following information/ facility are available on DPCC's website.

- ✚ All the application forms (downloadable) with respect to applications under Water & Air Act, Bio- Medical Waste Management Rules, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, Plastic Waste Management Rules & Environment Impact Assessment Notification, and filing returns under Battery (Management and Handling) Rules and Water Cess Act.
- ✚ Information regarding Environmental Standards pertaining to Air, Water & Noise.

- ✚ Online filing of Consent applications, Bio-medical waste Authorization applications, Hazardous waste Authorization applications, Plastic Waste Registration Application, Request for Laboratory tests, Water Cess Returns etc.
- ✚ Various Acts, Rules, Notifications, Orders and Circulars pertaining to Environment and Pollution Control including tenders and notices issued by DPCC.
- ✚ Important Supreme Court & High Court Orders regarding industrial pollution.
- ✚ Status of various applications with respect to Consent, Authorization, Water Cess, Laboratory Test Report etc.
- ✚ The Minutes of Meeting with respect to various committees constituted for deciding the application under Water & Air Acts, Bio-medical Waste (Management Rules, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, Plastic Waste Management Rules & Environment Impact Assessment Notification,
- ✚ Information regarding Water Quality of River, Drains, STP, Thermal Power Plant (TPP), CETP, WTP, including the information regarding Ground Water Quality and Ambient Air Quality in Delhi.
- ✚ Waste Management with respect to MSW, BMW, HW, Electronics Waste, Mercury Waste, Battery Waste, Construction & Demolition Waste and Fly Ash Management.
- ✚ Information about Empanelled Agencies and Citizen Charter.
- ✚ Status of RTI applications.
- ✚ Real Time Air quality Data.

CHAPTER XIV

14 TRAINING PROGRAM

S. No.	Training Institute	Training Title	Duration with date
01	TERI School of Advanced Studies	Control of Air pollution, Source Apportionment studies and preparation of emission inventory	Three days (17.03.2021-19.03.2021)
02	TERI School of Advanced Studies	Urban Air Quality Management	Two days (24.03.2021-25.03.2021)
03	TERI School of Advanced Studies	Epidemiological Study of Human Community towards Impact of Toxic Chemicals like Arsenic, Polycyclic, Aromatic Hydrocarbons (PAH)	Three Days (18.01.2021-20.01.2021)
04	Indian Council of Medical Research (ICMR)	Occupational Health and Safety Management System 45001:2018	Three days (10.02.2021-12.02.2021)
05	National Productivity Council	Environmental Monitoring- Sample collection of Effluent, AAQM, Stack and testing of Various Environmental Parameters like Air, Water and Noise in Laboratory	Three days (17.02.2021-19.02.2021)
06	Centre for Science and Environment	Water Audit and Conservation in industries	14 Days (01.03.2021-14.03.2021)
07	Engineering Staff College of India (ESCI) & Centre for Environment Law, Education, Research and Advocacy (CEERA)	Air pollution Control Devices and OCEMS for various sectors	Three days (19.01.2021-21.01.2021)
08		Detailed Insight into Management of Various wastes like Hazardous Waste, E-Waste, Construction & Demolition Waste, Municipal Solid Waste and Biomedical Waste	Three days (27.01.2021-29.01.2021)
09		Performance Evaluation of ETP/STP/CETPs	Three days (09.02.2021-11.02.2021)
10		Environmental Legislation Interpretation, Enforcement, Legal and Statutory Requirements	Five Days (08.02.2021-12.02.2021)
11	CES Chennai	Monitoring of Implementation Status of extended producer Responsibility under the E-Waste and Plastic Waste management Rules	Three days (15.02.2021-17.02.2021)
12	IIWM Bangalore	Aspects of Hazardous Waste TSDF from Initiation till Commissioning and issue pertaining to Compliance Monitoring	Three days (09.02.2021-11.02.2021)
13	SGGSEI&T Nanded	Operating mechanism and Performance Evaluation of CBWTF	Two Days (05.02.2021-06.02.2021)
14	NGRI, Hyderabad	Sophisticated Instruments for Analysis of Toxic Heavy Metals in Environmental Samples and GC/GC-MS operation	Three days (15.03.2021-17.03.2021)

15	CES, Chennai	Advanced Oxidation Treatment Technology-A futuristic Way forward for Treatment of Recalcitrant Pollutants	Three days (24.02.2021-26.02.2021)
16	ISI, Delhi	Environmental Data Interpretation, Compilation, Analysis, Presentation and Reporting- Hands-on-Training and Case Study	Five days (08.02.2021-12.02.2021)

CHAPTER XV

15 IT

The following work is under process in the IT Cell:

1. OCMMS (Online Consent Management & Monitoring System)
2. OLMS (Online Monitoring System)
3. OCMMS Mobile App
4. Green Delhi App
5. Minimizing Regulatory Compliance Burden
6. Integration with MHA portal
7. MCD CAF Integration
8. State Reform Action Plan 2020
9. 8 Services integrated with E-District
10. Central Inspection System

15.1 Online Consent Management & Monitoring System (OCMMS)

OCMMS web portal was developed by NIC with support from Ministry of Environment, Forest and Climate Change (MoEF &CC) and Central Pollution Control Board (CPCB), New Delhi in 2011. OCMMS was launched on 02.11.2018.

OCMMS is a web based Application for Automation of the manual process of Consent Management, BMW, HWM, MSW, Battery Module and Inspection Management of DPCC. It also allows the industries for self-registration; apply for Consent to Establish, Consent to operate, and Authorization for various categories for industries / institution. Thereby, it helps DPCC for online processing of application processing.

Functional Features of OCMMS:

-  Being an open source application makes it a deployment flexible, scalable and cost effective solution.
-  The system has inbuilt user authentication and authorization mechanism, which defines role and provides access control accordingly.
-  System with its inbuilt functionalities seeks for clarifications: raise inspection to Regional Officer along with the facility of uploading a report.

Modules handled by OCMMS:

- i. Consent Management
- ii. Waste Management (BMW, HWM, MSW)
- iii. Laboratory Management System
- iv. Information, Alert and Notification through email, SMS, etc.

- v. Report/Queries
- vi. E-Noting
- vii. Frequently Asked Question (FAQs)
- viii. Digital Signature in consent module
- ix. Data migration from Old DPCC Portal to New Portal
- x. Implementation of payment gateway (SBI, ICICI)

New Developments:

- i. E-Pass COVID-19 module development in OCMMS web portal –
- ii. Reports were developed for consent management as below:
 - Search by District Name
 - Search by Industry Name
 - Consent wise status of applied Industries: Office wise
 - Consent wise CTE/CTO status of applied Industries: Office wise
 - Consent wise CTE/CTO status of applied Industries: Office wise with clarification and without Clarification
 - Office Summary Category Wise
 - Status of CTO Decided
 - Consent wise CTE/CTO search
 - Consent Application Disposal in Percentage and Avg. No. of Days
 - Application Type
 - Industry Type Report
 - Decision on Consent Application
 - Report for District Wise Search
 - Report for Category Wise Search
 - Report for Application Status Wise Search
 - Report for Categorization Wise Search
 - Report for Industrial Area Wise Search
 - Group wise CTE/CTO details search
 - Report For Industrial Application Approval Status
- iii. Other OCMMS Website Improved Issues like e-Sign, etc.

