

BEFORE THE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH

IA No. OF 2023

IN

ORIGINAL APPLICATION No. 178 OF 2023

IN THE MATTER OF:

In re : news item published in The Hindu dated 06.03.2023 titled

“Kochi chokes as fire at waste dump still rages; govt. asks people to stay indoors”

**AFFIDAVIT FILED BY THE ADDITIONAL CHIEF SECRETARY ON**

**BEHALF OF THE STATE OF KERALA**

I, Dr Venu V, Additional Chief Secretary, Environment department, Government of Kerala, Thiruvananthapuram, Kerala 695001 do hereby solemnly affirm and swear this Affidavit as under

1. I am the Additional Chief Secretary, Environment department, Government of Kerala. I am familiar with the facts of the case. This statement is filed on behalf of the Chief Secretary, who has authorized me to represent him.



2. The Honourable Chief Justice of Kerala was pleased to direct the Registry to initiate proceedings Suo Motu on the same issue of the fire incident that occurred in Brahmapuram, Kochi. The same came up for consideration before the Division Bench of the Honourable High Court of Kerala on 7.3.23. Upon the directions of the Honourable Court, the State of Kerala represented by Additional Chief Secretary , Local Self Government department, the District Collector, Ernakulam and the Chairman, State Pollution Control Board have filed detailed affidavits.

The facts of the matter are submitted below:

3. The Solid Waste Treatment Plant at Brahmapuram, Puthencruz Village, Vadavucode – Puthencruz Grama Panchayath, Kunnathunadu Taluk, Ernakulam district is owned, operated and maintained by the Corporation of Cochin. The entire solid waste from the Corporation and some of the nearby municipalities and grama panchayaths are also handled and disposed of from this Plant. The Plant is known to have a capacity of processing 300 Tons per day. The Plant is spread over 100 acres of land. In addition to plastic waste, it is known that bio – waste is also processed at this plant. The Corporation, at present, runs this Plant, through a contractor agency which was entrusted to process and clear the entire legacy waste in the Plant by June 2023. However, it is learnt that only 30% of the assigned works has been completed in this matter, so



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far. During the past years, several major and minor fires had broken out in this Plant.

4. It is submitted that around 05.30 p.m. on 02.03.2023, information was received at the District Emergency Operations Centre, Collectorate, Ernakulam that a fire had erupted at the Plant and immediate directions were given to utilize the fire fighting system at the Plant to mitigate this. Several fire fighting units of the Fire & Rescue Department and additional fire fighters from BPCL were directed to reach the site immediately to contain the situation.
5. It is submitted that by 03.03.2023, despite the continuous efforts by the Fire & Rescue Department, the situation intensified and therefore, the Corporation of Cochin and the Fire & Rescue Department were directed to file a detailed report on the mitigation measures to be taken. The Corporation was directed to open a Control Room at the Site to plan and manage further mitigation measures.
6. As per the deliberations of the District Disaster Management Authority, additional fire & rescue services from all units throughout the District were channeled to the site along with units from the Indian Navy & BPCL. In addition to this, Naval Helicopters were deployed to air drop water over the fire heaps. The raging fire was brought under control by the noon of 05.03.2023. Air Force Helicopters were also brought in to support fire fighting.



7. It is submitted that, being a smoldering fire, smoke started to erupt continuously from the depths of the accumulated waste under the fire heaps. A health advisory was issued to the general public, on 04.03.2023, to use masks and to stay indoors as much as possible. As it was opined by the Department of Health, children below the age of 12, asthmatics, pregnant women and elder citizens were advised to extra precautions and to avoid inhaling of smoke, as far as possible.
8. It is submitted that, Medical Camps were organized for the work force and the public at large, Control Rooms were set up at the Medical College, Kalamassery and the DMO Office, Ernakulam. 120 special oxygen beds were set up in various hospitals and a Smoke Casualty and a Pediatric ICU were arranged at the MCH, Kalamassery. Service of Pulmonologists was ensured at the hospitals also. So far less than 200 persons have sought medical help on account of the smoke scenario.
9. It is submitted that 30 fire tenders, 45 excavators, 14 high capacity water pumps and 4 helicopters along with 350 fire men and 150 supporting staff were engaged in mitigation efforts at the site.

It is submitted that steps have been taken to monitor air quality and the data was updated by the Pollution Control Board periodically. A mobile air quality surveillance unit is also functioning in the district to assess and advice on the air quality based on which health advisories are issued to the public.



10. It is submitted that, at the time of the fire break – out on 02.03.2023, the waste in the yard had been dumped in huge heaps preventing free movement of fire tenders and other equipment. None of the hydrants at the yard were working. There was no CCTV surveillance also.

On the basis of the directions given in a meeting chaired by the Hon. Chief Minister of Kerala, it has been decided to implement various short – term and long – term measures to avoid such mishaps in the future and ensure proper collection and disposal of civic waste. As part of the measures,

11. It is submitted that the main area for consideration is the management of the Brahmapuram Waste Treatment Plant, which is solely owned and maintained by the Corporation of Cochin, augmentation of its waste management capacity and the measures required to ensure that further mishaps are prevented at the plant and its premises, thus to ensure that the citizens of Cochin Corporation as also the neighborhood Municipalities and Grama Panchayaths are not left to face health hazards in future . With the above in view and in accordance with the prevalent enactments under 1. The Environment Protection Act 1986, 2. The Disaster Management Act 2005, 3. The Solid Waste Management Rules 2015 and other related enactments, the District Collector submitted the following measures for consideration of the Honourable Court:

Short Term Measures :



*[Handwritten signature in blue ink]*

- Urgent repairs and maintenance to the existing Windrow Composting Unit at Brahmapuram.
- Revision of the existing protocol for waste management at the plant, including segregation of the civic waste, brought in for treatment.
- Re alignment & augmentation of the surveillance system at the Plant including CCTVs and security personnel.
- Augmentation of the existing fire fighting system at the plant including repairs and maintenance to the hydrant and steps to ensure adequate supply of water and other fire fighting components.
- Proper alignment & management of the dumping yard in the premises.

Long Term Measures :

- Construction of a new Windrow Composting Plant with adequate capacity.
- Modernization of the Fire & Safety System at the Plant.
- Installation of equipment like Heat, Gas & Smoke Detectors etc.
- Periodical Review, Safety Audits & Mock Drills
- Augmentation of Health Monitoring facilities for the workers
- Orientation of the Civic Population in the Corporation limits and the neighborhood local bodies to maintain sustainable standards in waste management.



*[Handwritten signature]*

12. Further to the directions of the Hon. Court in the matter, it is submitted that the fire that erupted in various sectors of the Brahmapuram Waste Treatment Plant has been completely doused by 13.03.2023 evening and the situation has been brought under complete control. The smoke that spread across the neighborhood has also been contained. A 48 hours vigil is being continued at the Plant and premises with fire tenders, pumps and other equipment as also sufficient manpower. The Department of Health has been authorized to continue its efforts to screen the men involved in active fire fighting, as also the general public, as to the effects of smoke that emanated as well as other air pollution issues. A Multi Sectoral Empowered Committee has been constituted by the Disaster Management Department, Government of Kerala vide G.O. Rt. No. 137/ 2023/ DMD dated 13.03.2023 to assist and advise the District Disaster Management Authority to manage the issues at Brahmapuram effectively . It is reported by the Kerala State Pollution Control Board – Kochi Region that the air quality has improved near the site, neighborhood & the City and that the Air Quality Index is satisfactory.

13. In compliance with the order of the Hon'ble High Court of Kerala dated 10.03.2023, a committee consisting of (1) The Chief Engineer, LSGD (2) The Director, Suchitwa Mission,(3) The District Collector, Ernakulam,(4) the Chief Environmental Engineer, KSPCB, Regional



Office, Ernakulam(5) The Secretary, Kochi Corporation and (6) the Secretary, Legal Service Authority, Ernakulam visited the Brahmapuram waste treatment plant at 4.00PM on 11.03.2023. In the order dated 8.3.2023 in WP(c) no 7844 of 2023 (S), the honourable Division Bench of the High Court observed that the officers present in the Court had admitted that there is obligation on the part of the State Government, Local Bodies, District Administration and also the statutory corporation, i.e. Pollution Control Board, to take efficacious measures for addressing the problem of waste management and ensuring complete compliance with the SWM Rules 2016. It was also noted that a High Level Conference by the Hon'ble Chief Minister on the issues considered by this writ petition was convened on 8.3.23, at 5 p.m. and the hon'ble Court was pleased to grant time till the 10th of March to the Additional Chief Secretary to place on record all the points which are finalised by the High Level Conference with definite time lines for performance by the Local Bodies. The Secretary, Cochin Municipal Corporation was directed to place before the Court orders on the implementation of immediate, shorter and long term measures at the Brahmapuram plant and also on improving the source collection, handling on collection, disposal of the solid waste management within the jurisdiction of Secretary, Cochin Municipal Corporation. The Court informed that the proposals from the Secretary, would be incorporated



in consultation with the Additional Chief Secretary, District Collector and the Pollution Control Board in the hon'ble Court's order on 10.3.2023. In compliance with the directions of the hon'ble Court, the observations of the Court during the hearing of 8.3.2023 and the suggestions and report made by the PCB Chairman, ACS LSGD, DC Ernakulam and the Secretary Kochi Corporation were brought to the attention of the High level meeting, based on which the following decisions were taken.

*In respect of Brahmapuram - mitigation activities*

1. Organic waste coming to the plant should be reduced - taking note of the directions of the hon'ble court, it was decided to get bulk waste generators to make in situ arrangements and to provide technical facilitation for the same.
2. Plastic waste should not be sent to Brahmapuram. Instead, it should be collected through segregation at source and brought to Material Collection Facilities, from which it will be either lifted by the Clean Kerala Company or any such service provider for onward processing through recyclers, cement companies, road works etc.
3. Kochi corporation to attempt to repair the present windrow compost plant if feasible
4. The coordination committee at the District level will be also empowered committee to take quick, informed decisions on waste



management and ensure expeditious implementation of decisions by the city corporation for all mitigation measures under the aegis of the Disaster Management Act.

5. The notices issued to individual and institutional defaulters and the follow up action thereon should be closely monitored at the district level. Enforcement squads are to be positioned based on the order of LSGD, which will be both equipped to provide technical facilitation as well as to monitor compliance and defaults for immediate notice and rectification.

