

Item No. 01 (Pune Bench)

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

**(Through Video Conferencing)**

Original Application No. 197/2017 (WZ)

Vanshakti & Anr.

Applicant(s)

Versus

Municipal Corporation of Greater Mumbai & Ors.

Respondent(s)

Date of hearing: 07.10.2020

Date of Uploading of order: 14.10.2020

**CORAM: HON'BLE MR. JUSTICE SHEO KUMAR SINGH, JUDICIAL MEMBER  
HON'BLE DR. SATYAWAN SINGH GARBYAL, EXPERT MEMBER**

For Applicant(s) : Mr. Zaman Ali, Ms. Prakruti Joshi, Advocates  
Vanshakti- Party-in-person

For Respondent(s) : Mr. Sameer Khale, Advocate for R-1 (MCGM)  
Ms. Manasi Joshi, Advocate for R- 3 & 7  
Mr. D.M. Gupte, Advocate for R-5 (CCF  
Mangrove)  
Mr. Aniruddha S. Kulkarni, Advocate for CPCB  
and Ministry Urban Development, Govt. of  
Maharashtra

**ORDER**

1. The Fundamental Right guaranteed under Article 21 of the Constitution of India provides that none shall be deprived of his life without due process of law but by supplying the polluted water for drinking purposes and discharge of sewage and untreated water in open land or the river/water bodies are causing health hazard and it is indirectly depriving good health and life of the citizens residing there.
2. The Article 39E, 47 and 48A of the Constitution of India cast a duty on the State to secure the health of the people, improve public

health and protect and improve the environment. It was by reasoned of the lack of effort on the part of the enforcement agencies, notwithstanding adequate laws being in placed, there are air pollution, water pollution and noise pollution in the city. One of the basic principle underlying environmental law is that of sustainable development. This principle requires such development to take place which is ecologically sustainable and the essential features of sustainable development are:- (i) the precautionary principle (ii) the 'polluter pays' principle and the authorities are duty bound to take necessary action on the point.

3. For the negligence of those to whom public duties have been entrusted can never be allowed to cause public mischief.
4. It is argued that the applicants are aggrieved by the callous attitude of the respondent authorities in countering pollution in the coastal wetland, creeks and beaches in Mumbai as per the pollution laws. The reason of the excessive pollution in these areas is the discharge of untreated waste from the storm water drains (*nallahs*) directly into the sea and creeks. The applicants had suggested installation of nets in storm water drains to stop the solid waste from entering the creeks, water-bodies and the sea. However, not the respondents failed to pay any heed to the suggestions of the applicants but also in implementing the Maharashtra Non-biodegradable Garbage (Control) Act, 2006, Water (Prevention and Control of Pollution) Act, 1974, Coastal Regulation Zone Notification, 1991 and Wetlands (Conservation and Management) Rules, 2017. The extensive use and failure of proper collection of solid waste which includes plastic waste has

resulted into choking of storm water drains (*nallahs*), creating unhygienic environment and causing terrestrial and marine pollution. As there is no adequate treatment of solid and water waste by the respondent authorities, it can be seen floating in the storm waste drains and eventually being discharged in the sea.

5. The solid waste mainly comprising of plastic carry bags, thermocol plates, Styrofoam cups, glass etc. finds its way into the mangroves through tidal action. Recycled/coloured plastic bags contain certain chemicals which pollute the air and water when exposed to the natural elements like sunlight and rain. Presently, the plastic materials have no obstruction and no way of being collected separately. Further, it is the case of the applicants that the exposure of the plastic bags to sunlight releases dioxins that are scientifically known to cause cancer.
6. The saltwater lakes and beaches are also being seriously contaminated due to the careless disposal of solid wastes. Almost all water bodies in Maharashtra are seriously threatened due to the careless disposal of waste.
7. The sewage water entering into the sea also poses grave threat to the creeks, wetlands and water bodies that is home to several threatened, migratory and endemic species of birds. The recent documentation of the birds in the Thane creek alone shows presence of more than 260 species of birds including threatened species under the IUCN list. The solid waste entering into the sea is further resulting in the loss of livelihood of the fishermen in the area, as there has been a severe depletion of marine life. Plastic bags find their way to the sea where it gets consumed by marine

life, interferes with the free movement of marine life and causes threat to marine biodiversity. Due to this, several fisherman communities have also come together for the beach cleaning drives but this has not helped in improving the situation.

8. We also already directed the Maharashtra State Pollution Control Board (MSPCB) to submit a report on the following points in other cases but the same has not been filed till date:-

- i. The total number of drains where untreated/sewage water is being discharged in the lake or river bodies.
- ii. Total number of STPs installed there.
- iii. Quantity of water being used by the residents in the city.
- iv. Total capacity to treat the water.
- v. The gap between the use and capacity to treat.
- vi. Future planning of the municipality to meet out the gap and make proper arrangements for treatment of the water.
- vii. Action taken against the polluters who are discharging the water, sewage and untreated water into the river bodies and causing water pollution and contaminating the underground water.
- viii. It is directed that Municipal Authorities to ensure that no solid waste be thrown into the open space and there should be no discharge of untreated/sewage water into the water bodies or in the open space and anyone violating the norms and any violation of this order should be taken seriously in accordance with the order passed by the Principal Bench of this Tribunal in *O.A. No. 148/2016, Mahesh Chandra Saxena v. South Delhi Municipal Corporation & Ors.* vide order dated 21.05.2020, the relevant paras are quoted below for compliance:-

*“3. Vide order dated 03.08.2018, the matter was reviewed and after noting that in absence of functional ETPs/CETPs/STPs, untreated effluents were being discharged in water bodies leading to contamination of surface and ground water which causes various diseases and also has adverse consequence on aquatic organism due to decreased level of oxygen. The Tribunal directed the CPCB to prepare an action plan. Direction was also given for monitoring by a Committee of two officers – one each representing MoEF&CC and CPCB at least once in every month. CPCB was required to place the progress report every three months on the website and take penal action for failure by way of recovery of compensation for damage to the environment, apart from other steps.*

*4. Vide order dated 19.02.2019, after considering the status report furnished by the CPCB, based on the reports furnished by the States/UTs, this Tribunal after referring to orders passed in O.A NO. 673/2018 for remedial action in respect of 351 polluted river stretches, which had direct nexus with the steps for ETPs/CETPs/STPs and order passed in O.A No. 606/2018 requiring Chief Secretaries to monitor progress inter alia on the subject of control of pollution of the river stretches, directed that the Chief Secretaries may look into the subject of setting up and proper functioning of ETPs/CETPs/STPs in their respective States/ UTs. Further direction issued was to prepare a report on assessment of compensation on account of **discharge of untreated sewage and dumping of solid waste**, loss to ecological services due to illegal mining, deforestation, after taking inputs from expert bodies. The Tribunal also directed the CPCB to compile its monitoring report with regard to 97 CETPs (assuming the total number of CETPs in the country to be 97) installed in different States. CPCB was also directed to furnish its report in O.A. No. 95/2018, Aryavart Foundation Vs. M/s Vapi Green Enviro Ltd. & Ors. which concerned the issue of inadequate functioning CETP leading to water pollution.*

*5. In the light of directions of this Tribunal dated 19.02.2019, the CPCB furnished reports dated 30.05.2019 updated on 19.07.2019 and 14.08.2019 giving the status of setting up of ETPs/ CETPs/STPs with regard to methodology for assessment of environmental compensation and monitoring of CETPs. The reports were considered exhaustively vide order dated 28.08.2019. Before we advert to the observations of this Tribunal with regard to the reports, we may refer to the observations on the main issue:*

*1.The issue for consideration is establishment and functioning of ETPs/CETPs/STPs to prevent untreated sewage/effluents being discharged in water bodies, including rivers and canals meeting such rivers or otherwise. The magnitude of the problem is well acknowledged. In the year 1962 GoI set up a Committee for prevention of water pollution. The recommendations led to enactment of the Water (Prevention and Control of Pollution) Act, 1974 (“Water Act”) in pursuance of Article 252 of the*

Constitution. The Water Act provides for the constitution of a Central Board and State Boards/Committees. No polluted matter can be discharged into a stream or well or on land, and no industry, operation or process can be established and no out-let for discharge of sewage used without consent of the State Board. The Water Act provides powers to give directions for closing any such activity as well as for prosecution. Power to give directions implicitly includes recovery of compensation on 'Polluter Pays' principle.

2. In spite of above statutory regime we are faced with serious problem of water pollution. The Hon'ble Supreme Court noted<sup>1</sup> that the water pollution caused serious diseases, including Cholera and Typhoid. Water pollution could not be ignored and adequate measures for prevention and control are necessary. Polluting industries were directed to be shifted on 'Precautionary' principle. It is not necessary to refer to all the judgments of the Hon'ble Supreme Court dealing with the significance of water and need to prevent pollution of water. We may only refer to the observations that everyone has right to have access to drinking water in quantum and equality equal to the basic needs. This is fundamental to life and part of Article 21.<sup>2</sup>

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**4. We may note that discharge of untreated effluents and sewage is the principal cause of water pollution in the country as noted in cases relating to pollution of rivers.<sup>3</sup> Similarly, in the case of 100 polluted industrial clusters being dealt with by this Tribunal<sup>4</sup>, water pollution is one of the factors polluting the said industrial clusters. As already noted, official data of CPCB is to the effect that 351 river stretches in the Country are polluted. The Tribunal held that remedial action for restoration of the said river stretches is necessary.<sup>5</sup> In the said order, it was observed:**

<sup>1</sup>(1988) 1 SCC 471

<sup>2</sup>APPCB vs. Prof. M.V Nayudu (2001) 2 SCC 62 at para 3, 4, State of Orissa Vs. Government of India (2009) 5 SCC 492, at para 58 **"Rivers in India are drying up, groundwater is being rapidly depleted, and canals are polluted. Yamuna in Delhi looks like a black drain. Several perennial rivers like Ganga and Brahmaputra are rapidly becoming seasonal. Rivers are dying or declining, and aquifers are getting overpumped. Industries, hotels, etc. are pumping out groundwater at an alarming rate, causing sharp decline in the groundwater levels."**

<sup>3</sup>O.A No. 673 of 2018 this Tribunal is considering remedial action to rejuvenate 351 polluted river stretches. Therein, other cases of river pollution are mentioned thus "This Tribunal also considered the issue of pollution of river Yamuna, in Manoj Mishra Vs. Union of India, river Ganga in M.C. Mehta Vs. Union of India, river Ramganga which is a tributary of river Ganga in Mahendra Pandey Vs. Union of India & Ors., rivers Sutlej and Beas in the case of Sobha Singh & Ors. Vs. State of Punjab & Ors., river Son in Nityanand Mishra Vs. State of M.P. & Ors., river Ghaggar in Stench Grips Mansa's Sacred Ghaggar River (Suo-Moto Case)", river Hindon in Doaba Paryavaran Samiti Vs. State of U.P. & Ors., river Kasardi in Arvind Pundalik Mhatre Vs. Ministry of Environment, Forest and Climate Change & Ors., River Ami, Tapti, Rohani and Ramgarh lake in Meera Shukla Vs. Municipal Corporation, Gorakhpur & Ors., rivers Chenab and Tawi in the case of Amresh Singh Vs. Union of India & Ors. and Subarnarekha in Sudarsan Das Vs. State of West Bengal & Ors. and issued directions from time to time"

<sup>4</sup>O.A No. 1038/2018

<sup>5</sup>O. A No.673/2018, order dated 08.04.2019

*“As already noted, well known causes of pollution of rivers are **dumping of untreated sewage and industrial waste, garbage, plastic waste, e-waste, bio-medical waste, municipal solid waste, diversion of river waters, encroachments of catchment areas and floodplains, over drawl of groundwater, river bank erosion on account of illegal sandmining. In spite of directions to install Effluent Treatment Plants (ETPs), Common Effluent Treatment Plants (CETPs), Sewage Treatment Plants (STPs), and adopting other anti-pollution measures, satisfactory situation has not been achieved. Tough governance is the need of the hour. If pollution does not stop, the industry has to be stopped. If sewage dumping does not stop, local bodies have to be made accountable and their heads are to be prosecuted. Steps have to be taken for awareness and public involvement.**”*

6. We now refer to the observations of this Tribunal while considering the reports dated 30.05.2019 updated on 19.07.2019 and 14.08.2019:

**“I. Report dated 30.05.2019 updated on 19.07.2019**

13. According to updated report dated 19.07.2019, out of 62,897 number of industries requiring ETPs, 60,944 industries are operating with functional ETPs and 1949 industries are operating without ETPs. 59,258 industries are complying with environmental standards and 1,524 industries are non-complying. There are total 192 CETPs, out of which 133 CETPs are complying with environmental standards and 59 CETPs are non-complying. There are total 13,709 STPs (Municipal and other than municipal), out of which, 13,113 STPs are complying with environmental standards and 637 STPs are non-complying. 73 CETPs in construction/proposal stage, whereas, for STPs, 1164 projects (municipal and non-municipal) are under construction/proposal stage.

14. A report has also been prepared on the scale of environmental compensation to be recovered from individual/authorities for causing pollution or failure for preventing causing pollution, apart from illegal extraction of ground water, failure to implement Solid waste Management Rules, damage to environment by mining and steps taken to explore preparation of an annual environmental plan for the country. Extracts from the report which are considered significant for this order are:

**“I. Environment Compensation to be levied on Industrial Units**

**Recommendations**

The Committee made following recommendations:

1.5.1 To begin with, Environmental Compensation may be levied by CPCB only when CPCB has issued the directions under the Environment (Protection) Act, 1986. In case of a, band c, Environmental Compensation may be calculated based on the formula "EC= Pl x N x Rx S x LF", wherein, Pl may be taken as 80, 50 and 30 for red, orange and green category of industries, respectively, and R may be taken as 250. Sand LF may be taken as prescribed in the preceding paragraphs.

1.5.2 In case of d, e and f, the Environmental Compensation may be levied based on the detailed investigations by Expert Institutions/Organizations.

1.5.3 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 that all running industrial units which require "consent to operate" from concerned State Pollution Control Board, have a primary effluent treatment plant in place. Therefore, no industry requiring ETP, shall be allowed to operate without ETP.

1.5.4 EC is not a substitute for taking actions under EP Act, Water Act or Air Act. In fact, units found polluting should be closed/prosecuted as per the Acts and Rules.

## **II. Environmental Compensation to be levied on all violations of Graded Response Action Plan (GRAP) in NCR.**

**Table No. 2.1: Environmental Compensation to be levied on all violations of Graded Response Action Plan (GRAP) in Delhi-NCR.**

<b>Activity</b>	<b>State Of Air Quality</b>	<b>Environmental Compensation (₹)</b>
<b>Industrial Emissions</b>	Severe +/-Emergency	Rs 1.0 Crore
	Severe	Rs 50 Lakh
	Very Poor	Rs 25 Lakh
	Moderate to Poor	Rs 10 Lakh
<b>Vapour Recovery System (VRS) at Outlets of Oil Companies</b>		
<b>i. Notin stalled</b>	Target Date	Rs 1.0 Crore
<b>ii. Non functional</b>	Very poor to Severe +	Rs 50.0 Lakh
	Moderate to Poor	Rs 25.0 Lakh
<b>Construction sites (Offending plot more than 20,000 Sq.m.)</b>	Severe +/-Emergency	Rs 1.0 Crore
	Severe	Rs 50 Lakh
	Very Poor	Rs 25 Lakh
	Moderate to Poor	Rs 10 Lakh
<b>Solid waste/ garbage dumping in Industrial Estates</b>	Very poor to Severe +	Rs 25.0 Lakh
	Moderate to Poor	Rs 10.0 Lakh
<b>Failure to water sprinkling on unpaved roads</b>		

<b>a) Hot-spots</b>	<i>Very poor to Severe +</i>	<i>Rs 25.0 Lakh</i>
<b>b) Other than Hot-spots</b>	<i>Very poor to Severe +</i>	<i>Rs 10.0 Lakh</i>

**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:**

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

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

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

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

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

BIS 15-1172:1993 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:

$$\begin{aligned}
 \text{EC} = & \text{Capital Cost Factor} \times [\text{Marginal Average Capital} \\
 & \text{Cost for Treatment Facility} \times (\text{Total} \\
 & \text{Generation-Installed Capacity}) + \text{Marginal Average} \\
 & \text{Capital Cost for Conveyance Facility} \times \\
 & (\text{Total Generation -Operational Capacity}]] + \text{O\&M Cost} \\
 & \text{Factor} \times \text{Marginal Average O\&M Cost} \\
 & \times (\text{Total Generation- Operational Capacity}) \times \text{No. of Days for} \\
 & \text{which facility was not available} \\
 & + \text{Environmental Externality} \times \text{No. of Days for which facility} \\
 & \text{was not available}
 \end{aligned}$$

Alternatively;

$$\begin{aligned}
 \text{EC (Lacs Rs.)} = & [17.S\{ \text{Total Sewage Generation} - \\
 & \text{Installed Treatment Capacity} \} + 55.S\{ \text{Total} \\
 & \text{Sewage Generation-Operational Capacity} \}] + \\
 & 0.2(\text{Sewage Generation-Operational Capacity}) \\
 & \times N + \text{Marginal Cost of Environmental Externality} \times \\
 & (\text{Total Sewage Generation-Operational} \\
 & \text{Capacity}) \times N
 \end{aligned}$$

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
<b>Population (2011)</b>	1,63,49,831	17,60,285	8,76,969	5,00,774
<b>Class</b>	Mega-City	Million-plus City	Class-I Town	Class-I Town
<b>Sewage Generation (MLD)</b> (as per the latest data available with CPCB)	4195	381	486	37

<b>Installed Treatment Capacity (MLD)</b> (as per the latest data available with CPCB)	2500	220	404	45.5
<b>Operational Capacity (MLD)</b> (as per the latest data available with CPCB)	1900	140	300	24.5
<b>Treatment Capacity Gap (MID)</b>	2295	241	186	12.5
<b>Calculated EC (capital cost component for STPs) in Lacs Rs.</b>	29662.50	2817.50	1435.00	0.00
<b>Calculated EC (capital cost component for Conveyance System) in Lacs. Rs.</b>	127372.50	13375.50	10323.00	693.75
<b>Calculated EC (Total capital cost component) in Lacs Rs.</b>	157035.00	16193.00	11758.00	693.75
<b>Minimum and Maximum values of EC (Total Capital Cost Component) recommended by the Committee (Lacs Rs.)</b>	Min. 2000 Max. 20000	Min. 1000 Max. 10000	Min. 100 Max. 1000	Min. 100  Max. 1000
<b>Final EC (Total Capital Cost Component) in Lacs Rs.</b>	<b>20000.00</b>	<b>10000.00</b>	<b>1000.00</b>	<b>693.75</b>
<b>Calculated EC (O&amp;M Component in Lacs Rs./day)</b>	459.00	48.20	37.20	2.50
<b>Minimum and Maximum values of EC (O&amp;M Cost Component) recommended by the Committee (Lacs Rs./day)</b>	Min. 2 Max. 20	Min. 1 Max. 10	Min. 0.5 Max. 5	Min. 0.5 Max. 5
<b>Final EC (O&amp;M Component) in Lacs. Rs./Day</b>	<b>20.00</b>	<b>10.00</b>	<b>5.00</b>	<b>2.50</b>
<b>Calculated Environmental Externality (Lacs Rs .Per Day)</b>	2.0655	0.2049	0.1395	0.0094
<b>Minimum and Maximum value of Environmental Externality recommended by the Committee (Lacs Rs. Per Day)</b>	Min. 0.60 Max. 0.80	Min. 0.25 Max. 0.35	Min. 0.05 Max. 0.10	Min. 0.05 Max. 0.10
<b>Final Environmental Externality (Lacs Rs. Per day)</b>	<b>0.80</b>	<b>0.25</b>	<b>0.10</b>	<b>0.05</b>

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

Environmental Compensation to be levied on concerned ULB may be calculated with the following formula:

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

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;

$$EC \text{ (Lacs Rs.)} = 2.4(\text{Waste Generation} - \text{Waste Disposed as per the Rules}) + 0.02 (\text{Waste Generation} - \text{Waste Disposed as per the Rules}) \times N + \text{Marginal Cost of Environmental Externality} \times (\text{Waste Generation} - \text{Waste Disposed as per the Rules}) \times N$$

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

City	Delhi	Agra	Gurugram	Ambala
<b>Population (2011)</b>	1,63,49,831	17,60,285	8,76,969	5,00,774
<b>Class</b>	Mega-City	Million-plus City	Class-I Town	Class-I Town
<b>Waste Generation (Kg. per person per day)</b>	0.6	0.5	0.4	0.4
<b>Waste Generation (TPD)</b>	9809.90	880.14	350.79	200.31
<b>Waste Disposal as per Rules(TPD) (assumed as 25% of waste for sample calculation)</b>	2452.47	220.04	87.70	50.08
<b>Waste Management Capacity Gap(TPD)</b>	7357.42	660.11	263.09	150.23

<b>Calculated EC(capital cost component) inLacs. Rs.</b>	17657.82	1584.26	631.42	360.56
<b>Minimum and Maximum values(Capital Cost Component) recommended by the committee (Lacs. Rs.</b>	Min. 1000 Max.10000	Min. 500 Max.5000	Min. 100 Max.1000	Min. 100 Max.1000
<b>Final EC (Capital Cost Component) in Lacs. Rs.</b>	<b>10000.00</b>	<b>1584.26</b>	<b>631.42</b>	<b>360.56</b>
<b>Calculated EC(O&amp;M Component) in Lacs. Rs.</b>	147.15	13.20	5.26	3.00
<b>Minimum and Maximum values of EC(O&amp;M Cost Component) recommended by the Committee)Lacs Rs/Day)</b>	Min. 1.0 Max.10.0	Min. 0.5 Max.5.0	Min. 0.1 Max.1.0	Min. 0.1 Max.1.0
<b>Final EC(O&amp;M Component) inLacs.Rs. /Day</b>	<b>10.00</b>	<b>5.00</b>	<b>1.00</b>	<b>1.00</b>
<b>Calculated Environmental Externality (Lacs Rs .Per Day)</b>	2.58	0.18	0.03	0.02
<b>Minimum and Maximum value of Environmental Externality recommended by the Committee (Lacs Rs. Per Day)</b>	Min. 0.80	Min. 0.25 Max. 0.35	Min. 0.01 Max. 0.05	Min. 0.01 Max. 0.05
<b>Final Environmental Externality (Lacs Rs. Per day)</b>	<b>0.80</b>	<b>0.25</b>	<b>0.03</b>	<b>0.02</b>

#### **IV. Environmental Compensation in Case of Illegal Extraction of Ground Water**

##### **4.5 Formula for Environmental Compensation for illegal extraction of ground water**

The committee decided that the formula should be based on water consumption (Pump Yield & Time duration) and rates for imposing Environmental Compensation for violation of illegal abstraction of ground water. The committee has proposed following formula for calculation of Environmental Compensation ( $EC_{Gw}$ ):

$$EC_{GW} = \text{Water Consumption per Day} \times \text{No. of Days} \times \text{Environmental Compensation Rate for illegal extraction of ground water (ECR}_{GW})$$

Where water consumption is in  $m^3/\text{day}$  and  $ECR_{GW}$  in  $Rs./m^3$

Yield of the pump varies based on the capacity/power of pump, water head etc. For reference purpose, yield of the pump may be assumed as given in **Annexure-VI**.

Time duration will be the period from which pump is operated illegally.

In case of illegal extraction of ground water, quantity of discharge as per the meter reading or as calculated with assumptions of yield and time may be used for calculation of  $EC_{GW}$ .

#### **4.6 Environmental Compensation Rate ( $ECR_{GW}$ ) for illegal use of Ground Water:**

The committee decided that the Environmental Compensation Rate ( $ECR_{GW}$ ) for illegal extraction of ground water should increase with increase in water consumption as well as water scarcity in the area. Further,  $ECR_{GW}$  are kept relaxed for drinking and domestic use as compared to other uses, considering the basic need of human being.

As per CGWB, safe, semi-critical, critical and over-exploited areas are categorized from the ground water resources point of view (CGWB, 2017). List of safe, semi-critical, critical and over-exploited areas are available on the website of CGWB and can be accessed from <http://cgwa-noc.gov.in/LandingPage/NotifiedAreas/CategorizationOfAssessmentUnits.pdf#ZOOM=150>.

Environmental Compensation Rates ( $ECR_{GW}$ ) for illegal use of ground water ( $ECR_{GW}$ ) for various purposes such as drinking/domestic use, packaging units, mining and industrial sectors as finalized by the committee are given in tables below:

##### **4.6.1 $ECR_{GW}$ for Drinking and Domestic use:**

Drinking and Domestic use means uses of ground water in households, institutional activity, hospitals, commercial complexes, townships etc.