15.2 OLMS (Online Monitoring System)

“Online Monitoring System (OLMS)/Online Continuous Emission Monitoring System (OCEMS)” software was developed and successfully launched on 07.03.2019.

Under the direction from CPCB, units including CETPs, STPs, Power Plants, Waste to Energy Plants, Mother Dairy, DMS, etc. to install OLMS/OCEMS and transfer its data to the server of DPCC & CPCB.

OCMMS Mobile App

DPCC had a work order on 30.10.2018 for development of OCMMS Mobile based on the proposal submitted by NIC in October, 2018.

NIC intend to develop a mobile based OCMMS solution to disseminate the industry consent details to the industry user and Citizen from “Anywhere-Anytime”.

In this direction, to harness the power of mobile computing, NIC is exploring option of providing the mobile based OCMMS solution with the following benefits:

- i. Improved status tracking facility for industry and citizen
- ii. Usability
- iii. Increased user base
- iv. Universal Accessibility

Functional Features:

- i. Develop a framework on mobile for Industry consent and authorization status data dissemination to the Industry user and Normal public
- ii. Mobile based application will be capable in give information in real time of any industry which is registered with the system.
- iii. Option to view Industry Information by ID, Name and District wise.
- iv. Option to industry to make online payment for Consent application
- v. Option to download certificate of granted or approved industries.
- vi. Under dashboard there will be an option to see status Pattern Monthly, Yearly and complete registration till date.
- vii. Advance features for PCB and Industry login i.e. Application, forward, approval/Rejection option for the consent module etc.
- viii. Onsite Industry inspection with facility of capturing images (industry/Plant/ etc.) and displaying on Google map with Geo Tag.
- ix. Any other features as and when required by DPCC in later stage (As per the above mentioned above scope).

Present Status of OCMMS-Mobile App in DPCC

As per project proposal and work order, 9 features were to be developed. However, only 5 have been developed and 4 are still pending.

The following activities have been developed as per the work order and proposal of NIC:

- i. Consent Module was developed earlier and recently the graphical representation w.r.t. BMW, HWM, MSW have been developed.
- ii. Presently the application is only showing data w.r.t consent management in real time of any industry which is registered with the system.
- iii. Option to download certificate of granted or approved industries.
- iv. Advance features for PCB and Industry login i.e. Application forward.
- v. Onsite Industry inspection with facility of capturing images (Industry /Plant etc.) and displaying on Google map with Geo Tag.

Following activities are still yet to be developed:

- i. The authorization data w.r.t PWM, BMW, Import & Export, C&D Waste, SWM, Refurbisher/Dismantler/Manufacturer & HWM are not available in the app and need to be developed by NIC urgently.
- ii. Option to industry to make online payment for Consent application.
- iii. The Authorization module for option to download certificate of granted or approved industries has not been developed.
- iv. Under dashboard there will be an option to see status pater monthly, yearly and complete registration till date.

15.3 Green Delhi App

The Green Delhi App is a tool, developed by the Delhi Pollution Control Committee and NIC, which allows citizens to identify and report dispersed sources of air and noise pollution in the National Capital In Green Delhi App, lodged complaints are assigned to the concerned department(s) for resolution Green Delhi App is aimed to resolve grievances related to Air and Noise pollution on priority by the 28 Agencies of Delhi.

Structure and Functioning of Green Delhi app in Green War Room:

For efficient functioning of the GWR, the following six Stakeholders are responsible:

1. In-charge (GWR)
2. DPCC Trainees
3. Green Marshals
4. DPCC Engineer

5. Nodal Officers from Urban Local Bodies (Departments)

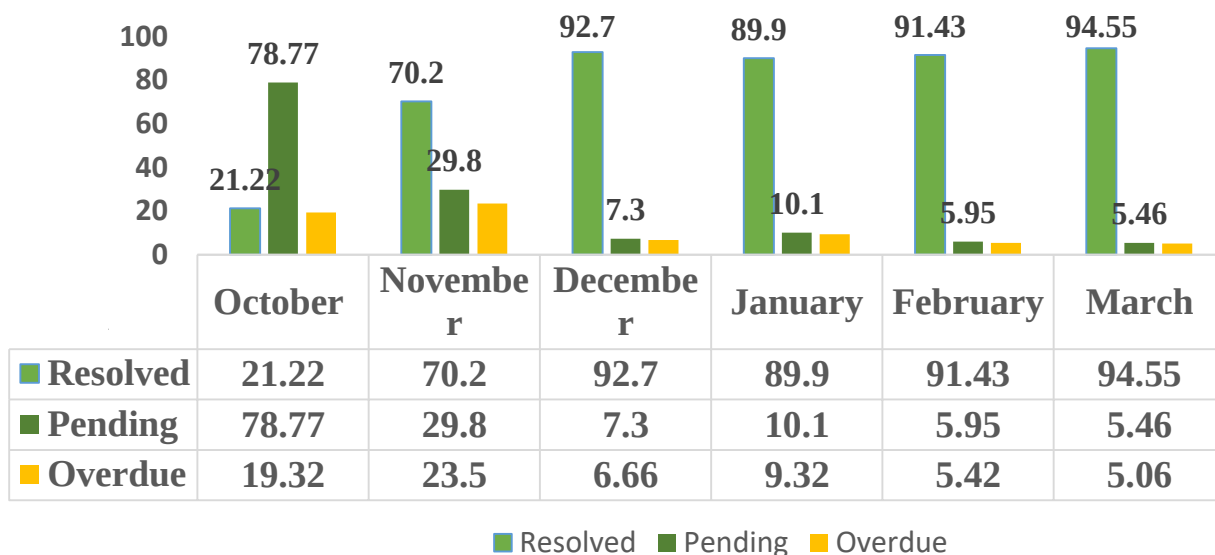
6. Green Delhi App IT Team (DPCC & NIC)

Main Features of the App:

- ✚ Every nodal officer is admin for that department and has authority to create further local admin and officer login.
- ✚ Officer can resolve complaint through mobile at the field.
- ✚ For validating and understanding the nature of complaints, it is mandatory to upload live photo/video of the complaint, so that agency will understand the issue easily and take action in better way.
- ✚ Easy to lodge complaint, as location is automatically filled by GPS. User need to select offence and department (only those department list reflect which is related to that offence) and upload live photo.
- ✚ Proper timeline system to resolve complaint. Alert shall go to senior officer after expiry of timeline.
- ✚ Provision for auto-filling of location. GPS-enabled as well as manual selection.

