

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

WESTERN ZONAL BENCH AT PUNE

ORIGINAL APPLICATION NO. 71 OF 2020

IN THE MATTER OF:

Sarang Yadwadkar and Ors.

- APPLICANTS

VERSUS

Gokhale Landmarks LLP and Ors.

- RESPONDENTS

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THROUGH



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Place: New Delhi / Pune

Date: 04. 10. 2021

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL**WESTERN ZONAL BENCH AT PUNE****ORIGINAL APPLICATION NO. 71 OF 2020****IN THE MATTER OF:****Sarang Yadwadkar and Ors.****- APPLICANTS****VERSUS****Gokhale Landmarks LLP and Ors.****- RESPONDENTS****REJOINDER ON BEHALF OF APPLICANT NO. 1 IN REPUDIATION TO THE AFFIDAVITS IN REPLY FILED BY RESPONDENT NO. 1 DATED 9.01.2021 AND 16.07.2021****Most Respectfully Showeth:**

1. The present application has been filed under Section 14 read with Section 15(3) and Section 20 of the National Green Tribunal Act, 2010 raising substantial issue of groundwater and river pollution caused by continuous spillage of untreated sewage from the trunk sewer that was broken by Respondent No.1 Gokhale Landmarks LLP to facilitate construction of underground basement floors, part of the ongoing construction of a commercial project by the name of "Gokhale Business Bay" situated at S. No. 20/2 Plot No. A6, CTS No. 667, Kothrud, Pune.
2. That the Applicants had submitted that two inspection chambers of the main trunk sewer were illegally broken by Respondent no. 1 which caused massive spillage of raw untreated sewage into a stream flowing to Mutha River leading to pollution of river water as well as ground water continuously for many months in violation of the provisions of the Water (Prevention and Control of Pollution) Act, 1974. Such untreated raw sewage would otherwise have been treated at a Sewage Treatment Plant operated by the Pune Municipal Corporation ('PMC').
3. That vide order dated 16.10.2020, this Hon'ble Tribunal had constituted a committee consisting of Respondent No. 2 PMC and Respondent No.4

Maharashtra Pollution Control Board ('MPCB') and directed them to submit a factual and action taken report within six weeks thereof.

4. Accordingly, members of the PMC and the MPCB carried out site inspection on 5.11.2020, and have submitted their Report dated 10.02.2021 (Pgs 144-162), which in no uncertain terms has found Respondent No. 1 liable for the damage caused to the sewer line. Accordingly, relevant extracts of the said Report dated 10.02.2021 accordingly read as follows:

"2. PMC received telephonically complaint from Shri Girish Chavan, President of Maratha Mahasabha, Pune city regarding breaking of chamber on sewage carrying line by M/s Gokhale Business Bay.

3. PMC officials immediately attended/investigated the same incident on 23.08.2019 and **observed that excavation at site was in progress for the purpose of new construction and during excavation there was threat to the existing trunk line/sewage carrying line passing through the premises of PP as the strata below the existing trunk line was of black cotton soil and there is no firm support to existing trunk line a danger of settlement of trunk line. PP has broken the chamber of the drainage line in the nallah which is outside the project opposite of Pashima Nagari CHS in order to restore the damaged trunk line, due to which raw sewage is continuously flowing in to nallah and accordingly PMC officials orally instructed PP to repair the same immediately. However, PP has not repaired the chamber hence PMC had issued letter to PP on 26/08/2019 regarding repairing of the broken chamber immediately.**

4. Again, during visit of PMC officials to the project on 20.09.2019 **its observed that as PP has not undertaken repairing work of trunk line, PMC suomoto started repairing work, after that PP has completed the repairing work.**

...

7. During site visit it was observed that the trunk line and chamber in the premises of PP were observed damaged because of frequently collapsing of black cotton soil. PMC officials instructed PP to repair the trunk line and chamber immediately. Also, Drainage Department, PMC has issued a letter vide dated 27.04.2020 to PP to carry out repair work immediately.