SI. No.	Area Category	Water Consumption ( $m^3/\text{day}$ )			
		<2	2 to <5	5 to <25	25 & above
<b>Environmental Compensation Rate (<math>ECR_{GW}</math>) in <math>Rs./m^3</math></b>					
1	Safe	4	6	8	10

2	Semi Critical	12	14	16	20
3	Critical	22	24	26	30
4	Over-Exploited	32	34	36	40
<b>Minimum EC<sub>Gw</sub>=Rs 10,000/- (for households) and Rs. 50,000 (for institutional activity, commercial complexes, townships etc.)</b>					

#### 4.6.2 ECRGw for Packaged drinking water units:

SI. No.	Area Category	Water Consumption (m <sup>3</sup> /day)			
		<200	200 to <1000	1000 to <5000	5000 &
		Environmental Compensation Rate (ECR <sub>Gw</sub> ) in Rs./m <sup>3</sup>			
1	Safe	12	18	24	30
2	Semi critical	24	36	48	60
3	Critical	36	48	66	90
4	Over-exploited	48	72	96	120
<b>Minimum EC<sub>Gw</sub>=Rs 1,00,000/-</b>					

#### 4.6.3 ECRGw for Mining, Infrastructure and Dewatering Projects

SI. No	Area Category	Water Consumption (m <sup>3</sup> /day)			
		<200	200 to <1000	1000 to <5000	5000 &
		Environmental Compensation Rate (ECR <sub>Gw</sub> ) in Rs./m <sup>3</sup>			
1	Safe	15	21	30	40
2	Semi critical	30	45	60	75
3	Critical	45	60	85	115
4	Over-exploited	60	90	120	150
<b>Minimum EC<sub>Gw</sub>=Rs 1,00,000/-</b>					

#### 4.6.4 ECRGw for Industrial Units:

SI. No.	Area Category	Water Consumption (m <sup>3</sup> /day)			
		<200	200 to <1000	1000 to <5000	5000 &
		Environmental Compensation Rate (ECR <sub>Gw</sub> ) in			
1	Safe	20	30	40	50
2	Semi critical	40	60	80	100
3	Critical	60	80	110	150
4	Over-exploited	80	120	160	200
<b>Minimum EC<sub>Gw</sub> = Rs 1,00,000/-</b>					

### 4.8 Recommendations

The committee has given following recommendations:

- The minimum Environmental Compensation for illegal extraction of ground water for domestic purpose will be Rs. 10,000, for institutional/commercial use will be 50,000 and for other uses will be 1,00,000.
- In case of fixation of liability, it always lies with current owner of the premises where illegal extraction is taking place.

- Time duration may be assumed to be one year in case where no evidence for period of installation of bore well could be established.
- Drinking and Domestic use, where metering is not present but storage tank facility is available, minimum water consumption per day may be assumed as similar to the storage capacity of the tank.
- For industrial ground water use, where metering is not available, water consumption may be assumed as per the consent conditions. Further, where in case industry is operating without consent, water consumption may be calculated based on the plant capacity (on the recommendation of SPCB/PCC, if required). SPCB/PCC may bring the issue of illegal extraction of ground water in industries in to the notice of CGWA for appropriate action by CGWA.
- Authorities assigned for levy EC and taking penal action are listed below:

<b>S. No.</b>	<b>Actions</b>	<b>Authority</b>
1.	To seal the illegal bore-well/tube-well to stop extraction of water and further closure of project	District Collector
2.	To levy EC <sub>GW</sub> as per prescribed method	District Collector,
3.	To levy EC on water pollution, as per the method prescribed in report of CPCB- "EC on industrial pollution"	CPCB/SPCB/PCC
4.	Prosecution of violator	CGWA under EP Act SPCB/PCC under Air and Water Act

- CGWA may maintain a separate account for collection and utilization of fund, collected through the prescribed methodology in this report.”

**“Discussion on the report dated 30.05.2019 updated on 19.07.2019**

15. It is clear from the order of the Hon’ble Supreme Court<sup>6</sup> that the responsibility of operating STPs under Article 243W and item 6 of Schedule XII to the Constitution is of local bodies who have to evolve norms to recover funds for the purpose which is to be supervised by the States/UTs. The norms were to be finalized upto 31.03.2017 to be implemented from the next year, i.e 01.04.2018. In absence thereof, the States/UTs have to cater to the financial requirement from its own resources. The States/UTs are to prioritize the cities, towns, villages discharging effluents/sewage directly into

<sup>6</sup>Para 10-13 in *Paryavaran Suraksha Samiti Vs. Union of India*, *Supra*

*the water bodies.* Industrial activity without proper treatment plants (ETPs and CETPs) is not to be allowed by the State PCBs and the Secretaries, Environment of the States/UTs are to be answerable. Thus, the source for financial resources for the STPs, stands finalized under the binding judgment of the Hon'ble Supreme Court. Authorities and persons accountable are identified. Rigid implementation has been laid down. This Tribunal has been required to monitor compliance of the directions and timelines.

16. It is in this background that the present report needs to be appraised and further directions given. As regards the Environmental compensation regime fixed for industrial units, GRAP, solid waste, sewage and ground water is accepted as an interim measure. With regard to setting up of STPs, while we appreciate the extensive work of the CPCB based on information furnished by States/UTs, the challenge remains about verification of the said data on the one hand and analysis of the steps taken and required on the other. There is already a database available with the CPCB with regard to ETPs, CETPs, STPs, MSW facilities, Legacy Waste sites. This needs to be collated and river basinwise macro picture needs to be prepared by the CPCB in terms of need for interventions, existing infrastructure and gaps therein. The States have given timelines which need to be effectively monitored both by the CPCB and the Chief Secretaries in terms of its execution.
17. As already noted, prevention of pollution of water is directly linked to access to potable water as well as food safety. Restoration of pristine glory of rivers is also of cultural and ecological significance. This necessitates effective steps to ensure that no pollution is discharged in water bodies. Doing so is a criminal offence under the Water Act and is harmful to the environment and public health. 'Precautionary' principle of environmental law is to be enforced. Thus, the mandate of law is that there must be 100% treatment of sewage as well as trade effluents. This Tribunal has already directed in the case of river Ganga that timelines laid down therein be adhered to for setting up of STPs and till then, interim measures be taken for treatment of sewage. There is no reason why this direction be not followed, so as to control pollution of all the river stretches in the country. The issue of ETPs/CETPs is being dealt with by an appropriate action against polluting industries. Setting up of STPs and MSW facilities is the responsibility of Local Bodies and in case of their default, of the States. Their failure on the subject has to be adequately monitored. Recovery of compensation on 'Polluter Pays' principle is a part of enforcement strategy but not a substitute for compliance. It is thus necessary to issue directions to all the States/UTs to enforce the compensation regime, latest with effect from 01.04.2020. We may not be taken to be condoning any past violations. The States/UTs have to enforce recovery of compensation from 01.04.2020 from the defaulting local bodies. On failure of the

*States/UTs, the States/UTs themselves have to pay the requisite amount of compensation to be deposited with the CPCB for restoration of environment. The Chief Secretaries of all the States may furnish their respective compliance reports as per directions already issued in O.A. No. 606/2018.”*

**“II. Report dated 14.08.2019 with regard to monitoring of CETPs**

18. *The Committee inspected 127 CETPs in 14 States. Figure of CETP assumed to be 97 was not correct. 66 CETPs were found to be non-compliant. CPCB directed SPCBs to take following steps:*

- “1. SPCBs shall direct non-complying CETPs to take immediate corrective actions to comply with the environmental standards.*
- 2. CETP should be directed to take action as per the recommendations provided at Annexure A-N within a time frame.*
- 3. In case of non-complying CETPs, action as deemed fit including levying of environmental compensation may be taken.*
- 4. In case, OCEMS are not connected with CPCB & SPCB servers, ensure a robust system of physical inspections to verify compliance by drawing samples.”*

**“Discussion on the report dated 14.08.2019**

19. *We accept the recommendation of the CPCB and direct the Chief Secretaries, State Governments, Union Territories and the SPCBs/PCCs to take further action accordingly and furnish an action taken report accordingly. The CPCB to meanwhile compile and collate information with regard to ETPs, CETPs, STPs, MSW Facilities, Legacy Waste dump sites and complete the pending task on the subject before the next date and furnish a report.*

20. *The environmental compensation regime for CETP not meeting the prescribed norms need to be evolved by the CPCB.”*

**(emphasis supplied)**

7. *After the above discussion, this Tribunal proceeded to issue following directions:*

**“Directions**

21. *We may now sum up our directions:*

- (i) The Environmental compensation regime fixed for industrial units, GRAP, solid waste, sewage and ground water in the report dated 30.05.2019 is accepted and the same may be acted upon as an interim measure.*

- (ii) SPCBs/PCCs may ensure remedial action against non-compliant CETPs or individual industries in terms of not having ETPs/fully compliant ETPs or operating without consent or in violation of consent conditions. This may be overseen by the CPCB. CPCB may continue to compile information on this subject and furnish quarterly reports to this Tribunal which may also be uploaded on its website.
- (iii) All the Local Bodies and or the concerned departments of the State Government have to ensure 100% treatment of the generated sewage and in default to pay compensation which is to be recovered by the States/UTs, with effect from 01.04.2020. In default of such collection, the States/UTs are liable to pay such compensation. The CPCB is to collect the same and utilize for restoration of the environment.**
- (iv) The CPCB needs to collate the available data base with regard to ETPs, CETPs, STPs, MSW facilities, Legacy Waste sites and prepare a river basin-wise macro picture in terms of gaps and needed interventions.
- (v) The Chief Secretaries of all the States/UTs may furnish their respective compliance reports on this subject also in O.A. No. 606/2018.**

List for further consideration on 21.05.2020, unless required earlier. A copy of this order be placed on the file of O.A. No. 606/2018 relating to all States/UTs and be sent to Chief Secretaries of all States/UTs, Secretary MoEF&CC, Secretary Jal Shakti and Secretary, MoHUA.

**(emphasis supplied)**

8. Before proceeding further, we may also note further order of this Tribunal dated 06.12.2019 in O.A. No. 673/2018 directing as follows:

**“XII. Directions:**

47. We now sum up our directions as follows:

- i. 100% treatment of sewage may be ensured as directed by this Tribunal vide order dated 28.08.2019 in O.A. No. 593/2017 by 31.03.2020 atleast to the extent of in-situ remediation and before the said date, commencement of setting up of STPs and the work of connecting all the drains and other sources of generation of sewage to the STPs must be ensured. If this is not done, the local bodies and the concerned departments of the States/UTs will be liable to pay compensation as already directed vide order dated 22.08.2019 in the case of river Ganga i.e. Rs. 5 lakhs per**

**month per drain, for default in in-situ remediation and Rs. 5 lakhs per STP for default in commencement of setting up of the STP.**

- ii. Timeline for completing all steps of action plans including completion of setting up STPs and their commissioning till 31.03.2021 in terms of order dated 08.04.2019 in the present case will remain as already directed. In default, compensation will be liable to be paid at the scale laid down in the order of this Tribunal dated 22.08.2019 in the case of river Ganga i.e. Rs. 10 lakhs per month per STP.**
- iii. We further direct that an institutional mechanism be evolved for ensuring compliance of above directions. For this purpose, monitoring may be done by the Chief Secretaries of all the States/UTs at State level and at National level by the Secretary, Ministry of Jal Shakti with the assistance of NMCG and CPCB.
- iv. For above purpose, a meeting at central level must be held with the Chief Secretaries of all the States/UTs atleast once in a month (option of video conferencing facility is open) to take stock of the progress and to plan further action. NMCG will be the nodal agency for compliance who may take assistance of CPCB and may give its quarterly report to this Tribunal commencing 01.04.2020.**
- v. The Chief Secretaries may set up appropriate monitoring mechanism at State level specifying accountability of nodal authorities not below the Secretary level and ensuring appropriate adverse entries in the ACRs of erring officers. Monitoring at State level must take place on fortnightly basis and record of progress maintained. The Chief Secretaries may have an accountable person attached in his office for this purpose.
- vi. Monthly progress report may be furnished by the States/UTs to Secretary, Ministry of Jal Shakti with a copy to CPCB. Any default must be visited with serious consequences at every level, including initiation of prosecution, disciplinary action and entries in ACRs of the erring officers.
- vii. As already mentioned, procedures for DPRs/tender process needs to be shortened and if found viable business model developed at central/state level.**
- viii. Wherever work is awarded to any contractor, performance guarantee must be taken in above terms.**

- ix. *CPCB may finalize its recommendations for action plans relating to P-III and P-IV as has been done for P-I and P-II on or before 31.03.2020. This will not be a ground to delay the execution of the action plans prepared by the States which may start forthwith, if not already started.*
- x. *The action plan prepared by the Delhi Government which is to be approved by the CPCB has to follow the action points delineated in the order of this Tribunal dated 11.09.2019 in O.A. No. 06/2012.*
- xi. *Since the report of the CPCB has focused only on BOD and FC without other parameters for analysis such as pH, COD, DO and other recalcitrant toxic pollutants having tendency of bio magnification, a survey may now be conducted with reference to all the said parameters by involving the SPCB/PCCs within three months. Monitoring gaps be identified and upgraded so to cover upstream and downstream locations of major discharges to the river. CPCB may file a report on the subject before the next date by e-mail at [judicial-ngt@gov.in](mailto:judicial-ngt@gov.in).*
- xii. *Rivers which have been identified as clean may be maintained.”*

9. Accordingly, we direct the Central Pollution Control Board (CPCB) to send a team of officers to examine the matter and calculate the Environmental Compensation (EC) for the discharge of sewage into the water bodies or where untreated water is discharged into the sea/creek/open spaces without any treatment and calculating the amount of compensation and proceed according to law and submit a report before the Tribunal. After notice, the respondent no. 2-Urban Development Department, State of Maharashtra has submitted a reply which is as follows:

*“Municipal Corporation of Greater Mumbai (MCGM) is a body corporate duly constituted under the provisions of Mumbai Municipal Corporation Act, 1888 and also a planning authority in accordance with Maharashtra Regional and Town Planning act, 1966. In accordance with the abovementioned Acts, MCGM is duly constituted authority to implement the provisions of the MMC Act, 1888 and MRTP Act, 1966 within the limits of Greater Mumbai.*

*Under chapter IXA including article 243A of constitution of India, read with Schedule XII-the Municipality has obligation to deal with the public health, sanitation conservancy and solid waste management.*

*Provision of sewerage facility is the part of obligatory duties of the Municipal Corporation under section 61 of Chapter 3 of Mumbai Municipal Corporation Act, 1888. The obligation of Municipal Corporation pertains to planning construction, operation and conservations and maintains of systems. Section 220, 221, 222, 223, 224 and 225 of Chapter IX of Mumbai Municipal Corporation Act, 1888 deal with drainage and draining works and Section 239 and 259A of Mumbai Municipal Corporation Act, 1888 deals with disposal of sewerage.”*

10. The perusal of the reply shows complete carelessness, negligence and non-compliance of the rules by the Government Authorities and shifted the liability and responsibility on the Bombay Municipal Corporation of Greater Mumbai and no method or remedial measures had been taken in case the orders/rules and provisions contained in the Constitution are not followed by the Municipal Corporation. Respondent no. 2 has shown the provisions contained in Mumbai Municipal Corporation Act, 1888 which provides as follows:

*“220. All drains [vesting in or] belonging to the corporation-which in this Act are referred to as “Municipal drains”-shall be under the control of the Commissioner.*

*220A. (1) Any natural water-course heretofore belonging to 9[Government] by which rain water or drainage of any kind is carried, may, on application to the State Government made by the Commissioner with the previous approval of the Standing Committee be vested in the corporation, Provided that—*

*(a) it shall be in the discretion of the State Government in each case to determine whether a particular water-course so applied for shall be so vested, and*

*(b) a resolution of the State Government declaring that a water-course so applied for may be made over to the corporation shall, from the date thereof, operate to vest such water-course in the corporation.*

221. (1) *The commissioner shall maintain and keep in repair all municipal drains and, when authorised by the corporation in this behalf, shall construct such new drains as shall from time to time be necessary for effectually draining Brihan Mumbai.*

(2) *The Commissioner shall also, in the case of any street in which there is a municipal drain, construct at the charge of the municipal fund such portion of the drain of any premises to be connected with such municipal drain as it shall be necessary to lay under any part of such street and the portion of any connecting drain so laid under the street shall vest in the corporation and be maintained and kept in repair by the Commissioner as a Municipal drain.*

222. (1) *The Commissioner may carry any Municipal drain through, across or under any street, or any place laid out as or intended for a street; or under any cellar or vault which may be under any street, and, after giving reasonable notice in writing to the owner or occupier, into, through or under any land whatsoever within Brihan Mumbai, or, for the purpose of out fall or distribution of sewage without Brihan Mumbai.*

(2) *The Commissioner may enter upon, and construct any new drain in the place of an existing drain, in any land wherein any municipal drain has been already lawfully constructed or repair or alter any municipal drain so constructed.*

(3) *In the exercise of any power under this section, as little damage as can be, shall be done, and compensation shall be paid by the Commissioner to any person who sustains damage by the exercise of such power.*

223. (1) *Without the written permission of the Commissioner no building wall or other structure shall be newly erected, and no street or railway shall be constructed over any municipal drain.*

(2) *If any building wall or other structure be so erected or any street or railway be so constructed, the Commissioner may, with the approval of the Standing Committee, remove or otherwise deal with the same as he shall think fit, and the expenses thereby incurred shall be paid by the person offending.*

224. (1) *The Commissioner may enlarge, arch over or otherwise improve any Municipal drain, and may discontinue, close up or destroy any such drain which has, in his opinion, become useless or unnecessary.*

(2) *Provided that the discontinuance, closing up or destruction of any drain shall be so done as to create the least practicable nuisance or inconvenience to any person and, of by reason of anything done under this section any person is deprived of the lawful use of any drain, the Commissioner shall, as soon as*

*may be provide for his use some other drain as effectual as the one which has been discontinued, closed up or destroyed.*

*225. (1) The Municipal drains shall be so constructed, maintained and kept as to create the least practicable nuisance and shall be from time to time properly flushed, cleansed and emptied.*

*(2) For the purpose of flushing, cleansing and emptying the said drains, the Commissioner may, when authorised by the corporation in this behalf, construct or set up such reservoirs, sluices, engines and other works, as he shall from time to time deem necessary.*

*239. Whenever it is provided in this Chapter that steps shall or may be taken for the effectual drainage of any premises, it shall be competent to the Commissioner to require that shall be one-drain for sullage, excrementitious matter and polluted water and another an entirely distinct drain for rain water and unpolluted sub-soil water or for both rain-water and unpolluted sub-soil water each emptying into separate municipal drains or other places legally set apart, for the drainage or other suitable places.*

*259. (1) On the written request of any person who is required under any of the provisions of this Chapter to supply any materials or fittings or to do any work, the Commissioner may, in such person's behalf supply the necessary materials or fittings, or cause the necessary work to be done; but he shall not do so in any case to which the provisions of section 493 or 495 will not apply, unless a deposit is first of all made by the said person of a sum which will, in the opinion of the Commissioner, suffice to cover the cost of said materials, fillings and work."*

11. According to the research VJTI (Darshan Sansare, principal investigator), the total 186 outfalls in Mumbai, 135 are above mean sea level but below the high tide level, 46 outfalls below mean sea level, and 2,000km roadside open drain system that are mostly clogged with plastic and waste. Only 6 outfalls are above high tide level. Flash floods and high tides therefore cause most of the outfalls to submerge under the sea water leaving it useless for disposal of city water. Of the 186 outfalls, there are 85 major outfalls in city which drain sewage mixed with plastic to Arabian Sea directly, eight at Mahim creek and 12 at Mahul creek. There

are 29 outfalls in western suburbs draining directly into sea while 14 drain into Mithi river which ultimately joins Mahim creek. In eastern suburbs, 14 outfalls discharge in Thane creek while six discharge in Mahul creek and 8 into Mahim creek.

- i. Approximately 25% of the city's sewage enters water bodies untreated, leading to poor water quality and leaving quantities of trash along Mumbai's beaches.
- ii. Solid waste comprising of plastic carry bags, thermocol plates, Styrofoam cups etc., finds its way into the mangroves through tidal action. Presently, the plastic materials have no obstruction and no way of being collected separately.
- iii. Creeks, rivers and the sea along Mumbai's 437.71 sq km coastal stretch, are under threat from continuous discharge of municipal solid waste, plastic waste etc. directly into nullahs by the general public and slums areas. Discharge of untreated domestic waste accounts for 93% of the source of pollution for these water bodies.
- iv. It is version of the State Pollution Control Board that they are regularly issuing reminders to BMC regarding the actions taken to collect, segregate, store, transport and dispose waste, and treat it under the directions of Water (Prevention and Control of Pollution) Act, 1974, and new guidelines set by the Central Pollution Control Board for sewage discharge. BMC has not taken required effective steps to comply with the said Act and rules made thereunder and continuing the sewage or untreated water are being discharged into the water bodies polluting the environment.

- v. Water along Mumbai's coast is dirtiest around Juhu, Girgaum Chowpatty and Haji Ali, but the city's filthiest water is in the Mithi River which flows into the Mahim creek.
- vi. Maharashtra Pollution Control Board (MBPC) has analysed water quality along Mumbai's coast between January and May to create a Water Quality Index (WQI). Juhu, Girgaum and Haji Ali recorded 44, 45 and 45.2 WQI levels, Mahim recorded 45.2, Worli Sea-face 46.1, Nariman Point 46.8 and Dadar Chowpatty 46.8. WQI between 38 and 50 is classified as polluted; a reading between 63 and 100 indicates clean water. Mithi's WQI is 28, which means highly polluted water. Thane creek, Versova and Gateway of India has relatively cleaner water.
- vii. The level of oxygen will decline if poor water quality marred with sewage and plastic take over the surface of areas close to the coast. Not only will it wipe out marine life, it will lead to a tremendous drop in fish catch.
- viii. There is no control on the sewage entering the sea. This has led to brown coloured muddy coastal water, which turns darker during sewage discharge daily.
- ix. The water quality assessment which was reported be done before the monsoon season, has probably worsened now and if the same study is taken into account, the Water Quality Index (WQI) levels will be far worse than what is currently seen. This is because most of the sewage, stuck in pipelines or nullahs, is now being pushed into the sea.
- x. According to the report the city produces sewage amounting to 2,200 to 2,400 million litres per day (MLD). Of this, the

civic body treats 1,500 MLD at Bhandup, Ghatkopar, Versova, Malad, Colaba, Worli and Bandra sewage treatment plants (STPs). Of the remaining 700-900 MLD, private STPS are treating some of the sewage at hotels and housing complexes while remaining pours into rivers, streams, creeks or directly at sea.

- xi. Apart from sensitising slums along the coastline or river bodies, the state government has sanctioned the development of more sewage treatment plants across the city, especially at marine outfalls. The process will take time but within a year, we expect another 500MLD to be treated per day.
- xii. At least 3,000 million litres of untreated sewage and industrial effluents flow into rivers, water bodies or percolates into the ground in Maharashtra every day.
- xiii. With regard to the river Ullhas and Waldhuni, the Apex Court had already stated that there is absolutely no coordination between authorities to protect the rivers.
- xiv. Accordingly and undisputedly 85 major outfalls of the city are discharging the sewage and untreated water drains into the water bodies and in light of the above observation with regard to the parameter for realisation of environmental damage/ environmental compensation at the rate of Rs. 5 lakhs per drain per month calculation if it is multiplied by 85 drains it comes 4.25 crores per month and if arrears is calculated from 01<sup>st</sup> April, 2020 till seven months and it comes to about 29.75 crores. Accordingly, the BMC is responsible for payment of environmental damage according the parameter laid down by the CPCB and the Principal

Bench of this Tribunal at the rate of 5 lakhs per drain per month amounting to Rs. 4.25 crores per month and the pending liability 29.75 crores. Further during the rainy season, it is seen that the total Bombay city is paralysed due to the water logging. The management of the BMC is not only poor but against the humanity. The persons residing there pay the municipal taxes and presume that they are living in city which is commercial centre of the country and important city. At the time of rainy season when there is a water logging of more than 3 feet it becomes very difficult for the persons residing there and to pass their livelihood and the life also. The Fundamental Right as guaranteed under Article 21 of the Constitution of India guaranteed the freedom of life in good environmental atmosphere but by the inaction or negligence on the part of those to whom public duties have been entrusted causing mischief to the public and damage to the public life and property. Thus, BMC is further directed to ensure that there should be no water logging in rainy season and remedial measures be immediately taken.