 DELHI POLLUTION CONTROL COMMITTEE DEPARTMENT OF ENVIRONMENT, Government of NCT of Delhi GREEN DELHI APP- DEPARTMENT WISE REPORT AS ON 31.03.2021 AT 5:00 PM							
S No	Department	Total	Resolved	Resolved %	Pending	Pending %	Overdue
1	North Delhi Municipal Corporation	5062	4724	93.32	338	6.68	319
2	Delhi Development Authority (DDA)	1267	996	78.61	271	21.39	265
3	South Delhi Municipal corporation	4354	4230	97.15	124	2.85	108
4	Central Public Works Department (CPWD)	211	112	53.08	99	46.92	99
5	Public Works Department (PWD)	4109	4020	97.83	89	2.17	78
6	Irrigation & Flood Control (IFC)	387	346	89.41	41	10.59	29
7	Revenue Department	79	54	68.35	25	31.65	25
8	Delhi Forest Department	59	43	72.88	16	27.12	15
9	Delhi Police, Control Room no.100	160	146	91.25	14	8.75	14
10	East Delhi Municipal Corporation (EDMC)	3091	3076	99.51	15	0.49	14
11	Delhi Jal Board (DJB)	430	417	96.98	13	3.02	10
12	Delhi Metro Rail Corporation (DMRC)	133	125	93.98	8	6.02	8
13	National Highway Authority of India (NHAI)	46	38	82.61	8	17.39	8
14	Northern Railway (NR)	57	49	85.96	8	14.04	8
15	Delhi Pollution Control Committee (DPCC)	38	31	81.58	7	18.42	3
16	Mahanagar Telephone Nigam Limited (MTNL)	4	1	25.00	3	75.00	3
17	Military Engineer Services (MES)	5	2	40.00	3	60.00	3
18	Delhi Cantonment Board (DCB)	21	16	76.19	5	23.81	2
19	Haryana Irrigation & Water Resources Department	5	4	80.00	1	20.00	1
20	Indraprastha Gas Limited (IGL)	5	3	60.00	2	40.00	1
21	Delhi Fire Services, Control Room No.101	88	88	100.00	0	0.00	0
22	Delhi State Industrial and Infrastructure Development Corporation (DSIIDC)	101	100	99.01	1	0.99	0
23	Delhi Traffic Police	55	55	100.00	0	0.00	0
24	Delhi Transport Corporation (DTC)	3	3	100.00	0	0.00	0
25	Delhi Urban Shelter Improvement Board (DUSIB)	38	38	100.00	0	0.00	0
26	New Delhi Municipal Council	186	186	100.00	0	0.00	0
27	Transport Department	6	6	100.00	0	0.00	0
Total		20000	18909	94.55	1091	5.46	1013

- ✚ Complaint can also be submitted through web complaint portal.
- ✚ Provision of transfer of complaint to other department.
- ✚ Provision for feedback from complaint.
- ✚ Linking of complaint with multiple departments available.



15.4 Minimizing Regulatory Compliance Burden

Government of India introduces the concept of Minimizing Regulatory Compliance Burden on industry/ business and on citizens under Ease of Doing Business so that if anyone wants to setup any industry in India/ Delhi then an industry can be set up very easily by having all permissions from concerned government departments. For this in Delhi, DPIIT has developed the Regulatory Compliance portal to systematically review regulatory compliances and monitor work done on reducing compliance burden. DPIIT requested to first identify the compliances which need to be reduced for minimizing burden on business and on citizens. The compliances may be abolishing renewals, auto-renewals, extend periodicity of licenses, minimizing fee, self-certification, third-party inspection, registers/ records elimination, etc. After that, online implementation of compliances, which need to be reduced, be done. DPIIT has also shared Team Lease data with all departments of Delhi having 1836 compliances related to various departments. It was found that none of the compliances pertain to DPCC.

But, DPCC has identified 17 compliances under minimizing burden on business/ citizens. All 17 compliances have been implemented on DPCC OCMMS portal. The details of 17 compliances are mentioned below:

S No	Compliance	Existing Provision	Benefit of implementing compliance
1	Auto renewal with online payment for Green category units requiring consent under Water Act, 1974 and Air Act, 1981	User need to file complete application after the expiry	No need for user to file complete application. Pre-filled form appears and user has to pay the fee only.

2	Self-Certification for Green category units requiring consent under Water Act, 1974 and Air Act, 1981	User need to file complete application after the expiry	No need for user to file complete application. User has to submit the undertaking of no change in manufacturing process, capacity and submit the fee.
3	Auto renewal with online payment for Orange category units requiring consent under Water Act, 1974 and Air Act, 1981	User need to file complete application after the expiry	No need for user to file complete application. Pre-filled form appears and user has to pay the fee only.
4	Self-Certification for Orange category units requiring consent under Water Act, 1974 and Air Act, 1981	User need to file complete application after the expiry	No need for user to file complete application. User has to submit the undertaking of no change in manufacturing process, capacity and submit the fee.
5	Auto renewal with online payment for Authorization under Bio-Medical Waste Management Rules, 2016	User need to file complete application after the expiry	No need for user to file complete application. Pre-filled form appears and user has to pay the fee only.
6	Filling of annual return under Bio-Medical Waste Management Rules, 2016 to be made online	No provision for online filling at present	Provision for filling of annual return eliminate physical touch point between user and DPCC and also provide provision of online processing for DPCC
7	Auto renewal with online payment for Authorization under Plastic Waste Management Rules, 2016	User need to file complete application after the expiry	No need for user to file complete application. Pre-filled form appears and user has to pay the fee only.
8	Filling of annual return under Plastic Waste Management Rules, 2016 to be made online	No provision for online filling at present	Provision for filling of annual return eliminate physical touch point between user and DPCC and also provide provision of online processing for DPCC
9	Self-Certification for Authorization under Plastic Waste Management Rules, 2016	User need to file complete application after the expiry	No need for user to file complete application. User has to submit the undertaking of no change in manufacturing process, capacity and submit the fee.
10	Self-Certification for Authorization under E- Waste Management Rules, 2016	User need to file complete application after the expiry	No need for user to file complete application. User has to submit the undertaking of no change in manufacturing process, capacity and submit the fee.
11	Auto renewal with online payment for Authorization under E- Waste Management Rules, 2016	User need to file complete application after the expiry	No need for user to file complete application. Pre-filled form appears and user has to pay the fee only.
12	Increase periodicity of renewal for Authorization under E- Waste Management Rules, 2016	Authorization is being given for a period of 5 years	Authorization may be given for 10 years. User has to apply after every 10 years.