8. After that, Building Permission Department, PMC vide letter dated 30.04.2020 allowed PP to carry out repair work of trunk line and chamber in Covid 19 epidemic lockdown period. Again, Building Permission Department, PMC vide letter dated 6.07.2020 issued notice to PP under section 52 (A) and 53 (1) of the MRTP Act, 1966 to PP.

...

10. **As PP has not carried out repairing work, again Drainage Department, PMC has issued a letter vide dated 13.07.2020 and 28.07.2020 to carry out repairing work of trunk line and chamber to PP immediately."**

(emphasis supplied)

5. Therefore, it is evident that the Committee constituted by this Hon'ble Tribunal vide order dated 16.10.2020 has clearly found Respondent No.1 liable for the breakage of the sewer line leading to massive spillage of raw sewage. That the Committee Report dated 10.02.2021 has also found that the flow of raw sewage from the damaged sewer line was amounting to 20.24 MLD, for a period of 201 days in total. The Applicant has accordingly submitted a Response dated 22.03.2021 (Pgs 163-175) to the Report dated 10.02.2021, and have submitted on **Pgs 165-166** that Respondent No. 1 is liable to pay a total Environmental Compensation amounting to Rs. 46 Crore 99.53 Lakh, as per the prevailing norms and regulations as accepted by this Hon'ble Tribunal.
6. That Respondent No. 1 has filed Affidavits in Reply dated 9.01.2021 and 16.07.2021 stating their objections to the submissions made by the Applicant in the present Application. That in direct contradiction to the various letters by different departments of the PMC to Respondent No. 1 which clearly mentioned the liability of Respondent No.1 in damaging the sewer line, annexed to the present Application, the Respondent No. 1 has denied any liability in damage caused to sewer line and resultant water pollution.
7. That the Respondent No. 1 has denied liability for the same vide Affidavits in Reply dated 9.01.2021 and 16.07.2021. Respondent No.1 has submitted that they were unaware of the existence of sewer line as the PMC had not provided Respondent No.1 with map showing the drainage line. Respondent No. 1 has further submitted that the damage to sewer line was caused due to heavy rains leading to black soil caving in. That both these statements have been reiterated throughout the aforementioned Affidavits in Reply in an attempt to evade the responsibility and liability for damage to sewer line and pollution arising out of resultant spillage of raw sewage.
8. Accordingly, the issues raised by the Respondent No. 1 vide Affidavits-In-Reply dated 9.01.2021 and 16.07.2021 are being responded to by the Applicant in the following paragraphs:

DUTY TO DETERMINE EXISTENCE OF SEWER DRAINAGE LINE

9. The Respondent No.2 has attempted to evade the responsibility and liability for the damages caused to sewer line and resultant sewage spillage and water pollution by stating that they were unaware of the existence of sewer line until such was damaged. Respondent No. 1 have accordingly submitted the following on Para 8.f. Pg 60 of the Affidavit in Reply dated 9.01.2021:

"8.f. The answering Respondent purchased the plot in 2019, however, it was not aware of the fact that a drainage/sewerage line passed through southern portion of the said plot adjoining the nallah which flows from beyond the territory of the said plot. It is further stated that, for obtaining an Environmental Clearance, an approval/NOC was sought by the answering Respondent from the Drainage Department of Respondent No. 2 PMC."

10. It is submitted that such submissions are not legally valid, as it was mandatory for Respondent No. 1 to show all existing drainage lines on the site plan while applying for building permission, as per clause No. 6.2.4 of the Development Control and Promotion Regulations, 2017 ('DCPR 2017'), of the PMC. The relevant portions of Clause 6.2.4 (o) accordingly read as follows:

*"6.2.4 Site Plan - The site plan shall be submitted with an application for building permission drawn to a scale of 1:500 or more as may be decided by the Municipal Commissioner. This plan shall be based on the measurement plan duly authenticated by the appropriate officer of the Department of Land Records. **This plan shall have the following details:-***

...

j) Any existing physical features, such as wells, tanks, drains, pipe lines, high tension line, railway line, trees, etc.;

...