12. It is further argued that respondent no. 1 is the implementing authority responsible for effectuating the directions sought by the applicants in view of the following mandatory constitutional and legal provisions:

(a) Article 243W r/w Twelfth Schedule of Constitution of India, 1950 obligates Municipality to deal with public health, sanitation conservancy and solid waste management.

- (b) Article 48-A of the Constitution of India, 1950 enshrines that it is the fundamental duty of the State to preserve and protect the environment and water bodies.
- (c) Section 61 of Mumbai Municipal Corporation Act, 1881 makes it incumbent upon respondent no. 1 to construct, maintain and clean drains and drainage works, public latrines and similar conveniences. Section 220 to 225 of MMC Act, 1888 deal with drainage works and Sections 239 and 259A of MMC Act, 1888 deal with disposal of sewage.
- (d) Section 5 of Maharashtra Non-Biodegradable Garbage (Control) Act, 2006 mandates respondent no. 1 to provide for public receptacles, depots or places for deposit or collection of non-biodegradable garbage and arrange for recycling of such non-biodegradable garbage.
- (e) Rule 15(g) of Solid Waste Management Rules, 2016 mandates the local authority to direct and ensure waste generators not to litter, dispose of any waste such as plastic materials, paper, water bottles, liquor bottles, cans, tetra packs, wrappers, etc. in drains and waste bodies.
- (f) Rule 15(k)(l) of SWM Rules, 2016 mandates local authorities to facilitate construction, operation and maintenance of solid waste processing facilities.
- (g) Rule 6 of Plastic Waste Management Rules, 2016 makes respondent no. 1 responsible for ensuring that no damage is caused to the environment while processing and managing plastic waste.

13. In *M.C. Mehta v/s Union of India & Ors. [1988 (1) SCC 471]*, the Hon'ble Supreme Court has directed that concerning untreated and raw sewage in water bodies such as Ganga, statutory provisions concerning municipal bodies need to be strictly enforced to stop discharge of untreated sewage and effluents.
14. In *Manoj Mishra v/s Union of India (2015 SCC OnLine NGT 840)*, a 5 judge-bench of this Tribunal dealt with the issue of pollution in river Yamuna and observed that dumping of untreated sewage and solid waste was a major source of pollution whereby the faecal coliform was observed at 30 times the prescribed standards and that this Tribunal had passed a slew of directions including setting up of STPs to tackle the problem.
15. In *Meera Shukla v/s Municipal Corporation, Gorakhpur (2014 SCC OnLine NGT 2504)*, this Tribunal considered pollution of *Ramgarh Lake, Ami River, Rapti River and Rohani River* in and around District Gorakhpur on account of discharge of untreated sewage and it was noted that there was no proper management of solid waste disposal, leading to various vector borne diseases and health problems.
16. In *Subhash Kumar v/s State of Bihar [AIR 1991 SC 420]*, the Hon'ble Supreme Court has declared that right to a wholesome environment including right to a pollution-free water and air formed an integral part of right to life enshrined under Article 21 of the Constitution of India, 1950.
17. In *Dr. B.L. Wadehra v/s Union of India & Ors. [(1996) 2 SCC 594]* which concerned dumping of untreated sewage into Yamuna river, the Hon'ble Supreme Court, while directing that collection and

disposal of garbage needs to be taken seriously to keep the city clean, it has also declared that non-availability of funds, inadequate staff and insufficient machinery to implement the law cannot be pleaded as grounds for non-performance of statutory duties by local authority.

18. As far as protection of mangroves is concerned, the Hon'ble Supreme Court in *Krishnadevi Malchand Kamathia and Ors. v/s Bombay Environmental Action Group and Ors* [(2011) 3 SCC 363] has held that mangroves and other wetlands in CRZ-I area cannot be disturbed and that courts cannot be blind to the reality of such a situation. Further, Bombay HC in *Bombay Environmental Action Group v/s State of Maharashtra & Ors.* (PIL No. 87 of 2006, decided on 17.09.2018) has held that mangroves enjoy utmost protection under the CRZ Notification and that mangroves cannot be destroyed or continued to remain polluted.
19. Therefore, in view of the above legal position and the fact that there is an uncontroverted position between all respondent authorities that creek, coastal waters, beaches and coastal wetlands of Mumbai remain polluted due to discharge of untreated sewage and solid particles/plastics, wholly due to failure of respondent no. 1 in implementing its above-stated statutory obligations. Handling and disposal of waste is the sole responsibility of respondent no. 1 and the forest department cannot be expected to do the work of removing garbage that comes in from urban areas administered and controlled by respondent no. 1.
20. The respondent no. 5 – The Chief Conservator of Forests has submitted the reply which is as follows:

*“3. The subject matter of the present original application is pollution in coastal wetlands and mangroves, and the action expected to be taken by the Municipal Corporation of Greater Mumbai in this respect.*

*4. The issue raised by the applicant is a serious one affecting the health of mangroves, wetlands and the coastal ecosystem. These ecosystems are choked with the enormous quantity of solid waste that is being generated by the city. The measure suggested by the applicant can have a positive impact on mitigating this high level of pollution.*

*5. Government of Maharashtra has declared 4000 hectares of mangroves on government land in Mumbai and Mumbai Suburban District as Reserved Forests u/s 4 of the Indian Forest act, 1927. An additional 1775 hectares of mangroves on private land in Mumbai suburban District has been declared as “Forests” as per the directions of the Hon’ble High Court of Bombay, dated 6<sup>th</sup> October 2005. A dedicated Cell called ‘Mangrove Cell’ has been formed in January 2012 for the conservation of mangroves in the State. Further, a specialized unit called Mumbai Mangrove Conservation Unit (MMCUC) has also been set up by the Government since May 2013. The Mangrove Cell and the MMCUC has initiated several steps for conservation of mangroves, such as mangrove plantations, removal of encroachment in mangrove areas, intensive patrolling through deployment of trained security personnel etc. As a result of the above measures, the mangrove cover in Mumbai Suburban District has registered a sharp increase from 43 square kilometers in 2013 to 64 square kilometers in 2017. Illegal dumping of debris in mangrove areas have also registered a steep decline during this period.*

*6. Mangrove Cell has recognized the enormity of the problem of solid waste accumulation in the mangrove areas of Mumbai and initiated concrete steps to curb the menace. Since January 2018, Mangrove Cell has launched a ‘Clean Mangrove Campaign’ targeting nine locations in Mumbai. Labourers were engaged continuously to remove solid waste from the mangrove areas of these nine locations. On the weekends, they would be joined by students, NGOs, local residents and citizens’ groups. About 14,000 volunteers thus joined this campaign, which lasted till June 2018. As a result of this massive campaign, about 8000 tons of garbage and debris have been removed from mangrove areas of Mumbai. This initiative is being widely hailed as one of the biggest government-citizen initiative towards environmental protection in the country.*

*7. Mangrove Cell has taken several steps to spread awareness about the issue of solid waste accumulation in mangrove areas using all the available means. The proof of the effectiveness of this campaign is the massive participation of students from schools and colleges and volunteers from all walks of lives in it. It is proposed to increase the number of*

locations and volunteers for this campaign, when it resumes after the monsoon.

8. The Respondent-Mangrove Cell had written a letter dated 15.04.2017 to the Respondent 1-Commissioner, MCGM-highlighting the issue of solid waste in mangrove areas and seeking the help of the local body in addressing the problem. The Municipal Corporation of Greater Mumbai has extended due cooperation in removing the collected garbage from the sites to their dump yards. The issue has also been discussed in the meetings of the Committee Chaired by Divisional Commissioner regarding conservation of mangroves.

9. Mangrove Cell is making all efforts to contain the issue of accumulation of solid waste in mangrove areas. However the removal of accumulated waste alone will not help in finding a lasting solution to this problem. Segregation of waste at source is absolutely necessary. Till this happens, the measures suggested by the applicant can serve as an intermediate and partial solution to the problem.”

21. This Tribunal vide order dated 07.07.2020 directed the Divisional Forest Officer, Mumbai Mangrove Conservation Unit and MSPCB to submit the remedial measures which are required to be taken to control the pollution caused by solid waste and *debries* dumping in mangrove areas. In compliance of the order, the joint Committee had submitted a report which is as follows:

**“A. Divisional Forest Officer, Mumbai Mangrove Conservation Unit:-**

*Mangrove are natural capital of the city of Mumbai, for city starved of open spaces, mangroves can acts as green oasis, if keep clean and healthy. For this the present perception of mangroves as a garbage can of city has to change. Major threats of mangroves are deposition of enormous quantity of solid waste in them. Much of this waste is non-biodegradable, they settle on breathing of roots of mangroves, choking to them death. Following suggestions are being submitted in this regard.*

*The management plan for Thane Creek Flamingo Sanctuary is approved by the Chief Wildlife Warden & APCCF (Wildlife) Maharashtra State, dated 18<sup>th</sup> June 2020. As per the approved management plan, the following action plan is suggested to control the pollution caused by solid wastes & debris dumping.*

- a. *Municipal Corporation of Greater Mumbai should ensure the mangrove area is kept to plastic free zone. It is recommended to install Trash Boom or Trash Trap for*

collection of floating plastic and other wastes & its disposal.

- b. All sewage should be treated at the source and then release into Creek via streams. This will be taken up by Municipal Corporation of Greater Mumbai for implementation. It will be the responsibility of Municipal Corporation of Greater Mumbai to ensure proper functioning of treatment plants & release treated sewage water to the Creek.
- c. Natural streams used as sewage canals should be stopped immediately and restoration should be carried out to recover the beauty of mangroves of Mumbai and adjoining Thane District.
- d. Monitoring of the pollution level should be carried out as per the guideline laid down in the Environment (Protection) Act 1986 by the Maharashtra Pollution Control Board.

A base line study was done by IIT Mumbai for MTHL Project regarding Mahul Trombay Creek Pollution Level for preparing proposal of Effluent Treatment Plant. The report was submitted to MMRDA. The report has given the following method or technological solution to control the floating matter removal, and Sediment Removal.

**(i) Floating Matter Removal Technologies**

- a. **Debris Deflector:** Deflectors are placed upstream to direct the debris around the structure and separate it. By deflecting the debris, it can remove the incoming floating matter.
- b. **Debris racks:** Racks made of inclined vertical bars are placed in the stretch from bottom to above the water surface. They accumulate the floating matter around the structure along with reducing the head loss at the same time.
- c. **Debris Cribs:** Crib-like structure placed vertically in the stretch to interrupt the flow of coarse load and light floating debris.
- d. **Debris Dam:** Dam like structure to obstruct the flow and collect the floating matter coming along with the stream. Used with heavy debris loads.
- e. **Booms:** Floating booms with mesh skirts to collect floating debris and litter. They are spread across the entire waterway and are partly submerged to contain the debris.
- f. **Deflector Screen:** Designed specially to remove floating matter from the narrow streams and rivers with high flow rate and large amount of debris. This system comes with an inbuilt facility for removal as well as collection of the waste.

*g. Out of these; the report has **recommended deflector screens and booms** considering the efficiency and maintenance of them.*

**(ii) Sediment Removal Technologies**

- a. **Temporary Sediment Removal:** Temporary pond is formed by an earthen embankment with a stone outlet. This structure holds the sediment while letting off the water to flow through.*
- b. **Temporary Silt Trap:** Sediment is retained by forming a trap of stone embankment or excavations or stone-filled bags. It is a temporary trap or basin where sediments settle out.*
- c. **Rock Ditch Check/Check Dam:** Semi-permanent or permanent structure made of stone.*
- d. **Bale Ditch Checks:** It intercepts run-off and filters sediments to let them settle. It checks erosion and allows water to flow through.*
- e. **Vegetated Swales:** A broad shallow channel with a dense strand of vegetation covering the side slope and bottom, designed to trap the particulate pollutants.*
- f. **Hydrodynamic Separators:** They are flow-structures with a settling or separation unit to remove sediments and other pollutants from the storm water.*
- g. **Gross Pollutant Traps:** Sediment trap with a litter rack, located at downstream end.*
- h. **Silt Trap:** Works on the principle of discrete settling and a suitable retention time.*
- i. Out of these; the report has **recommended silt trap, sediment traps and gross pollutant traps** considering the efficiency and maintenance of them.*

*Concerned Municipal corporations such as Municipal Corporation of Greater Mumbai, Navi Mumbai Municipal Corporation, Thane Municipal Corporation should implement these technological interventions wherever possible on priority basis.”*

22. Additional Chief Conservator of Forests, Mangrove Cell Mumbai has circulated a letter and directed the Municipal Corporation of Greater Mumbai, Mumbai vide letter dated 15.04.2017 to clean mangrove campaign as follows:

*“Mumbai is one of the very few cities in the world, which can boast of a substantial mangrove cover. Mangroves are the*

*green lungs for Mumbai and are crucial for maintaining the environmental balance of the city. They help in flood regulation, shoreline erosion control and climate change mitigation, besides providing a habitat for several species of fishes, birds, reptiles and mammals. About 4000 hectares of mangroves in Greater Mumbai are notified as Reserved Forests and another 1775 hectares of private land are notified as forests, as per the direction of the Hon'ble High Court of Bombay. The 'Mangrove Cell' of Maharashtra Forest Department implements several programmes for their conservation and enrichment, including removal of encroachments, development of mangrove plantations and promoting natural regeneration of mangrove areas.*

*A major threat to the mangroves of Mumbai is the deposition of enormous quantity of solid waste in them. Much of this waste is non-biodegradable and they settle on the breathing roots of mangroves, choking them to death. These mangroves have also become breeding grounds for mosquitos, due to insufficient tidal flushing. To address this issue, a 'Clean Mangrove Campaign' was launched by Mangrove Cell on 27<sup>th</sup> December 2016 at Carter Road, Bandra, with the objective of cleaning up mangrove areas with the help of volunteers and local residents.*

*The latest programme in this campaign was organised at Versova-Link Road on 13<sup>th</sup> April, when Shri Satish Tripathi, former Addl. Chief Secretary, Govt. of Maharashtra took the initiative to take this campaign to his place of residence. On this day, 200 volunteers removed about 30 tons of garbage in just a few hours, but found themselves unable to even scratch the surface of the problem. While volunteerism helps to drive home the magnitude of the problem among local residents, it can hardly make a dent in reducing the quantum of filth and garbage that have been accumulated over the years. We are now convinced that a more systematic and sustained campaign is required to address this menace, and this can only be done with the support of MCGM.*

*In this regard, the matter was discussed with Secretary (Forests) and the following plan of action is submitted for your kind consideration:*

- 1. Around 10 locations in Greater Mumbai can be selected initially for a sustained clean-up drive. Suggested locations are Versova, Carter Road, Juhu, Charkop, Mahim, Bhandup, Kanjur Marg, Vikhroli, Sewri and Colaba.*
- 2. Garbage removal will be carried out throughout the year at these locations, except when the place becomes inaccessible during the monsoons. This can be done by engaging the required number of rag-pickers on a daily wage/contract basis. Alternatively, the entire work can be contracted out to an agency, with a definite time frame and measurable outputs.*

3. *To prevent mosquito breeding and other health hazards arising Out of spreading of sewage and choking of drains, efforts will be made to facilitate better tidal flushing to these mangrove areas.*
4. Local residential associations and interested NGOs will be engaged in the campaign to the extent possible.
5. *Technical support, supervision and monitoring will be the responsibility of the Mangrove Cell/Mangrove Foundation.*

*Mangroves are the natural capital of the city of Mumbai and we need to nurture this asset carefully. For a city starved of open spaces, mangroves can act as green oases, if they are kept clean and healthy. For this, the present public perception of mangroves as garbage cans of the city, has to change We are optimistic that this campaign will have a huge positive impact and help create more recreational spaces in the city. It will also help in the conservation of mangroves of the city and thereby enable the citizens to enjoy the many environmental benefits that come with it.*

*It is my humble request to you to extent MCGM's support to this campaign by providing the necessary financial assistance for this campaign and also with in-kind contributions in the form of equipments and vehicles, and sparing the services of the Corporation's sewage disposal machinery. MCGM can also help in outreach support by including this campaign in the awareness programmes on matters of public interest, which I understand, you are doing on a regular basis. More details of the campaign, including financials, can be worked out once this proposal is agreed in principle."*

23. Next issue raised by the applicant is that they are actively involved in the beach cleaning activities around the beaches in Mumbai. Other citizens groups have been cleaning the beaches daily for over a 100 weeks but the problem couldn't be resolved as the source of the problem still remains. The recent cyclone Ockhi that hit the western coast deposited tons of plastic and non-degradable waste on the shores of Mumbai and on its beaches.
24. The applicants have engaged in periodic removal of this trash from the mangroves but the sheer volume of waste makes it near impossible to do it. With every high tide, fresh waste comes in and

accumulates near the roots of the mangroves and blocking the entire surface of the wetlands.

25. The applicant has cited *PIL No. 87/2006 (Bombay Environmental Action Group V/s State of Maharashtra 2018*, decided on 17.09.2018 and quoted following relevant paragraphs:-

3. In paragraph (i)4 of the petition, mangroves have been described. Paragraph (i)4 reads thus:—

“(i) What are ‘mangroves’?”

4. Mangroves are intertidal (growing between the high tide and low tide line) evergreen forests growing on the soft marshy lands of a creek, estuary or a bay in the tropical and sub tropical regions. The expression ‘mangrove’ does not apply to a single species of plants, but to a complete ecosystem which is a conglomeration of several species of flora, fauna and biotic features in an area, and their interaction with each other. Mangroves are a peculiar habitat because they are found on the boundary between the land and the sea. They are found almost entirely in the tropical and sub tropical regions, that is, between 30 degrees north and 30 degrees south latitude, and are an extension of the tropical rain forests towards the sea. They are found largely in the estuarine regions where a river meets the sea, the intertidal regions of shallow bays and creeks. As extensions of the tropical rain-forests in to the sea, mangroves are functionally as important as the tropical rain-forests. Moreover, they are additionally important for the protection of the seashores from erosion, wave action, high-winds and cyclones. Mangroves being intertidal forests are equal to tropical forests, however their importance is not merely in their forest value but due to their strategic location between the land and the sea. Mangroves are the life line of any coastal area and perform invaluable protective functions for the environment. The importance of mangroves is set out below:”

(emphasis added)

4. The petition sets out the functions and importance of mangroves which can be briefly summarized as under:—

A] The mangroves play important role in protecting sea shores from erosion, high winds and cyclone.

B] Mangroves are strategically located between the land and sea and therefore, their importance is not merely in their forest value. The mangroves act as a buffer between the land and sea and play a very important role in fighting tidal erosion. The presence of mangroves does away with

*the need for expensive sea walls. The loss of mangroves endangers the stability of the land.*

*C] The mangroves facilitate reclamation of land from the sea.*

*D] Sometimes mangroves act as flood control by absorbing excess water from the sea.*

*E] Similarly, mangroves protect the land from storms and hurricanes.*

*F] Apart from the fact that mangroves act as natural sewage water filter systems, they also act as natural pollution coastal checks. They absorb natural waste.*

*G] The presence of mangroves on the fringes of the city like Mumbai which has one of the lowest open space ratios in the world ensures that some open spaces are kept open.*

*H] The mangroves are breeding grounds for a number of marine organisms, such as shrimps, crabs and fish. The presence of mangroves keeps the fish relatively free from industrial and other pollution; and*

*I] The mangroves are also centres of biodiversity and are the most productive ecosystems. In Maharashtra, they house panthers, otters, jackals, wild cats, reptiles and birds of numerous varieties. It is pointed out that Thane creek is a home to about 1.5 million birds of 206 different species.*

*5. It is pointed out that Maharashtra has about 18 species of mangroves out of total 55 found in India. It is pointed out that out of 5 coastal districts Mumbai, Thane (now Thane and Palghar), Raigad, Ratnagiri and Sindhudurg, the mangroves in Thane district have undergone maximum destruction. It is pointed out that though comparatively there is no destruction of mangroves in District Sindhudurg, the said district is less favourable to the growth of mangroves because of its geological condition. It is pointed out that in Mumbai also there has been a large destruction of mangroves. It is pointed out that city of Mumbai has been reclaimed from the sea by joining seven islands and it is consistently under pressure from surrounding sea. It is pointed out as to how mangroves in Mumbai have vanished. It is pointed out that in dumping grounds at Gorai and Deonar, water supply to mangroves has been blocked which resulted in destruction of mangroves. It is pointed out that rapid erosions have been noticed in the said area.*

*35. A notification dated 19<sup>th</sup> February 1991 was issued by the Government of India which is known as CRZ notification of 1991 in exercise of powers under Section 3(1) and Section 3(2)(v) of the said Act of 1986. The notification lays down what constitutes a "Coastal Regulation Zone" (for short*

“CRZ”). The material part of the said CRZ notification declaring CRZ reads thus:—

*“Now, therefore, in exercise of the powers conferred by Clause (d) of sub-rule (3) of Rule 5 of the Environment (Protection) Rules, 1986, and all other powers vesting in its behalf, the Central Government hereby declares the coastal stretches of seas, bays, estuaries, creeks, rivers and backwaters which are influenced by tidal action (in the landward side) upto 500 metres from the High Tide Line (HTL) and the land between the Low Tide Line (LTL) and the HTL as Coastal Regulation Zone; and imposes with effect from the date of this Notification, the following restrictions on the setting up and expansion of industries, operations or processes etc. in the said Coastal Regulation zone (CRZ). For purposes of this Notification, the High Tide Line (HTL) will be defined as the line upto which the highest high tide reaches at spring tides.”*

36. Clause 3 provides that all other activities except those which are prohibited will be regulated as provided therein. Annexure-I to the CRZ notification deals with Coastal Area Classification and Development Regulations. CRZ-I is defined thus:—

*“Category I (CRZ-I):*

*(i) Areas that are ecologically sensitive and important, such as national parks marine parks, sanctuaries, reserve forests, wildlife habitats, mangroves, corals coral reefs, areas close to breeding and spawning grounds of fish and other marine life, areas of outstanding natural beauty historical heritage areas, areas rich in genetic diversity, areas likely to be inundated due to rise in sea level consequent upon global warming and such other areas as may be declared by the Central Government or the concerned authorities at the State/Union Territory level from time to time.*

*(ii) Area between the Low Tide Line and the High Tide Line.”*

37. Thus, mangroves fall in CRZ-I category. Annexure-I further lays down that no new structure shall be permitted within 500 meters from the High Tide Line (HTL) and no construction activities except as listed in sub-clause (xii) of clause 2 of the CRZ notification are permitted in CRZ-I area. Sub-clause (xii) of clause 2 reads thus:—

*“(xii) facilities for carrying treated effluents and waste water discharges into the sea, facilities for carrying sea water for cooling purposes, oil, gas and similar pipelines and facilities essential for activities permitted under this Notification; and”*

38. The CRZ notification of 1991 was further amended by a notification dated 18<sup>th</sup> August 1994. The relevant modification is in clause (a) which reads thus:

*“(a) in paragraph 1, for the portion beginning with the words “For purposes of this notification, the High Tide Line” and ending with the words “width of the creek, river or back water whichever is less”, the following shall be submitted, namely:—*

*“For the purposes of this notification, the High Tide Line means the line on the land upto which the highest water line reaches during the spring tide and shall be demarcated uniformly in all parts of the country by the demarcating authority so authorised by the Central Government in consultation with the Surveyor General of India.*

NOTE:-

*The distance from the High Tide Line shall apply to both sides in the case of rivers, creeks and back waters and may be modified on a case by case basis for reasons to be recorded while preparing the Coastal Zone Management Plans. However, this distance shall not be less than 50 metres or the width of the creek, river or back-water whichever is less. The distance upto which development along rivers, creeks and back-waters is to be regulated shall be governed by the distance upto which the tidal effect of sea is experienced in rivers, creeks or back-waters, as the case may be, and should be clearly identified in the Coastal Zone Management Plans.”*

39. Sub-clause (3) (i) of clause 3 of the CRZ notification of 1991 mandated that all coastal States shall prepare a Coastal Zone Management Plan (for short “CZMP”) identifying and classifying CRZ areas within their respective territories in accordance with Annexures - I and II to the CRZ notification. Accordingly, CZMP for Maharashtra was submitted to the Government of India on 22 November 1995. By a letter/order dated 27<sup>th</sup> September 1996, the Ministry of Environment and Forest of the Government of India communicated to the Chief Secretary of the Government of Maharashtra grant of approval to the CZMP subject to conditions incorporated therein. Condition No.(xiii) reads thus:—

*“(xiii) All mangroves with an area of 1000 square metres or more would be classified as CRZ-I with a buffer zone of at least 50 metres.”*

*The Mangroves were already included in CRZ-I in the CRZ notification of 19<sup>th</sup> February 1991. By the aforesaid order dated 27 September 1996, in case of mangroves with an area of 1000 square metres or more, a buffer zone of at least 50 metres along the mangroves was ordered to be included in CRZ-I in addition to mangroves.*

40. An order was issued on 19<sup>th</sup> January 2000 by the Government of India providing that 50 meter buffer zone around mangroves of area of 1000 square meters and above, will not be required on the landward side, provided a road abutting such mangroves was constructed prior to February, 1991. Thus, under the 1991 notification, mangroves were included in CRZ-I. In the CRZ notification of 1991, there was no provision for a buffer zone. The said provision came for the first time by virtue of the order dated 27<sup>th</sup> September 1996 which was amended by the order dated 9<sup>th</sup> January 2000.