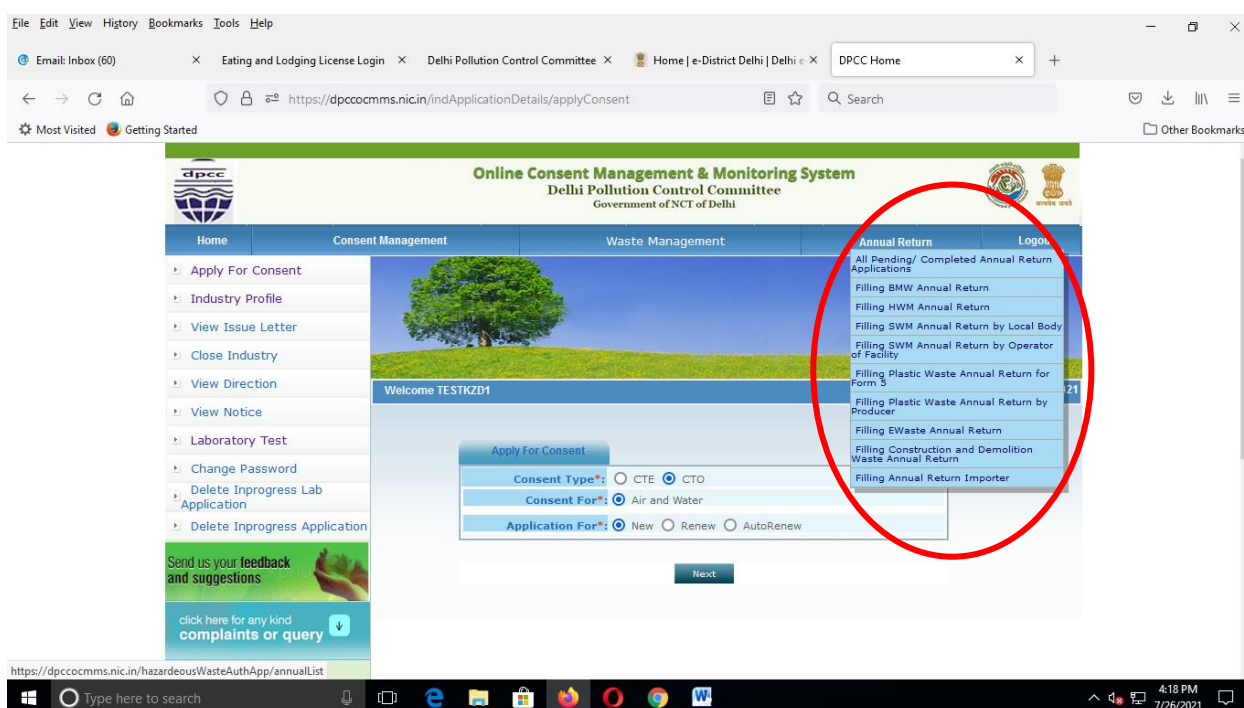
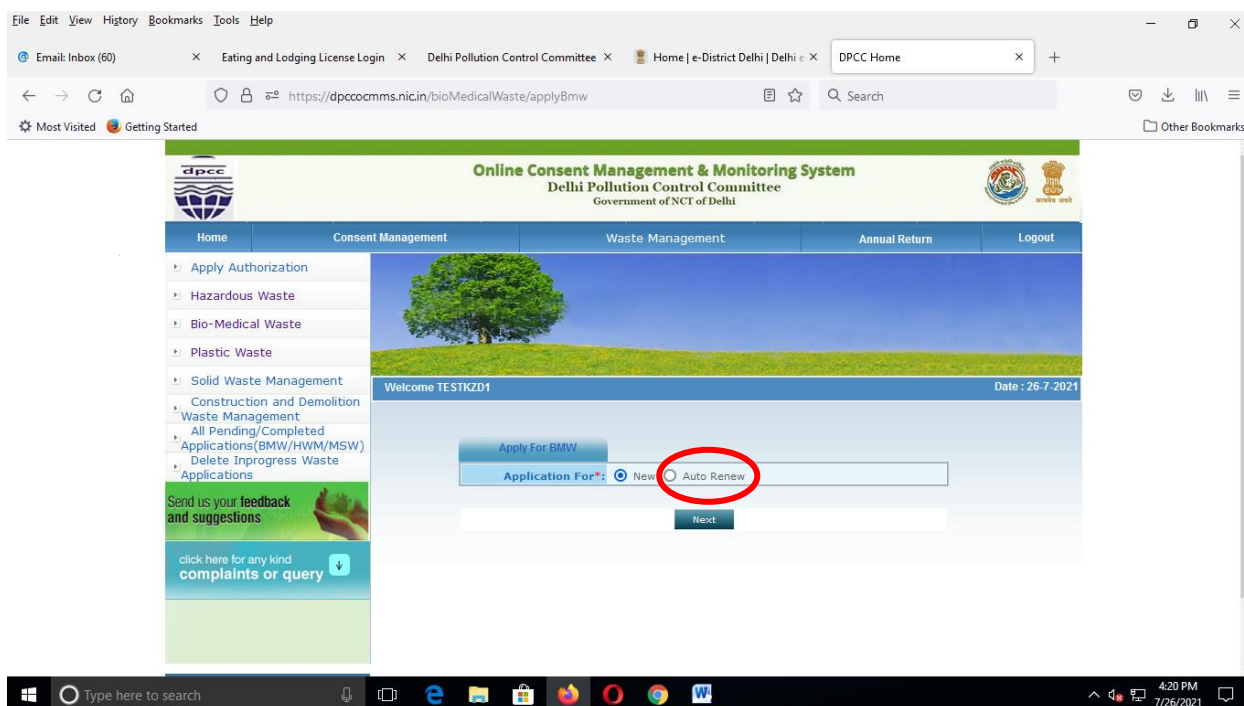
13	Filling of annual return under E- Waste Management Rules, 2016 to be made online	No provision for online filling at present	Provision for filling of annual return eliminate physical touch point between user and DPCC and also provide provision of online processing for DPCC
14	Filling of annual return under Hazardous Wastes Management Rules for import of Ferrous & Non-ferrous scrap to be made online	No provision for online filling at present	Provision for filling of annual return eliminate physical touch point between user and DPCC and also provide provision of online processing for DPCC
15	Filling of annual return under Hazardous and Other Waste (Management and Transboundary) Rules, 2016 to be made online	No provision for online filling at present	Provision for filling of annual return eliminate physical touch point between user and DPCC and also provide provision of online processing for DPCC
16	Filling of annual return under Solid Waste Management Rules, 2016 to be made online	No provision for online filling at present	Provision for filling of annual return eliminate physical touch point between user and DPCC and also provide provision of online processing for DPCC
17	Filling of annual return under Construction and Demolition Waste Management Rules, 2016 to be made online	No provision for online filling at present	Provision for filling of annual return eliminate physical touch point between user and DPCC and also provide provision of online processing for DPCC

Screenshots:

The screenshot displays the DPCC Online Consent Management & Monitoring System interface. The browser window shows the URL <https://dpccomms.nic.in/indApplicationDetails/applyConsent>. The page features a green header with the DPCC logo and the title "Online Consent Management & Monitoring System, Delhi Pollution Control Committee, Government of NCT of Delhi". A navigation menu on the left includes options such as "Home", "Consent Management", "Waste Management", "Annual Return", and "Logout". The main content area shows a "Welcome TESTKZD1" message and a "Date : 26-7-2021". Below this is a form titled "Apply For Consent" with the following fields:

- Consent Type*:** Radio buttons for CTE and CTO.
- Consent For*:** Radio buttons for Air and Water.
- Application For*:** Radio buttons for New, Renew, and AutoRenew. The "AutoRenew" option is circled in red.