*For the whole State of Kerala*, it was decided to accept the recommendation to commit to short term and medium term deliverables, and the ACS LSGD was entrusted with preparing an action plan in consultation with the concerned in respect of the following:

1. **Ensuring 100% door to door collection of non bio waste, with primary segregation at source and secondary segregation at Material Collection Facilities.** (this would also require
  1. Communicating citizen responsibility for management of bio waste at source and acting against defaulters, through a strong citizen education programme
  2. Identifying and rectifying violation of SWM rules by bulk waste generators in all LSGs)



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**2. Conducting intensive drives to ensure that illegal waste dumps and heaps are removed**

1. Consolidating such spaces as safe and clean spaces

**3. Removing debris from all canals and ponds, and water sources** (including

1. cleaning up the embankments of water bodies

2. closing illegal drains through punitive action

3. Providing CCTVs to capture violations and act against them)

4. Setting up strong digitally enabled monitoring mechanisms and institutional structures at district and State level

5. Issuing notification under Rule 2 of the SWM Rules as suggested by the hon'ble Court after identifying the places of pilgrimage and culture that are to be brought into the purview of the notification

14. It is submitted that in compliance with the direction of the hon'ble HC and the decisions of the High level meeting, and in consultation with the concerned, an action plan is submitted for ensuring that the waste management effort of the State is heightened and that tangible results are evident in the time frames proposed. The proposed action plan distinguishes between the immediate and short term interventions and medium and longer term interventions to be done. The proposed Action plan has an overarching component for the entire State as well as an



intensive intervention strategy for the Ernakulam district, particularly the affected area, which was derived based on immediate consultation with the local self governments and technical service providers and supporting organisations.

15. The following documents submitted before the Honourable High Court of Kerala provide the full details of the action taken, and the plan prepared, based on the directions of the Honourable Court:

1. Affidavit filed by Sarada Muraleedharan, Additional Chief Secretary, Local Self Government Department dated 10.3.23
2. Calendar of Events
3. Affidavit filed by District Collector, Ernakulam on 10.3.23
4. Affidavit filed by District Collector, Ernakulam on 14.3.23
5. Affidavit filed by Sarada Muraleedharan, Additional Chief Secretary, Local Self Government on 14.3.23

16. That all facts stated above are true and correct.

**VERIFICATION:**



  
DEPONENT



13

I, the above named respondent do hereby verify that the facts stated in the above counter affidavit at paras 1 to 16 are true and correct to the best of my knowledge and belief.

Verified at on this 16 day of March, 2023 at



  
DEPONENT

**CALENDER OF EVENTS SINCE THE OUTBREAK OF FIRE AT BRAHMAPURAM**  
**ON 02/03/2023**

<b>Date</b>	<b>Item</b>
06.03.2023	Suo Moto WP (C) No.7844/2023 initiated by the Hon'ble High Court of Kerala
07.03.2023 (11am)	First hearing via online Chairman to be present via VC.
07.03.2023 (1.45 pm)	The Secretary is given liberty, to file a status report and inform the court the immediate steps the Corporation will take for implementation of these Rules, like wise medium- and long-term measures proposed and implemented by the Corporation. These measures shall be supervised by the Court and Pollution Control Board
08.03.2023	Chairman Attended the Court physically
08.03.2023	Order1: Required presence of Officers in ongoing hearing
	Order 2: Directed the Board to file affidavit
10.03.2023	Filed affidavit – Board, Corporation, ACS, LSGD; attended hearing online
	Order:6-member committee constituted to inspect and to submit a report to the Court.
12.03.2023	Report filed by the SLMC Chairman before NGT on O.A No. 77/2021
13.03.2023	6 member Committee Report submitted
13.03.2023	Order: The Chairman of the Kerala State Pollution Control Board either himself or an officer authorised by him is allowed to file a report.
13.03.2023	Chief Environmental Engineer, Regional Office, Ernakulam authorized to represent the Board, filed report
14.03.2023	Order: Placed on record appreciation, of fire fighter
03.03.2023	Ambient Air Quality reports- continuing

Sample were collected by NIIST, Pappanamcode for detecting dioxin and furans in ambient air. IIT, Chennai also conducts monitoring of ambient air with respect to PM<sub>10</sub>, PM<sub>2.5</sub>, volatile compounds. The results are awaited.

IN THE HIGH COURT OF KERALA AT ERNAKULAM  
PRESENT  
THE HONOURABLE MR.JUSTICE S.V.BHATTI  
&  
THE HONOURABLE MR.JUSTICE BASANT BALAJI

Tuesday, the 7<sup>th</sup> day of March 2023 / 16th Phalgun, 1944  
WP(C) NO. 7844 OF 2023(S)

SUO MOTU WRIT PETITION INITIATED BY THE HIGH COURT.

**RESPONDENTS:**

1. STATE OF KERALA, REPRESENTED BY THE CHIEF SECRETARY, GOVERNMENT SECRETARIAT, THIRUVANANTHAPURAM - 695 001.
2. KOCHI MUNICIPAL CORPORATION, REPRESENTED BY ITS SECRETARY, PARK AVENUE ROAD, MARINE DRIVE, KOCHI - 682 011.
3. KERALA STATE POLLUTION CONTROL BOARD, REPRESENTED BY ITS CHAIRMAN, HEAD OFFICE, PATTOM P.O., THIRUVANANTHAPURAM - 695 004.
4. THE DISTRICT COLLECTOR, DISTRICT COLLECTORATE, KAKKANAD, ERNAKULAM- 682 030.
5. THE DIRECTOR GENERAL, KERALA FIRE AND RESCUE SERVICES, HEADQUARTERS, FIRE FORCE JUNCTION, PULIMOODU P.O., THIRUVANANTHAPURAM - 695 001.
6. THE STATE POLICE CHIEF, KERALA POLICE HEADQUARTERS, THIRUVANANTHAPURAM, KERALA, INDIA - 695 010.

**ADDL. R7 IMPEADED**

7. THE ADDITIONAL CHIEF SECRETARY,  
LOCAL SELF GOVERNMENT DEPARTMENT, GOVERNMENT OF KERALA.

ADDL. R7 IS SUO MOTU IMPEADED AS PER ORDER

DATED 07/03/2023 IN WPC

This Suo Motu writ petition again coming on for admission upon perusing the petition, and upon hearing the arguments of SRI.K. GOPALAKRISHNA KURUP, ADVOCATE GENERAL for R1 & R4 to R6 and of SRI.UNNIKRISHNAN, SPECIAL GOVERNMENT PLEADER for Addl. R7, the court passed the following:

P.T.O.

16

**S.V.BHATTI  
& BASANT BALAJI, JJ.**

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W.P.(C) No.7844 of 2023  
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**ORDER**

(Dated this the 7<sup>th</sup> day of March 2023)

**S V Bhatti J.,**

Read order of even date passed at 11 am.

2. We take note of the appearance of the Secretary, Municipal Corporation of Cochin and also the Chairman of Kerala State Pollution Control Board. The officers, who are present assisting the court have not in any manner shied away from the stark reality, the residents of Kochi and neighbourhood are experiencing from the smoke/fumes emanating from the Brahmapuram Solid Waste Management Plant. The Chairman of Pollution Control Board and the Secretary of Corporation have informed the court the

amelioration, steps taken at the time the incident has happened till the time both of them are representing in the court. The Secretary, referring to the inputs received from the field staff at the site makes a statement that fire is completely brought under control and would be put out by 100%. He desires to place before the court a status report and being the Secretary of the Municipal Corporation, is willing to participate in the ongoing proceedings for proper implementation of Solid Waste Management and Handling Rules 2016. We place on record his effort and statement.

3. The Chairman of the Pollution Control Board, we are given to understand, is an expert in this domain, which is a perpetual nuisance for the comfortable existence of human beings. The directives issued by the Pollution Control Board are brought to our notice including the delegation of power now accorded to one of the officers of

the Pollution Control Board to initiate prosecution against the persons violating the law. We take note of it. Adverting to the prosecution for present, we make it clear that we do not want parties to get into a parallel litigation without actually addressing the proper issue which is the very essence of the suo motu case. If any person has committed a breach of law, that can be taken care of at the appropriate stage of these proceedings. However, this observation will not stop the Pollution Control Board from completing the formalities viz., issue of notice, required to be undertaken before initiating the prosecution.

4. After looking at the stage and manner of implementation of Solid Waste Management and Handling Rules, we have posed a question to the learned Advocate General on the necessity to have a holistic implementation of these Rules in the State of Kerala. The State of Kerala

claims to be a Number :1 in literacy in the Centre. This Bench would like to know whether the State of Kerala would like to be Number 1 in protecting the environment and implementing Solid Waste Management Handling Rules. This cannot be accomplished by a parcel of accomplishment either in a Corporation or a Municipality or a Grama Panchayath. There are enough number of water bodies in the State of Kerala and no one is listening to their plight. All water bodies are getting converted as dump sites. This possibility can be prevented when all the local authorities concerned with protecting the water bodies are issued proper directions.

5. We have seen the array of parties in the suo motu case. For convenience and comprehensive implementation of our directions, we are of the view that the Additional Chief Secretary, Local Self Government Department,

Government of Kerala is a necessary and proper party and impleaded as an additional 7<sup>th</sup> respondent. The idea in impleading the Local Self Government Department is to consider issuing directions to the said authority, so that the said authority in the exercise of its power can not only issue directions to the local bodies, but also ensure due and proper implementation in establishing the facilities required under the Rules. The personnel who are looking after the implementation of these Rules by our subsequent orders will be enabled, to on a case to case basis, impose penalty on erring establishments, individuals and also common facilities.

6. We would like to continue to have the assistance of the Chairman of the Kerala State Pollution Control Board, the Secretary and the District Collector, Ernakulam, hence we desire their presence. The case will be called at 1.45 pm

tomorrow.

7. The Secretary is given liberty, to file a status report and inform the court the immediate steps the Corporation will take for implementation of these Rules, like wise medium and long term measures proposed and implemented by the Corporation. These measures are supervised by the Court and Pollution Control Board.

The Special Government Pleader Mr. Unnikrishan is instructed to inform the newly added respondent to be present online tomorrow.

Hand over copy to all the parties.