41. The CRZ notification of 6<sup>th</sup> January 2011 was issued under section 3(1) of the said Act of 1986 which superseded the earlier CRZ notification of 1991. Relevant part of paragraph 7 reads thus:

“7. Classification of the CRZ - For the purpose of conserving and protecting the coastal areas and marine waters, the CRZ area shall be classified as follows, namely:—

**(i) CRZ-I-**

A. The areas that are ecologically sensitive and the geomorphological features which play a role in the maintaining the integrity of the coast,-

**(a) Mangroves, in case mangrove area is more than 1000 sq mts, a buffer of 50 meters along the mangroves shall be provided;**

(b) Corals and coral reefs and associated biodiversity;

(c) Sand Dunes;

(d) Mudflats which are biologically active;

(e) National parks, marine parks, sanctuaries

Clause (xi) of paragraph 3 provides that all construction activities in CRZ-I are prohibited activities except those specified in paragraph 8. Paragraph 8 lays down the norms for regulation of the activities permissible in CRZ that:

“I. CRZ-I,-

(i) no new construction shall be permitted in CRZ-I except,-

(a) projects relating to Department of Atomic Energy;

(b) pipelines, conveying systems including transmission lines;

(c) facilities that are essential for activities permissible under CRZ-I;

(d) installation of weather radar for monitoring of cyclones movement and prediction by Indian Meteorological Department;

(e) construction of trans harbour sea link and without affecting the tidal flow of water, between LTL and HTL.

- (f) development of green field airport already approved at only Navi Mumbai;
- (ii) Areas between LTL and HTL which are not ecologically sensitive, necessary safety measures will be incorporated while permitting the following, namely:—
  - (a) exploration and extraction of natural gas;
  - (b) construction of dispensaries, schools, public rain-shelter, community toilets, bridges, roads, jetties, water supply, drainage, sewerage which are required for traditional inhabitants living within the biosphere reserves after obtaining approval from concerned CZMA.
  - (c) necessary safety measure shall be incorporated while permitting such developmental activities in the area falling in the hazard zone;
  - (d) salt harvesting by solar evaporation of seawater;
  - (e) desalination plants;
  - (f) storage of non-hazardous cargo such as edible oil, fertilizers and food grain within notified ports;
  - (g) construction of trans harbour sea links, roads on stilts or pillars without affecting the tidal flow of water.”

*In the Guidelines for preparation for CZMP incorporated in the said notification of 2011, it is stated thus:*

*“3. Buffer zone along mangrove areas of more than 1000 sq mts shall be stipulated with a different colour distinguishing from the mangrove area.*

*4. The buffer zone shall also be classified as CRZ-I area.”*

*42. In 1991 CRZ notification, it was provided that all mangrove areas will fall in CRZ-I. By virtue of the order dated 27 September 1996, in case of mangrove areas of 1000 square meters or more, 50 meter buffer zone abutting it was also included in CRZ-I. By order dated 9 January 2000, it was provided that 50 meter buffer zone will not be required to be maintained, provided a road abutting the mangroves was constructed prior to February 1991 (prior to the date on which CRZ notification of 1991 was issued). Under the 2011 notification, all mangroves area fall in CRZ-I irrespective of its area and in case the said area is 1000 square meters or more, even a buffer zone of 50 meters along the said area shall be a part of CRZ-I. Thus, the buffer zone of 50 meters abutting mangroves having an area of 1000 square meters or more was also included in CRZ-I from 27<sup>th</sup> September 1996.*

*43. The CRZ notifications are in the nature of orders or directions issued under the said Act of 1986. Hence, if there is any violation of the provisions of the CRZ notifications regarding mangroves area or its buffer zone or if there is any failure to comply with the same, it will attract the penal provisions under Section 15 of the said Act of 1986 which is attracted in case of the failure to comply with the provisions of orders or directions issued under the said Act of 1986. The conditions imposed in the letter dated 27 September 1996 will*

have to be construed as an order or direction under the said Act of 1986 as CZMP is required to be approved by the Central government in view of the clause 3(i) in the CRZ notification of 1991. Hence, if there is any violation of the condition in the letter dated 27 September 1996 about the 50 meter buffer zone, it will attract penal provision of Section 15 of the said Act of 1986.”

44. Article 48-A in Chapter IV under the title Directive Principles of State Policy of the Constitution of India reads thus:—

“48-A. Protection and improvement of environment and safeguarding of forests and wild life.-**The State shall endeavour to protect and improve the environment and to safeguard the forests and wild life of the country.**”

45. Article 48-A lays down that it is the duty of the State to make an endeavour to protect and improve environment and to safeguard forests. As stated earlier, environment includes plants. Mangroves are essential part of the environment. The land covered by mangroves is to be covered by the concept of forest. Under Article 51(A) (g) of the Constitution, it is the fundamental duty of every citizen of India to protect and improve the natural environment including forests, rivers and wildlife and to have compassion for living creatures. In view of the constitutional mandate under Article 51 (A)(g), it is the fundamental duty of every citizen to protect and improve natural environment including forest which will include mangroves. If this is the obligation of every citizen, the public bodies which are constituted by the citizens are bound by the fundamental duties under Article 51(A). Thus, it is the duty of the State and citizens to ensure that the mangroves are preserved and protected.

46. In the case of *Nature Lovers Movement v. State of Kerala*, in paragraph 2, the Apex Court observed thus:

“2. The Indian society has, for many centuries, been aware and conscious of the necessity of protecting environment and ecology. Sages and saints of India lived in forests. Their preachings contained in vedas, upanishads, smritis, etc. are ample evidence of the society's respect for plants, trees, earth, sky, air, water and every form of life. The main motto of social life is to live in harmony with nature. It was regarded as a sacred duty of everyone to protect them. In those days, people worshipped trees, rivers and sea which were treated as belonging to all living creatures. The children were educated by elders of the society about the necessity of keeping the environment clean and protecting earth, rivers, sea, forests, trees, flora, fauna and every species of life.”

47. In the case of *Association for Environment Protection vs. State of Kerala*, the Apex Court observed thus:

“2. The ancient Roman Empire developed a legal theory known as the “doctrine of the public trust”. It was founded on the premise that certain common properties such as air, sea, water and forests are of immense importance to the people in general and they must be held by the Government as a trustee for the free and unimpeded use by the general public and it would be wholly unjustified to make them a subject of private ownership. The doctrine enjoins upon the Government to protect the resources for the enjoyment of the general public rather than to permit their use for private ownership or commercial exploitation to satisfy the greed of a few.”

48. In the case of *M.C. Mehta v. Kamal Nath*, in paragraph 34 and 35, the Apex Court held thus:

“34. Our legal system - based on English common law - includes the public trust doctrine as part of its jurisprudence. The State is the trustee of all natural resources which are by nature meant for public use and enjoyment. Public at large is the beneficiary of the sea-shore, running waters, airs, forests and ecologically fragile lands. The State as a trustee is under a legal duty to protect the natural resources. These resources meant for public use cannot be converted into private ownership.

35. We are fully aware that the issues presented in this case illustrate the classic struggle between those members of the public who would preserve our rivers, forests, parks and open lands in their pristine purity and those charged with administrative responsibilities who, under the pressures of the changing needs of an increasingly complex society, find it necessary to encroach to some extent upon open lands heretofore considered inviolate to change. The resolution of this conflict in any given case is for the legislature and not the courts. If there is a law made by Parliament or the State Legislatures the courts can serve as an instrument of determining legislative intent in the exercise of its powers of judicial review under the Constitution. But in the absence of any legislation, the executive acting under the doctrine of public trust cannot abdicate the natural resources and convert them into private ownership, or for commercial use. The aesthetic use and the pristine glory of the natural resources, the environment and the ecosystems of our country cannot be permitted to be eroded for private, commercial or any other use unless the courts find it necessary, in good faith, for the public good and in public interest to encroach upon the said resources.”

49. In the case of *Fomento Resorts & Hotels Limited v. Minguel Martins*, in paragraphs 53 to 55 and 65, the Apex Court held thus:

**“53. The public trust doctrine enjoins upon the Government to protect the resources for the enjoyment of the general public rather than to permit their use for private ownership or commercial purposes. This doctrine puts an implicit embargo on the right of the State to transfer public properties to private party if such transfer affects public interest, mandates affirmative State action for effective management of natural resources and empowers the citizens to question ineffective management thereof.**

**54. The heart of the public trust doctrine is that it imposes limits and obligations upon government agencies and their administrators on behalf of all the people and especially future generations. For example, renewable and non-renewable resources, associated uses, ecological values or objects in which the public has a special interest (i.e. public lands, waters, etc.) are held subject to the duty of the State not to impair such resources, uses or values, even if private interests are involved. The same obligations apply to managers of forests, monuments, parks, the public domain and other public assets. Professor Joseph L. Sax in his classic article, “The Public Trust Doctrine in Natural Resources Law: Effective Judicial Intervention” (1970), indicates that the public trust doctrine, of all concepts known to law, constitutes the best practical and philosophical premise and legal tool for protecting public rights and for protecting and managing resources, ecological values or objects held in trust.**

**55. The public trust doctrine is a tool for exerting long-established public rights over short-term public rights and private gain. Today every person exercising his or her right to use the air, water, or land and associated natural ecosystems has the obligation to secure for the rest of us the right to live or otherwise use that same resource or property for the long-term and enjoyment by future generations. To say it another way, a landowner or lessee and a water right holder has an obligation to use such resources in a manner as not to impair or diminish the people's rights and the people's long-term interest in that property or resource, including down slope lands, waters and resources.**

65. **We reiterate that natural resources including forests, water bodies, rivers, seashores, etc. are held by the State as a trustee on behalf of the people and especially the future generations. These constitute common properties and people are entitled to uninterrupted use thereof.** The State cannot transfer public trust properties to a private party, if such a transfer interferes with the right of the public and the court can invoke the public trust doctrine and take affirmative action for protecting the right of people to have access to light, air and water and also for protecting rivers, sea, tanks, trees, forests and associated natural ecosystems.”

50. Public at large has a right to enjoy and have a benefit of our forests including mangroves forest. The pristine glory of such forests must be protected by the State. The mangroves protect our environment. Therefore, apart from the provisions of various statutes, the doctrine of public trust which is very much applicable in India makes it obligatory duty of the State to protect and preserve mangroves.

#### **PRECAUTIONARY PRINCIPLE**

51. In the case of *M.C. Mehta (Badhkal and Surajkund Lakes matter) v. Union of India*, the Apex Court held thus:

“10. In *M.C. Mehta v. Union of India* [(1987) 4 SCC 463] this Court held as under:

“The financial capacity of the tanneries should be considered as irrelevant while requiring them to establish primary treatment plants. Just like an industry which cannot pay minimum wages to its workers cannot be allowed to exist, a tannery which cannot set up a primary treatment plant cannot be permitted to continue to be in existence for the adverse effects on the public. Life, public health and ecology have priority over unemployment and loss of revenue problem.”

**The “Precautionary Principle” has been accepted as a part of the law of the land. Articles 21, 47, 48-A and 51-A(g) of the Constitution of India give a clear mandate to the State to protect and improve the environment and to safeguard the forests and wildlife of the country.** It is the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures. **The “Precautionary Principle” makes it mandatory for the State Government to anticipate, prevent and attack the causes of environment degradation.** We have no hesitation in holding that in order to protect the two lakes from environmental degradation it is necessary to limit the construction activity in the close vicinity of the lakes.”

26. It is further submitted by the learned counsel for the respondent that the Hon'ble High Court has already issued direction in PIL as mentioned above in para no. 85 which is as follows:-

*"85. For the reasons recorded above, we dispose of the PIL by passing the following*

*ORDER:—*

*(A) The following directions issued in the interim order dated 6<sup>th</sup> October 2005 shall continue to operate as final directions in following terms;*

*(I) That there shall be a total freeze on the destruction and cutting of mangroves in the entire State of Maharashtra;*

*(II) Dumping of rubble/garbage/solid waste on the mangrove areas shall be stopped forthwith;*

*(III) Regardless of ownership of the land having mangroves and the area of the land, all constructions taking place within 50 metres on all sides of all mangroves areas shall be forthwith stopped. The area of 50 meters shall be kept free of construction except construction of a compound wall/fencing for its protection.;*

*(IV) No development permission whatsoever shall be issued by any authority in the State of Maharashtra in respect of any area under mangroves. All authorities including the Planning Authorities shall note that all mangroves lands irrespective of its area will fall in CRZ-I as per both the CRZ notifications of 1991 and 2011. In case of all mangrove areas of 1000 sq. meter or more, a buffer zone of 50 meters along the mangroves will also be a part of CRZ-I area. Though buffer zone of 50 meters in case of mangroves area of less than 1000 meters will not be a part of CRZ-I, it will be subject to above restrictions specified in clause III above;*

*(V) The State of Maharashtra is directed to file in this Court and furnish to the petitioner copies of the maps referred to in paragraph 10 of the affidavit dated 16 August, 2005, filed by Mr. Gajanand Varade, Director, Environment Department, State of Maharashtra (Page 346 on the record), within four weeks from today. The soft or hard copies of the maps be supplied to the Petitioner within the same period;*

*(B) The following direction issued in terms of clause 8(viii) of the order dated 6<sup>th</sup> October 1005 has been substantially complied with:*

*"The areas shown as mangrove area in the satellite study report "Mapping of mangroves in the Maharashtra*

*State using Satellite Remote Sensing” dated August, 2005, prepared by the Maharashtra Remote Sensing Application Centre (MRSAC) for the MCZMA which was submitted to this Court on 29<sup>th</sup> August, 2005, form part of Phase I of the mapping by MRSAC. The MRSAC will, in Phase II, carry out mangroves study using high resolution for detailed mapping of mangroves with a view to identify more precisely mangrove areas in Mumbai and Navi Mumbai. After receiving the said satellite data, transfer of mangrove details on city survey/village maps (cadastral map) will be carried out within a period of 6 months from today”;*

*(C) The directions in sub-clauses(ix) to (xiii) of clause 8 of the order dated 6<sup>th</sup> October 2005 shall continue to operate as final directions in respect of mangrove areas only on the government lands and the lands held by Planning Authorities like CIDCO, MMRDA etc. In respect of the lands admeasuring 2823.8493 Hectares as stated in the affidavit dated 14<sup>th</sup> February 2018 of Shri Milind Panditrao, the direction regarding transfer of the lands to the Forest Department and consequential directions regarding making revenue entries shall be complied with within a period of three months from the date on which this Judgment and Order is uploaded. The State Government shall identify the mangroves lands which were vested in it by virtue of section 3(1) of the Private Forest Act and shall take appropriate steps in respect of such lands for transferring such lands to Forest Department within a period of 18 months from today. It will be also open for the State Government to take recourse to section 21 of the Private Forest Act in appropriate cases;*

*(D) We direct the State Government to constitute a Committee headed by the Divisional Commissioner, as agreed by the State Government. The Committee and sub-committees shall be formed in accordance with the observations made in paragraph 68 above. The committee shall be responsible for the preservation and conservation of mangroves, for restoration of reclaimed mangroves areas set out in paragraph 73 above and for implementation of the directions in this Judgment. The Committee shall be constituted within a period of one month from today. The sub-committees as observed in paragraph 68 shall be constituted within two months from today. The Committee shall hold regular meetings and the minutes of the meeting shall be made available on public domain as observed in paragraph 68 above. As directed under the order dated 6<sup>th</sup> October 2005, the Principal Secretaries of (1) Environment, (2) Revenue and (3) Forest Department of the Government of Maharashtra shall be overall in-charge for ensuring total compliance with the directions issued under this Judgment and Order. They will monitor the working of the Committee headed by the Divisional Commissioner.*

*(E) The State Government shall create a Grievance Redress Mechanism for enabling the members of the public to lodge complaints about the activity of destruction/removal of the*

*mangroves. An opportunity must be made available to file complaints about any acts or omission which may ultimately result in destruction or causing damage to the mangroves area. The State Government shall make arrangements for receiving complaints on dedicated website, on toll free numbers and in physical form to the officers or offices nominated by the State Government in all districts and especially in the areas where there are mangroves. A facility shall be made available for uploading the photographs of the affected area by e-mail and by whats app or similar media by use of cell phone. The State Government must also create a machinery to ensure that the said complaints are immediately transferred to the Committee headed by the Divisional Commissioner. The Committees will ensure that immediate action is taken of stopping the illegal destruction or acts amounting to causing damage to the mangrove areas, if necessary with the police help. Necessary register shall be maintained of the complaints received and action taken thereon. The State Government must lay down the procedure by which complainant is kept posted about the action taken on his or her complaint. On the request made by the complainant, the identity of the complainant shall be masked and the names of the complainant shall not be disclosed to the violators;*

*(F) The Grievance Redress Mechanism shall be set up within a period of three months from today. Adequate publicity shall be given to the availability of the Grievance Redress Mechanism in leading newspapers as well as local newspapers. Information about availability of the Grievance Redress Mechanism shall be prominently displayed in the offices of District Collectors, Sub-Divisional Officers, Tahasildar in the Coastal Districts as well as in the offices of the Maharashtra Pollution Control Board and the Maharashtra Maritime Board in the coastal districts. The information shall be displayed prominently in the offices of the Municipal Corporations/Municipal Councils provided any coastal area forms part of the limits of such Municipal Corporation or such Municipal Council. Publicity shall be given at regular intervals of at least six months to the details of the grievance redress mechanism in leading newspapers having good circulation in the coastal areas;*

*(G) We direct that it is the obligation of the State to replant destructed mangroves and to restore mangroves areas which are illegally reclaimed. The said areas shall be restored to its original condition. In what manner restoration shall be done must be decided by the Committee headed by the Divisional Commissioner after consulting experts in the field. The Committee shall identify the vulnerable mangroves areas in the State and direct its constant surveillance by the Police/Forest Guards/Security Guards of the Maharashtra Security Corporation. The Committee shall ensure that barricades are erected for preventing the entry of vehicles in such vulnerable area. The Committee shall also consider of installing CCTVs along the vulnerable stretches to keep a vigil.*

*The Committee shall also cause to undertake satellite mapping of mangroves area in the state at periodical intervals of not more than six months by using resolution as suggested in paragraph no. 28 of the note submitted by the learned senior counsel appearing for the petitioner. Any changes seen shall be considered by the Committee and remedial measures shall be taken. The State Government shall sanction necessary amount for that purpose;*

*(H) The State Government shall ensure that criminal law is set in motion against all those who commit offences punishable under section 15 of the said Act of 1986 as observed in the Judgment. The Committee shall monitor implementation of this direction;*

*(I) The State Government shall issue a direction under section 154 of the MRTP Act to all concerned Planning Authorities and Regional Boards under the MRTP Act to show mangroves areas and 50 meter buffer zone around it while making or revising Development Plans/Regional Plans. Such a direction shall be issued within a period of three months from today;*

*(J) Quarterly Compliance reports shall be filed by the Committee reporting compliance with the aforesaid directions. The first of such reports shall be filed on or before 1<sup>st</sup> December 2018;*

*(K) Rule issued in PIL No. 87 of 2006 is disposed of on above terms;*

*(L) For reporting compliance, PIL shall be listed on 1<sup>st</sup> December 2018. It will be appropriate if PIL is placed for monitoring the compliance before this Bench or a Bench of which one of us is a party. The Prothonotary and Senior Master shall seek appropriate directions in this behalf from Hon'ble the Chief Justice;*

*(M) Writ Petition No. 2208 of 2004 stands disposed of. No separate directions are required to be issued in this Petition. Writ Petition No. 2741 of 2004 stands disposed of by a separate order passed today;”*

27. Next issue raised by the learned counsel for the applicant is with regard to the plastic waste and argued that horrific reports of consumption of plastic by Marine life have come to light which state that around 100,000 marine creatures a year die from plastic. Careless and unscientific incineration or burning of waste is another issue that is making the situation very critical. The incinerated ash washes into the rivers and creeks with carcinogenic

toxins in them; this pollutes the food chain and also threatens marine life. The problem of incineration of waste is so grave that the smoke can be seen in satellite imagery over the past four years. However, no action has been taken by any of the authorities despite having knowledge of the same. A few specific examples wherein such activities are going on are along the Kalyan-Shilphata road, Khalapur Toll plaza on the Mumbai Pune Expressway, Ambernath Dumping ground where waste is incinerated every night just on the banks of a rivulet. Almost all areas outside Mumbai are seeing haphazard constructions with no waste disposal mechanisms in place. The applicants crave leave to produce photographs in support of these assertions along with other areas of concern as and when required. Open defecation has also been responsible for further pollution of the beaches and water-bodies. There is either lack of public toilets or no public toilets near the beaches. The public toilets that do exist presently are not in proper condition. It is the case of the applicants that the respondent no. 1 even after being the richest civic body in Asia has not been able to use the resources available at their end to tackle the situation. As per the newspaper report published on 15.05.2017 around 2,100 million litres a day (MLD) of wastewater sewage is released into the Arabian Sea and the creeks.

28. The matter has already been dealt with by this Tribunal in *O.A. No. 02/2016 (WZ), Prof. Ravindra Bajarang Shinde Vs. Principal Secretary, Environment Department & Ors.* decided on 31.07.2020 (uploaded on 07.08.2020) in which it was observed as follows:

*“10. Plastic Waste Management Rules, 2016 provides as follows:*

4. Conditions.- (1) The manufacture, importer stocking, distribution, sale and use of carry bags, plastic sheets or like, or cover made of plastic sheet and multilayered packaging, shall be subject to the following conditions, namely:-

a. carry bags and plastic packaging shall either be in natural shade which is without any added pigments or made using only those pigments and colourants which are in conformity with Indian Standard : IS 9833:1981 titled as "List of pigments and colourants for use in plastics in contact with foodstuffs, pharmaceuticals and drinking water", as amended from time to time;

b. Carry bags made of recycled plastic or products made of recycled plastic shall not be used for storing, carrying, dispensing or packaging ready to eat or drink food stuff;

c. carry bag made of virgin or recycled plastic, shall not be less than fifty microns in thickness;

d. plastic sheet or like, which is not an integral part of multilayered packaging and cover made of plastic sheet used for packaging, wrapping the commodity shall not be less than fifty microns in thickness except where the thickness of such plastic sheets impair the functionality of the product;

e. the manufacturer shall not sell or provide or arrange plastic to be used as raw material to a producer, not having valid registration from the concerned State Pollution Control Boards or Pollution Control Committee;

f. sachets using plastic material shall not be used for storing, packing or selling gutkha, tobacco and pan masala;

g. recycling of plastic waste shall conform to the Indian Standard: IS 14534:1998 titled as Guidelines for Recycling of Plastics, as amended from time to time;

h. The provision of thickness shall not be applicable to carry bags made up of compostable plastic. Carry bags made from compostable plastics shall conform to the Indian Standard: IS 17088:2008 titled as Specifications for Compostable Plastics, as amended from time to time. The manufacturers or seller of compostable plastic carry bags shall obtain a certificate from the Central Pollution Control Board before marketing or selling; and

i. plastic material, in any form including Vinyl Acetate - Maleic Acid - Vinyl Chloride Copolymer, shall not be used in any package for packaging gutkha, pan masala and tobacco in all forms.