*o) **Existing alignments of water supply and drainage line;**"*

11. That therefore, it is evident that there is a failure of the Respondent No. 1 with regards to identification of sewer lines passing through the impugned project site.

DAMAGE CAUSED TO SEWER LINE

12. It is submitted that:

a. Annexure A-1, Letter dated 26.08.2019 from PMC to Respondent No. 1,

- b. Annexure A-2, Letter dated 20.09.2019 from Drainage Repair and Maintenance Dept. PMC to Building Development Dept. PMC,
- c. Annexure A-6, Letter by Drainage Repair and Maintenance Department PMC to Respondent No.1 dated 27.04.2020,
- d. Annexure A-7, Letter dated 1.07.2020 from Drainage Repair and Maintenance Dept. PMC to Building Development Dept. PMC, and
- e. Annexure A-9 Notice under Maharashtra Regional and Town Planning Act, 1966, dated 6.07.2020 issued by PMC to Respondent No. 1.

All unequivocally and categorically state that the impugned sewage line was damaged by Respondent No. 1 during excavation work which has led to the spillage of raw sewage.

13. That it is patently evident that Respondent No. 1 undertook excavation work for the impugned project which led to damage to sewer line, and Respondent No.1 cannot claim they were unaware of the existence of sewer line prior to applying for Building Permission. *Arguendo*, it is submitted that even if the Respondent No. 1 was unaware of existence of sewer line while applying for Building Permission, the impugned sewer line was clearly exposed to them during the excavation being carried out, and a greater degree of care had to be exercised by Respondent No. 1 thereafter, which has evidently not been done.

14. That as per the Annexures abovementioned, it is evident that the excavation work undertaken by Respondent No.1 was done negligently, and such negligence has led to severe water pollution.

FAILURE TO ENSURE TIMELY REPAIRS

15. It is submitted that Respondent No. 1 has completely failed to ensure that the repair of the damaged sewer line be done in an expedient and diligent manner. It is submitted that such is evidenced as per Annexure A-3 'Letter dated 20.09.2019 by Drainage Repair and Maintenance Department PMC to Building Development Department PMC', which clearly states that the impugned sewer line was not repaired by Respondent No.1 even after 15 days of notice issued to

them. Furthermore, Annexure A-7 'Letter by Drainage Repair and Department PMC to Building Development Department PMC dated 1.07.2020' clearly states that the damaged sewer line and inspection chamber was not repaired by Respondent No.1 till that date. Such was further corroborated by the Applicants on personal visit of the impugned project site location on 5.07.2020. Photographs taken by the Applicants displaying clear non-compliance of Respondent No.1 in repairing the sewer line have been annexed to the present Application as Annexure A-8, **Pg 41**.

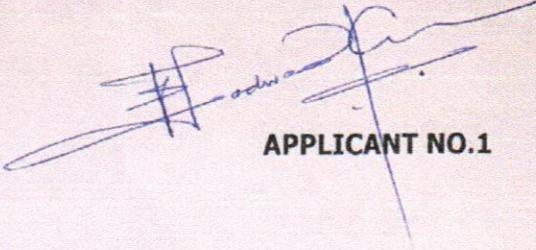
16. Respondent No. 1 has attempted to mislead this Hon'ble Tribunal by stating that repairs to the damaged sewer line were carried out by Respondent No. 1 immediately after receiving instruction from PMC, as has been stated by Respondent No. 1 in Affidavit in Reply dated 9.01.2020 on Para 8.n. **Pg 63**. It is submitted that Exhibit 7 annexed thereto are copies of three (3) Tax Invoices dated 23.09.2019, 8.12.2019, and 29.01.2020 for Guniting work and one (1) Tax Invoice dated 14.08.2019 for Gabion Wall Work and Guniting work. It is submitted that such Tax Invoices indicate a minimum of nearly three months before some repairs were undertaken by Respondent No. 1. Therefore, in the interim, there was discharge of raw sewage from the damaged sewer line, for which Respondent No.1 has provided no justification. In fact, the three month gap period between initial damage to sewer line on 23.08.2019 and repair of sewer line as per Respondent No. 1 as allegedly evidenced Exhibit 7, tallies with the findings of the Committee Report wherein the Committee has stated, on Para 13, that the first incident of sewer line damage causing out-flow of raw untreated sewage was for a total of 86 days.