Sd/-

**S.V.BHATTI, JUDGE**

Sd/-

**BASANT BALAJI, JUDGE**

*dl/wpc7844/scbj*

IN THE HIGH COURT OF KERALA AT ERNAKULAM  
PRESENT  
THE HONOURABLE MR.JUSTICE S.V.BHATTI  
&  
THE HONOURABLE MR.JUSTICE BASANT BALAJI

Tuesday, the 7<sup>th</sup> day of March 2023 / 16th Phalguna, 1944  
WP(C) NO. 7844 OF 2023(S)

SUO MOTU WRIT PETITION INITIATED BY THE HIGH COURT.

RESPONDENTS:

1. STATE OF KERALA, REPRESENTED BY THE CHIEF SECRETARY, GOVERNMENT SECRETARIAT, THIRUVANANTHAPURAM - 695 001.
2. KOCHI MUNICIPAL CORPORATION, REPRESENTED BY ITS SECRETARY, PARK AVENUE ROAD, MARINE DRIVE, KOCHI - 682 011.
3. KERALA STATE POLLUTION CONTROL BOARD, REPRESENTED BY ITS CHAIRMAN, HEAD OFFICE, PATTOM P.O., THIRUVANANTHAPURAM - 695 004.
4. THE DISTRICT COLLECTOR, DISTRICT COLLECTORATE, KAKKANAD, ERNAKULAM- 682 030.
5. THE DIRECTOR GENERAL, KERALA FIRE AND RESCUE SERVICES, HEADQUARTERS, FIRE FORCE JUNCTION, PULIMOODU P.O., THIRUVANANTHAPURAM - 695 001.
6. THE STATE POLICE CHIEF, KERALA POLICE HEADQUARTERS, THIRUVANANTHAPURAM, KERALA, INDIA - 695 010.

This Suo Motu writ petition coming on for admission upon perusing the petition, and upon hearing the arguments of SRI.K. GOPALAKRISHNA KURUP, ADVOCATE GENERAL for R1 & R4 to R6, the court passed the following:

P.T.O.

**S.V.BHATTI  
& BASANT BALAJI, JJ.**

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W.P.(C) No.7844 of 2023  
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**ORDER**

(Dated this the 7<sup>th</sup> day of March 2023)

S V Bhatti J.,

The suo motu case is taken up as per the direction of the honourable the Chief Justice on the news clippings dated 3.3.2023 on the smoke clouds being formed from the emissions of Brahmapuram Solid Waste Management plant. The photos annexed to the taken up case speak in volumes of the intensity of the fire mishaps.

2. When the case is taken up, the learned Advocate General appearing for the State has informed the court that the Government is alive to the incident at the Municipal Solid Waste Management and handling those plant – Brahmapuram and steps are being taken to address the

emission problems. A few of the counsel appearing for the respondents in connected WPs have brought to our notice that in two Writ petitions connected to this issue at the instance of Cochin Municipal Corporation, stay orders on the directives issued by the bench of National Green Tribunal are obtained. From the above narrative, it is clear that there is a just reason for the Corporation to continue to implement what the Corporation was implementing prior to the directives issued by the National Green Tribunal. Whatever we observe for the present, may not be treated as our conclusions without hearing the parties in this matter.

3. The learned Advocate General requested time till tomorrow and to assist the court. This court, after noticing that the smell perception from the fire emission from the treatment plant is still pervasive in the atmosphere, we are hesitant to accept the request for the adjournment. The court

would like to hear the persons who are primarily responsible for ensuring the implementation of the law on the subject. Therefore, we direct the presence of the Secretary, Kochi Municipal Corporation to be present in the court at 1.45 pm today. We would like to hear the Chairman of Pollution Control Board on his views on the commissions and omissions on the part of the Board in discharging its primary duties and functions. We are given to understand the Chairman is stationed at Thiruvananthapuram and cannot be physically present at 1.45 pm. We appreciate the difficulty, but that is no reason to excuse his presence for the hearing at 1.45 pm. Therefore, we call upon him to remain present virtually, for which the Officer can take the online link from the Court officer of court 6D and remain present at 1.45 pm today. The learned counsel appearing for the parties are directed to communicate the order of this court to the

respective clients.

The Registrar (General) is directed to tag WP(C) Nos.24380 of 2016 and 7805 of 2023 along with this case and Call at 1.45pm today.

Sd/-

**S.V.BHATTI, JUDGE**

Sd/-  
**BASANT BALAJI, JUDGE**



*dl/wpc7844/vbj*

IN THE HIGH COURT OF KERALA AT ERNAKULAM  
PRESENT  
THE HONOURABLE MR.JUSTICE S.V.BHATTI  
&  
THE HONOURABLE MR.JUSTICE BASANT BALAJI

Wednesday, the 8<sup>th</sup> day of March 2023 / 17th Phalgun, 1944  
WP(C) NO. 7844 OF 2023(S)

SUO MOTU WRIT PETITION INITIATED BY THE HIGH COURT.

RESPONDENTS:

1. STATE OF KERALA, REPRESENTED BY THE CHIEF SECRETARY, GOVERNMENT SECRETARIAT, THIRUVANANTHAPURAM - 695 001.
2. KOCHI MUNICIPAL CORPORATION, REPRESENTED BY ITS SECRETARY, PARK AVENUE ROAD, MARINE DRIVE, KOCHI - 682 011.
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6. THE STATE POLICE CHIEF, KERALA POLICE HEADQUARTERS, THIRUVANANTHAPURAM, KERALA, INDIA - 695 010.

ADDL. R7 IMPLEADED

7. THE ADDITIONAL CHIEF SECRETARY,  
LOCAL SELF GOVERNMENT DEPARTMENT, GOVERNMENT OF KERALA.

ADDL. R7 IS SUO MOTU IMPLEADED AS PER ORDER  
DATED 07/03/2023 IN WPC

This Suo Motu writ petition again coming on for admission upon perusing the petition, and this Court's orders dated 07/03/2023 and upon hearing the arguments of SRI.K. GOPALAKRISHNA KURUP, ADVOCATE GENERAL for R1 & R4 to R6 and of SRI.UNNIKRISHNAN, SPECIAL GOVERNMENT PLEADER for Addl. R7, the court passed the following:

P.T.O.

**S.V.BHATTI  
&  
BASANT BALAJI, JJ.**

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W.P(C) No.7844/2023

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Dated: 8<sup>th</sup> March 2023

**ORDER**

S.V.Bhatti, J.

Read order dated 7.3.2023.

2. Apropos to the orders of this Court, the Additional Chief Secretary, Local Self Government Department, the District Collector, Ernakulam, the Secretary, Cochin Municipal Corporation and the Chairman, Kerala State Pollution Control Board are present and have placed before the Court the plan of action formulated for immediate, shorter and long-term measures for due implementation of Solid Waste Management Rules, 2016.

3. The learned Advocate General referring to the instructions received from the respondents in the *suo motu* Writ Petition has brought to our notice that a High Level Conference by the Hon'ble Chief Minister on the issues considered by this *suo motu*

writ petition is convened today at 5 p.m. The officers present in the Court in unison have stated that there is obligation on the part of the State Government, Local Bodies, District Administration and also the statutory corporation, i.e. Pollution Control Board, to take efficacious measures for addressing the problem which is taken up by this Court as *suo motu* Writ Petition. We appreciate the predicament of the officers to go on record with affirmative undertaking in a matter as the present even before the points proposed receiving approval from the high level conference. We are of the view that we need not inform the officers what is otherwise obvious and their inclination not only to take up the issue for permanent solution under 2016 Rules and also for continuous monitoring by the Local Self Governments, District Administrations and the Pollution Control Board. Without having a categorical statement from these officers by looking at the formative proposals taken forward, we do not want to incorporate the proposals in the latest order. As has been suggested by the learned Advocate General, we grant time till the day after tomorrow to the Additional

Chief Secretary to place on record all the points which are finalised by the High Level Conference with definite time lines for performance by the Local Bodies.

4. We direct the Secretary through our present order to issue notices to all the establishments which come within the scope of Solid Waste Management Rules and have not taken authorisations or have put in place the equipment required for handling the bulk solid waste generated at these places. The Secretary gives the noticee the minimum time and places the copies of such notices before the court on the next date of hearing. We further direct the Secretary, Cochin Municipal Corporation to place before the Court orders on the implementation of immediate, shorter and long term measures at the Brahmapuram plant and also on improving the source collection, handling on collection, disposal of the solid waste management within the jurisdiction of Secretary, Cochin Municipal Corporation. After receiving the proposals from the Secretary, we would be incorporating those proposals in consultation with the Additional Chief Secretary, District Collector

and the Pollution Control Board in our order dated 10.3.2023. The District Collector, we are given to understand, is under the order of transfer. Today we take note of her presence and also the efforts the officer has taken between Thursday and till date. The only omission we note if at all in her approach is that the efforts undertaken did not receive the required attention. After hearing the officer we notice that the responsibilities under the Disaster Management Act have been taken note of and action has been taken. The District Collector who assumes charge shall remain present on 10.03.2023.

5. Coming to the Pollution Control Board, the Chairman has invited our attention to the omissions and commissions with which the plant is being operated at Brahmapuram. The inspection reports, according to the Chairman, would disclose the haphazardous operations happening at the site. He also stated immediate measures to implement the Rules by the Cochin Municipal Corporation. This Court is conscious of the penal provisions under all the three enactments. The *suo motu* case is not

taken up for the purpose of penalising omissions or commissions whether intended or unintended. But the *suo motu* case intends to improve the future and also ensure the complete implementation of 2016 Rules. An *ex post facto* decision which could be done under all the three enactments, this Court would look into satisfactory implementation of the Rules by the Secretary of Corporation to pass *ex post facto* orders. We direct the parties who are present to beforehand circulate the respective affidavits/replies to the other participants in the litigation to enable such of the parties to assist the Court with suggestion and remarks in this behalf.

6. The Secretary, Cochin Municipal Corporation informs the Court that, at present, the facility operated from the generators installed and operated at the site. One of the reasons stated for not containing the fire is staff at the site could not immediately use water hydrants and contain the fire. On further probing by us, the Secretary expressed the difficulty, the Corporation has in this behalf, i.e. the facility is being run without a dedicated power supply line to this plant. It is also brought to our notice that a request for

sanction for electricity connection is made by the Cochin Municipal Corporation and pending.

7. The Deputy Chief Engineer, Kerala State Electricity Board, Ernakulam is directed by this Court to provide a temporary connection to the facility operated by the Cochin Municipal Corporation within four hours from 4 p.m. today itself. The Standing Counsel appearing for the Board is incidentally present in the Court. We have directed him to communicate our order to the Deputy Chief Engineer immediately.