5. *Plastic waste management.- (1) The plastic waste management by the urban local bodies in their respective jurisdiction shall be as under:-*

- (a) plastic waste, which can be recycled, shall be channelized to registered plastic waste recycler and recycling of plastic shall conform to the Indian Standard: IS 14534:1998 titled as Guidelines for Recycling of Plastics, as amended from time to time.*
- (b) local bodies shall encourage the use of plastic waste (preferably the plastic waste which cannot be further recycled) for road construction as per Indian Road Congress guidelines or energy recovery or waste to oil etc. The standards and pollution control norms specified by the prescribed authority for these technologies shall be complied with.*
- (c) Thermo set plastic waste shall be processed and disposed off as per the guidelines issued from time to time by the Central Pollution Control Board.*
- (d) The inert from recycling or processing facilities of plastic waste shall be disposed of in compliance with the Solid Waste Management Rules, 2000 or as amended from time to time.*

6. *Responsibility of local body.- (1) Every local body shall be responsible for development and setting up of infrastructure for segregation, collection, storage, transportation, processing and disposal of the plastic waste either on its own or by engaging agencies or producers.*

*(2) The local body shall be responsible for setting up, operationalisation and coordination of the waste management system and for performing the associated functions, namely:-*

- (a) Ensuring segregation, collection, storage, transportation, processing and disposal of plastic waste;*
- (b) ensuring that no damage is caused to the environment during this process;*
- (c) ensuring channelization of recyclable plastic waste fraction to recyclers;*
- (d) ensuring processing and disposal on non-recyclable fraction of plastic waste in accordance with the guidelines issued by the Central Pollution Control Board;*
- (e) creating awareness among all stakeholders about their responsibilities;*
- (f) engaging civil societies or groups working with waste pickers; and*

*(g) ensuring that open burning of plastic waste does not take place.*

*(3) The local body for setting up of system for plastic waste management shall seek assistance of producers and such system shall be set up within one year from the date of final publication of these rules in the Official Gazette of India.*

*(4) The local body to frame bye-laws incorporating the provisions of these rules.*

*7. Responsibility of Gram Panchayat.- (1) Every gram panchayat either on its own or by engaging an agency shall set up, operationalise and co-ordinate for waste management in the rural area under their control and for performing the associated functions, namely,-*

*(a) ensuring segregation, collection, storage, transportation, plastic waste and channelization of recyclable plastic waste fraction to recyclers having valid registration; ensuring that no damage is caused to the environment during this process;*

*(b) creating awareness among all stakeholders about their responsibilities; and*

*(c) ensuring that open burning of plastic waste does not take place*

*8. Responsibility of waste generator.- (1) The waste generator shall.-*

*(a) take steps to minimize generation of plastic waste and segregate plastic waste at source in accordance with the Solid Waste Management Rules, 2000 or as amended from time to time.*

*(b) not litter the plastic waste and ensure segregated storage of waste at source and handover segregated waste to urban local body or gram panchayat or agencies appointed by them or registered waste pickers', registered recyclers or waste collection agencies;*

*(2) All institutional generators of plastic waste, shall segregate and store the waste generated by them in accordance with the Municipal Solid Waste (Management and Handling) Rules, 2000 notified vide S.O 908(E) dated the 25th September, 2000 under the Act or amendment from time to time and handover segregated wastes to authorized waste processing or disposal facilities or deposition centers either on its own or through the authorized waste collection agency.*

*(3) All waste generators shall pay such user fee or charge as may be specified in the byelaws of the local bodies for plastic*

waste management such as waste collection or operation of the facility thereof, etc.;

(4) Every person responsible for organising an event in open space, which involves service of food stuff in plastic or multilayered packaging shall segregate and manage the waste generated during such events in accordance with the Municipal Solid Waste (Management and Handling) Rules, 2000 notified vide S.O 908(E) dated the 25<sup>th</sup> September, 2000 under the Act or amendment from time to time.

9. Responsibility of producers, Importers and Brand Owners.-

(1) The producers, within a period of six months from the date of publication of these rules, shall work out modalities for waste collection system based on Extended Producers Responsibility and involving State Urban Development Departments, either individually or collectively, through their own distribution channel or through the local body concerned.

(2) Primary responsibility for collection of used multi-layered plastic sachet or pouches or packaging is of Producers, Importers and Brand Owners who introduce the products in the market. They need to establish a system for collecting back the plastic waste generated due to their products. This plan of collection to be submitted to the State Pollution Control Boards while applying for Consent to Establish or Operate or Renewal. The Brand Owners whose consent has been renewed before the notification of these rules shall submit such plan within one year from the date of notification of these rules and implement with two years thereafter.

(3) manufacture and use of non- recyclable multilayered plastic if any should be phased out in Two years time.

(4) The producer, within a period of three months from the date of final publication of these rules in the Official Gazette shall apply to the Pollution Control Board or the Pollution Control Committee, as the case may be, of the States or the Union Territories administration concerned, for grant of registration.

(5) No producer shall on and after the expiry of a period of Six Months from the date of final publication of these rules in the Official Gazette manufacture or use any plastic or multilayered packaging for packaging of commodities without registration from the concerned State Pollution Control Board or the Pollution Control Committees.

(6) Every producer shall maintain a record of details of the person engaged in supply of plastic used as raw material to manufacture carry bags or plastic sheet or like or cover made of plastic sheet or multilayered packaging.

12. Prescribed authority.- (1) The State Pollution Control Board and Pollution Control Committee in respect of a Union territory shall be the authority for enforcement of the provisions of

*these rules relating to registration, manufacture of plastic products and multilayered packaging, processing and disposal of plastic wastes.*

*(2) The concerned Secretary-in-charge of Urban Development of the State or a Union Territory shall be the authority for enforcement of the provisions of these rules relating to waste management by waste generator, use of plastic carry bags, plastic sheets or like, covers made of plastic sheets and multilayered packaging.*

*(3) The concerned Gram Panchayat shall be the authority for enforcement of the provisions of these rules relating to waste management by the waste generator, use of plastic carry bags, plastic sheets or like, covers made of plastic sheets and multilayered packaging in the rural area of the State or a Union Territory.*

*(4) The authorities referred to in sub-rules (1) to (3) shall take the assistance of the District Magistrate or the Deputy Commissioner within the territorial limits of the jurisdiction of the concerned district in the enforcement of the provisions of these rules.*

*14. Responsibility of retailers and street vendors- (1) Retailers or street vendors shall not sell or provide commodities to consumer in carry bags or plastic sheet or multilayered packaging, which are not manufactured and labelled or marked, as per prescribed under these rules.*

*(2) Every retailers or street vendors selling or providing commodities in, plastic carry bags or multilayered packaging or plastic sheets or like or covers made of plastic sheets which are not manufactured or labelled or marked in accordance with these rules shall be liable to pay such fines as specified under the bye-laws of the local bodies.*

*xxx*

*xxx*

*xxx*

*13. It is submitted that taking into consideration increase in non-biodegradable plastic waste causing damage to the environment, the Govt. of Maharashtra has published Maharashtra Plastic and Thermocol Products (Manufacture, Usage, Sale, Transport, Handling and Storage) Notification dated 23.03.2018, which has been further amended vide Notifications dated 11<sup>th</sup> April 2018 and 30<sup>th</sup> June 2018 respectively.*

*The relevant Paras of the said Notification are reproduced as under:*

*a) Clause 1) of Para 3 (1) of the said notification provides that there is a ban in whole State of Maharashtra for manufacture, usage, transport, distribution, wholesale and retail sale and storage, import of the plastic bags with handle and without handle and disposable products*

*manufactured from plastic and Thermocol (polystyrene) such as single use disposable dish, cups, plates, glasses, fork, bowl, container, disposable dish/bowl used for packaging food in hotels, spoon, straw, non —woven polypropylene bags, cups/ pouches to store liquid, packaging with plastic to wrap or store the products, packaging of food items and food grain material etc.*

- b) Clause 2) & 3) of Para 3 (1) provides that these regulations are applicable to every person, body of person, government and non-government organization, educational institution, sport complex, club, cinema halls and theaters, marriage/celebration halls, industrial units, commercial institutions, offices, pilgrimage organizers, pilgrimages and religious places, hotels, dhabas, shopkeepers malls, vendors or sellers, traders, manufacturer, caterer, wholesalers, retailers, stockiest, businessmen, hawkers, salesmen, transporters, market, producers, stalls, tourist places, forest and reserved forest, eco-sensitive area, all sea beaches, all public places, bus stands, railway stations in the State of Maharashtra and there is also ban in whole state for use of plastic and thermocol for decoration purpose.*
- c) Clause a) of Para 3 (2) provides that PET or PETE bottle manufacturers, producer, sellers and traders under 'Extended Producers & Sellers / Traders Responsibility' will develop Buy-Back Depository Mechanism' with predefined buy-back price printed specifically on such PET and PETE bottles and also set-up collection centers, reverse vending machine, crushing machines with linkages established with recycling units to collect and recycle such PET or PETE bottles within three months from the date of publication of this notification, at strategic places including Malls, Multiplexes, Hotels, Shops, Tourist Places, Beaches, Forts, Public Places etc.*
- d) Clause b) of Para 3(2) provides that Traders/ sellers will buy back such used PET/PETE bottles with predefined buy back price.*
- e) Clause c) of Para 3(2) provides that PET / PETE Bottles of Drinking water, having liquid holding capacity of one litre or more, shall be printed on it, the Deposit and Refund Price of Re.1 or buyback price as decided by the Manufacturer. Drinking water PET / PETE Bottles, having liquid holding capacity of less than one litre but more than 200 ml. shall be printed on it, the Deposit and Refund Price of Rs. 2 or buyback price as decided by the Manufacturer.*
- f) Clause d) of Para 3(2) provides that use, sale, storage and manufacture of drinking water PET or PETE bottles of having liquid holding capacity less than 200 ml. is banned in the State.*
- g) Clause f) of Para 3(2) provides that it shall be the sole responsibility of the PET Bottle industries to ensure that*

*these bottles are collected from retailers at depository and refund rate or buyback rate and are recycled.*

- h) Clause 2A (1) of Para 3 provides that as per Plastic Waste Management Rules, 2016 issued vide 18th March 2016, by the Ministry of Environment, Forest and Climate Change, Government of India, manufacture and use of non-recyclable multi-layered plastic if any, should be phased out in two years' time. Since, the two years' time is over, the Manufacturers should stop use of non-recyclable multi-layered plastic immediately.*
- i) Clause 2A (2) of Para 3 provides that the manufacturer/brand owner/ producer of recyclable multi-layered and paper-based carton packaging material using one layer of plastic / Manufacturers Association, shall diligently implement their Extended Producer's Responsibility (EPR) Plan which includes co-ordination / collaboration with existing Rag pickers / Scrap Traders, retailers for collection of plastic waste and its subsequent recycling and final disposal through their own established recycling plant or registered recyclers by establishing Producer's Responsible Organisations (PRO), which shall be responsible for 100% integral Plastic Waste Management right from collection to final disposal.*
- j) Clause 2A (3) of Para 3 provides that Extended Producer's Responsibility (EPR) Plan of the manufacturer/ brand owner/ producer of multi-layered and paper-based carton packaging material using one layer of plastic shall be reviewed after three months from the date of issuance of this notification and on the basis of the outcome of review, further decision will be taken for regulation.*

*14. Respondent has further submitted that in order to verify the compliance of Maharashtra Plastic and Thermocol Products (Manufacture, Usage, Sale, Transport, Handling and Storage) Notification, 2018 & amended Notification dated 11th April 2018 and 30th June 2018, the Officials of Respondent Board have carried out the survey of Plastic and Thermocol units in the State of Maharashtra during the month of April, May and June, 2018 and during the survey, it has been observed that 287 units have closed their manufacturing activity voluntarily. Further, the Respondent Board has issued directions of closure to 50 defaulting units. In order to take the review of Extended Producers' Reasonability (EPR) Plan of Multi-layered Packaging and PET/PETE bottles manufacturers / producers /brand-owners, Respondent Board has conducted review meetings with the manufacturer, brand owner, producers, associations of PET/ PETE bottles on 10.7.2018 and 26.7.2018 and in respect of Multi Layered Packaging on 19.7.2018. On the basis of review meeting, the Respondent Board has issued directions u/s 5 of the Environment (Protection) Act, 1986 r/w Plastic Wastes Management Rules, 2016 to the Brand owners/ Producers of Multi-layered*

*Packaging vide letter dated 26.7.2018 wherein they were directed as follows:*

- 1. To create a separate fund for discharging their liability under the above rules and to credit to this fund an amount of Twenty five paise for each packet/ sachet of goods packed in multilayer film, introduced or sold by them directly or through their distributors/ wholesalers/retailers or partners in the State of Maharashtra.*
  - 2. The fund mentioned above shall be created no later than 15<sup>th</sup> Aug 2018.*
  - 3. They shall be responsible for management of fund and the amount to credit of the fund shall be strictly used for implementing the approved EPR to the satisfaction of MPCB.*
  - 4. The designate officers with assigned territorial jurisdiction who will be responsible for compliance of the above said rules.*
  - 5. To submit a quarterly report of the amounts credited to the fund and the amounts utilized therefrom for implementation of EPR to concerned Regional Officer of Maharashtra Pollution Control Board. The unutilized balance, if any, in the fund shall always remain completely unencumbered and invested in fixed deposit with banks or invested in rated liquid instruments.”*
- 15.India consumes an estimated 16.5 million tonnes about 1.6 million trucks full of plastic annually of which 25-30% remains uncollected. The plastic processing industries is estimated to grow to 22 million tonnes per year by 2020, as per the expert study. The said part is that the current situation of disposing plastic is not easy to stain. One cannot be disposed off plastic like other forms of garbage. Plastic is strong, flexible and durable, making it extremely useful and hard to break. As useful as it might be, it does create harm to the environment by entering the oceans everyday and staying there forever, becoming toxic food for marine life.*
- 16.The consumption of plastic has been increasing by 10% year to year but the disposal method of plastic have not evolved and that make the situation murky for us. Multiple factors add to the problem-for instance there is no segregation of the waste source, many amounts us still us use one being on all kinds of waste. Lack of awareness about segregation leads to a bigger problem. Plastic makes up about 8% of total solid waste of India, according to Government and this plastic comes for single use of plastic such as bag, cutlery and etc. alone. It is estimated that 80% of marine litter comes from land and this hotpotch in landfills. The concept of reduce, reuse, recycle and educate should be adopted.*
- 17.The matter of plastic management was taken up by Principal Bench of this Tribunal in O.A. No. 851/2018 and vide order*

dated 04.12.2019 the Principal Bench of this Tribunal had directed as follows:

“2. Vide order dated 30.04.2019, this Tribunal considered the response of the CPCB dated 01.04.2019 suggesting restrictions on import of plastic waste and proper management of hazardous waste. It was further suggested that local bodies should use plastic waste for road construction and energy recovery. Producers should follow the Extended Producer Responsibility (EPR). CPCB had evolved guidelines on the subject.

3. The Tribunal directed CPCB to take further action for implementation of its recommendations on the issues of plastic waste management as well as restrictions on import of plastic waste and furnish a further action taken report.

4. The matter was further considered on 06.09.2019 with reference to the report dated 28.06.2019 as follows:

“Report dated 28.06.2019 acknowledges that there is no proper mechanism for plastic waste management which was being dumped in open or burnt in brick kilns resulting in pollution. Action taken by the CPCB is the issuance of directions. MoEF&CC is to deal with the issue of transboundary movement (import/export) hazardous and other wastes.

The report cannot be taken as adequate action. Apart from issuance of direction, compliance of direction is required to be overseen. Even with regard to illegal import, CPCB as a statutory regulator can take up the matter with the concerned authorities. This Tribunal vide order 26.08.2019 in O.A. No. 804/2017, *Rajiv Narayan v. UOI* has already issued direction for restricting import of hazardous waste and vide order dated 22.07.2019 in E.A. No. 13/2018, *CPCB v. State of Andaman & Nicobar & Ors.* directions have been issued with regard to management of plastic waste. These directions need execution.

Let further steps be taken in the matter accordingly and report filed before the next date by e-mail at [judicial-ngt@gov.in](mailto:judicial-ngt@gov.in).”

18. In O.A. No. 15/2014 vide order dated 31.05.2019 and 14.10.2019, it was held as follows:

“3. On 07.01.2019, the Tribunal directed the parties to file written notes. The applicant in a written note filed on 17.01.2019 pointed out that the regulations on the subject are inadequate for the following reasons:

“a. There is no specific Testing protocol for Specific Migration Testing (Antimony & Phthalates-DEHP)

- b. The Plastic Waste Rules are limited for restrictions of plastic "Bags" only. It doesn't cover the plastic packaging especially PET Bottles.*
- c. In light of the inadequate standards, this Hon'ble Tribunal, vide order dated 10.10.2018, categorically stated that the Plastic Waste (Management and Handling Rules), 2016 need further amendments so as to eradicate the menace of use of plastics in general."*
- 4. The applicant sought enforcement of notification being G.S.R. no. 701 (e) dated 29.09.2014 issued by the Ministry of Health and Family Welfare for prohibiting plastic/ PET containers for oral pharmaceutical activities and fresh label registration with the direction that "no pet/ plastic container and /or multilayered packaging be used for packaging of liquor and carbonated beverage."*
- 5. The applicant further submitted that the Notification dated 24.12.2018, issued by the Ministry of Health and Family Welfare under Section 92 of Food Safety and Standards Act, 2006 deals with the issue of packaging mode of food but it ignores Antimony and DEHP in specific migration limits provided for plastic packaging. Two sets of regulations were separately laid down being the Food Safety and Standards (Packaging) Regulations, 2018 and the Food Safety and Standards (Labelling and Display) Regulations, 2018 replacing the Food Safety and Standards (Packaging and Labelling) Regulations, 2011. The said regulations also give a list of suggested packaging material to be used for different food items.*
- 6. On 22.01.2019, the Tribunal noted the steps taken by various States, the regulations prescribed by the Bureau of Indian Standards (BIS) in relation to packaging material and the regulations framed by FSSAI in respect of food safety standards. The Tribunal directed the MoEF&CC to look into the said regulations and file its response. The MoEF&CC in its response filed on 19.01.2019, apart from indicating the features of the Plastic Waste Management Rules, 2016, including the provision for phasing out multi-layered plastic (MLP), submitted that the same may not be immediately feasible without alternates which are technically comparable. The same was proposed to be phased out in two years. It was further stated that the mechanism for registration of manufactures was to be improved. Rule 13 was required to be amended and Rule 15 was required to be withdrawn. The Ministry also organized Ministers conference and adopted resolutions on the effective capacity building programme, promoting innovative technologies, meetings with Chief Secretaries to monitor the implementation of the Rules, efforts to reduce the use of plastic, adopting Green Good Deeds for better waste management and to develop mechanism to document success. Thereafter, on 15.02.2019, the matter was directed to be listed within O.A. No. 606/2018 dealing with the compliance of waste management Rules."*

*“3. Accordingly, a report dated 30.08.2019 has been filed by the Expert Committee. The Committee noted following key areas of concern:*

- “1) Continued use of multi polymer plastic (MPP) or multi layered plastic (MLP) with associated difficulties in its recycling.*
- 2) Increasing use of small packages such as bottles used for beverages, sachets, pouches which are not viable to collect and recycle.*
- 3) High capital cost involved in the presently available techniques in recycling plastics.*
- 4) Inadequate reach of Extended Producer Responsibility (EPR).*
- 5) Non availability of economically viable substitutes to the plastics.*
- 6) Lack of consumer awareness for proper disposal of plastics and litter management.*
- 7) Absence of joint regulatory mechanism with respect to plastic waste management.”*

*It proposed a systematic action plan with 12 specific points as follows:*

*“(A) Manufacturer / User Industries of Plastic Packaging Materials.*

- (1) Institute concept of ‘plastic footprint’: What gets measured is managed. Therefore, in order to encourage businesses to reduce use of plastics through innovation and redesigning of their packaging, a system of quantifying the use of plastics per unit of final product (say kg of plastic used in 1000 kg/kiloliter of final product) may be put in place. A deflator or inflator may be used for use of recyclable plastics, biodegradable/compostable plastics or multilayered plastic as the case may be. A system of periodic assessments of plastic footprint for each product category may be done. In food and beverages, these categories could include confectionery and bakery products (biscuits, ice-creams, bakery products and chewing gum), namkeens (chips, namkeen, nuts/peanuts), instant noodles and cereals, beverages (cold drinks, juices, energy drinks and hot drinks) and dairy products (milk, paneer, yoghurt and flavoured milk). Plastic footprint for each category may be benchmarked with the market average of use of plastic. This would encourage companies to adopt packaging reduction strategies that may include reducing weight of packaging, eliminating unnecessary packaging, using lightweight packaging materials, optimizing packaging size and use of recyclable (compostable) and reusable packaging material. Through a system of recognition, rewards and perhaps eventually penalties, it is hoped that the companies would work towards continuous reduction of plastics, product by product and enable*

*businesses to demonstrate their commitment to safer environment.*

- (2) Discourage small pack sizes: Lighter, portable, and cost-effective nature of single serve sachets/pouches/bottles continues to make them an attractive proposition for the low-income consumers as well as young and active millennials. Smaller pack sizes/single serve packaging also have brought better quality and premium products affordable to all the sections of the society. But on the other hand it constitutes to the major plastic waste and litter, as their collection is economically non-viable. Hence, in consultation with Legal Metrology Dept. the small pack sizes such as small water bottles, pouches, cups which constitute a considerable amount of plastic waste may not be allowed.*
- (3) Reducing plastic content in multi-layered plastic (MLP): Ideal packaging materials had been tailored by combining different material with customized functionality to sufficiently protect sensitive food products and thus obtain extended shelf life. Latest feasible techniques and technologies may be employed to cut down the use of multiple polymers/plastics. More research in this area is required to be done by scientific institutions. Use of Single polymer/layer recyclable packaging materials shall be encouraged in this case.*
- (4) Encourage alternatives to plastics: Bio-plastics and biodegradable plastics like Poly Lactic Acid (PLA) made from fermented plant starch etc. can be a sustainable alternative to conventional plastics. However there are limitations with the availability of resources for such material. More research in the area to reduce the cost of PLA is required to be done. There is also need to create awareness on biodegradable, compostable or bio-based plastics since their degradation requires conditions like appropriate temperature, light, hydration and/or microbial presence. Hence these have to be separately marked and disaggregated. In case, the biodegradable & compostable or bio-based plastics remain unsegregated and go in landfills just like that, it is unlikely to meet these conditions and serves no purpose. Existing packaging systems of paper based cartons with minimal plastics as coatings, composite and reusable containers made up of glass, tin, metal and paper maybe promoted as replacements. A list of alternatives to plastic packaging materials as suggested by Centre for Science and Environment (CSE) is at Annexure-2.*
- (5) Effective Extended Producer's Responsibility (EPR) framework: The current Plastic Waste Management Rules mandate the "producer of packaging products and branded consumer goods to dispose plastic packaging waste generated due to their business activities". Even though the policy framed under these rules is fairly good*

*but it has been confined to selected few big businesses. It is understood that National Framework on EPR for plastic waste management is being finalized. The framework may consider a system of monitoring as well as penalty provision for its non-compliance may be explored. The companies may be encouraged to use their downstream supply chain of distribution and retail for collection and aggregation of plastics for recycling. This may be quite easy in direct selling entities that use multi-layered marketing, distribution networks.*

*(B) Final consumers/Users of plastic packaged articles and food stuff.*

*Establishments, agencies, institutions, organizations including government/nongovernment, food/non-food operators such as roadways, railways, airlines, schools, colleges and university campuses, E-commerce groups, corporate campuses, hotels, marriage, banquet and community halls under this head shall take-up responsibilities on the following;*

- (6) Eliminate/Ban single use plastics: should eliminate and prohibit the usage of single serve/use plastics within their ecosystems. Recent ban by the Parliament and Indian railways are worth emulating.*
- (7) Alternatives to plastics: They shall encourage the use of reusable and recyclable environment friendly alternatives such as jute and cloth bags, bamboo and wooden cutlery, leaf based plates, glass and metal containers etc.*
- (8) Improved Litter Management: They should take up the responsibility of collecting all the waste in their campuses, sorting out dry and wet waste. They could also encourage their staff, teachers and students to bring such plastic waste from homes and help in collection and aggregation of such waste by tying up with businesses in plastic recycling. Dry waste can be segregated into recyclable and non-recyclable and accordingly processed. Wet waste may be sent to composting, which can be done in-house. This activity could be made a part of the social responsibility system.*
- (9) Better Plastic Disposal: Initiatives are to be taken up, to dispose plastic waste by forming groups/clusters to set up/identify energy recovering systems such as incineration and pyrolysis. Getting adequate quantities of suitable plastics waste is seen as most important factor in success of such units. More organized efforts and encouragement is required for this proper disposal.*

*(C) Municipal bodies/other organizations promoting circular economy.*

- (10) All municipal bodies must be made responsible for development and setting up of infrastructure for segregation, collection, storage, transportation,*

*processing and disposal of the plastic waste either on its own or by engaging agencies or producers as mentioned in the Plastic Waste Management Rules.*

*(D) Citizens and consumers.*

*(11) Citizens, especially the socially engaged ones living in urban areas with wide access to information, have adopted more environmentally conscious consumption habits oriented toward recycling, reusing and composting the waste that derives from their domestic consumption. This segment of socially discerned consumers, appreciate brands that demonstrate a commitment to environmental sustainability. A more intensive public campaign, however, is needed to mainstream this kind of behavioral change to a wider public segment. Further approach of incentivizing the customers can also be explored to encourage them for plastic waste management.*

*(E) Science and Research Institution.*

*(12) Science and research institutions must be encouraged for working in the direction of developing environmental friendly packaging materials and plastic waste management systems which can be used on commercial basis. Start-ups may also be encouraged to work in this area. For the food and beverages sector, FSSAI may create a group of institutions and experts to coordinate new work in this area with leading institutions like the Indian Institute of Packaging, CIPET, IIT Delhi, IIT Guwahati, Indian Institute of Toxicological Research (IITR), National Chemical Laboratory, Pune and others.”*

*4. The Committee further noted that these are not only environmental issues but also public health issues. In that view of the matter, FSSAI has taken steps to reduce the use of plastic in packaging of foods and beverages as follows:*

- “(1) FSSAI has decided to permit use of liquid nitrogen dosing in PET bottles during the packaging of drinking water. This would help in strengthening the bottle thereby facilitating the manufacture with the use of bottles with lower wall thickness.*
- (2) FSSAI has initiated the process of removing the restriction on the use of returnable bottles for packaging of artificially sweetened beverages.*
- (3) FSSAI is promoting the use of bamboo as an alternative to plastics such as straws, plates, bowls, cutlery etc.*
- (4) Allow and enable hotels to keep in-house packed glass bottles in place of plastic bottles in hotel rooms.”*

*5. The FSSAI has also established a separate ‘Scientific Panel on Packaging and Food Contact Materials’. The Committee*

thereafter made following specific recommendations on regulatory aspects:

- (1) Food Safety and Standards (Packaging) Regulations, 2018: To review the limits of heavy metals in PET and fix the limits of specific migration limits of Antimony and DEHP (Diethylhexyl-phthalate). In addition to this also explore the possibility of setting limits for Cadmium and chromium.
- (2) Food Safety and Standards (Packaging) Regulations, 2018 and IS 14543 (Packaged Drinking water): To remove the restriction on the use non-transparent bottle for drinking water to enable businesses to explore the possibilities of use of alternatives other than the PET currently in use.
- (3) Food Safety and Standards (Packaging) Regulations, 2018; IS 14534 (Guidelines for Recycling of Plastics); and Plastic Waste Management Rules, 2016: The European Food Safety Authority (EFSA) permits the use of recycled PET in food packaging under certain set protocols. EC recommends to explore the possibilities for removal of ban on use of recycled plastic in food packaging after a scientifically validated method of pre-cleaning of plastic waste is developed to ensure that the final product using recycled material does not pose any health risk.
- (4) Legal Metrology (Packaged Commodities) Rules 2011: To explore the possibilities of restricting small packs of commodities such as water, shampoo, sauce, pickle etc.”