17. It is further submitted that 'Exhibit 13' (**Pgs 133-134**) is an Invoice for repair work to sewer line is dated 21.09.2020, with the date of supply as 3.09.2020. That this date of 3.09.2020 is several months after the second incident of damage caused to sewer line. Thus, it is patently evident that no immediate work has been carried out by the Respondent No.1, and there has incontrovertibly been water pollution caused due to sewer line releasing untreated sewage water.

ON ENVIRONMENTAL COMPENSATION PAYABLE

18. It is submitted that vide Affidavit in Reply dated 16.07.2021, Respondent No.1 has submitted that Environmental Compensation (EC) is not payable by them in the manner stated by the Applicant vide Response dated 22.03.2021, on Paras 6-7 **Pgs 165-166**.
19. In response thereto, Respondent No.1 has stated that the formula used by the Applicant is applicable to industrial pollution and polluting industries, and not the Respondent No.1.
20. However, as is evident per Clause 3.3 of the 'Report of the CPCB in-House Committee on Methodology for Assessing Environmental Compensation and Action Plan to Utilize the Fund', the same formula as has been submitted by the Applicant is applicable to EC payable for '*discharge of untreated/partially treated sewage by concerned individual/authority*'. A copy of the relevant extracts of the Report of the CPCB are annexed herewith as **ANNEXURE A-14**.
21. That therefore, the Respondent No.1 is liable to pay EC based on the formula as mentioned by the Applicant on Para 6-7 **Pgs 165-166**. In this context, it is submitted that this Hon'ble Tribunal in its order dated 06.12.2018 in the matter of *Court of its own motion v/s State of Karnataka (Original Application No. 125/2017 and M.A. No. 1337/2018)* has given following directions:
- "Since failure of preventing the pollutants being discharged in water bodies (including lakes) and failure to implement solid and other waste management rules are too frequent and widespread, the CPCB must lay down specific guidelines to deal with the same, throughout India, including the scale of compensation to be recovered from different individuals/authorities, in addition to or as alternative to prosecution. The scale may have slabs, depending on extent of pollution caused, economic viability, etc. Deterrent effect for repeated wrongs may also be provided."*
22. That therefore, Respondent No. 1 is squarely liable for payment of EC, and must accordingly be directed to pay EC for the identified time period of 201 days, as has been identified by the Committee constituted by this Hon'ble Tribunal. This Hon'ble Tribunal may be pleased to direct for payment of EC from Respondent No. 1 as per the formula prescribed under the CPCB Report for Assessing EC.

23. Pass any such Order deemed fit by this Hon'ble Tribunal in the facts and circumstances of the case.



APPLICANT NO.1

THROUGH



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VERIFICATION

I, Sarang Yadwadkar, r/o A-9, Pradnyangad Apartments, S. No. 119/3 Sinhagad Road, Pune – 411030 do hereby solemnly affirm and state as under:

1. That I am the Applicant No.1 in the above titled Application and I am conversant with the facts and the circumstances of the case and competent to swear this affidavit.
2. That that the contents of the present Rejoinder are true to my knowledge and/ or based on information, and/or the contents are based on the legal submission and/or inferences of facts, which I believe to be true.

Date: 04-10-2021

Place: New Delhi / Pune



APPLICANT NO.1

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
WESTERN ZONAL BENCH AT PUNE
ORIGINAL APPLICATION NO. 71 OF 2020**

IN THE MATTER OF:

Sarang Yadwadkar and Ors.

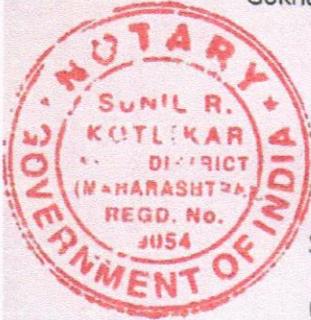
...APPLICANT

VERSUS

Gokhale Landmarks LLP and Ors.