Post on 10.03.2023 at 1.45 p.m along with the connected cases.

Handover copy.

**S.V.BHATTI**  
**JUDGE**

**BASANT BALAJI**  
**JUDGE**

CSS

IN THE HIGH COURT OF KERALA AT ERNAKULAM  
PRESENT  
THE HONOURABLE MR.JUSTICE S.V.BHATTI  
&  
THE HONOURABLE MR.JUSTICE BASANT BALAJI

Wednesday, the 8<sup>th</sup> day of March 2023 / 17th Phalgun, 1944  
WP(C) NO. 7844 OF 2023(S)

SUO MOTU WRIT PETITION INITIATED BY THE HIGH COURT.

RESPONDENTS:

1. STATE OF KERALA, REPRESENTED BY THE CHIEF SECRETARY, GOVERNMENT SECRETARIAT, THIRUVANANTHAPURAM - 695 001.
2. KOCHI MUNICIPAL CORPORATION, REPRESENTED BY ITS SECRETARY, PARK AVENUE ROAD, MARINE DRIVE, KOCHI - 682 011.
3. KERALA STATE POLLUTION CONTROL BOARD, REPRESENTED BY ITS CHAIRMAN, HEAD OFFICE, PATTOM P.O., THIRUVANANTHAPURAM - 695 004.
4. THE DISTRICT COLLECTOR, DISTRICT COLLECTORATE, KAKKANAD, ERNAKULAM- 682 030.
5. THE DIRECTOR GENERAL, KERALA FIRE AND RESCUE SERVICES, HEADQUARTERS, FIRE FORCE JUNCTION, PULIMOODU P.O., THIRUVANANTHAPURAM - 695 001.
6. THE STATE POLICE CHIEF, KERALA POLICE HEADQUARTERS, THIRUVANANTHAPURAM, KERALA, INDIA - 695 010.

ADDL. R7 IMPLEADED

7. THE ADDITIONAL CHIEF SECRETARY,  
LOCAL SELF GOVERNMENT DEPARTMENT, GOVERNMENT OF KERALA.

ADDL. R7 IS SUO MOTU IMPLEADED AS PER ORDER  
DATED 07/03/2023 IN WPC

This Suo Motu writ petition again coming on for admission upon perusing the petition, and this Court's order dated 07/03/2023 and upon hearing the arguments of SRI.K. GOPALAKRISHNA KURUP, ADVOCATE GENERAL for R1 & R4 to R6 and of SRI.UNNIKRISHNAN, SPECIAL GOVERNMENT PLEADER for Addl. R7, the court passed the following:

P.T.O.

35

**S.V.BHATTI  
&  
BASANT BALAJI, JJ.**

=====

W.P(C) No.7844/2023

=====

Dated: 8<sup>th</sup> March 2023

**ORDER**

S.V.Bhatti, J.

The instant suo motu writ petition is taken up by the High Court on the orders and the directives of Hon'ble Chief Justice.

2. In the present suo motu writ petition, the public interest is the only priority of this Court. In the process, this Court would be considering issuing directions to be carried out by the officers of the State and also by the persons entrusted with the functions and duties by the environmental laws, Environmental Protection Act read with rules and Solid Waste Management Rules, 2016. The



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present suo motu initiative of the Court is not treated as publicity interest litigation or prosecution interest litigation initiated by the High Court. Being a constitutional Court, this Court is the custodian and the guardian of the rights of the citizens under the Constitution and also protects the rights assured to the citizens under the Environmental Protection Act read with rules and Solid Waste Management Rules, 2016. The right to clean air, water and pollution-free environment are the basic human rights. The incidents happening in the immediate past, this Court has noticed these rights of the citizens, particularly of the City of Ernakulam are at stake. Therefore, this suo motu Writ Petition addresses these problems.

3. We call up on all the non-stakeholders not to take forward the effort of this Court in the suo motu Writ Petition for any ancillary or incidental purpose. The Court would like to stay focused on the issues which are imminently urgent and, for the

present, does not entertain any impleading petition. We have noted from the media reports that the personal presence desired by this Court the officers of the state or the Chairman of the Pollution Control Board is not informed to the public in the sense in which this Court has desired the presence of these officers. The problem, as we notice from the narrative of none other than the Chairman of the Pollution Control Board is having serious ramifications. Therefore this Court felt desirable that their presence is ensured in the ongoing hearing so that there is no gap between the objectives to be achieved in the present suo motu litigation and the directives the officers carry out in the letter and spirit. We see that 'charity begins at home'. We change and say that change begins from us. During and in the course of further hearing of this writ petition, this Court will consider issuing directives not only to the other Departments but also to the judiciary. This Court, for the present, is of the view that it can

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enlist the voluntary participation of the legal fraternity in solving the mammoth problem in the State of Kerala. The above we want to place on record as part of proceedings.

**S.V.BHATTI, JUDGE**

**BASANT BALAJI, JUDGE**



CSS/

BEFORE THE HON'BLE HIGH COURT OF KERALA AT ERNAKULAM

W.P.(C) No. 7844 of 2023

Suo Moto :: Petitioner

Vs.

State of Kerala & Others :: Respondents

**AFFIDAVIT FILED BY THE THIRD RESPONDENT IN THE ABOVE  
CASE, AS DIRECTED BY THIS HON'BLE COURT ON 8-3-2023.**

I, A.B. Pradeep Kumar, aged 61 years, S/o late Sri. V.P. Balakrishnan Nambiar, residing at Anayara, Thiruvananthapuram, Chairman, Kerala State Pollution Control Board, Thiruvananthapuram, do hereby solemnly affirm and state as follows:

1. I am the Chairman, Kerala State Pollution Control Board (hereinafter referred to as **Board**), 3<sup>rd</sup> respondent in the above Case. I am aware of the facts affirmed by me in this Affidavit.

2. The above Suo Moto Case is taken on records by this Hon'ble Court in view of the major fire that broke out at the dumping yard of the Kochi Corporation at Brahmapuram on 2-3-2023 at around 4 pm. It is respectfully submitted that this Affidavit is filed pursuant to the direction issued by this Hon'ble Court on 8-3-2023.

3. It is submitted that the Kochi Corporation is one of the largest local bodies in the State considering its strength of population ie, about 6,02,046, having an extent of 94.88 Km<sup>2</sup> area and having a population density of 7139 per Km<sup>2</sup>. The Corporation is having 74 No. of wards consisting of 22 Health Circles.



*Pradeep*  
PRADEEP KUMAR A.B.  
CHAIRMAN

4. It is submitted that the total waste generation in the Corporation is about 317 TPD of which bio-degradable waste is 211 TPD and non-biodegradable waste is 106 TPD, as reported by the Corporation. Kochi Corporation was allotted about 110 Acres of land from the nearby Panchayath "Vadavucode-Puthencruz" for establishing/treating the waste generated from the Corporation. In addition to this, bio-degradable waste from the 5 nearby Municipalities (Aluva, Angamaly, Kalamassery, Thripunithura and Thrikkakkara) and 3 panchayaths (Kumbalangi, Cheranalloor and Vadavucode-Puthencruz) also reach Brahmapuram site. Thus, the total waste collected at Brahmapuram is about 365 TPD. Major portion of Brahmapuram Site is low lying and closely surrounded by 'Kadambrayar' river, which is identified by the CPCB as one of the 21 polluted river stretches in the State of Kerala.

5. The Board had issued provisional authorization to Kochi Corporation to set up and operate a solid waste processing and disposal facility (windrow composting) at Brahmapuram in Vadavucode-Puthencruz Grama Panchayath on 22.10.2005 with validity up to 21.10.2006, based on the application and project proposal submitted by the Secretary, Kochi Corporation. Later the Board issued authorisation to this facility on 08.05.2007 with a validity up to 30.04.2010 with specific conditions and standards for setting up and operation of the solid waste processing facility of 250 tonnes of biodegradable waste per day and sanitary land filling of rejects. The Corporation had set up a Centralized solid waste treatment plant in the year 2008. The biodegradable fraction of the waste is being treated by windrow composting method at this facility. However, this facility later turned into a dilapidated condition and there is no proper facility for the treatment of leachate. It is important to note that there is no valid authorization obtained by the Corporation, at present for the existing



*Pradeep*

**PRADEEP KUMAR A.B.**  
**CHAIRMAN**

facility and they have not submitted any application for renewal of authorization. Board had issued several directions/notices to the Kochi Corporation directing to obtain Authorization under Solid Waste Management Rules, 2016 and to provide proper leachate facility and to rectify defects of the plant. True copy of the latest direction issued as per communications dated 21/03/2022 is produced herewith and marked as **ExhibitR-3(a)**.

6. It is submitted that at present the Kochi Corporation has provided **2** Material Collection Facilities (**MCF**) and **1** Resource Recovery Facility (**RRF**) for non-biodegradable waste management, including plastic waste. Out of approximately 80TPD non-biodegradable waste collected, approximately 2 TPD are transferred to the existing MCF centers located at Edappally and Kaloor, as reported by the Corporation. The remaining are transferred to Brahmapuram MCF/RRF center where about 5 TPD is segregated into various components and categories of recyclables from the non-biodegradable wastes. This process is being carried out by a private agency on contract basis.

7. At present there exists large quantity of legacy waste at Brahmapuram site. The Board had issued Integrated Consent to Operate on 17.05.2022 to the Kochi Corporation for bio-mining of 4,50,610 MT of legacy waste. The bio-mining started only in February 2022 even though the date of agreement was 6<sup>th</sup> September 2021. As per the agreement bio mining is to be completed in 9 months time from the date of agreement. The area to be bio-mined was divided into 7 sectors. Sectors 4, 5, 6 and 7 areas are cleared as reported by the Corporation. Though the agreement period is already over, only about 28 % of the waste is processed. The Refuse Derived Fuel (**RDF**) received during the bio mining is being stored at Brahmapuram dumping yard for using it in the proposed waste to energy plant.



  
**PRADEEP KUMAR A.B.**  
**CHAIRMAN**

8. Board had conducted inspections to verify the solid waste management practiced at Brahmapuram and the progress of bio-mining. During the inspection conducted on 06.01.2023 along with the Technical Committee, constituted for monitoring the progress of the bio mining, it was noticed that the segregation of the legacy waste was not proper. Huge sized stones, wood pieces etc. were found mixed up with good earth and large pieces of plastic were seen along with the rejects. Hence instruction was given to the Kochi Corporation to use fine sieve in order to reduce the volume of rejects and instructed to dispose rejects as per the Municipal Solid Waste Guidelines.