6. On the subject of review and monitoring, the Committee observed:

- “8. The Expert Committee noted that while regulatory provisions for restrictions on the packaging by use of plastic material are mostly in place, there is lack of coordinated approach and implementation of these provisions is poor. It suggested putting in place sector-specific mechanisms to review and monitor the use of plastics in packaging and commitment of businesses under ‘Extended Producer Responsibility (EPR)’ framework, managing plastic footprints, and related issues. In this, sector-specific regulators such as FSSAI (for food and beverage packaging), CDSCO (for drugs and cosmetics packaging), Ministry of Textile (for textile packaging) etc. and the Central Pollution Control Board (CPCB) could work together to ensure better coordination. Related ministries and the Ministry of Housing and Urban Affairs and Department of Drinking Water and Sanitation could also be associated for better coordination with Swachh Bharat Mission.”

19. Again the matter was taken up in E.A. No. 13/2019 and the Principal Bench of this Tribunal discussed the matter vide order dated 04.12.2019 as follows:

“1. The issue for consideration is the implementation of Plastic Waste Management Rules, 2016 (PWM Rules) and directions issued by the CPCB on 30.06.2016 to implement the thickness norms for carry bags, constitution of squads for vigilance, preventing littering of plastic waste in public, submission of annual reports and action plan for management, quantification and characterization in every city/town of all the States/UTs.

2. On 12.03.2019, we noted the stand of the CPCB that States are not furnishing information and not taking steps to take preventive and regulatory measures envisaged under the PWM Rules. Though ban was imposed on the use of plastic carry bags etc. in many States, the same was not enforced. Burning of plastic waste was continuing, apart from littering of plastic waste on railway tracks, bus stations etc.

3. Accordingly, the Tribunal directed the States/UTs to ensure compliance of the PWM Rules requiring furnishing of reports as well as taking other steps. In default, the defaulting States were to be required to pay compensation @ Rs. 1 Crore per month after 01.05.2019. CPCB was to furnish status of compliance.

4. Thereafter the matter was considered on 22.07.2019 with reference to the report of the CPCB filed on 30.05.2019 giving details of compliance of PWM Rules based on the information furnished by some of the States / UTs under the following heads:-

a. Details of Plastic Waste Management as per Provisions 5, 6 and 9 of PWM Rules, 2016, as amended, 2018.

b. Complete/Partial Ban on carry bags/products.

c. Status of marking & labelling on carry bags/products.

d. No. of violations & action taken on non-compliance of Rules.

e. Status of submission of AR by ULBs to SPCBs/PCCs.

5. CPCB made following recommendations:-

**“Recommendations:**

1. SPCBs/PCCs shall ensure that Annual Report on implementation of PWM Rules, 2016, as amended, 2018 is complete in all respect as per Form-VI and submitted timely to CPCB i.e. on 31st July each year along with Action plan.

2. SPCBs/PCCs should direct to UDDs to ensure setting-up of collection, source segregation & disposal system for plastic waste.

3. SPCBs/PCCs shall provide the details such as quantification, characterization & disposal methods of plastic waste. The details of disposed plastic waste should be provided to CPCB.

4. SPCBs/PCCs should also ensure that no unregistered plastic manufacturing/recycling units is in operation & no unit is running in nonconforming/ residential areas. Besides, it is also to be ensured that plastic carry bags /films.

5. SPCBs/PCCs, UDDs shall ensure to promote compostable carry bags certified by CPCB.

6. SPCBs/PCCs and Municipalities should constitute squad to check illegal manufacturing, stocking, sale of <50 microns thickness plastic carry bags and uncertified compostable carry bags/products in the market.

7. SPCBs/PCCs and UDDs to ensure prohibit litter of plastic waste at historical, religious, public places and dumping of plastic waste on drains, river, banks & sea beaches is prohibited.

8. SPCBs/PCCs and UDDs to prohibit ensure open burning of plastic waste

**Action Plan:**

The Action Plan for plastic Waste Management Rules has been submitted by 12 States/UTs namely Chhattisgarh, Delhi, Himachal Pradesh, Kerala, Madhya Pradesh, Meghalaya, Punjab, Telangana, Tripura and Andaman & Nicobar Islands, Daman Diu & Dadra Nagar Haveli and Puducherry.”

6. The Tribunal directed as follows:-

“The concerned States/ UTs may now take further action meeting the gaps pointed out above as per the timeline laid down under the PWM Rules. The CPCB may monitor the same and furnish its further status report by 30.09.2019 by e-mail at [judicial-ngt@gov.in](mailto:judicial-ngt@gov.in). The recovery of compensation for the delay in compliance timeline will be considered on the next date.”

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4.1 Estimated plastic waste generation during the year 2018-19 is 33,60,043 Tons/Annum.

4.2 Implementation of thickness >50microns carry bags as per provisions 4(c & d, Thickness criteria Condition) of PWM Rules, 2016, as amended, 2018. 22 States/UTs namely Andaman and Nicobar Islands, Assam, Bihar, Chandigarh, Chhattisgarh, Daman Diu and Dadra Nagar Haveli, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Lakshadweep, Madhya

Pradesh, Maharashtra, Nagaland, Puducherry, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand & Uttar Pradesh have imposed complete ban on carry bags. Besides, 9 States/UTs namely: Andhra Pradesh, Goa, Gujarat, Jammu & Kashmir, Kerala, Manipur, Meghalaya, Odisha & Telangana have complied with thickness criteria. Further, 4 States/UTs namely Arunachal Pradesh, Delhi, Mizoram & West Bengal have not provided the information in this matter.

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4.4. Complete/Partial Ban on carry bags: 22 States/UTs namely Andaman and Nicobar Islands, Assam, Bihar, Chandigarh, Chhattisgarh, Daman Diu and Dadra Nagar Haveli, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Lakshadweep, Madhya Pradesh, Maharashtra, Nagaland, Puducherry, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand & Uttar Pradesh have imposed complete ban on carry bags. Besides, 7 States namely Arunachal Pradesh, Andhra Pradesh, Gujarat, Kerala, Mizoram, Odisha and West Bengal have imposed the partial ban on plastic carry bags at religious/historical places. Further, 5 States/UTs namely Goa, Jammu & Kashmir, Manipur, Meghalaya & Telangana have not imposed any ban on plastic carry bags except meeting thickness criteria. Further, Delhi has not provided the information in this regard.

4.5 No. of registered Manufacturing/Recycling Units: There are 4773 (4294 —Plastic Mfg., 7-Compostable Mfg., 287-MLP Mfg. & 185-Recycling) Registered units in 30 States/UTs and there are no plastic manufacturing units in Andaman and Nicobar Islands, Arunachal Pradesh, Bihar, Lakshadweep & Sikkim.

4.6 No. of unregistered plastic manufacturing/recycling units:

There are 1080 unregistered plastic manufacturing/recycling units running in 12 States/UTs, namely; Assam, Bihar, Jammu & Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Puducherry, Punjab, Tamil Nadu & Uttar Pradesh. Further, Chhattisgarh, Daman Diu and Dadra Nagar Haveli, Delhi PCC, Himachal Pradesh, Uttarakhand & West Bengal have not provided the details in this matter.

4.7 Status of marking & labelling on carry bags/Multilayered packaging:

As per provision '11' marking & labelling of PWM Rules, 2018, 23 States/UTs namely Andhra Pradesh, Assam, Bihar, Chhattisgarh, Daman Diu Dadra and Nagar Haveli, Gujarat, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Kerala, Madhya

Pradesh, Maharashtra, Manipur, Meghalaya, Nagaland, Puducherry, Punjab, Rajasthan, Tamil Nadu. Telangana, Uttar Pradesh & West Bengal have complied with Rule . There are no plastic carry bag manufacturing units in 6 States/UTs namely: Andaman & Nicobar Islands, Arunachal Pradesh, Chandigarh, Haryana, Lakshadweep & Mizoram. Besides, 5 States/UTs namely Delhi, Goa, Odisha, Sikkim & Uttarakhand which have not provided the information in this regard. Further, Marking & Labelling is not started yet in Tripura.

4.8 No. of violations & action taken on non-compliance of Rules: As per provision '12' "the prescribed Authorities for implementation of Rules" of PWM Rules, 2018, 21 States/UTs namely Andhra Pradesh, Bihar, Chandigarh, Chhattisgarh, Daman Diu Dadra & Nagar Haveli (DDDNH), Delhi, Goa, Gujarat, Haryana, Jammu & Kashmir, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Puducherry, Tamil Nadu, Telangana, Tripura, Uttarakhand & Uttar Pradesh. have imposed fine, issued notices, closure directions to the defaulters & seized the material in their respective State/UT. Besides, there are no violations in 9 States/UTs namely Andaman and Nicobar Islands, Arunachal Pradesh, Assam, Kerala, Lakshadweep, Mizoram, Nagaland, Rajasthan and West Bengal. Further, 5 States/UTs namely Himachal Pradesh, Manipur, Meghalaya, Odisha, & Sikkim have not submitted the information in this regard.

10. We may also deal with the issue of implementation of Extended Producers Responsibility (EPR) under the PWM Rules in the light of the order dated 17.09.2019 in O.A. No. 376/2018, *Jitender Yadav v. Union India & Ors.* wherein it was observed:-

“1 to 6 xxx

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7. On 12.09.2018, this Tribunal directed the Ministry of Environment, Forest & Climate Change (MoEF&CC) to take steps to implement the Extended Producer's Responsibility (EPR) in accordance with Plastic Waste Management Rules, 2016, (PWM Rules) as amended in 2018.

8. On 16.05.2019, noticing the failure on the part of the MoEF&CC in furnishing any information about compliance of the said direction, the Tribunal sought an explanation and directed that on the default, the concerned Joint Secretary, MoEF&CC may remain present in person.

9. On this aspect, written submissions have been filed by the MoEF&CC to the effect that a Committee has been constituted on the subject which held several meetings. Last such meeting was held on 31.05.2019. The Ministry was in the process of preparing final draft guideline

document on National Framework on EPR to be placed in public domain for receiving further comments. The minutes of the meeting do not indicate any tangible action beyond recording suggestions. The minutes of the meeting also show that except a Joint Secretary, all other participants representing Government are of junior level.

10. The PWM Rules elaborately lay down the norms and the responsibilities. Rule 9 requires the producers to workout the modalities for the waste collection system based on EPR and also by involving State Urban Development Departments. Primary responsibility is of the producers who introduce such products in the market. The minutes of the meeting merely shows shifting of responsibility instead of adhering to the mandate of the PWM Rules. The PWM Rules have a provision for State Level Monitoring Committees for effective monitoring of the implementation of the PWM Rules.

11. Hazardous impact of unscientific handling of plastic waste is well acknowledged.<sup>7</sup> The minutes of the meeting and the submissions filed on behalf of the MoEF&CC are not consistent with the mandate of the PWM Rules which require immediate enforcement of liability by effective mechanism instead of deferring the subject. One of the means to implement EPR is to require stamping of non-degradable product with the information as to how after use such product is to be handled.

14. It will be appropriate that the Chief Secretaries look into the issue of compliance of PWM Rules as per mandate of law and the MoEF&CC also concludes the long pending issue of framing National Framework on EPR within two months instead of adopting long winded procedure which has been going on for more than two years, inspite of the enactment of the Rules more than three years ago. The concerned Joint Secretary, MoEF&CC may remain present in person, to assist the Tribunal in Execution Application No. 13/2019 in O.A.

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7 "Fact Sheet on Plastic Waste in India, 2018", TERI- Plastic contributes to 8% of the total solid waste, with Delhi producing the maximum quantity followed by Kolkata and Ahmedabad. Significant amount of toxic heavy metals like copper, zinc, lead and cadmium recovered from plastic wastes from sea shores have an adverse effect on the coastal ecosystems. Lead and Cadmium pigments, commonly used in most of the plastics as additives are hazardous in nature and are known to leach out. "Impacts of Marine Debris: Entanglement of Marine Life in Marine Debris Including a Comprehensive List of Species with Entanglement and Ingestion Records", David W. Laist - Plastic debris affects at least 267 species worldwide, including 86% of all sea turtle species, 44% of all seabird species, and 43% of all marine mammal species. <https://www.indiaspend.com/india-is-generating-much-more-plastic-waste-than-it-reports-hereswhy/> - CPCB data on plastic waste generation from a 2015 study showed that, in 2010-12, India generated 25,940 tonnes plastic per day. This would amount to 9.5 million tonnes per year. In 2016-17 too, CPCB received figures from only 25 regional pollution boards. The total plastic waste generation figure for that year was estimated at 1.6 million tonnes, or 160,000 truckfuls. India's annual plastic consumption is expected to cross 20 million tonnes in 2020.

No. 247/2017, Central Pollution Control Board vs. State of Andaman & Nicobar & Ors. on 04.12.2019.

15. The MoEF&CC may ensure that meeting takes place with the involvement of senior officers who are competent to take decision and for this purpose CPCB must be also involved. The compliance report of the MoEF&CC may be filed latest by 30.11.2019. The Central Pollution Control Board (CPCB) may lay down a compensation regime and scale on 'Polluter Pays' principle by appointing such Expert Committee as may be found necessary and furnish its report before the next date. The scheduled date of 16.10.2019 in Execution Application No. 13/2019 will now stand deferred to 04.12.2019."

11. Accordingly, Ms. Nidhi Khare, Additional Secretary, MoEF&CC is present in person and has handed over action taken during the hearing mentioning inter-alia that three models were being considered as follows:-

**“Model 1 —Fee based model**

- Under the fee based model the producers/importer/brand owner is required to contribute to the EPR corpus fund at the central level/ State level.
- The amount to be contributed by each of the producers/importer/brand owner will be decided based on the amount of plastic being introduced into the market by the producers/importer/brand owner. Normative cost based on the cost of recycling may be adopted.
- The collected funds shall be utilized for creation of infrastructure for the management of plastic waste in Smaller municipalities.
- There is a need to build the capacities of the ULB in terms of infrastructure development and their expertise so that the waste management can happen systematically under the EPR mechanism.
- Secondly, an important factor which is indirectly contributing to the cleanliness of the city are the rag pickers/assemblers/recyclers. They are anyway contributing to the mechanism of EPR without any benefit. This fraction of the stakeholders shall be supported for the better management of the waste under the mechanism of EPR under this model.
- Thirdly the component of Information, Education and Communication (IEC) activity shall be supported through the component of EPR to achieve an effective waste segregation, collection, transportation and recycling.

**Model 2 — PRO based model and Plastic Credit Model** Under this model, the objective is to establish a Producer Responsibility Organization (PRO) to lead on implementation and provide funding required under the Rules on behalf of producers to support plastic recycling while also promoting the ease of doing business for all stakeholders.

Local bodies and some states do not have the expertise or resources to design, implement and manage effective local plastic waste management programs. This can be addressed by having an industry self-managed PRO take on the responsibility for discharging producer's national and state legal obligations in a more efficient and cost effective manner by applying industry's experience gained through successful producer responsibility programs implemented in other jurisdictions.

### **Model 3 -Plastic Credit Model**

- PRO/Producers/Importers can also obtain certificates from accredited processors [recyclers, W2Eplant operators, cement co-processors, users utilizing plastic in road] in exchange of an evidence of recycling or recovery, which will act as ERP compliance.
- Producers will be at liberty to decide options for establishing channels of collecting plastic credits with or without forming or linking with PROs. Producers with established supply chains can establish other channels for collection/ segregating/ processing plastic waste for eg.:
  - Deposit refund schemes
  - Buy-back schemes
  - Forming social ventures involving informal sector directly.

12. Let the matter be finalized and National Framework established as far as possible within three months. Further report may be furnished before the next date by e-mail at [judicial-ngt@gov.in](mailto:judicial-ngt@gov.in).

13. CPCB has also filed a report in terms of direction in paragraph 15 in the order dated 17.09.2019 in O.A. No. 376/2018, Supra, on the subject of Environmental Compensation regime for improper Plastic Waste Management. The report is infact application seeking time to submit such regime in four weeks after finalization of National Framework on EPR by MoEF&CC.

14. In view of above discussion, we sum up our directions as follows:

- a) *National Framework for extended producers liability be finalized and enforced as far as possible within three months and a report furnished by the MoEF&CC as per observations in para 12 above.*
- b) *CPCB may give its report for compensation regime in terms of para 13 above.*
- c) *The States/UTs may finalize the time targeted action plans and give information about the implementation status to the CPCB as per recommendations in the report of the CPCB summarized in para 9 above.*
- d) *An institutional mechanism be established to ensure that:*
  - i. *No unregistered plastic manufacturing/recycling units is in operation and no unit is running in non-conforming/ residential areas.*
  - ii. *No plastic carry bags /films <50microns thickness should be manufactured, stocked, sold and used in cities/towns.*
  - iii. *Thermocol/polystyrene cups, plates, etc. used extensively and haphazardly littered are properly regulated.*
  - iv. *Special Environment Squads may be set up for enforcement to oversee and ensure that no litter of plastic waste takes place at historical, religious, public places and dumping of plastic waste on drains, river, banks and sea and no burning of plastic takes place in open.*
  - v. *The States/UTs may submit their compliance reports to CPCB quarterly in a cumulative format, failing which compensation of Rs. 1 lakh per quarter shall be levied by the CPCB. The CPCB may compile and file its consolidated report on quarterly basis before this Tribunal. First quarterly report be filed before the next date by e-mail at [judicial-ngt@gov.in](mailto:judicial-ngt@gov.in).*

20. *The problem of plastic waste and its disposal on the Indian Railway Station was taken up by the Principal Bench of this Tribunal in O.A. No. 141/2014 and vide order dated 01.10.2018, it was dealt as follows:*

*“1. This application has been filed with a prayer to ban the use, sale, carrying or dumping of any plastic product on the Indian railways stations, railway tracks, etc., to ban open defecation by humans on and around the railway tracks and to build a mechanism in all Indian trains to prevent dumping of human waste on railway tracks and to form a task force to look after the proper disposal of plastic and human waste, already generated and dumped on the Indian railway*

stations, railway tracks, etc. The application was filed on 26.07.2014 and has been pending for the last more than four years.

2. Averments in the application are that huge amount of plastic waste is generated by the vendors, hawkers and catering service providers at the railway stations. Such waste is non-biodegradable in nature and not fit for dumping at landfill site because of toxic chemicals which leach out in the soil and underground water. Passengers and other visitors to the railway stations contribute to such wastes.

3. There is no mechanism for segregating the plastic waste from bio-degradable waste. As per Municipal Solid Waste(Management and Handling) Rules, 2000, waste has to be separated into bio-degradable and non-biodegradable. Separate bins have to be provided. Railway stations do not have such mechanism. There are incidents of open burning of plastic waste. Some such incidents are mentioned in report No. 21 of 2012-13 of the Comptroller and Auditor General of India (CAG) called "Environment Management in Indian Railways". Rail India Technical and Economic Services (RITES) conducted a study in the year 2009 at three major railway stations in Delhi and found generation of 6758 kg of plastic waste every day. There is also generation of huge amount of human waste which is dumped on the tracks. Open defecation on the tracks leads to unhygienic conditions and spread of diseases like diarrhoea, cholera, typhoid, hepatitis, other water-borne diseases and parasitic infections. Parasites like hookworm, tapeworm, roundworm and pinworm are spread through human waste that results in the spread of communicable diseases.

6. Vide order dated 18.03.2015, directions were issued for platform being cleaned and freed from any municipal solid waste in accordance with the Environment (Protection) Act, 1986, Municipal Solid Waste Management Rules, 2000 and The Indian Railways (Penalties for activities affecting cleanliness at railway premises) Rules, 2012. Effluents generated by washing and cleaning of the tracks should not seep into the ground water. Effluents must be taken into the CETPs/STPs and discharged, recycled and used for irrigation. For these purposes, fresh water or extracted groundwater should not be used. It was also noted that sum of Rs. 11.25 crores was given, in the year 2003-2004, for rehabilitation of slum dwellers to the Delhi Urban Shelter Improvement Board (DUSIB). Out of 4410 Jhuggies (huts), only 257 have been rehabilitated. It was also noted that there are Jhuggies and residential buildings, within 2 meters from the railway tracks throwing waste on such tracks.

14. Learned Additional Solicitor General, appearing for the Railways fairly stated that maintaining cleanliness at the railway platforms, railway tracks and railway properties is an uphill task. It is also very difficult to tackle the situation of encroachments of the railway property by way of construction

of Jhuggies etc., adding to the difficulty of maintaining cleanliness.

16. The situation depicted in the Performance Audit conducted by the CAG for the year ended 2011 is quite revealing. There is no doubt that the Indian Railway is the second largest carrier of passengers and freight of the country. It also carries pollution intensive commodities like coal, cement, fertilizers, petroleum etc. It is a major consumer of water and energy. Its activity has substantial impact on environment. The Public Accounts Committee (PAC), in its 83<sup>rd</sup> report mentioned the deficiencies on the issue of environment management in the Indian Railways.