...RESPONDENTS

AFFIDAVIT



I, Sarang Yadwadkar, r/o A-9, Pradnyangad Apartments, S. No. 119/3 Sinhagad Road, Pune – 411030 do hereby solemnly affirm and state as under:

1. That I am the Applicant No.1 in the above titled Application and am conversant with the facts and circumstances described in the present case and as such, I am competent to swear this affidavit.
2. That the contents of the accompanying Application are true and correct and nothing material has been concealed therefrom.

[Signature]
DEPONENT



VERIFICATION

Verified on this 11th of sept 2021 that the contents of the above mentioned affidavit are true and correct and nothing material has been concealed therefrom.

BEFORE ME

[Signature] 11/9/21

SUNIL R. KOTLIKAR
NOTARY, GOVT. OF M.H.
PUNE DISTRICT (MAHARASHTRA)
REGD. No. 3054

[Signature]
DEPONENT



**Report of the CPCB In-house Committee on
Methodology for Assessing Environmental
Compensation and Action Plan to Utilize the Fund**



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

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Chapter-III: Environmental Compensation to be levied in case of failure of preventing the pollutants being discharged in water bodies and failure to implement waste management rules

3.1 Background

The Hon'ble Supreme Court in its order dated 22.02.2017 in the matter of Paryavaran Suraksha Samiti and another v/s Union of India and others (Writ Petition (Civil) No. 375 of 2012), directed State Governments (including the concerned Union Territories) to set-up Sewage Treatment Plants (STPs), which are already under implementation, within the time lines already postulated. Further, the STPs, which are yet to set-up, to be completed within a period of three years, from today, i.e. by 22.02.2020.

The Hon'ble NGT in its order dated 06.12.2018 (**Annexure-III**) in the matter of Court of its own motion v/s State of Karnataka (Original Application No. 125/2017 and M.A. No. 1337/2018) has given following directions:

"Since failure of preventing the pollutants being discharged in water bodies (including lakes) and failure to implement solid and other waste management rules are too frequent and widespread, the CPCB must lay down specific guidelines to deal with the same, throughout India, including the scale of compensation to be recovered from different individuals/authorities, in addition to or as alternative to prosecution. The scale may have slabs, depending on extent of pollution caused, economic viability, etc. Deterrent effect for repeated wrongs may also be provided."

3.2 Ideology of Environmental Compensation Formula

In compliance of the directions of the Hon'ble Tribunal, the Committee deliberated on the issue of environmental compensation to be recovered from individuals/authorities in case of failure of preventing the pollutants being discharged in water bodies and failure to implement solid and other waste management rules. The Committee has suggested that environmental compensation in these cases should be comprised of two components i.e.

1. Cost saved/benefits achieved by the concerned individual/authority by not having proper waste/sewage management system; and
2. Cost to the environment (environmental externality) due to untreated/partially treated waste/sewage because of insufficient capacity of waste/sewage management/treatment facility.

Cost saved/benefits achieved by not having proper waste/sewage management system includes the interest on capital cost of the waste/sewage management facility and daily operation and maintenance (O&M) cost associated with the facility.

The Committee suggested that annual interest rate as 10% on loan amount, borrowed by concerned individual/authority for setting-up waste/sewage management facility, may be assumed as Capital Cost Factor for calculation of environment compensation. Further, as whole O&M cost is saved by concerned individual/authority for not managing required waste/sewage management system, 100% of the O&M cost saved may be considered as O&M cost factor.