9. It is submitted that the Board has conducted several inspections to the Brahmapuram waste management site and observed that the Waste Management carried out by the Corporation is totally unscientific as also not in conformity with the Solid Waste Management Rules, 2016 (hereinafter referred to as **SWM Rules**). When the Corporation had failed to comply with the directions issued by the Board, actions were taken to impose environmental compensation and prosecution, in view of the orders issued by the Hon'ble NGT. The steps taken by the Board were challenged by the Corporation by way of filing Writ Petitions and the same are pending consideration before this Hon'ble Court. The officials of the Board had conducted inspections before and after the fire incident took place at Brahmapuram Site. The details of the inspections conducted by the officials of the Board in the recent past are narrated in the Report dated 7-3-2023. A true copy of the Report dated 7-3-2023 is produced herewith and marked as **Exhibit R-3(b)**. True copy of the photographs taken on 7-3-2023 are produced herewith and marked as **Exhibit R-3(c)**.

10. Since the out break of the fire, the smoke spreading from the area has affected the quality of the air as evident from the results



*Pradeep*

**PRADEEP KUMAR A.B.**  
CHAIRMAN

of ambient air quality monitoring conducted by the Board. Ambient air quality report of the monitoring at 6 stations near Brahmapuram is produced herewith and marked as **Exhibit R-3(d)**.

11. In the light of the current fire outbreak at Brahmapuram, the immediate, short term and long-term measures to be adopted by the Kochi Corporation are as follows:

**IMMEDIATE MEASSURES -TO BE COMPLETED ON OR BEFORE  
25-03-2023**

1. 100% segregation of solid waste shall be ensured at the source itself for the residences and establishments.
2. Kochi Corporation shall set up MCFs, preferably at all 22 Health circle level.
3. Segregate and bale the non-biodegradable waste and shall be transferred to Clean Kerala Company.
4. Existing fire hydrants shall be made operational and additional firefighting arrangements shall be provided as recommended by the Fire & Rescue Department.
5. All fire extinguishing measures as suggested by the Fire & Rescue Department shall be implemented.
6. CCTV cameras provided at the site shall be made operational
7. Onsite emergency plan for fire control and land safety shall be kept handy.

**SHORT TERM MEASSURES -TO BE COMPLETED ON OR BEFORE 05-06-2023**

1. Non-biodegradable waste shall not be taken to Brahmapuram Plant. Non biodegradable waste shall be collected by authorized collectors and transferred to Clean Kerala Company.
2. Sanitary napkins/diapers shall be disposed in Common Biomedical Waste Treatment Facility at Ernakulam.
3. 24 x 7 surveillance shall be done to ensure that no littering of waste is practiced in the Corporation area.



*Pradeep*

**PRADEEP KUMAR A.B.  
CHAIRMAN**

4. The defects of the existing windrow composting plant shall be rectified and the same shall be made fully operational for processing of bio-degradable waste.
5. Treatment of bio-degradable waste at source level shall be insisted and ensured for flats, gated communities and commercial establishments.
6. Bio-mining shall be completed and the RDF shall be removed from the site.
7. The rejects/inert and the good earth shall be disposed as per the guidelines of CPCB.
8. Internal roads in and around the waste dumping area shall be developed and maintained properly for easy access to the heavy vehicles, fire engines etc.
9. The defects in leachate collection and treatment facility shall be rectified.
10. CCTV cameras provided at the site shall be made operational.
11. Weigh bridges shall be made functional and proper records shall be maintained.
12. Onsite emergency plan for fire control and land safety shall be kept handy.

#### **LONG TERM MEASURES**

1. The implementation of the proposal for Waste to Energy Plant and Bio-methanation/composting shall be expedited.
2. Leachate Treatment Plant shall be provided.
3. Green belt around the waste treatment plant shall be developed and bio-mined area shall be properly landscaped, with suitable species of plants.
4. Four (4) Nos of Permanent Ambient Air Quality Monitoring Stations shall be provided at all four directions of the plant.

12. In this context it may be kindly be noted that the Board is facing an acute shortage of permanent staff as shown in the table



  
PRADEEP KUMAR A.B.  
CHAIRMAN

below and steps and procedures are on by the Kerala Public Service Commission to fill all the sanctioned post. The appointments are expected to be completed by June 2023. For proper enforcement of Environment Statutes across the State more technical staff is required.

Category		Sanctioned Strength	Existing Staff	
			Permanent	Temporary
Engineering Branch	Chief Environmental Engineer	4	4	-
	Senior Environmental Engineer	4	4	-
	Environmental Engineer	20	20	-
	Assistant Environmental Engineer	25	17 (4 AEE's currently deputed for undergoing M.Tech course conducted by Kerala Technical University)	Nil
	Assistant Engineer	83	Nil	83
	<b>Total</b>	<b>136</b>	<b>45 (including 4 AEE's currently on deputation)</b>	<b>83</b>
	Chief Environmental Scientist	1	1	-
	Senior Environmental	1	1	-



*Pradeep*  
**PRADEEP KUMAR A.B.**  
 CHAIRMAN

<b>Scientific Branch</b>	Scientist			
	Environmental Scientist	3	2	-
	Assistant Environmental Scientist	11	Nil	-
	Assistant Scientist	23	Nil	23
	Senior Scientific Assistant	15	Nil	15
	Junior Scientific Assistant	30	Nil	30
	Lab Attender	7	2	5
	<b>Total</b>	<b>91</b>	<b>6</b>	<b>73</b>

12. It is respectfully submitted that the Corporation shall take all necessary steps for the implementation of the immediate measures suggested by the Board in this Affidavit to find an urgent solution for the waste management within its limit. Likewise the Corporation shall also take all measures to implement the short term and long term measures for proper scientific solid waste management within its jurisdiction.

All the facts stated above are true to the best of my knowledge, information and belief.

Dated this the 10<sup>th</sup> day of March, 2023.



*A. B. Pradeep*  
A.B. Pradeep Kumar  
Deponent **PRADEEP KUMAR A.B.**  
**CHAIRMAN**

Solemnly affirmed and signed before me by the deponent on this the 10<sup>th</sup> day of March, 2023 in my Office at Ernakulam.

Advocate  
T.NAVEEN



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KERALA STATE POLLUTION CONTROL BOARD

DISTRICT OFFICE (ERNAKULAM -II), PERUMBAVOOR EXT R3(a)

PMC. 20/733, Govt. Hospital -KSRTC Road, Near Kallunkal Auditorium, Perumbavoor - 683 542  
Telephone : 0484-2593747

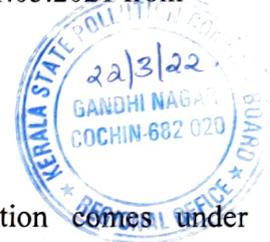
E-mail: [pcbdo2ekm@gmail.com](mailto:pcbdo2ekm@gmail.com)  
Website : [www.keralapcb.nic.in](http://www.keralapcb.nic.in)

File No: PCB/CHN/WC-24/05

Date: 21.03.2022

- Ref: 1. Show cause notice No. PCB/RO-EKM/GEN-258/19 dated 16.03.2021 from Regional Office, Ernakulam.
2. Clarification letter No. PCB/RO-EKM/GEN-258/19 dated 01.05.2021 from Regional Office, Ernakulam.

SHOW CAUSE NOTICE



WHEREAS Solid waste treatment of plant of Kochi Corporation comes under Environmental protection Act 1986 and the Solid Waste Management Rules 2016 comes under the Environmental Protection Act 1986;

WHEREAS, in exercise of the power conferred by sections 3,6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986) and in supersession of the Municipal Solid Waste (Management and Handling) Rules 2000, The Central Government make solid waste management Rules 2016;

WHEREAS the Solid Waste Management Rules 2016 comes into force from 8<sup>th</sup> April 2016;

WHEREAS these rules shall apply to every urban local body, outgrowths in urban agglomerations, census towns as declared by the Registrar General and Census Commissioner of India, notified areas, notified industrial townships, areas under the control of Indian Railways, airports, airbases, Ports and harbours, defence establishments, special economic zones, State and Central government organisations, places of pilgrims, religious and historical importance as may be notified by respective State government from time to time and to every domestic, institutional, commercial and any other non residential solid waste generator situated in the areas except industrial waste, hazardous waste, hazardous chemicals, bio medical wastes, e-waste, lead acid batteries and radio-

1227  
23/3/22

Handwritten signature and date 23/3

active waste, that are covered under separate rules framed under the Environment (Protection) Act, 1986;

WHEREAS as per section 15 (v) It is the duty of urban agglomerations to facilitate construction, operation and maintenance of solid waste processing facilities and associated infrastructure on their own or with private sector participation or through any agency for optimum utilisation of various components of solid waste adopting suitable technology including the following technologies and adhering to the guidelines issued by the Ministry of Urban Development from time to time and standards prescribed by the Central Pollution Control Board. Preference shall be given to decentralised processing to minimize transportation cost and environmental impacts such as-

- a) bio-methanation, microbial composting, vermi-composting, anaerobic digestion or any other appropriate processing for bio-stabilisation of biodegradable wastes;
- b) waste to energy processes including refused derived fuel for combustible fraction of waste or supply as feedstock to solid waste based power plants or cement kilns;

WHEREAS as per section 19 (5) The operator of the facility shall design and set up the facility as per the technical guidelines issued by the Central Pollution Control Board in this regard from time to time and the manual on solid waste management prepared by the Ministry of Urban Development;

WHEREAS fire out breaks happened in the dumping yard in 2019 and 05.03.2021;

WHEREAS frequent fire out breaks happening in the legacy waste area on 18.01.2022, 21.03.2022 and causing serious air pollution problem due to the burning of solid wastes including plastic, textile materials and other wastes;

WHEREAS directions given from the Board to provide necessary control measures to avoid the fire out breaks from the dumping area;

WHEREAS ever repeated instructions given for the safe management of solid waste including plastic waste, to avoid fire accidents repeated incidents is a serious lapse from your part in complying the directions;

NOW THEREFORE you are hereby directed to show cause if any within 15 days why actions shall be taken against you under the provisions of Environment protection Act 1986.