A "Next" button is located at the bottom of the form.



15.5 'Unified Portal' for licensing of eating/ boarding houses in Delhi (MHA Portal)

Ministry of Home Affairs has simplified the processes of granting licenses to eating house/boarding house owners in Delhi by implementing of "Ease of Doing Business" framework through a robust single window clearance mechanism. This system enable the business owners to approach a single designated authority and seek all clearances and

approvals to setup and operationalize their eating house business in Delhi i.e. Hotels, Restaurant, Guest House, Banquet hall.

This portal provides a Unified platform to applicant wherein business owners can register and apply for the license for establishing eating houses/boarding house in Delhi. A Single license will contain basic clearance from all four authorities i.e. Delhi Pollution Control Committee, Delhi Fire Services, Delhi Police and Municipal Authorities of Delhi.

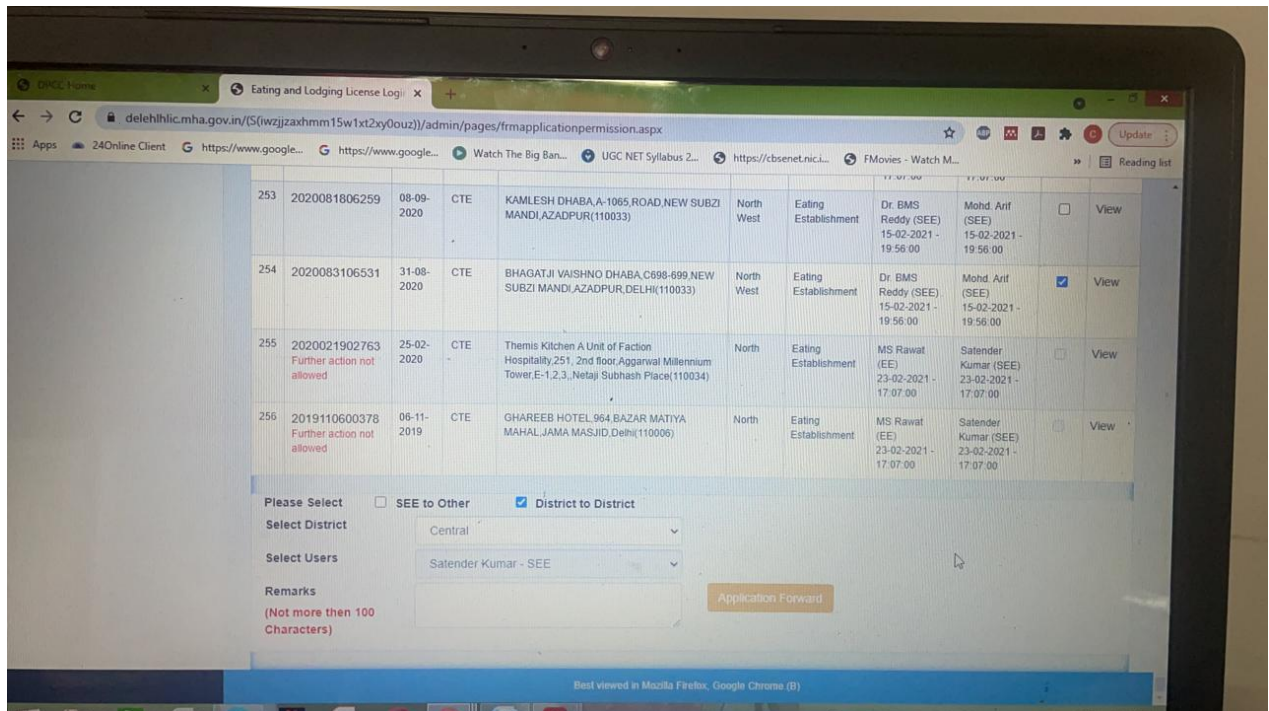
- It simplifies and rationalizes the regulatory processes (registration and inspection processes).
- It avoids procedural delays in getting statutory clearances from various authorities.
- It implements a Unified Licensing Procedure across various government authority i.e. Municipal Corporation, Fire department, Delhi police and DPCC.
- It provides a common application form for getting clearance from Municipal Corporation, Fire department, Delhi police and DPCC.
- It facilitates transparency, traceability and accountability in operations.

The portal was launched on 01-10-2019. The portal was developed according to the districts defined in the working of Delhi Police department. But the working in DPCC is based on 11 revenue districts. Consent Management cells (CMCs) are defined in DPCC for processing of applications based on 11 districts but according to Delhi Police the whole Delhi is divided into 15 districts. Therefore, it became difficult for DPCC officials for processing of applications as they have to find out which application belongs to their area/ district from all applications received.

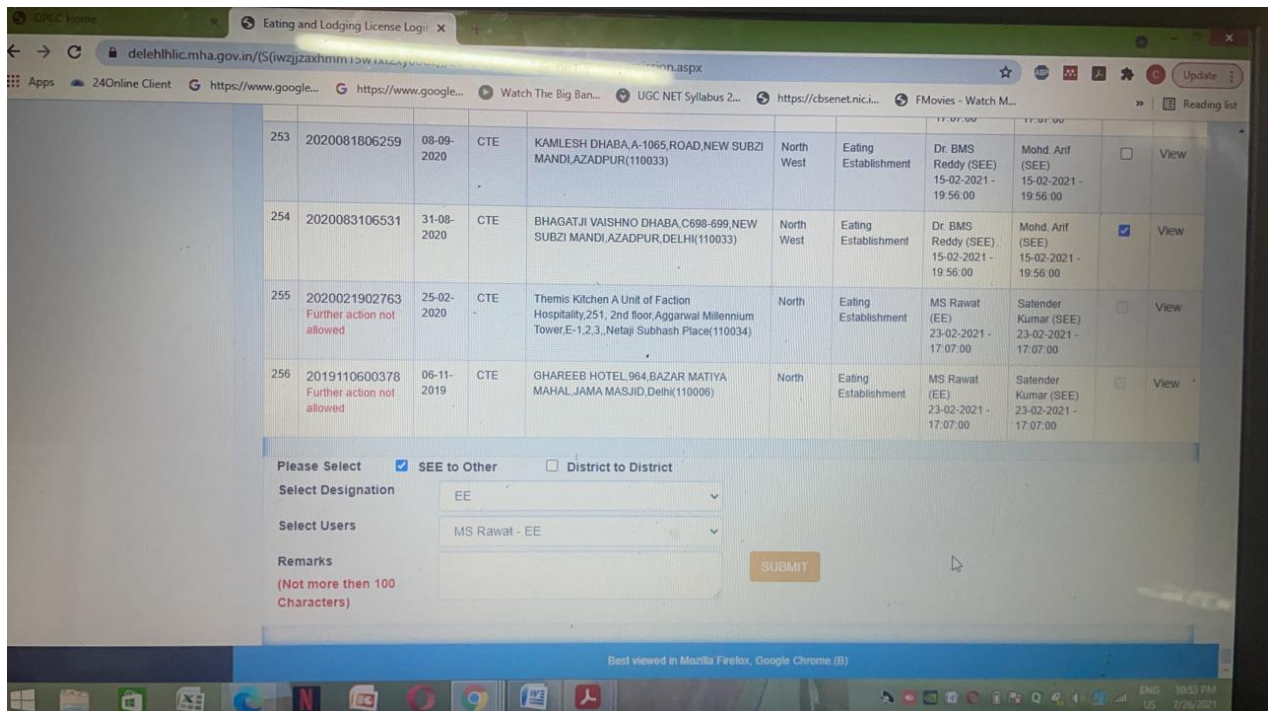
To overcome this problem, IT cell decided for provision of work flow in MHA portal for DPCC. IT cell work on the flow/ procedure of work flow to be developed for MHA portal and prepare the documents for same. IT cell provided the procedure of work flow including all the information required for developing the module to MHA/ NIC. After coordinating with MHA/ NIC on regular basis and rigorous testing of work flow at test server by IT cell DPCC, the work flow for MHA portal was launched on 29-01-2021. The advantages of work flow developed at MHA portal are:

Screenshots:

One CMC to other CMC:



Within CMC:



15.6 e-District portal

e-District Delhi is the Delhi government portal. e-District is a comprehensive and web-enabled service portal through which citizens can access various services provided by the Government of Delhi. It provides end-to-end integrated solution to various services availed through this portal. By using e-District platform, citizens of Delhi can avail various services of the Delhi Government at the click of the button. It is a facility provided by Delhi e-Governance Society, Information Technology Department, GNCTD for online delivery of services to citizens in a time bound and hassle free manner. e-District also provides for online verification of various certificates issued by multiple Departments of Delhi.

e-District envisions reducing duplicity at every level in Delhi Government thereby improving operational efficiency of the entire system in Delhi. The ultimate objective is to maximize citizen comfort, enhance operational efficiency, improve quality standard & provide time bound and hassle free services to the citizens.

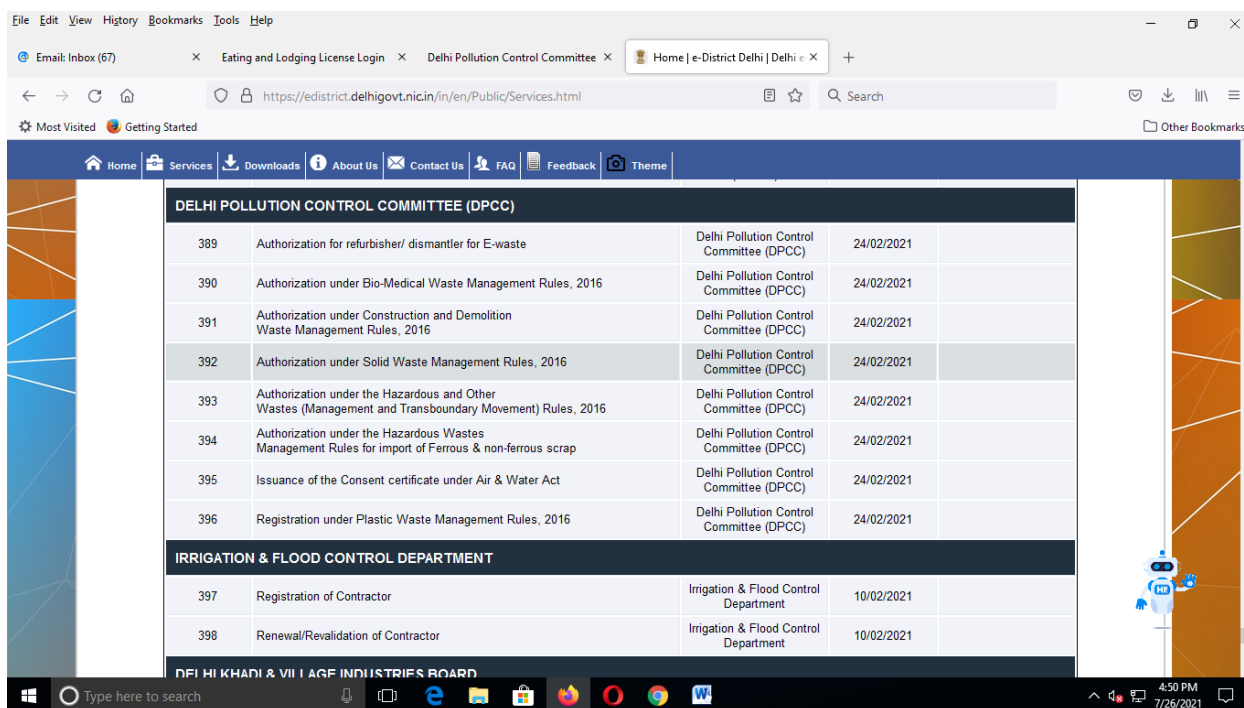
For this, DPCC, having 8 online services, needs to be integrated with e-District portal. Earlier, DPCC is having all their 8 services online but not integrated with e-District portal. IT cell, DPCC has prepared the Functional Requirement Specification (FRS) with reference to all 8 online services and send the same to NIC- Delhi State Unit. Then, NIC- Delhi State Unit has prepared the Software Requirements Specification (SRS) and sent to DPCC. Then, IT cell DPCC sent the approval of SRS to NIC- Delhi State Unit. IT cell DPCC also contacted regarding same to NIC OCMMS for integration of all 8 services of DPCC with e-District portal. IT cell regularly contacted both NIC team regarding the development and integration of services. After rigorous testing of work flow of all 8 services at test server by IT cell DPCC, the integration of all 8 services was successfully completed on test server. Then IT cell send the UAT form to NIC-Delhi Sate Unit for go-live of all 8 services. The all 8 services of DPCC were made go-live on e-District portal on 24-02-2021.

The details of all 8 online services provided by DPCC to the citizens of Delhi are mentioned below:

S.No.	Name of Services provided by DPCC	Acceptance of Application (Online/ Offline)	Delivery of Service (Online/ Offline)	Timeline as per the Act & Rules
1.	Issuance of the Consent certificate under Air & Water Act	Online	Online	120 days

2.	Authorization under Bio-Medical Waste Management Rules, 2016	Online	Online	90 days
3.	Authorization under the Hazardous Wastes Management Rules for import of Ferrous & non-ferrous scrap	Online	Online	120 days
4.	Authorization under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016	Online	Online	120 days
5.	Authorization under Solid Waste Management Rules, 2016	Online	Online	60 days
6.	Registration under Plastic Waste Management Rules, 2016	Online	Online	90 days
7.	Authorization for refurbisher/ dismantler for E-waste	Online	Online	120 days
8.	Authorization under Construction and Demolition Waste Management Rules, 2016	Online	Online	60 days

Screenshots:



Central Inspection System

A letter was received from Labour Department, Govt. of NCT of Delhi on 25.06.2019, in which Business Reform Point No. 65 and 66 under Business Reform Action Plan-2019 envisages central inspection under labour laws, Factories, Boiler and Environment laws in an

institutional manner and through Central Inspection System which will be responsible for undertaking compliance inspection under these laws.