Therefore, generalized formula for Environmental Compensation may be described as:

$$EC = \text{Capital Cost Factor} \times \text{Marginal Average Capital Cost for Establishment of Waste or Sewage Management or Treatment Facility} \times (\text{Waste or Sewage Management or Treatment Capacity Gap}) + \text{O\&M Cost Factor} \times \text{Marginal Average O\&M Cost} \times (\text{Waste or Sewage Management or Treatment Capacity Gap}) \times \text{No. of Days for which facility was not available} + \text{Environmental Externality}$$

Cost to the environment due to untreated/partially treated waste/sewage discharge by concerned individual/authority may be assumed as recommended by the committee, which is mentioned below:

Table No. 3.1: Environmental externality for untreated/partially treated sewage discharge

Sewage Treatment Capacity Gap (MLD)	Marginal Cost of Environmental Externality (Rs. per MLD/day)	Minimum and Maximum value of Environmental Externality recommended by the Committee (Lacs Rs. Per Day)
Up to 200	75	Min. 0.05, Max. 0.10
201-500	85	Min. 0.25, Max. 0.35
501 and above	90	Min. 0.60, Max. 0.80

Table No. 3.2: Environmental externality for improper municipal solid waste management

Municipal Solid Waste Management Capacity Gap (TPD)	Marginal Cost of Environmental Externality (Rs. per ton per day)	Minimum and Maximum value of Environmental Externality recommended by the Committee (Lacs Rs. Per Day)
Up to 200	15	Min. 0.01, Max. 0.05
201-500	30	Min. 0.10, Max. 0.15
501-1000	35	Min. 0.25, Max. 0.35
1001-2000	40	Min. 0.50, Max. 0.60
Above 2000		Max. 0.80

The Committee further decided to fix a cap for minimum and maximum cost for capital and O&M component for Environmental Compensation, which are given in below tables:

Table No. 3.3: Minimum and Maximum EC to be levied for untreated/partially treated sewage discharge

Class of the City/Town	Mega-City	Million-plus City	Class-I City/Town and others
Minimum and Maximum values of EC (Total Capital Cost Component) recommended by the Committee (Lacs Rs.)	Min. 2000 Max. 20000	Min. 1000 Max. 10000	Min. 100 Max. 1000
Minimum and Maximum values of EC (O&M Cost Component) recommended by the Committee (Lacs Rs./day)	Min. 2 Max. 20	Min. 1 Max. 10	Min. 0.5 Max. 5

Table No. 3.4: Minimum and Maximum EC to be levied for improper municipal solid waste management

Class of the City/Town	Mega-City	Million-plus City	Class-I City/Town and others
Minimum and Maximum values of EC (Capital Cost Component) recommended by the Committee (Lacs Rs.)	Min. 1000 Max. 10000	Min. 500 Max. 5000	Min. 100 Max. 1000
Minimum and Maximum values of EC (O&M Cost Component) recommended by the Committee (Lacs Rs./day)	Min. 1.0 Max. 10.0	Min. 0.5 Max. 5.0	Min. 0.1 Max. 1.0

The application of formula for calculation of EC may be further understood with the example of two typical cases.

3.3 Environment Compensation for Discharge of Untreated/Partially Treated Sewage by Concerned Individual/Authority:

BIS IS-1172:1993 suggests that for communities with population above 100,000, minimum of 150 to 200 lpcd of water demand is to be supplied. Further, 85% of return rate (CPHEEO Manual on Sewerage and Sewage Treatment Systems, 2013), may be considered for calculation of total sewage generation in a city. CPCB Report on "Performance evaluation of sewage treatment plants under NRCD, 2013", describes that the capital cost for 1 MLD STP ranges from 0.63 Cr. to 3 Cr. and O&M cost is around Rs. 30,000 per month. After detail deliberations, the Committee suggested to assume capital cost for STPs as Rs. 1.75 Cr/MLD (marginal average cost). Further, expected cost for conveyance system is assumed as Rs. 5.55 Cr./MLD (marginal average cost) and annual O&M cost as 10% of the combined capital cost. Population of the city may be taken as per the latest Census of India. Based on these assumptions, Environmental Compensation to be levied on concerned ULB may be calculated with the following formula:

EC = Capital Cost Factor x [Marginal Average Capital Cost for Treatment Facility x (Total Generation-Installed Capacity) + Marginal Average Capital Cost for Conveyance Facility x (Total Generation -Operational Capacity)] + O&M Cost Factor x Marginal Average O&M Cost x (Total Generation- Operational Capacity) x No. of Days for which facility was not available + Environmental Externality x No. of Days for which facility was not available

Alternatively;