Yours faithfully

A handwritten signature in blue ink, appearing to be "Dul", written over the typed name "ENVIRONMENTAL ENGINEER".

ENVIRONMENTAL ENGINEER

To

THE SECRETARY  
KOCHI MUNICIPAL CORPORATION,  
PARK AVENUE ROAD,  
KOCHI- 11.

Copy to : 1. The Member Secretary

Kerala State Pollution Control Board  
Head Office, Thiruvananthapuram.

2. The Chief Environmental Engineer  
Regional Office, Ernakulam.

**Report on the inspections conducted at Brahmapuram by the Kerala  
State Pollution Control Board**

The Board is continuously monitoring the waste treatment plant at Brahmapuram and directions were issued to the Kochi Corporation then and there based on the inspections. The contractor M/s. Zonta Infratech had started the bio mining activities in the first week of February 2022. The officials from the Board conducted inspections on 11.02.2022, 13.03.2022 to the bio mining area and a show cause notice was issued to the Secretary, Kochi Corporation on 21.03.2022 based on the lapses noticed during the inspections. The bio mining activities temporarily stopped from the mid of May 2022 and resumed only on last week of October 2022. Inspections were again conducted on 11.11.2022, 15.12.2022 and 06.01.2023. During the inspection conducted on 06.01.2023 along with the technical committee constituted for monitoring the progress of the Bio mining, it was noticed that segregation of the legacy waste was not proper. Huge sized stones, wood pieces etc. were found mixed up with good earth and large pieces of plastic were seen along with rejects. Hence, instruction was given to the Kochi Corporation to use fine sieve in order to reduce the volume of rejects and also instructed them on 18.01.2023 to dispose rejects as per the Municipal Solid Waste Guidelines.

The information regarding the fire incident was received by the Board at around 5.30pm on 02.03.2023. Immediately the surveillance team of the Board visited the site and collected a primary information about the incident. It was noticed during the inspection that the fire was happened in the legacy waste storage area and the fire was found to be spread to a large area. There were about 8 fire engines operational at that time. It was also understood that though the Kochi Corporation had provided 11 fire hydrants in the legacy waste storage area, based on the suggestion of the Board and State Level Monitoring Committee, none of them was operational.

The surveillance team of the Board again conducted inspection on 03.03.2023 at 8.30AM .During that time, it was noticed that the fire was almost extinguished, but was continues at small pockets and fuming was continuing. The firefighting operations were found to be intensified. The smoke from the site had spread to a wide area and formed smoke clouds. During the inspection conducted on 04.03.2023 also, the same situation noticed on 03.03.2023 was found to be prevailing. The Board officials are conducting inspections continuously. Inspections on 05.03.2023, 06.03.2023 and 07.03.2023 revealed that the fuming was continuing, but the intensity of smoke found slightly decreasing. The Chief Environmental Engineer visited the site on 06.03.2023 along with Justice. A V Ramakrishna Pillai, the Chairman, State Level Monitoring Committee and on 07.03.2023 along with the surveillance team of the Board. During the inspection, it was noticed that out of the two weigh bridge for weighing the quantity of waste, only one was in working condition and the other one was found to be damaged. The windrow composting shed was also in dilapidated condition. The leachate drains leading to the collection tank was found to be blocked. A portion of RDF collected from the bio mining was baled and stacked in the land proposed for waste to energy plant and a portion was found to be stored near the windrow composting plant area.

Board has 5 numbers of manual ambient air monitoring stations as a part of National Air Monitoring Program (NAMP) at Ernakulam South, M G Road, Vyttila, Irumpanam and Kalamassery.This monitoring is regularly done twice in a week. But in the outbreak of fire incident, it was decided to operate the NAMP stations at Kalamassery and Irumpanam continuously. Then the monitoring at Kalamassery was discontinued and started the monitoring at Vyttila on 06.03.2023 onwards as the effect of smoke in the air was noticed more in Vyttila area and more complaints were received from that area.. It is also to be noted that the Board had started air quality monitoring at Vadavucode- Puthencruz from 06.03.2023 onwards. Real time monitoring stations of the Board are at Vyttila and Eloor. Board was closely

monitor in the values of various parameters at the real time monitoring stations and the values are shared with the District Administration.

In addition to the air quality monitoring carrying out by the Board, Indian Institute of Chennai in association with Kerala State Pollution Control Board had started the monitoring activities from 06.03.2023 onwards. It is also to be noted that the Board had entrusted National Institute of Inter-disciplinary Science and Technology (NIIST) for the monitoring the presence of dioxin and furan in the air. The surveillance team of the Board also continuously conducting inspections at Brahmapuram.



CHIEF ENVIRONMENTAL ENGINEER

**Photographs taken during the inspections conducted by the Board Officials in connection with Brahmapuram Fire Breakout**

**Date: 02.03.2023**





**Date: 03.03.2023**





**Date: 04.03.2023**





**Date: 06.03.2023**









**Date: 07.03.2023**









Date: 08.03.2023



**Date: 09.03.2023**



<b>AIR QUALITY DATA</b>			
<b>DATE</b>	<b>CONTINUOUS AMBIENT AIR QUALITY MONITORING STATION DATA</b>		
	<b>VYTTILA</b>		
	<b>Daily average PM10 (<math>\mu\text{g}/\text{m}^3</math>) Standard(<math>100\mu\text{g}/\text{m}^3</math>)</b>	<b>Daily average PM2.5(<math>\mu\text{g}/\text{m}^3</math>) Standard(<math>60 \mu\text{g}/\text{m}^3</math>)</b>	<b>AQI CPCB</b>
<b>01.03.2023</b>	100	67	136
<b>02.03.2023</b>	96	65	103
<b>03.03.2023</b>	154	109	-
<b>04.03.2023</b>	134	209	186
<b>05.03.2023</b>	135	144	184
<b>06.03.2023</b>	135	90	148
<b>07.03.2023</b>	169.18	130.41	215
<b>08.03.2023</b>	129	88	158

## AIR QUALITY DATA

DATE	TIME	NAMP DATA (MANUAL STATION)											
		IRUMPANAM		KALAMASSER Y		ERNAKULAM SOUTH		M.G ROAD		VYTILA		PUTHENCROUZ (Started on 06/03/2023)	
		Daily average PM10 ( $\mu\text{g}/\text{m}^3$ )  Stand ard (100 $\mu\text{g}$ /m <sup>3</sup> )	Daily average PM2.5( $\mu$ g/m <sup>3</sup> )  Standar d (60 $\mu\text{g}/\text{m}^3$ )	Daily averag e PM10 ( $\mu\text{g}/\text{m}^3$ )  Stand ard (100 $\mu\text{g}$ /m <sup>3</sup> )	Daily average PM2.5( $\mu$ g/m <sup>3</sup> )  Standar d (60 $\mu\text{g}/\text{m}^3$ )	Daily averag e PM10 ( $\mu\text{g}/\text{m}^3$ )  Stand ard (100 $\mu\text{g}$ /m <sup>3</sup> )	Daily average PM2.5( $\mu$ g/m <sup>3</sup> )  Standar d (60 $\mu\text{g}/\text{m}^3$ )	Daily averag e PM10 ( $\mu\text{g}/\text{m}^3$ )  Stand ard (100 $\mu\text{g}$ /m <sup>3</sup> )	Daily average PM2.5( $\mu$ g/m <sup>3</sup> )  Standar d (60 $\mu\text{g}/\text{m}^3$ )	Daily averag e PM10 ( $\mu\text{g}/\text{m}^3$ )  Stand ard (100 $\mu\text{g}$ /m <sup>3</sup> )	Daily average PM2.5( $\mu$ g/m <sup>3</sup> )  Standar d (60 $\mu\text{g}/\text{m}^3$ )	TIME	Daily averag e PM2.5 ( $\mu\text{g}/\text{m}^3$ )  Standar d (60 $\mu\text{g}/\text{m}^3$ )
02.03.2023- 03.03.2023	06.00AM- 06.00AM	110	82	134	84	119	76	63	84	139	76		-
03.03.2023- 04.03.2023	10.00AM- 10.00AM	192	119	251	101	-	-	-	-	-	-		-
04.03.2023- 05.03.2023	02.00PM- 02.00PM	146	105	115	89	-	-	-	-	-	-		-
06.03.2023- 07.03.2023	10.00AM- 10.00AM	184	140	-	-	-	-	-	-	260	195	01.00PM- 01.00PM	89
07.03.2023- 08.03.2023	02.00PM- 02.00PM											04.00PM- 04.00PM	
08.03.2023- 09.03.2023	10.00PM- 10.00PM											10.00PM- 10.00PM	

SUO MOTU WP(C) No 7844/2023

DCEKM.648/2021/D1

Collectorate, Ernakulam  
Date : 13/03/2023**From****The District Collector  
Ernakulam****To****The Advocate General,  
Kerala  
Ernakulam****Sir,****Sub :-** SUO MOTU WP(C) No 7844/2023 - report submitted**Ref :-** Orders of the Hon'ble High Court in SUO MOTU WP(C) No 7844/2023 dated 10/03/2023

\*\*\*\*\*

In obedience to the Orders of the Hon'ble Court dated 10/03/2023, a committee consisting of the 1) The Chief Engineer, LSGD 2) The Director, Solid Waste Management (Swachhatha Mission) 3) The District Collector, Ernakulam 4) The Joint Chief Engineer, Regional Office, KSPCB, Ernakulam, 5) The Secretary, Kochi Corporation and 6) The Secretary, District Legal Services Authority, Ernakulam visited the Brahmapuram Waste Treatment Plant at 4pm on 11 March 2023.

The report of the committee along with photos and videos is submitted herewith. It is submitted that the same may kindly be placed before the Hon'ble Court.