Labour Department in association with NIC Delhi State Unit is developing Central Inspection System (CIS). Secretary-cum-Commissioner (Labour) has directed DPCC that OCMMS development team to develop and provide API through which NIC (Delhi State Unit) may capture the online data of high risk category (Red) Establishments/Industries registered under Environment Act. A number of meetings have been convened by the Labour Department for the same.

At present, the following decisions were taken during the meeting:

1. DPCC will provide the data of high risk industries i.e. Red category industries to Labour Department in excel sheet to understand and clarify which fields/ parameters are required to Labour Department in CIS. Labour Department will discuss with the CIS development team and will approve that list or provide the list of required data field/ parameters to DPCC so that NIC (MoEF & CC) may develop API on the basis of provided parameters.
2. Central Inspection System will be developed in two phase:-
 - 1) In first phase, NIC (MoEF & CC) will provide API to CIS development team. With the help of the API, the high risk data may be fetched from OCMMS web portal to CIS web Portal. Initially all approved high risk applications data may be sent to CIS web portal and afterward as application is processed in OCMMS will be sent to CIS web portal for inspection. List of inspector/ DPCC officers will be provided by DPCC to Labour Department.
 - 2) In second phase, the integration between DPCC OCMMS and CIS System will be done. Inspection reports have already been sent by DPCC to Labour Department. Whatever the inspections and actions (Show Cause Notice, Letters, Directions etc.) were taken by the officers may also be updated in OCMMS web portal. The format for show cause notice, letters, directions etc. will be shared by DPCC to Labour Department. Both development teams shall discuss the process of implementations of this phase.

CHAPTER XVII

16 LEGAL MATTERS

Central Pollution Control Board is the State Board for all the Union Territories to exercise powers and perform functions under the Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of pollution) Act, 1981. CPCB has delegated all its powers and functions under the Water Act and Air Act in respect of Union Territory of Delhi to Delhi Pollution Control Committee vide notification No.S.O.198 (E) dated 15.03.1991.

The Water Act, and the Air Act, is empowering the DPCC to issue closure direction and stoppage of supply electricity, water or any other service to the industries. DPCC resorts to issue closure direction and stoppage of supply of electricity after giving sufficient time to rectify the defects by issuing show cause notice. The Industries those aggrieved of Board's closure direction / any directions issued under the Water Act, the Air Act and the Environment (Protection) Act, file Writ Petitions / Appeals before the Hon'ble High Court and Appellate Authority / NGT respectively. Public Interest Litigation also filed by the individuals, NGOs etc. against the pollution caused by the industries. In order to deal with the Court cases, a separate legal wing is functioning.

APPELLATE AUTHORITY

The Financial Commissioner, GNCTD has been appointed as Appellate Authority to entertain the appeals(s) under Section 25, 26 or 27 of the Water Act, 1974 vide notification dated 18.02.1992 by Delhi Government. The Joint Secretary (In-charge of Pollution Control) Ministry of Environment & forest, Government of India as Appellate Authority to entertain the appeals(s) under the Air Act, 1981 vide notification dated 12.12.1989 by Central Government. Under the "Bio-medical Waste Management Rules, 2016" & "Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016", Secretary (Environment), of the concerned State Government is appointed as the Appellate Authority. The Authorities entertains and disposes off the appeals preferred by the industries against the order of DPCC as per the jurisdiction assigned to each Appellate Authority.

16.1 National Green Tribunal

The National Green Tribunal (NGT) was established at New Delhi on 18.10.2010, for effective and expeditious disposal of cases relating to environmental protection and forest conservation. Any person aggrieved by an order or decision of the SPCB/ Appellate Authority issued under Section 28, 29 and 33A of the Water Act, 1974 and under Section 5 of the Environment (Protection) Act, 1986 may apply to the Hon'ble NGT within 30 Days of the Order issued by the Boards / Appellate Authority.

Statistics of cases in the year 2020-2021

Court	No. of cases pending as on 31.03.2020	No. of cases filed from 01.04.2020 to 31.03.2021	No. of cases disposed (including cases filed in previous years)	No. of cases pending as on 31.03.2021
Supreme Court	96	27	01	122
High Court	75	52	35	92
National Green Tribunal	142	53	82	113
Appellate Authority	11	8	03	16
Total	324	140	121	343

16.2 Important Judgments in The Hon'ble NGT & Supreme Court Of India

16.2.1 The Hon'ble Supreme Court of India

The Hon'ble Supreme Court of India taken up the matter titled as **"MC Mehta Vs. Union of India"** [WP© No. 13029/1985] frequently and passed following directions:

A. Order Dated 31.08.2020 on the issue of Smog Tower:

"..... Let the project be positively completed within 10 months."

The Hon'ble Supreme Court of India taken up the matter titled as **"Govt. of NCT of Delhi Vs. All India Lokadhikar Sangathan & Ors"**. [WP© No. 143-144/2021]. Vide its Order dated 10.02.2021 issued directed as :

In view of the above grievance, liberty is granted to the appellant to move the NGT by way of review. The appellant shall also submit, together with the review petition, their objections to the report of the Expert Committee so that in the event of the order being recalled, the appellant can be heard on the merits of their objections. In the event that the

appellant files an application for review before the NGT within a period of three weeks from today, no coercive steps shall be taken against them to enforce the impugned order of the NGT in regard to the deposit of the balance of Rs. 46 crores until the review petition is disposed of. All the rights and contentions of the parties are kept open.

Hon'ble National Green Tribunal:

1) O.A. No. 159/2013 titled as "All India Lokadhikar Sangathan Versus Govt. of NCT of Delhi & Ors". And OA No. 77/2016 titled as "M/s Ashok Vihar Mitra Mandel Versus the Govt. of NCT of Delhi & Ors".Regarding Continuation of Pickling activity in Delhi. Vide its Order dated 20.07.2020 issued directions which are as follow:

".....17. We find the report of the CPCB to be based on scientific study and data verified on the ground. We accept the report and direct further action accordingly. Since there is no carrying capacity for the polluting industries in question as found above, Delhi Govt. and DPCC may proceed accordingly. CETP sludge be handled scientifically to avoid further damage and polluting industries be not allowed to continue. Compensation assessed by the Expert Committee for damage to the environment i.e. Rs. 61 Crores, minus the amount already paid be deposited by the Delhi Govt. with the CPCB and spent for restoration of environment as per restoration plan to be prepared by the CPCB and DPCC. Thus, all issues framed in para 13 above will stand dealt with by directions in terms of the expert Committee report.

18. DSIIDC has filed an action taken report on 04.05.2020 which has been subsequently updated on 07.07.2020 mentioning that approval of MoEF & CC for Environmental Clearance is awaited. We are informed that stay has been granted by the Hon'ble Supreme Court with regard to deposit of Rs. 35 Crores by Delhi Government but the Tribunal has not been barred from proceedings further.