EC (Lacs Rs.) = [17.5(Total Sewage Generation – Installed Treatment Capacity) + 55.5(Total Sewage Generation-Operational Capacity)] + 0.2(Sewage Generation-Operational Capacity) x N + Marginal Cost of Environmental Externality x (Total Sewage Generation-Operational Capacity) x N

Where; N= Number of days from the date of direction of CPCB/SPCB/PCC till the required capacity systems are provided by the concerned authority

Quantity of Sewage is in MLD

Table No. 3.5: Sample calculation for EC to be levied for discharge of untreated/partial treated Sewage

City	Delhi	Agra	Gurugram	Ambala
Population (2011)	1,63,49,831	17,60,285	8,76,969	5,00,774
Class	Mega-City	Million-plus City	Class-I Town	Class-I Town
Sewage Generation (MLD) (as per the latest data available with CPCB)	4195	381	486	37
Installed Treatment Capacity (MLD) (as per the latest data available with CPCB)	2500	220	404	45.5
Operational Capacity (MLD) (as per the latest data available with CPCB)	1900	140	300	24.5
Treatment Capacity Gap (MLD)	2295	241	186	12.5
Calculated EC (capital cost component for STPs) in Lacs Rs.	29662.50	2817.50	1435.00	0.00
Calculated EC (capital cost component for Conveyance System) in Lacs. Rs.	127372.50	13375.50	10323.00	693.75
Calculated EC (Total capital cost component) in Lacs Rs.	157035.00	16193.00	11758.00	693.75
Minimum and Maximum values of EC (Total Capital Cost Component) recommended by the Committee (Lacs Rs.)	Min. 2000 Max. 20000	Min. 1000 Max. 10000	Min. 100 Max. 1000	Min. 100 Max. 1000
Final EC (Total Capital Cost Component) in Lacs Rs.	20000.00	10000.00	1000.00	693.75
Calculated EC (O&M Component in Lacs Rs./day)	459.00	48.20	37.20	2.50
Minimum and Maximum values of EC (O&M Cost Component) recommended by the Committee (Lacs Rs./day)	Min. 2 Max. 20	Min. 1 Max. 10	Min. 0.5 Max. 5	Min. 0.5 Max. 5
Final EC (O&M Component) in Lacs. Rs./Day	20.00	10.00	5.00	2.50
Calculated Environmental Externality (Lacs Rs .Per Day)	2.0655	0.2049	0.1395	0.0094
Minimum and Maximum value of Environmental Externality recommended by the Committee (Lacs Rs. Per Day)	Min. 0.60 Max. 0.80	Min. 0.25 Max. 0.35	Min. 0.05 Max. 0.10	Min. 0.05 Max. 0.10
Final Environmental Externality (Lacs Rs. Per day)	0.80	0.25	0.10	0.05

3.4 Environment Compensation to be Levied on Concerned Individual/Authority for Improper Solid Waste Management:

It is known that estimated MSW generation is approximately 1.5 lakh MT/Day in India (MoHUA Report-2016). As per the principles of SWM Rules, 2016 and PWM Rules 2016, as amended in 2018, the total cost of Municipal Solid Waste management in a city/town includes cost for door to door collection, cost of segregation at source, cost for transportation in segregated manner, cost for processing of MSW and disposal through facility like composting, biomethanation, recycling, co-processing in cement kilns etc.

In view of above, it is estimated that the total cost of processing and treatment of MSW for a city having population size of 1 lakh and generating approximately 50 tons/day of MSW is Rs.15.5 Crores, including capital cost (one time) and O & M cost for one year. The expenditure for subsequent years would be only Rs. 3.5 crores/annum.