Yours faithfully,

**District Collector  
Ernakulam**

CORPORATION OF COCHINBRAHMAPURAM SOLID WASTE TREATMENT PLANTSITE INSPECTION : 04:00 p.m/ 11.03.2023Ref: Orders of the Hon. High Court of Kerala in Suo Motu WPC # 7844/2023CHECKLIST

SI No.	Particulars	Details	Remarks
1.	Area of Kochi Municipal Corporation In Sq. Kms	94.88 sq kms	23445.359 acres of land
	Area of Brahmapuram Plant In Sq. Kms	0.437 sq kms	108 acres of land
2.	No of Divisions	74	
3.	No. of households/ non-residential premises	170000/19000	
4.	Quantity of solid waste generated per day in Metric tons	265T/Day	(approx)
5.	Quantity of solid waste collected per day in Metric tons	240T/Day	(approx)
6.	Quantity of solid waste dumped at the Plant site per day in Metric tons	300T/Day	Including the Bio-degradable waste from 8 other Municipalities and Panchayats
7.	Quantity of solid waste processed per day in Metric tons	120 T/Day	(approx)
8.	Whether waste is brought into the Plant as segregated	Segregated as biodegradable and nonbiodegradable waste(non biodegradable segregation is not proper)	More than 1 lakh m <sup>3</sup> of non legacy, non segregated waste is lying as mounds at site
9.	If not, whether segregation facilities available at the Plant site	No mechanical devices available at the site for primary segregation.	Machinery(trommel) available for only sieving matured compost
10.	Waste treatment technologies used [ticks to be placed]	Composting	50% is composting
		VermiComposting	Nil
		Bio Methanation	NIL
		Refuse Derived Fuel	From legacy waste
		Waste to fuel	NIL
		Waste to Energy	NIL
		Co processing	NIL
	Others, if any		
11.	No. Dump sites	1	Divided into 8 sectors

12.	Average area of Dump sites	108 Acres	40.82 Acres of legacy dump
13.	No. of Storage Tanks	NA	
14.	Distance from nearest habitation	Less than 1KM	
15.	Whether the plant site is in Flood-prone Area	Yes	
16.	No. of fire Hydrants & availability of water sources	6 units , utilizing 80 hp motor pumping from Kadambrayar.	1 Hydrant with 6 units. No onsite adequate water storage facility is available for fire fighting or other purposes.
17.	Whether the plant is run on Electricity/ Generator	Electricity	Already available for existing windrow compost plant. New connection obtained is for biomining and hydrant
18.	Whether the Plant site is fenced	Yes	
19.	Whether Weighbridge facility is available	Yes	1 No only
20.	Details of manpower engaged	50	Windrow plant-30 Biomining-20
21.	Whether covering is done daily	NA	
22.	Covering material used	NA	
23.	Provisions for Gas Venting	NA	
24.	Provisions for leachate Collection	Yes.	Not proper. In situ treatment plant is not available. The leachate drains are found to be partially blocked .Also there is a chance of overflow of leachate to nearby kadambrayar during rainy season
25.	Details of Contractor/Concessionaire engaged	2 contractors	<b>Biomining of legacy waste-M/S Zonta Infra Tech</b> <b>Fresh Plastic waste-M/S Bharath</b> <b>Windrow compost plant-Contract expired on 02.03.2023</b>
26.	Whether there are adequate security measures	Yes	Manpower is sufficient but CCTV camera is not provided with adequate numbers

27.	Whether there is an Action plan for improvement of the facilities	Yes	New Treatment facility for 200 TPD bio-degradable waste is approved by the Government. As per the directions of Hon'ble High Court on 10.03.2023, decision has to be taken by ACS. Access roads development & construction of overhead tanks are also to be expedited.
28.	Overall percentage of Assessment		

**Specific comments , if any:**

The Hon'ble High court, as per the Order dated 10/3/2023, directed the committee constituted as per that Order to submit a report on the following points:

- a) Infrastructure facilities available
- b) Efficacy and efficiency of the equipments established at the site
- c) Whether the site confirms Solid Waste Management Rules 2016.

The overall assessment is as mentioned below :

**A) Existing Windrow compost plant for treating biodegradable waste :** Available area of windrow plant at the site at present is not adequate to manage/treat the quantity of waste brought to Brahmapuram. The major portion of the building has already collapsed and been removed from the site. The existing building available at the site is in a dilapidated condition and may collapse at any stage. Due to the exorbitant cost involved in refurbishing the existing plant it was informed that Kochi Corporation has decided to construct a new windrow plant at Brahmapuram. 10 acres of land was allocated for the project and proposal is under the consideration of Government. Considering the above aspects, the quantity of biodegradable waste brought to Brahmapuram may be reduced.

**B) Legacy Waste processing :** Legacy waste is being processed using biomining techniques. But it is observed that the capacity of the machinery/equipment placed at the site for biomining and baling is not adequate for completion of work within the stipulated time frame. The segregation and sorting of the legacy waste practiced at the site is not in accordance with the provisions of CPCB guidelines for management of legacy waste. No material wise segregation has happened so far and no magnetic separator and cyclonic/ air density separator are made available. Because of this, Refuse Derived Fuel (RDF) which is one of the main end products is of inferior quality and hence it is not accepted at cement factories. The RDF generated after the biomining process has not been transported from the Brahmapuram site. As per CPCB guideline the percentage of rejects should be less than 10%, but the rejects obtained is at least 3 times higher than the

missible limits which is unacceptable. Quality of good earth discharge is also poor due to lack of proper segregation. The entire biomining process and disposal of rejects should adhere to CPCB guidelines.

**C) For treating non-biodegradable waste:** The Infrastructure made available is not adequate. Only one shed is made available and no equipments/machineries is available and no scientific management of waste is observed.

**Efficiency of the equipments :**

In the windrow compost plant for treating biodegradable waste, the corporation is utilizing 3 rotary trommels consisting of motor, drums and reducer for sieving the manure. The sieve size utilized for trommels is 40mm, 16mm and 4-6 mm .The efficiency of the equipment used is about 5-10 tonnes/hr.

The number of equipment now available at the site is not at all adequate to complete the biomining process within the timeframe. For biomining the contractor is utilizing a mobile double deck screening machine. The discharge capacity is said to be approximately 65 m<sup>3</sup>/hr. For bailing, the contractor is utilizing a bailer machine. The end product is a compressed RDF block of size 1.1m x 1.05m x 1.4m. The capacity of equipments installed at the site is not at all sufficient to process the waste in the stipulated time frame

Based on above mentioned facts , it is submitted that the site doesn't conform to the provisions of the Solid Waste Management Rules, 2016.

Name & Designation of the committee member	Signature
<b>Renjith Krishnan N</b> Sub Judge & Secretary, District Legal Services Authority	(Sd/-)
<b>N S K Umesh IAS</b> District Collector, Ernakulam	(Sd/-)
<b>M. Babu Abdul Khadeer, IRPS</b> Secretary, Kochi Municipal Corporation	(Sd/-)
<b>Sandeep K G</b> Chief Engineer, LIDSEW	(Sd/-)
<b>Jyothish Chandran G</b> Director (SWM), Suchitwa mission	(Sd/-)
<b>Baburajan P K,</b> Chief Environmental Engineer, KSPCB, REgional Office, Ernakulam	(Sd/-)

  
**N S K Umesh IAS**

Chairman, District Disaster Management Authority  
& District Collector, Ernakulam

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**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
SOUTHERN ZONE, CHENNAI  
IN  
ORIGINAL APPLICATION No. O A 77 of 2021(SZ)**

**IN THE MATTER OF**

**Suo Motu proceedings initiated  
based on letter received  
From Justice A.V. Ramakrishna Pillai,  
Former Judge, High Court of  
Kerala, Chairman,  
SLMC, Kerala.** : **Applicant(s)**

**Versus**

**The Chief Secretary,  
Government of Kerala,  
Thiruvananthapuram and Others** : **Respondent(s)And**

**ORIGINAL APPLICATION No. O A 442/2013(SZ)**

**Applicant(s) : Jith Kumar, Muthedathu**

**Versus**

**Respondent(s) : The State of Kerala & others  
And**

**ORIGINAL APPLICATION No. O A 20 / 2017(SZ)**

**Abdul Basheer**

**Versus**

**Kochi Municipal Corporation & Others**

**ORIGINAL APPLICATION No. O A 276/2017(SZ)**

**Lawyers Environmental Awareness Forum**

**Versus**

**SEIAA, Thiruvananthapuram**

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Dated this the 12<sup>th</sup> day of March 2023

**Adv. Rema Smrithi,**  
ADDITIONAL STANDING COUNSEL FOR THE RESPONDENT

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL**

**SOUTHERN ZONE, CHENNAI**

**IN**

**ORIGINAL APPLICATION No. O A 514 of 2019(PB)**

**RENUMBERED AS O A 77 of 2021(SZ)**

**IN THE MATTER OF**

**Suo Motu proceedings initiated**

**based on letter received**

**From Justice A.V. Ramakrishna Pillai,**

**Former Judge, High Court of**

**Kerala, Chairman, SLMC, Kerala.**

**: Applicant(s)**

**Verses**

**The Chief Secretary,**

**Government of Kerala,**

**Thiruvananthapuram and Others : Respondent(s)And**

**ORIGINAL APPLICATION No. O A 442/2013(SZ)**

**Applicant(s) : Jith Kumar, Muthedathu**

**Versus**

**Respondent(s) : The State of Kerala & others**

**And**

**ORIGINAL APPLICATION No. O A 20 / 2017(SZ)**

**Abdul Basheer**

**Versus**

**Kochi Municipal Corporation & Others**

**And**

**ORIGINAL APPLICATION No. O A 276/2017(SZ)**

**Lawyers Environmental Awareness Forum**

**Versus**

**SEIAA, Thiruvanathapuram**

**REPORT FILED BY THE CHIEF ENVIRONMENTAL ENGINEER,  
REGIONAL OFFICE, ERNAKULAM FOR AND ON BEHALF OF THE  
KERALA STATE POLLUTION CONTROL BOARD**

I, Baburajan P K, 52 years, S/o. Late P A Kuttappan, now working as the Chief Environmental Engineer, Regional Office, Kerala State Pollution Control Board, Ernakulum. I am competent to and duly authorized to represent the Board. I know the facts and circumstances of the cases. The factual submissions made hereunder are true and correct to the best of my knowledge, information and belief. In these circumstances, it is just and necessary that this Hon'ble Tribunal may be pleased to accept the accompanying report on file and it is so humbly prayed in the interests of justice in this case.

1. In compliance with the order of the Hon'ble Tribunal dated 13.02.2023, I may humbly report that the bio mining is the process of excavation of old dumped waste and make windrow of legacy waste thereafter stabilization of the waste through bio-remediation i.e. exposure of all the waste to air along with use of composting bio-cultures, i.e. screening of the stabilized waste to recover all valuable resources (like organic fines, bricks, stones, plastics, metals, clothes, rags etc.) followed by its sustainable management through recycling, co-processing, road making etc. As per the Solid Waste Management Rule, 2016 "refused derived fuel"(RDF) means fuel derived from combustible waste fraction of solid waste like plastic, wood, pulp or organic waste, other than chlorinated materials, in the form of pellets or fluff produced by drying, shredding, dehydrating and compacting of solid waste and "residual solid waste" means and includes the waste and rejects from the solid waste processing facilities which are not suitable for recycling or further processing.