17. The CAG undertook the comprehensive audit performance in managing the environmental risks. The CAG noticed that handling of commodities like coal, cement, iron or fertilizers in open wagons creates lot of pollution. Operation of handling of transport of such commodities requires guidelines include consent to operate from State Pollution Control Boards. The CPCB in its study, found that generally railways failed to comply with the statutory provisions at 14 major stations, studied by the CPCB. There was no system of monitoring the quality and quantity of waste water generated. There was non-compliance of instructions of installation of ETPs at major stations. Effluents were discharged to low lying areas/water bodies. There was no significant progress in implementing water conservation method. Measures taken to conserve flora and fauna are not adequate. There was no proper collection and segregation of plastic waste. About 3980 MT human waste was discharged directly on railway tracks. Comprehensive environmental guidelines for handling and transportation of bulk commodities are required. Siding and goods-sheds are required to obtain consent to operate from SPCBs. ETPs and STPs are required on all major stations. Water recycling and re-use is required on all stations where water is scarce. Automatic coach wash plants are required to be installed. Use of non-conventional energy sources is required as per Energy Conservation Policy. Animal mortality rate due to stray hits has not declined. 62 elephants died during the review period. In most of the contracts for disposal of garbage, there was no clause for segregation of garbage. Disposal was being done by burning or dumping at many places. A monitoring mechanism was required for compliance of environmental policies, including conservation of water, use of alternative source of energy, prevention of animal mortality, waste management policy, having eco-friendly toilets. Object of the solution should be proper waste disposal. Disposal of plastic waste at landfill site is unsafe. No separate Waste Management Cell exists in the organizational structure of the Indian Railways. On audit of garbage, it was noted that no central ward for disposal are available and transportation of garbage was not being covered. Quantity of garbage generated was not being assessed. No separate clause was incorporated for segregation of waste in the Agreements. Despite agreement, disposal of garbage was being done by

*burning or dumping. Plastic packaging was extensively used. Study conducted at three railway stations revealed pet bottles generation, food packaging, tumblers, multilayer metalized plastic, plastic carry bags and cups. These plastic wastes go to the landfill along with other municipal solid waste. Study also revealed that the plastic wastes generated from the Railway stations are not collected, segregated, transported, treated, reused and disposed properly. Use of plastic was not discouraged. Environmental friendly toilets were required to be adopted, including vacuum toilets, Controlled Discharge Toilet System (CDTS), Zero Discharge Toilets both aerobic and anaerobic.*

*18. The CPCB, in its conclusion observed that inadequate resources, in-appropriate technologies, management apathy and low efficiency of the system are unable to give fruitful results. The existing waste management system at railway stations has several short-comings. Hence, the waste management system needs complete reorganization, with a clear definition of roles and responsibilities.*

*20. Thereafter, following recommendations were made:-*

*“1) The entry of rag-pickers at railway stations shall be restricted, however, they can be included in the main stream of waste management system as per norms of railway authorities. The waste collection, segregation, transport and disposal shall be privatized to some specialized agency.*

*2) Separate dustbins system should be adopted for biodegradable and non-biodegradable waste. Railways may keep vigil on waste generating/managing organizations and consider penalties for plastic littering.*

*3) Plastic recycling industry is needed to upgrade the technology for better products and the products should be labelled with the plastic identification code to help in sorting and collection as per IS 14535: 1998.*

*4) Reuse of plastic as in cement kilns and utilization in road construction could be the best option, as it is free from pollution and mixed plastic waste can be processed easily.*

*5) Massive public awareness programs with the help of NGO's will have to be launched on war footing against littering, segregation and disposal of plastic waste.*

*6) There is need to use biodegradable plastic bags in place of plastic bags, thus. Use of plastics products can be reduced.*

7) *An independent Waste Management Cell (WMC) could be set-up to look-after solid and plastic waste management.”*

21. *We may note that the Municipal Solid Waste Management Rules, 2010 have since been replaced by Solid Waste Management Rules, 2016. This Tribunal has dealt with the issue of implementation of the said rules, inter-alia, vide judgment dated 20.08.2018 in Original Application No. 606 of 2018. Directions, to the extent relevant for the present case, have to be equally applied to the present case also.*

22. *In view of above, we find that there is an urgent need for the Railway Administration to put in place an effective implementation and monitoring mechanism with provisions of fixing of accountability of notified individuals at Railway Station level, Divisional level and Zonal level in respect of railway tracks, railway stations and the properties along at railway tracks especially w.r.t. solid waste disposal, littering of solid and plastic wastes, defecation along the railway tracks, removal of encroachments etc. We are informed that railway property along the railway tracks may extend from 15 to 100 meters. Being the owner of the said property, the Railway must own responsibility for compliance to Solid Waste Management and Plastic Waste Management Rules.*

*Atleast three persons must be identified and declared to be the accountable persons at every important Railway Station as well as at Divisional and Zone levels. This will be in addition to the existing hierarchy. Adequate provisions in the budget must also be made. A person or a team responsible for implementation for removal of encroachments must be identified at every level.*

23. *Enabling provisions are available under the Railways Act itself for constitution of such mechanism. Immediate steps be taken for displaying the do's and don'ts for passengers in all railway compartments. Details of 24 hour helpline and Indian Railway Twitter handle shall also be conspicuously displayed in all train compartments. Along-with this, fine and penalty to be imposed on passenger for littering in the trains, railway tracks and the railway platforms etc. shall also be displayed. Steps be taken for removal of graffiti inside as well as outside the train and on the railways stations within 24 hours of their being made or displayed. All railway franchise holders are required to operate retention tanks which are to be emptied in only at the designated rail depots. Measures be also taken for rodents and pest control and management inside the trains as well as at the railway platforms and stations. It may be noted that education, training drills and capacity building of railway station staff be carried out at regular intervals.*

27. *The Railway administration shall constitute a Special Task Force for removal of encroachments and squatters from railway lands/ premises and also undertake landscaping of such vacated land parcels especially within city precincts by*

*way of creation of bio-diversity parks, planting of ornamental plants, fountains etc. This Special Task Force shall submit its quarterly Action Taken Report to the Tribunal from time to time. The Railway administration shall also plan afforestation and plantation along such land parcels in country side area with the help of Forest Departments of respective State Governments.*

21. Accordingly, we direct the respondents as follows:

- i. Carry bags made of recycled plastic or products made of recycled plastic shall not be used for storing, carrying, dispensing or packaging ready to eat or drink food stuff.*
- ii. Local bodies shall encourage the use of plastic waste (preferably the plastic waste which cannot be further recycled) for road construction as per Indian Road Congress guidelines or energy recovery or waste to oil etc. The standards and pollution control norms specified by the prescribed authority for these technologies shall be complied with.*
- iii. Thermo set plastic waste shall be processed and disposed off as per the guidelines issued from time to time by the Central Pollution Control Board.*
- iv. Ensuring segregation, collection, storage, transportation, processing and disposal of plastic waste.*
- v. Ensuring that no damage is caused to the environment during this process;*
- vi. The local body to frame bye-laws incorporating the provisions of these rules.*
- vii. All waste generators shall pay such user fee or charge as may be specified in the byelaws of the local bodies for plastic waste management such as waste collection or operation of the facility thereof, etc.*
- viii. Primary responsibility for collection of used multi-layered plastic sachet or pouches or packaging is of Producers, Importers and Brand Owners who introduce the products in the market. They need to establish a system for collecting back the plastic waste generated due to their products. This plan of collection to be submitted to the State Pollution Control Boards while applying for Consent to Establish or Operate or Renewal. The Brand Owners whose consent has been renewed before the notification of these rules shall submit such plan within one year from the date of notification of these rules and implement with two years thereafter.*
- ix. Name, registration number of the manufacturer and thickness in case of carry bag.*

- x. *Name and registration number of the manufacturer in case of multilayered packaging.*
- xi. *Retailers or street vendors shall not sell or provide commodities to consumer in carry bags or plastic sheet or multilayered packaging, which are not manufactured and labelled or marked, as per prescribed under these rules.”*

29. In spite of the direction issued from time to time by this Tribunal and in spite of the provisions contained in the rules, the Municipal Corporation failed to perform its duties properly, sincerely and honestly and public at large are facing problem. This inaction or negligence towards the duties are causing health hazard to the public and citizens residing there. The Municipal Corporation, Mumbai is directed to strictly follow the guidelines issued by the CPCB and the rules contained in the Plastic Waste Management Rule, 2016 read with the Recycled Plastics Manufacture Sales and Usage Rules, 1999. The State Pollution Control Board is directed to strictly monitoring the things and in case of noncompliance of the order or violation of any rules, strict action should be initiated and environmental compensation be levied and recovered according to law. It is further argued that in the Year 2006-2007, CPCB has conducted a ground water survey causing increasing pollution in important urban cities including Mumbai. The report concludes that the local authorities are unable to address the problem of waste generation with the increasing urban population. The recommendations by CPCB after this studies suggests that constant monitoring and no stagnation of waste water should be allowed to protect ground water. Another report was released by the Controller and Auditor General on the poor functioning of the local bodies. The report states that the poor functioning of waste water treatment facilities was responsible for the pollution in sea

water and due to which the BoD level of sea water had increased between the Year 2011 and 2013. The report states that Mumbai generated at that point of time 2146 million litre per day (MLD) of sewage, of which only 1098 MLD is treated. The remaining 1048 MLD (49%) sewage was outside the sewage collection system and was discharged into the sea or creeks without being treated. The matter of underground water and extraction, continuation have been taken up by the Principal Bench of this Tribunal in *Original Application No. 685/2019, Rakesh Kumar Vs. Govt. of NCT of Delhi* vide order dated 15.05.2020 and directed as follows:

4. *The Hon'ble Supreme Court directed:*

**“9. The Central Government in the Ministry of Environment and Forest shall constitute the Central Groundwater Board as an Authority under Section 3(3) of the Act. The Authority so constituted shall exercise all the powers under the Act necessary for the purpose of regulation and control of groundwater management and development. The Central Government shall confer on the Authority the power to give directions under Section 5 of the Act and also powers to take such measures or pass any orders in respect of all the matters referred to in sub-section (2) of Section 3 of the Act.**

**10. We make it clear that the Board having been constituted an Authority under Section 3(3) of the Act, it can resort to the penal provisions contained in Sections 15 to 21 of the Act.**

**12. The main object for the constitution of the Board as an Authority is the urgent need for regulating the indiscriminate boring and withdrawal of underground water in the country. We have no doubt that the Authority so constituted shall apply its mind to this urgent aspect of the matter and shall issue necessary regulatory directions with a view to preserve and protect the underground water. This aspect may be taken up by the Authority on an urgent basis.”**

5. *Even though 23 years have passed after the passing of the judgment of the Hon'ble Supreme Court, the situation of falling groundwater level has not improved and has in fact further deteriorated. Unfortunately, in spite of clear directions of the*

*Hon'ble Supreme Court, the CGWA is not willing to take the ownership of the subject and repeatedly takes the plea that it does not have the infrastructure or that the responsibility of dealing with the problem is of the States and not that of the said authority. It is high time that the working of the CGWA is reviewed and remedial measures are taken including assessment of suitability of the person to head it.*

*7. This Tribunal has ascertained facts and directed the regulatory authorities to take remedial action by way of closing such drawal, initiating prosecution and recovering compensation on 'Polluter Pays' principle.<sup>8</sup> A separate order is being passed in several other matters on the same subject.<sup>9</sup> **There is need for constant action by the regulatory authorities and mechanism for higher level review of working of such authorities to avoid unnecessary litigation.***

*9. On 12.11.2018, the matter was further considered. After making reference to the 2012 Guidelines issued by the CGWA and Draft Guidelines dated 16.11.2015, the Tribunal noted following points:*

- i. CGWA was repeatedly disowning its responsibility on the plea that regulation of ground water was a State subject, contrary to the mandate in the judgement of the Hon'ble Supreme Court in M.C Mehta (Supra).***
- ii. CGWA was failing to regulate drawal of ground water in OCS on the ground that it had not issued a notification except for some areas, and without such notification, there was no need for regulating extraction of ground water even in OCS.***
- iii. Extraction of ground water for commercial purposes was being allowed in OCS just by a mechanical condition that the ground water will be recharged, without ensuring compliance of such condition.***
- iv. Underground water was being allowed to be extracted for illegal constructions, bottling plants, swimming pools etc. without any impact study or effective steps for rain water harvesting for recharge of the ground water.***

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<sup>8</sup> E.g. separate order passed today in Harinder Dhingra Vs. International Recreation & Amusement Ltd. & Ors O.A No. 458/2017.

<sup>9</sup> Original Application No. 59/2012 (M.A. No. 34/2016 & M.A. No. 190/2016), Original Application No. 108/2013, Original Application No. 179/2013 , Appeal No. 67/2015 , M.A. No. 107/2019, Original Application No. 484/2015 Original Application No. 327/2018 , Original Application No. 115/2017, Original Application No. 411/2018, Original Application No. 613/2017, Original Application No. 614/2017

- v. CGWA was repeatedly taking the plea that charges were being collected for permitting drawal of underground water for commercial purposes in OCS against the Precautionary Principle, Sustainable Development as well as Intergenerational Equity Principles.
- vi. Difficulties of agriculturists needed to be addressed in a phased manner by persuading the agriculturists to switch over to less water consuming crops and to consider use of treated sewage water instead of extraction of fresh underground water, wherever viable.
- vii. Untreated effluents are not to be discharged in the water.

10. Notification dated 12.12.2018 was issued by Ministry of Water Resources (MoWR) which was considered by this Tribunal vide order dated 03.01.2019. **The Tribunal noted from the affidavit filed by the CGWA found that utilizable water in India is 1137 BCM which comprises of 690 BCM of surface water and 447 BCM of replenishable ground water resources. In the year 2009, about 2700 BCM of ground water was available in deeper aquifers, below the zone of water level fluctuations. Thus, ground water over exploitation is recommended to be restricted to sustainability of ground water by annual replenishment in order to facilitate long term sustainability of ground water. It is further stated that per year extraction is 253 BCM which is 25% of the global ground water extraction. Out of total 6,584 assessment units, 1,034 fall in over-exploited category (where extraction is more than 100% of recharge), 253 fall in critical category (where extraction is 90-100% of the recharge), 681 fall under semi-critical category (where extraction is 70-100% of the recharge) and 4,520 are under safe category (where extraction is 90% of the recharge).** About 90% extraction is for agricultural purposes, 10% for drinking, domestic and industrial purposes. Industrial use is 5%. Model building bye-laws 2016 include the provision of rain water harvesting in all new buildings on plots of 100 sq. mtrs. and above. Entire storm water is to be captured for water harvesting through suitable structures in all public and open spaces of more than 500 sq. mtrs. Buildings having minimum discharge of 10,000 liters and above are required to have waste water recycling system for horticulture purposes. 'Mission Water Conservation' has been introduced by the Ministry of Agriculture, Government of India. Inter-Ministerial Committee has been constituted under the chairmanship of the Secretary, Ministry of Water Resources, Government of India. The Ministry is also carrying out training programme and Information, Education & Communication (IEC) activities for awareness. The Department of Land Resources is implementing water-shed

development projects. Certain States have taken initiatives including Punjab Preservation of Subsoil Water Act, 2009 which ban early sowing of paddy nursery and transplantation of saplings. Maharashtra Groundwater (Development and Management) Act, 2009 prohibits drilling of deep wells within for agriculture or industrial usage, pumping of ground water for deep well of depth of 60 mtrs. or more. The CGWA has issued advisories and it requires taking of NOC for ground water withdrawal but the agriculture section is not subjected to ground water regulation on account of socio-economic implications. The steps taken by the CGWA include directions for rooftop rain water harvesting systems, ground water recharge measures along the National highways, State national highways, railway tracks, etc., artificial recharge in over-exploited areas, large and medium industries using ground water to take up the ground water conservation measures. CGWA imposes condition while granting NOC for withdrawal of ground water in States/UTs which do not have functional ground water authorities. NOCs are granted online in a user-friendly manner. Industries in safe category are exempted from NOC but in OCS areas, condition for grant of NOC is rain water harvesting/ground water recharge measures and NOCs are denied in over-exploited areas. Non-water intensive industries drawing ground water up to 100 m<sup>3</sup>/day are exempted from NOC in critical areas, non-water intensive industries drawing up to 50 m<sup>3</sup>/day are exempted from NOC. (In over-exploited areas, non-water intensive industries are exempted which are drawing ground water up to 25 m<sup>3</sup>/day. Permitted water extraction is restricted to 60% of the proposed recharge. Ground water extraction should not be exceeded 1,500m<sup>3</sup>/day for each unit. In semi-critical areas, ground water extraction is restricted to 200% and 100% of proposed recharge for non-water intensive and water intensive industries respectively. In critical areas, ground water extraction is permitted up to 100% and 50% of proposed recharge for non-water intensive and water intensive industries respectively. In over-exploited areas, ground water extraction is permitted up to 50% of the proposed recharge). Till 2015, existing industries were not required to seek any NOC. In compliance of order of the Tribunal dated 15.04.2015, existing industries were brought within the purview of NOC with effect from 16.11.2015.

13. The Tribunal noted the relevant statistics on the subject as follows:

**“2. As per publication of NITI Ayog, India is placed at 120th amongst 122 countries in water quality index. Most states have achieved less than 50% of the total score in augmentation of groundwater resources, highlighting a growing national crisis. 54% of India’s ground water wells are decreasing in levels and 21 major cities across the country are expected to run out of ground water by 2020. Almost none of the States have built the infrastructure required to recharge groundwater in over exploited and critical**

**areas. Several States such as U.P., Bihar, Rajasthan etc. have not put in place any regulatory framework for managing the groundwater. These states produce 20-30% of India's agricultural output and groundwater accounts for 63% of all irrigation water. Therefore, unsustainable extraction in these states also poses a significant food security risk for the country. 3. About 60% of the irrigation needs, 85% of rural drinking water needs and 50% of urban water needs are met through ground water. The CGWB has categorised the areas into the following on the basis of availability of ground water resources:**

Safe	( $\leq 90\%$ , No decline in water levels)
Critical	( $>70\%$ and $\leq 100\%$ , decline in water levels)
Semi-critical	( $<100\%$ , decline in water levels)
Over-exploited	( $>100\%$ , decline in water levels)

4. As per another survey, India extracts most ground water. Globally, 25% of total annual global annual water is extracted in India. The extraction level is going up continuously

5. Depletion of ground water not only creates crisis for drinking water in absence of inadequate surface water being available in certain areas where there may be drought conditions, but also affects e-flow in rivers and can also increase salinity in soil.”

14. The Tribunal accordingly held:

**“27. We are satisfied that the Notification dated 12.12.2018 tested on the Precautionary Principle, Sustainable Development as well as Inter-generational Equity Principles is unsustainable in law and instead of conservation of ground water which is necessary for providing access to drinking water in OCS areas, as well also other needs of environment, including sustenance of rivers and other water bodies, it will result in fast depletion of ground water and damage to water bodies and will be destructive of the fundamental right to life under Article 21 of the Constitution of India.**

28. Accordingly, the impugned Notification may not be given effect to in view of serious shortcomings as pointed above so that an appropriate mechanism can be introduced consistent with the needs of environment.”

**19. The report remains deficient as the issue of preventing depletion of ground water has not been duly addressed. The effective enforcement mechanism of conditions subject to which groundwater extraction may be allowed in OCS areas has not been provided. Mere condition of recharge without clear strategy of enforcement is no safeguard for permitting extraction of groundwater. The report leaves many issues to be dealt with by further studies. The need for immediate concrete action to prevent further depletion is not met by the report nor the effective safeguards against abuse of permission for extraction in violation of conditions for extraction and effective remedies against rampant illegal extractions have been suggested. This shows that further remedial action needs to be taken.**

20. The report of CPCB dated 26.06.2019 deals with methodology for assessing environmental compensation (EC), Formula for Environmental Compensation for illegal extraction of ground water, Environmental Compensation Rate (ECRGw) which has been further dealt with in different categories, i.e. ECRGw for Drinking & Domestic use for household purposes and those for institutional activity, commercial complexes, townships etc., ECRGw for Packaged Drinking Water Units, ECRGw for Mining, Infrastructure and Dewatering Projects, ECRGw for Industrial Units, Deterrent factors to compensate losses and environmental damage (for packaging drinking water units, mining, industrial and commercial purposes) and Deterrent Factor . Formula for Environmental Compensation for illegal extraction of ground water is as follows:

**“5. Formula for Environmental Compensation for illegal extraction of ground water**

The committee recommended that the formula considering water consumption, no of days, rates for imposing Environmental Compensation based on the purpose for illegal abstraction of ground water as well as the deterrent factor detailed below:-

$$EC_{Gw} = \text{Water consumption per day} \times \text{Environmental Compensation rate for illegal extraction of ground water (ECRGw)} \times \text{No. of Days} \times \text{Deterrent Factor}$$

Where, water consumption is in m<sup>3</sup>/day and ECRGw in Rs/m<sup>3</sup>”

All other details can be seen from the report which is available on the website of CPCB. The report also gives recommendations as follows:

24. We conclude this order with the following directions:

(i) We constitute a Committee to go into the following questions:

- (a) Steps required to be taken for preventing depletion of ground water.
- (b) Robust monitoring mechanism to ensure that no ground water is unauthorisedly extracted, including review of manning and functioning of CGWA.
- (c) Robust mechanism to monitor conditions laid down for grant of permission for extraction of ground water.
- (d) Recommendations in the report of the CPCB dated 26.06.2019 referred to above.

(ii) The composition of the Committee will be as follows:-

- (i) Joint Secretary, MoEF&CC
- (ii) Concerned Joint Secretary, MoWR, dealing with the subject
- (iii) CGWB
- (iv) National Institute of Hydrology, Roorkee
- (v) National Remote Sensing Center, Hyderabad
- (vi) CPCB”

30. Accordingly, we direct the Municipal Corporation and the State Pollution Control Board to strictly follow the guidelines and in case of violation of any rule, the penalty in accordance with the parameter laid down by the Principal Bench of this Tribunal in above matter may be calculated and realised.

31. We have two things, sovereignty of the State and the doctrine of public trust. We have to make a balance between the two though the State has every authority to utilize the land but Public Trust Doctrine says that the property of the public should be utilized for the public purposes and not for the private purposes. The water bodies, lake, air and land all these are the public properties and should be made available to all for maintaining the health and environment. This Doctrine of public trust and precautionary measures was discussed in public interest litigation no. 87/ 2006;

Bombay Environmental Action Group Vs. State of Maharashtra  
2018 SCC onlinebombay 2680.2019(1) Bombay CRI.

32. India is endowed with extraordinarily diverse and distinctive traditional water bodies found in different parts of the country, commonly known as ponds, tanks, lakes, *vayalgam*, *ahars*, *bawdis*, *talabs* and others. They play an important role in maintaining and restoring the ecological balance. They act as sources of drinking water, recharge groundwater, control floods, support biodiversity, and provide livelihood opportunities to a large number of people. Currently, a major water crisis is being faced by India, where 100 million people are on the frontlines of a nationwide water crisis and many major cities facing an acute water shortage. The situation will worsen as United Nations and Niti Ayog reports say that the demand for water will reach twice the available supply, and 40% of India's population will not have access to clean drinking water by 2030. One of the reasons is our increasing negligence and lack of conservation of water bodies. Since independence, the government has taken control over the water bodies and water supply. With a colonial mindset, authorities move further and further away in the quest of water supply, emphasizing more on networks, infrastructure and construction of dams. This, over time, has led to the neglect of water bodies and catchments areas. As a result, we have started valuing land more than water. In the last few decades, water bodies have been under continuous and unrelenting stress, caused primarily by rapid urbanisation and unplanned growth. Encroachment of water bodies has been identified as a major cause of flash floods in Mumbai (2005), Uttarakhand (2013),

Jammu and Kashmir (2014) and Chennai (2015). Further, water bodies are being polluted by untreated effluents and sewage that are continuously being dumped into them. Across the country, 86 water bodies are critically polluted, having a chemical oxygen demand or COD concentration of more than 250 mg/l, which is the discharge standard for a polluting source such as sewage treatment plants and industrial effluent treatment plants. In urban India, the number of water bodies is declining rapidly. For example, in the 1960's Bangalore had 262 lakes. Now, only 10 hold water.

Similarly, in 2001, 137 lakes were listed in Ahmedabad. However, by 2012, 65 were already destroyed and built upon. Hyderabad is another example. In the last 12 years, it has lost 3,245 hectares of its wetlands. The decline in both the quality and quantity of these water bodies is to the extent that their potential to render various economic and environmental services has reduced drastically. Although there are sufficient policies and acts for protection and restoration of water bodies, they remain insufficient and ineffective.

33. Realizing the seriousness of the problem confronting water bodies, the Centre had launched the Repair, Renovation and Restoration of Water Bodies' scheme in 2005 with the objectives of comprehensive improvement and restoration of traditional water bodies. These included increasing tank storage capacity, ground water recharge, increased availability of drinking water, improvement of catchment areas of tank commands and others. However, in this regard, not much has been seen on the ground.

34. It is of utmost importance for meeting the rising demand for water augmentation, improving the health of water bodies as they provide various ecosystem services that are required to manage microclimate, biodiversity and nutrient cycling. Many cities are working towards conservation of water bodies like the steps initiated in the capital city of Delhi for instance. In turning Delhi into a city of lakes, rejuvenation of 201 water bodies has been finalised. The Delhi Jal Board (DJB) plans to revive 155 bodies while the Flood and Irrigation Department will revive 46. DJB claims that the aim is to achieve biological oxygen demand or BOD to 10ppm and total suspended solids to 10mg/l. Also the establishment of the Wetlands Authority by the Delhi government is a welcome step towards notifying and conserving natural water bodies. In order to achieve the goal of revival of water bodies, it is important to understand that one solution may not fit all the water bodies. Depending on the purpose, ecological services, livelihood and socio-cultural practices, the approach will vary from one water body to another. However the issues with regard to lack of data and action plans, encroachments, interrupted water flow from the catchment, siltation, violations of laws, solid waste deposit and polluted water, involvement of too many agencies, etc. have to be taken into consideration.
35. Action needs to be taken towards:
- i. Attaining sustainability. Thus, emphasis on long-term goals, operation and maintenance should be included along with the allocation of budget.