CPCB sponsored a survey to ascertain the status of municipal solid waste disposal in 59 cities/towns of India. The survey was conducted by the Environment Protection Training Research Institute (EPTRI), Hyderabad. As per the survey, it is estimated that solid waste generated in small, medium and large cities and towns is about 0.1 kg (Class-III), 0.3-0.4 kg (Class-II) and 0.5 kg (Class-I) per capita per day respectively. The committee opined that 0.6 kg/day, 0.5 kg/day and 0.4 kg/day per capita waste generation may be assumed for mega-cities, million-plus UAs/towns and Class-I UA/Towns respectively for calculation of environmental compensation purposes. Based on these assumptions, Environmental Compensation to be levied on concerned ULB may be calculated with the following formula:

EC = Capital Cost Factor x Marginal Average Cost for Waste Management x (Per day waste generation-Per day waste disposed as per the Rules) + O&M Cost Factor x Marginal Average O&M Cost x (Per day waste generation-Per day waste disposed as per the Rules) x Number of days violation took place + Environmental Externality x N

Where;

Waste Quantity in tons per day (TPD)

N= Number of days from the date of direction of CPCB/SPCB/PCC till the required capacity systems are provided by the concerned authority

Simplifying;

EC (Lacs Rs.) = 2.4(Waste Generation - Waste Disposed as per the Rules) +0.02 (Waste Generation - Waste Disposed as per the Rules) x N + Marginal Cost of Environmental Externality x (Waste Generation - Waste Disposed as per the Rules) x N

Table No. 3.6: Sample calculation for EC to be levied for improper management of Municipal Solid Waste

City	Delhi	Agra	Gurugram	Ambala
Population (2011)	1,63,49,831	17,60,285	8,76,969	5,00,774
Class	Mega-City	Million-plus City	Class-I Town	Class-I Town
Waste Generation (kg. per person per day)	0.6	0.5	0.4	0.4
Waste Generation (TPD)	9809.90	880.14	350.79	200.31
Waste Disposal as per Rules (TPD) (assumed as 25% of waste generation for sample calculation)	2452.47	220.04	87.70	50.08
Waste Management Capacity Gap (TPD)	7357.42	660.11	263.09	150.23
Calculated EC (capital cost component) in Lacs. Rs.	17657.82	1584.26	631.42	360.56
Minimum and Maximum values of EC (Capital Cost Component) recommended by the Committee (Lacs Rs.)	Min. 1000 Max. 10000	Min. 500 Max. 5000	Min. 100 Max. 1000	Min. 100 Max. 1000
Final EC (capital cost component) in Lacs. Rs.	10000.00	1584.26	631.42	360.56
Calculated EC (O&M Component) in Lacs. Rs./Day	147.15	13.20	5.26	3.00
Minimum and Maximum values of EC (O&M Cost Component) recommended by the Committee (Lacs Rs./Day)	Min. 1.0 Max. 10.0	Min. 0.5 Max. 5.0	Min. 0.1 Max. 1.0	Min. 0.1 Max. 1.0
Final EC (O&M Component) in Lacs. Rs./Day	10.00	5.00	1.00	1.00
Calculated Environmental Externality (Lacs Rs. Per Day)	2.58	0.18	0.03	0.02
Minimum and Maximum value of Environmental Externality recommended by the Committee (Lacs Rs. per day)	Max. 0.80	Min. 0.25 Max. 0.35	Min. 0.01 Max. 0.05	Min. 0.01 Max. 0.05
Final Environmental Externality (Lacs Rs. per day)	0.80	0.25	0.03	0.02

3.3 Action Plan for Utilization of Environmental Compensation Fund

EC levied in case of failure of preventing the pollutants being discharged in water bodies and failure to implement waste management rules will be deposited in the same fund and will be utilized in the same manner as mentioned in para 1.4.1 of Chapter-I of this report.

3.4 Recommendations

1. The Committee recommended that to begin with, Environmental Compensation to be recovered from individuals/authorities in case of failure of preventing the pollutants being discharged in water bodies and failure to implement solid waste management rules may be calculated with the methodology described in the report.
2. If mixing of Bio-medical Waste or Hazardous Waste is found in Municipal Solid Waste than capital cost component of EC may be increased by a multiplication factor of 1.5.

3. In order to include deterrent effect for continuous violations, component of O&M and Environmental Externality in EC formula may be increased on exponential basis by 2, 4, and 8 times after every six-months, beyond the time prescribed by authority for ensuring complete treatment of sewage/waste of the city/town.

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