19. Since the present order is being passed based on actual assessment of damage to the environment which admittedly has not been gone into by the Hon'ble Supreme Court, the Tribunal has no option except to direct deposit as per such assessment subject to such further order as may be passed in this behalf. We are not requiring deposit of Rs.35 crore in terms of order dated 16.10.2018 in view of stay said to have been granted. The Delhi Govt. is free to recover the amount of compensation from the polluters or erring authorities/officers, following due process of law....."

2). O.A. No. 56/2013 titled as “Satish Kumar Versus Union of India &Ors”. and other bunch of matters, vide its Order dated 10.12.2020 issued directions which are as follows:-

“.....7. In pursuance of the above, reports have been filed by the Delhi Pollution Control Committee (DPCC) on 31.10.2020, by the North Delhi Municipal Corporation (North DMC) on 09.12.2020 and Haryana State Pollution Control Board (HSPCB) on 03.11.2020 in OA No. 56(THC)/2013 and other connected matters. A report has also been filed by the Delhi Government on 20.05.2020 in OA No. 601/2018.

8. Report of the DPCC is that investigations were carried out against illegal units in non-conforming areas and compensation was recovered and partly utilized. Directions have been issued to the concerned authorities in the areas to ensure that illegal units are not allowed to operate in non-conforming areas.

14. Accordingly, we close the proceedings with hope and expectation that the concerned authorities will take necessary steps for maintaining environmental norms. There has to be continuous vigil against causing of pollution, particularly burning of plastic and other waste for protection of environment and public health. The amount of compensation recovered must be properly utilized for legitimate purpose with the approval of the CPCB, as already directed. If there is any violation of environmental norms, the aggrieved party will be free to take remedies as per law, as and when necessary.

3).O.A. No. 46/2018 titled as “Nuggehalli Jaysimha VS GNCTD”. “Regarding Non-compliance of environment norms by the dairies operating in Delhi.”, vide its Order dated 26.06.2020 issued following directions :-

“.....6. Shri Raj Panjwani, learned Senior counsel appearing for the applicant has made some pertinent observations and submissions about the report contained in the written note filed. The CPCB may consider the same and if necessary, also have oral interaction with Shri. Panjwani on telephone/video conference, as agreed to by him. In the light thereof, suitable changes may be made and either the Guidelines may be suitably revised considering all the points or a corrigendum may be issued. This exercise may be completed within one month. Thereafter, the CPCB may forward the finalized Guidelines for compliance to the Chief Secretaries of all the State/UTs and the State PCBs/PCCs. The State PCB/PCCs and all other statutory authorities may strictly follow the Guidelines and take remedial action wherever any violation comes to the notice of such authorities. The CPCB may also develop an App, if

not already done, for redressal of any grievances relating to violation of such norms and such App may be circulated to the general public. The CPCB may also monitor this aspect from time to time.”

4) O.A. NO. 519/2016 titled as “Hardeep Singh & Ors Vs. SDMC & Ors.” vide its Order dated 11.08.2020 issued directions which are as follows:-

“.....12. While we find that certain steps have been taken by the Delhi Police, Delhi Government, DPCC and the CPCB, further steps are required to ensure that the noise pollution norms are enforced at the ground level for protection of public health and the environment in the light of orders already passed. We are of the view that the compensation scale laid down by the CPCB may be enforced throughout India. The CPCB may issue appropriate statutory orders for the purpose for being complied with in all the States/UTs.

13. We find that while some regulatory framework is said to have been made operational, there is no effective centralized mechanism for monitoring. Representatives of the Chief Secretary (SDM) and the Police Commissioner (DCP) ought to jointly take stock of the situation on weekly basis. Suitable officers of the rank of the DCP in Delhi Police and SDM in Delhi Government need to be spared for undertaking the assigned responsibility, as already directed. As noticed earlier, though the DCP and the SDM were nominated, on being summoned by this Tribunal, they were found to be non-functional and thereafter, we are informed that even today they are not functional. This state of affairs must be forthwith remedied by the Police Commissioner and the Chief Secretary respectively. They may ensure that their representatives are duly and jointly functional and conduct weekly meetings and maintain the minutes of meetings and the website. They may work in tandem with all other regulatory bodies including the DPCC and the Municipal Corporations. The entire data collected on the noise monitoring equipment's may be centralized and placed on their exclusive websites. They may also coordinate and follow-up the corrective measures with all other agencies and may also monitor functioning of the eco-clubs. The DPCC/other authorities may get prepared an appropriate App (like Sameer) to facilitate receiving and addressing complaints. If Delhi becomes a model of compliance for enforcement of pollution norms, it may help all other States/UTs to follow the same.

14. Having regard to the repeated failures, in the last several years, we find it necessary to constitute a monitoring committee to be headed by a former Judge of the High Court to ascertain the status of compliance in the light of the present order and suggest further measures in the context of Delhi for enforcement of noise pollution control measures. The Tribunal has earlier constituted a committee headed by Justice S.P Garg, former Judge of Delhi High Court, to monitor compliance of directions with regard to restoration of water bodies and installation of Rain Water Harvesting Systems, use of treated water and allied issues. Instead of constituting another committee, we request Justice S.P Garg to head the proposed Committee. Justice S.P Garg may be assisted by nominees of the DPCC, Delhi Police and the Chief Secretary, Delhi. The Committee may take assistance of any other experts/institution and associate such members of public/educational institutions/social organizations as may be found useful. The Committee may give its report before the next date by e-mail.

A copy of the report to be submitted to this Tribunal may also be furnished to the Chief Secretary, Delhi, Police Commissioner, Delhi, CPCB, DPCC, New Delhi Municipal Council, East Delhi Municipal Corporation, South Delhi Municipal Corporation, North Delhi Municipal Corporation, Delhi Cantonment Board and the Municipal Corporations for their response, if any....”

CHAPTER XVIII

17 FINANCIAL STATEMENT

	Accounts Branch	Figure in Lakhs
	Achievement w.e.f. 01.04.2020 to 31.03.2021	
Sl.No.	Particular	TOTAL
1	CONSENT Fees received in financial year 2020-21	7136.24
2	Lab Fees received in financial year 2020-21	93.45
3	HMW Fees received in financial year 2020-21	15.28
4	BMW Fees received in financial year 2020-21	71.29
5	IMPORT/EXPORT Fees received in financial year 2020-21	5.60
6	NGT Penalty received in financial year 2020-21	5838.53
7	Diesel Cess Receipt in the financial year 2020-2021	1453
8	Transfer to Transport Department for reimbursement of subsidy to E-Rickshaw	2500
9	2254 No. of beneficiary given subsidy for battery operated vehicle (Two Wheelers)	123.97
10	1016 No. of beneficiary given subsidy for battery operated vehicle (Two Wheelers)	1524
11	Amount Transferred to EV Fund as per new EV Policy dated 07.08.2020	2883