- ii. Success of the lakes should be tested on all three fronts namely economic, environmental and social. Many studies point that a deliberate effort has to be made on the social front for which better publicity of the environmental benefits of the project and enhancing environmental awareness, especially among the local community is required.
  - iii. Encouraging local people to collaborate with other stakeholders to successfully utilise resources and ensure the protection and conservation of water bodies.
  - iv. Traditionally, water was seen as a responsibility of citizens and the community collectively took the responsibility of not only building but also of maintaining the water bodies. This needs to be brought back into the system.
  - v. Thus, an integrated approach taking into account the long-term sustainability, starting from the planning stage where looking at every water body along with its catchment, is required.
36. The natural source of air, water and soil cannot be utilized, if the utilization results in irreversible damage to environment. There has been accelerated degradation of the environment primarily on account of lack of effective enforcement of environmental laws and non-compliance with statutory norms. It has been repeatedly held by the Supreme Court that the right to live is a Fundamental Right under Article 21 of the Constitution and it includes the right to enjoyment of pollution free water and air for full enjoyment of life. The definition of sustainable development which gave more than three decades back still holds goods. The phrase covers the

development that meets the need of the present without compromising the availability of future generation to meet their own needs. Sustainable development means the type or extent of development that can take place and which can be sustained by nature / ecology with or without mitigation. In these matters, the required standards now is that the risk of harm to the environment or to human health is to be decided in public interest according to a reasonable person test. Life, public health and ecology has priority over unemployment and loss of revenue.

37. Coastal pollution is also being dealt with by the Principal Bench of this Tribunal in O.A. No. 829/2019, *Lt. Col. Sarvadaman Singh Oberoi Vs. Union of India & Ors.* and vide order dated 22.06.2020, it was directed as follows:

*“2. According to the Applicant, certain coastal areas are critically polluted on account of dumping of sewerage and waste. Over 80% of marine pollution is from land based sources- industrial, agricultural and urban. Municipal sewage is the main source of pollution. Aquaculture Authority, Government of India has issued guidelines that Aquafarms having area of five hectares and above should have Effluent Treatment System (ETS). Discharge of untreated sewage and effluents in sea is continuing in large scale. Pollution of marine coastline is on gradual increase in the same way as 351 polluted river stretches in the country. Directions of this Tribunal in O.A. No.673/2018 dealing with 351 polluted river stretches should be extended to the polluted coastal stretches, doing so can result in reclaiming of substantial water. National Coastal Zone Management Authority (MCZMA) has been constituted on 09.10.2017 but the problem of marine pollution remains untackled which calls for intervention by this Tribunal.*

*2. The Tribunal called for a report from Central Pollution Control Board (“CPCB”) on the subject and considered the same vide order dated 03.12.2019 as follows:-*

*“5.Before we issue further directions, we may note the relevant data in this regard based on study reports in public domain. India has a coastline of about 7,555 km, of which about 5,400 km belong to peninsular India and the remaining to the Andaman, Nicobar and Lakshadweep Island. With less than 0.25% of the world coastline, India*

houses 63 million people, approximately 11% of global population living in low lying coastal areas. The coast also includes 77 cities, including some of the largest and most dense urban agglomerations – Mumbai, Kolkata, Chennai, Kochi and Visakhapatnam. India's coastal zone is endowed with a wide range of mangroves, coral reefs, sea grasses, salt marshes, sand dunes, estuaries, lagoons, and unique marine and terrestrial wildlife. The abundant coastal and offshore marine ecosystems include 6,740 km of mangrove belts, including part of the Sundarban (West Bengal) and the Bhitarkanika (Orissa), which are among the largest mangroves in the world. Andaman and Nicobar Islands have world famous and unique coral bio-diversity which is getting increasingly threatened due to tourism more than the carrying capacity.

6. Further, there are reports that **indiscriminate releases of untreated or partially treated wastes without considering the assimilative capacity of the waste receiving water body have resulted in pockets of polluted environs with depleted coastal resources, public health risks and loss of biodiversity.** Coastal and marine water pollution has increased throughout the world, mainly due to direct discharges from rivers, increased surface run-off and drainage from expanding port areas, oil spills and other contaminants from shipping, and domestic and industrial effluents. Persistent Organic Pollutants (POPs) are semivolatile organic compounds of special concern because of their toxicity, persistence, long-range transport and bioaccumulation potential. They are present in the marine environment, notably in coastal areas affected by municipal sewage, agricultural and aquaculture effluents, industry and shipping traffic. Rapid urban-industrialization, maritime transport, marine fishing, tourism, coastal and sea bed mining, offshore oil and natural gas production and aquaculture cause severe environmental degradation. **A significant ecological change is pronounced in this coastal region due to contamination of inorganic and organic pollutants originated from huge discharge of domestic and industrial effluents carried by the rivers, disposal of contaminated mud from harbor dredging, intense shipping activities, agricultural runoffs, oil spills, deforestation, ill-planned river basin developments as well as atmospheric depositions. Tamil Nadu contributed 41% of total cases of cholera in India in 2002. It is interesting to note that around 77% of total cases of cholera occurred in the coastal states on India (Gujarat, Maharashtra, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, West Bengal).**

7. The matter of degradation of environment in coastal areas has been dealt with by the Hon'ble Supreme Court inter-alia in **Indian Council for Environment-Legal Action Vs Union of India (UOI) and Ors. (1996) 5 SCC 281.** While considering the issue, it was observed:

“5. With a view to protect the ecological balance in the coastal areas, the then Prime Minister is stated to have written a letter in November, 1981 to the Chief Ministers of coastal States in which she stated as under:

**The degradation and misutilization of beaches in the coastal States is worrying as the beaches have aesthetic and environmental value as well as other values. They have to be kept clear of all activities at least upto 500 metres from the water at the maximum high tide. If the area is vulnerable to erosion, suitable trees and plants have to be planted on the beaches without marring their beauty. Beaches must be kept free from all kinds of artificial development. Pollution from industrial and town wastes must also be avoided totally.”**

7.1 Reference was to environmental guidelines for beaches as follows:

“The traditional use of sea water as a dump site from our land-derived wastes have increased the pollution loads of sea and reduced its development potentials including the economic support it provides to people living nearby. Degradation and misutilization of beaches are affecting the aesthetic and environmental loss. These could be avoided through prudent coastal development and management based on assessment of ecological values and potential damages from coastal developments.”

7.2 The Hon’ble Supreme Court referred to the status of compliance of Environmental Management Plans in coastal areas and found large scale non-compliance. It was observed:

“26....Violation of anti-pollution laws not only adversely affects the existing quality of life but the non enforcement of the legal provisions often results in ecological imbalance and degradation of environment, the adverse effect of which will have to be borne by the future generations.”

7.3 Accordingly, it was suggested that “the Central Government should consider setting up under Section 3 of the Act. State Coastal Management Authorities in each State or zone and also a National Coastal Management Authority.”

**8. It is necessary to ensure that coastal water at beach remains fit for bathing and survival of aquatic life, fishing and contact sports in accordance with Sea Water Criteria in terms of directions of CPCB dated 15.12.2016 under Section 18(1)(b) of the Water (Prevention and Control of Pollution) Act, 1974.**

**9. The report of CPCB is incomplete about the status of compliance with regard to norms of pollution laws in all the coastal areas in the country, particularly with regard to discharge of untreated and industrial and municipal effluents and solid waste. Accordingly, we**

**direct CPCB to submit a comprehensive status report which regard to coastal pollution by way of classification of coastal areas in priority-I to V as has been done for 351 polluted stretches within three months positively.**

**10. As already directed in Paryavaran Suraksha Samiti (supra), in pursuance of order of Hon'ble Supreme Court dated 22.02.2017 in Paryavaran Suraksha Samiti Vs. Union of India, the local bodies and States are liable to pay compensation for discharge of any untreated sewage into the water bodies after 01.04.2020. We may also note that local bodies have been held to be liable to be prosecuted for violation of provisions of the Water Act by a recent judgment of the Hon'ble Supreme Court dated 26.11.2019 in Criminal Appeal No. 1734 of 2019 in Karnataka State Pollution Control Board Vs B. Heera Naik.**

**11. Accordingly, we direct that all the State PCBs/PCCs of coastal States/ UTs may give the relevant information to CPCB within one month from today failing which defaulting Status/UTs will be liable to pay Rs. 10 lakhs per month till compliance.”**

4. Accordingly, report dated 11.03.2020 has been filed by the CPCB on the subject of coastal pollution in pursuance of order dated 03.12.2019.

5. Summary status of compliance is as follows:-

**“Table -2: Summary-status of compliance for criteria parameters of SW—II (Bathing, Contact Water Sports and Commercial Fishing) notified under E (P) Rules, 1986 for the year 2018**

S No.	State	No. of locations monitored under NWMP	No. of Monitored Locations not complying to the marine primary water quality criteria parameters notified under E(P) Rules, 1986.					Compliance Status w.r.t the marine primary water quality criteria parameters
			pH	BOD	DO	FC	Turbidity	
1.	Goa	11	-	7	-	11	7	All the locations not complying
2.	Gujarat	03	1	3	2	3	2	All the locations not complying
3.	Maharashtra	34	3	33	30	30	-	One location viz Karam bavane creek at Chiplun, Village-Karambavane, District-Ratnagiri is

								<b>complying for all the parameters</b>
<b>4.</b>	<i>Odisha</i>	<i>04</i>	<i>-</i>	<i>1</i>	<i>1</i>	<i>4</i>	<i>1</i>	<b>All the locations not complying</b>
	<b>Total</b>	<b>52</b>	<b>4</b>	<b>44</b>	<b>33</b>	<b>48</b>	<b>10</b>	

**Table -3: Summary-status of compliance for criteria parameters of SW-II (Bathing, Contact Water Sports and Commercial Fishing) notified under E (P) Rules, 1986 for the year 2019**

<b>S No.</b>	<b>State</b>	<b>No. of locations monitored under NWMP</b>	<b>No. of Monitored Locations not complying to the marine primary water quality criteria parameters notified under E(P) Rules, 1986.</b>					<b>Compliance Status w.r.t the marine primary water quality criteria parameters</b>
			<b>pH</b>	<b>BOD</b>	<b>DO</b>	<b>FC</b>	<b>Turbidity</b>	
1.	<i>Andhra Pradesh</i>	<i>11</i>	<i>01</i>	<i>07</i>	<i>04</i>	<i>-</i>	<i>-</i>	<i>Sea Water Bay Bengal, Uppada Beach Road, Kakinada; Sea Water, Bay of Bengal, Kothapatnam Beach and Sea Water, Bay Of Bengal, Manginapudi Beach, Machilipatnam are complying with the criteria parameters</i>
2.	<i>Goa</i>	<i>11</i>	<i>05</i>	<i>03</i>	<i>-</i>	<i>11</i>	<i>04</i>	<b>All the locations not complying</b>
3.	<i>Gujarat</i>	<i>03</i>	<i>-</i>	<i>02</i>	<i>02</i>	<i>01</i>	<i>02</i>	<b>All the locations not complying</b>
4.	<i>Maharashtra</i>	<i>34</i>	<i>06</i>	<i>34</i>	<i>30</i>	<i>25</i>	<i>06</i>	<b>All the locations not complying</b>
5.	<i>Odisha</i>	<i>04</i>	<i>-</i>	<i>01</i>	<i>-</i>	<i>03</i>	<i>02</i>	<i>Paradeep location is complying</i>
	<b>Total</b>	<b>63</b>	<b>12</b>	<b>47</b>	<b>36</b>	<b>40</b>	<b>14</b>	

6. The views of CPCB have been given as under:

“Views of CPCB on control of marine pollution  
Based on the information received from the 13 States/UTs, following observations are made: -

- *The coastal areas of different States/UTs except Andaman & Nicobar and Odisha are categorized into different zones such as SW-I, SW-II, SW-III, SW-IV and SW-V.*
- *Total of 121 numbers of major cities/towns present in the Coastal States/ UTs except Lakshadweep. There are 214 major drains present in the coastal States/UTs except Lakshadweep which outfall into creeks/estuaries/ sea water. **Most of the generated sewage both treated or untreated sewage and industrial effluents are disposed of through 171 major drain outfalls in the coastal areas.***
- *As per the received information, total sewage generation in the coastal areas (13 States/UTs) is about 6065 MLD from 121 major towns or cities. There are 298 STPs (total Installed Capacity of about 5304 MLD) at present in operation in the coastal areas, among them 203 STPs have obtained Consent under the Water (Prevention and Control of Pollution) Act, 1974, **while 95 STPs have not obtained Consent. Actual sewage treatment in 203 STPs is about 40999 MLD, leaving a gap of 685.37 MLD in sewage treatment plants installed capacity. Only 100 out of 298 STPs located in coastal areas are complying with the discharge norms. At present, 60 STPs presently under construction in 08 States and 2 UTs to meet the gap in generated sewage treatment in coastal areas of the States/UTs. Most of the States/UTs are involved in discharge of both treated and untreated sewage leading to marine water pollution and thereby making marine water unfit for bathing and other designated best uses.***
- *As regards industrial effluent management, 48188 industries (in 10 coastal States/UTs) are present generating total industrial effluent at about 5279 MLD. Only 5891 out of 48188 industries are having captive ETPs, out of which 5550 captive ETPs are operated by the industries are complying with effluent discharge norms. There are 21 CETPs (having total installed capacity of 210.62 MLD) at present and 7127 industries are having membership of 21 CETPs. Details of remaining 35170 industries are not provided by the respective SPCBs/PCCs. Total quantity of treated industrial effluent discharged in coastal areas is about 5133 MLD. 717 industries have installed OCEMS, while 45 industries yet to install OCEMS. **As the treated industrial effluent is also discharged into the marine waters through river system, there is a possibility of accumulation of heavy metals in fish tissues and may likely affect human health through food chain system.** All the concerned States/UTs have to take action against the industries which are in operation without captive effluent treatment plant facilities. This matter is also being taken separately with the respective coastal SPCBs/PCCs by CPCB.*

- **Hazardous waste generation in the coastal States/UTs is about 20633 MTA.** At present, Hazardous Waste Treatment Storage and Disposal Facilities in the States/UTs viz., A.P (1 Integrated TSDF), Gujarat ( 4 Integrated TSDFs with both common incinerator and common SLF, 2 TSDFs only with common Incinerators and 3 TSDFs only with common secured landfills (SLFs)), Karnataka (6 TSDFs only with common Incinerators and 2 TSDFs with common SLFs), Kerala (1 TSDF with common SLF), Maharashtra (3 Integrated TSDFs with both common incinerator and common SLF and 1 TSDF only with common SLF), Odisha (1 TSDF only with common SLF), Tamil Nadu ( 1 Integrated TSDF with both common incinerator and common SLF and 1 TSDF only with common SLF) and West Bengal (1 Integrated TSDF with both common incinerator and common SLF) and Daman, Diu, Dadra and Nagar Haveli (1 Integrated TSDF with both common incinerator and common SLF).
- Bio medical waste generation in the coastal areas of the States/UTs is about 16105 TPA. **Daman & Diu UT, Goa State, and Lakshadweep UT are not having Common Bio-medical waste Treatment Facilities,** However, generated biomedical waste is disposed of in deep burial after chemical disinfection. In Daman & Diu, all the generated biomedical waste disposed through M/s Enclear Biomedical Waste Pvt. LTD., Surat. The biomedical waste generated in Goa is partly disposed in the incinerator facility of Goa Medical College and by individual HCFs by encapsulation/deep burial after autoclaving and disinfection as applicable.
- Municipal Solid Waste, Plastic waste, E-Waste as well as C & D waste generated in the coastal States /UTs is about 13,59,155 MTA, 2,60,812 MTA, 195840 MTA and 14,93,690 MTA, respectively. **There are no adequate facilities for treatment and disposal of these wastes in most of the coastal States/UTs.**
- Presently, marine or sea water quality is monitored by CPCB in association with the States/UTs only at 63 locations in 5 States including creeks (as on 31.01.2020). **Most of the States/UTs are not having adequate infrastructure for sampling of sea water specially 5 KM from shore. CPCB/SPCBs/PCCs are not having adequate infrastructure for sea water monitoring and coastal water quality data available with CPCB is limited.**
- National Centre for Coastal Research (NCCR), Chennai under Ministry of Earth Sciences is having adequate infrastructure for sampling of sea water including deep sea waters and also working on indices for sea waters in association with Ministry of Jal Shakti and Ministry of Statistics and Programme Implementation, Government of India. NCCR, Chennai has expertise and adequate

*infrastructure, may be assigned the task of classification of coastal areas in Priority-I to V considering the toxic nature of the effluent being discharged into the sea waters by the States/UTs.*

- *Also, Clause 4 of the CRZ Notification, 1991, under the sub heading "Procedure for monitoring and enforcement", stated: "The Ministry of Environment & Forests and the Government of State or Union Territory and such other authorities at the State or Union Territory levels, as maybe designated for this purpose, shall be responsible for monitoring and enforcement of the provisions of this notification within their respective Jurisdictions.". National and State Coastal Zone Management Authority shall have the power to take measures for protection and improving the quality of the coastal environment and preventing, abating and controlling environment pollution in coastal areas.*
- *Further, The National Centre for Sustainable Coastal Management (NCSCM), under Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India is set up for better protection, conservation, rehabilitation, management and policy design for the coast. It would promote integrated and sustainable management of coastal and marine areas in India and advise the Union and States/Union Territory Government and other associated stakeholders on policy and scientific matters relating to Integrated Coastal Zone Management (ICZM).*
- ***Considering coastal length of country about 7,516.6 km and the present scenario with regard to the coastal or marine pollution and with a view to have an implementable approach for Integrated Coastal Management plans in the country, expert organization such as NCSCM under MoEF&CC, Central and State Coastal Zone Management Authorities may be assigned the task of integrated coastal management including preservation and maintenance of sea water quality designed in each coastal Zone."***

38. The authorities are directed to strictly observe the guidelines issued from Principal Bench of this Tribunal from time to time in above Original Application. After summarizing and discussion as above we direct as follows:

- i. Bioremediation and/or phytoremediation or any other remediation measures for treatment of sewage water if not taken by the Municipal Corporation, compensation at the rate of Rs. 5 lakhs per

month per drain is to be deposited with the CPCB by the Municipal Corporation. This, however, is not to be taken as an excuse to delay the installation of STP or not doing anything and discharging the untreated water into the water bodies.

- ii. Where the operational deficiencies of the existing STPs has not been rectified and untreated is being discharged into the water bodies, the environmental compensation at the rate of Rs. 10 lakhs per month per STP be deposited to the CPCB. The CPCB is directed to examine all the STPs, CETPs within the Mumbai Municipal Corporation and calculate the amount of environmental compensation in accordance with law and to proceed to recover the amount and communicate this Tribunal within fortnight.
- iii. With regard to the situation where works with regard to STP, sewerage network and its connectivity **not yet started**, the Mumbai Municipal Corporation has to pay an environmental compensation at the rate of Rs. 10 lakhs per month per STP, sewerage network and its connectivity after 31.12.2020 for the delay in setting up of the same. It will be open to the Municipal Corporation to recover the said amount from the erring officers/contractors.
- iv. Guidelines issued in *O.A. No. 426/2018* with regard to the *Musi River* and *O.A. No. 829/2019 (supra)* dealing with the coastal pollution, the directions issued from the Principal Bench of this Tribunal must be strictly complied with and in case of violation, the State PCB is directed to proceed in accordance with law for realization of environmental compensation.
- v. 100% treatment of sewage may be ensured as directed by the Principal Bench of this Tribunal vide order dated 28.08.2019 in *O.A. No. 593/2017, Paryavaran Suraksha Samiti & Anr. Vs. Union*

*of India & Ors.* and time line for completing all steps of action plans including completion of setting up STPs and their commissioning till 31<sup>st</sup> March, 2021, in terms of order dated 08.04.2019 and in case of default compensation laid down in the order of the Principal Bench of this Tribunal dated 22.08.2019 in the case of River Ganga i.e. Rs.10 lakhs per month per STP.

- vi. The Chief Secretary of Maharashtra may set up appropriate monitoring mechanism at State Level specifying accountability of nodal authorities not below the Secretary level and ensuring appropriate adverse entries in the ACRs of erring officers. Monitoring at State level must take place on fortnightly basis and record of progress maintained. The Chief Secretary may have an accountable person attached in his office for this purpose.
- vii. Remedial measures submitted by Divisional Forest Officer of Maharashtra PCB is accepted and Municipal Corporation of Greater Mumbai is directed to ensure the compliance and execution of the report submitted by the Joint Committee”
  - a. Municipal Corporation of Greater Mumbai should ensure the mangrove area is kept to plastic free zone. It is recommended to install Trash Boom or Trash Trap for collection of floating plastic and other wastes & its disposal.
  - b. All sewage should be treated at the source and then release into Creek via streams. This will be taken up by Municipal Corporation of Greater Mumbai for implementation. It will be the responsibility of Municipal Corporation of Greater Mumbai to ensure proper functioning of treatment plants & release treated sewage water to the Creek.

- c. Natural streams used as sewage canals should be stopped immediately and restoration should be carried out to recover the beauty of mangroves of Mumbai and adjoining Thane District.
  - d. Monitoring of the pollution level should be carried out as per the guideline laid down in the Environment (Protection) Act, 1986 by the Maharashtra Pollution Control Board.
- viii. The report submitted by IIT Mumbai for MTHL project regarding pollution level is accepted. The respondent and the Municipal Corporation are directed strictly to comply and execute it and a time bound action plan be implemented. The technology which has been suggested by IIT Mumbai should be implemented by Municipal Corporation of Greater Mumbai, Navi Mumbai Municipal Corporation on priority basis. For the protection of mangroves, the direction issued from the Bombay High Court in *Writ Petition No. 87 of 2016* as mentioned above must be strictly followed. The provision as contained in the Wetland (Conservation and Management) Rules, 2017 must be complied with.
- ix. Respondent no. 1 is directed to implement the Maharashtra Non-biodegradable Garbage (Control) Act, 2006 and to install nets in sewage storm water discharge drains to stop sewage solid waste from entering the sea along with the solid waste and to ensure that no untreated water being discharged into the sea level. Respondent no. 1 is also directed to install mobile public toilets after identifying the areas close to beaches where open defecation is rampant.

- x. The pipelines which are directly releasing domestic sewage in the water bodies, creeks and wet land without treatment must be removed or connected to the STP.
- xi. The guidelines and directions issued as mentioned above must be complied with and the authorities- CPCB/MSPCB is directed to execute and comply the orders.
- xii. The Registrar, Western Zonal Bench, Pune is directed to open a Miscellaneous Application file in which the compliance report submitted by the CPCB/MSPCB be attached and the progress report be monitored and placed at the interval of 3 months before this Tribunal.
- xiii. According to the parameter laid down and calculation as mentioned above, the BMC is liable to pay environmental damage for discharge of untreated sewage water into the water bodies at the rate of Rs. 4.25 crores per month and arrears of Rs. 29.75 crores. The BMC is directed to pay the amount of Rs. 29.75 crores to the account of CPCB within 30 days from today and ensure to regularly pay Rs. 4.25 crores per month till the bio-remediation or phytoremediation measures are taken by the authorities concerned. If remediation or treatment of the water of sewage water is taken, it will be reduced at the rate of Rs. 5 lakhs per month per drain systematically. The State PCB is directed to calculate and do the needful according to law from time to time.
- xiv. The amount so paid by the BMC as environmental compensation/ environmental damage, be deposited in accordance with Section 7A(3) of the Public Liability Insurance Act, 1991 read with Section 24 of the NGT Act, 2010.

- xv. The CPCB is directed to proceed in accordance with Section 7A of Public Liability Insurance Act, 1991 read with Section 24(1) of the NGT Act, 2010.
- xvi. The BMC is further directed to ensure that there should not be any water logging during the rainy seasons and the sewage line or water connection which are discharging the water from the city must be regularly monitored so that there should not be any blockage in the flow of the water.
39. The Original Application No. 197/2017 (WZ) is disposed of accordingly.

Sheo Kumar Singh, JM

Dr. Satyawan Singh Garbyal, EM

October 14, 2020  
Original Application No. 197/2017 (WZ)  
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