2. It is respectfully submitted that for managing legacy waste the SWM Rules 2016 clearly mandate clearing of sites as a first option, by bio-mining and bio-remediation. It is to be noted that the Board had already reported before this tribunal that during the inspection conducted on 06.01.2023 along with the technical committee constituted for monitoring the progress of the Bio mining, it was noticed that segregation of the legacy waste was not proper. Huge sized stones, wood pieces etc. were found mixed up with good earth and large pieces of plastic were seen along with rejects. Hence, instruction was given to the Kochi Corporation to use fine sieve in order to reduce the volume of



  
**BABURAJAN P.K.**  
Chief Environmental Engineer

rejects. It was also instructed on 18.01.2023 to dispose rejects as per the Municipal Solid Waste Guidelines. The capping of the residual solid waste as per the Solid Waste Management Rules, 2016 may only be permitted for capping.

3. It is respectfully submitted that a fire outbreak happened on 02.03.2023. The information regarding the fire incident was received by the Board at around 5.30pm on 02.03.2023. Immediately the surveillance team of the Board visited the site and collected a primary information about the incident. It was noticed during the inspection that the fire happened in the legacy waste storage area and the fire was found to be spread to a large area. There were about 8 fire engines operational at that time. It was also understood that though the Kochi Corporation had provided 6 fire hydrants in the legacy waste storage area, based on the suggestion of the Board and State Level Monitoring Committee, none of them were operational.

4. The surveillance team of the Board again conducted inspection on 03.03.2023 at 8.30AM. During that time, it was noticed that the fire was extinguished to a great extent, but was continuing at scattered pockets and fuming was continuing. The firefighting operations were found to be intensified. The smoke from the site had spread to a wide area and formed smoke clouds. During the inspection conducted on 04.03.2023 also, the same situation noticed on 03.03.2023 was found to be prevailing. The Board officials are conducting inspections continuously. Inspections on 05.03.2023, 06.03.2023 and 07.03.2023 revealed that the fuming was continuing, but the intensity of smoke was found slightly decreasing. The Chief Environmental Engineer visited the site on 06.03.2023 along with Justice. A V Ramakrishna Pillai, the Chairman of State Level Monitoring Committee and on 07.03.2023 along with the surveillance team of the Board. During the inspection, it was noticed that out of the two-weigh bridge for weighing the quantity of waste, only one was in working condition and the other one was found to be damaged. The windrow composting shed was also in dilapidated condition. The leachate drains leading to the collection tank was found to be blocked. A portion of RDF collected from the bio mining was baled and stacked in the land proposed for waste to energy plant and a portion was found to be stored near the windrow composting plant area.

5. It is also respectfully submitted that Board has 5 numbers of manual ambient air monitoring stations as a part of National Air Monitoring Program (NAMP) at



  
**BABURAJAN P.K.**  
Chief Environmental Engineer

Ernakulam South, M G Road, Vyttila, Irumpanam and Kalamassery. This monitoring is regularly done twice in a week. But in the outbreak of fire incident, it was decided to operate the NAMP stations at Kalamassery and Irumpanam continuously. Then the monitoring at Kalamassery was discontinued and started the monitoring at Vyttila on 06.03.2023 onwards as the effect of smoke in the air was noticed more in Vyttila area and more complaints were received from that area. It is also to be noted that the Board had started air quality monitoring at Vadavucode- Puthencruz from 06.03.2023 onwards. Real time monitoring stations of the Board are at Vyttila and Eloor. The Board is closely monitoring the values of various parameters at the real time monitoring stations and the values are shared with the District Administration.

6. In addition to the air quality monitoring carried out by the Board, IIT, Chennai in association with Kerala State Pollution Control Board had started the monitoring activities from 06.03.2023 onwards. It may also be noted that the Board had entrusted National Institute of Inter-disciplinary Science and Technology (NIIST) for the monitoring the presence of dioxin and furan in the air. The surveillance team of the Board is also continuously conducting inspections at Brahmapuram.

7. It is also respectfully submitted that the Hon'ble High Court of Kerala has taken a suo - moto petition based on the current fire outbreak happened on 02.03.2023 vide W P( c ) no.7844/2023. The Board has put forward the following immediate, short term and long-term measures to be adopted by the Kochi Corporation before the Hon'ble High Court of Kerala.

**IMMEDIATE MEASURES -TO BE COMPLETED ON OR BEFORE 25-03-2023**

- a) 100% segregation of solid waste shall be ensured at the source itself for the residences and establishments.
- b) Kochi Corporation shall set up MCFs, preferably at all 22 Health circle level.
- c) Segregate and bale the non-biodegradable waste and shall be transferred to Clean Kerala Company.
- d) Existing fire hydrants shall be made operational and additional firefighting arrangements shall be provided as recommended by the Fire & Rescue Department.



  
**BABURAJAN P.K.**  
 Chief Environmental Engineer

- e) All fire extinguishing measures as suggested by the Fire & Rescue Department shall be implemented.
- f) CCTV cameras provided at the site shall be made operational
- g) Onsite emergency plan for fire control and land safety shall be kept handy.

**SHORT TERM MEASURES -TO BE COMPLETED ON OR BEFORE 05-06-2023**

- a) Non-biodegradable waste shall not be taken to Brahmapuram Plant. Non biodegradable waste shall be collected by authorized collectors and transferred to Clean Kerala Company.
- b) Sanitary napkins/diapers shall be disposed in Common Biomedical Waste Treatment Facility at Ernakulam.
- c) 24 x 7 surveillance shall be done to ensure that no littering of waste is practiced in the Corporation area.
- d) The defects of the existing windrow composting plant shall be rectified and the same shall be made fully operational for processing of bio-degradable waste.
- e) Treatment of bio-degradable waste at source level shall be insisted for flats, gated communities and commercial establishments.
- f) Bio-mining shall be completed and the RDF shall be removed from the site.
- g) The rejects/inert and the good earth shall be disposed as per the guidelines of CPCB.
- h) Internal roads in and around the waste dumping area shall be developed and maintained properly for easy access to the vehicles, especially in emergency situations.
- i) The defects in leachate collection and treatment facility shall be rectified.
- j) CCTV cameras provided at the site shall be made operational.
- k) Weigh bridge shall be made functional and proper records shall be maintained.

**LONG TERM MEASURES**

- i. The implementation of the proposal for Waste to Energy Plant and Bio-methanation/composting shall be expedited.
- ii. Leachate Treatment Plant shall be provided.



  
**BABURAJAN P.K.**  
 Chief Environmental Engineer

- iii. Green belt around the waste treatment plant shall be developed and bio-mined area shall be properly landscaped, with suitable species of plants.
- iv. Four (4) Nos of Permanent Ambient Air Quality Monitoring Stations shall be provided at all four directions of the plant.

Short term measures to be complied on or before 05.06.2023

The above case was heard on 10.03.2023 and passed order directing to inspect the area in question by a committee comprising, (1) The Chief Engineer, Local Self Government Department, (2) Director, Solid Waste Management Swachhatha Mission (3) The District Collector, Ernakulam (4) Joint Chief Environmental Engineer, Regional Office, Kerala State Pollution Control Board, Ernakulam (5) Mr. Babu Abdul Khader, Secretary, Cochin Municipal Corporation (6) Secretary, District Legal Services Authority, Member-Convenor within 24 hrs and report to the Hon'ble High Court of Kerala. The case is posted on 13.03.2023 and 14.03.2023 for further formalities.

8. It is also humbly submitted that the Board has issued a show cause notice for the levying of Environmental Compensation of Rs.180lakh for non-compliance of solid waste management Rules,2016 on 04.03.2023. A copy of the show cause notice dated 04.03.2023 is produced herewith and marked as **Annexure 1**. The Board has decided to constitute a technical committee for assessing the damage occurred due to the fire hazard at Brahmapuram.

All the facts stated above are true to the best of my knowledge, information and belief.

Dated this the 12<sup>th</sup> day of March 2023



  
**CHIEF ENVIRONMENTAL ENGINEER**  
**BABURAJAN P.K.**  
Chief Environmental Engineer

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
SOUTHERN ZONE, CHENNAI**

**IN**

**ORIGINAL APPLICATION No.O A 77 of 2021(SZ)**

**IN THE MATTER OF**

**SuoMotu proceedings initiated**

**based on letter received**

**From Justice A.V. Ramakrishna Pillai,**

**Former Judge, High Court of**

**Kerala, Chairman,**

**SLMC, Kerala.**

**:**

**Applicant(s)**

**Verses**

**The Chief Secretary,**

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**Thiruvananthapuram and Others**

**:**

**Respondent(s) And**

**ORIGINAL APPLICATION No. O A 442/2013(SZ)**

**Applicant(s) : Jith Kumar, Muthedathu**

**Versus**

**Respondent(s) : The State of Kerala & others**

**And**

**ORIGINAL APPLICATION No.O A 20 / 2017(SZ)**

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**Kochi Municipal Corporation & Others**

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Dated this the 12<sup>th</sup> day of March 2023

**Adv. RemaSmrithi,**

**ADDITIONAL STANDING COUNSEL FOR THE RESPONDENT**



☎: General: 0471- 2312910, 2318153, 2318154, 2318155 Chairman: 2318150 Member Secretary: 2318151  
E-mail: ms.kspcb@gov.in FAX: 0471 – 2318134, 2318152 web: www.kspcb.kerala.gov.in

**KERALA STATE POLLUTION CONTROL BOARD**  
**കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്**

Pattom P.O., Thiruvananthapuram – 695 004  
പട്ടം പി.ഒ., തിരുവനന്തപുരം – 695 004

Date:04.03.2023

KSPCB/20/2021-SEE2 VOL II (1)

Regd. with A/D

**SHOWCAUSE NOTICE FOR THE LEVYING OF COMPENSATION FOR  
NON-COMPLIANCE OF SOLID WASTE MANAGEMENT RULES, 2016**

Sub: Non-compliance of Solid Waste Management Rules, 2016.

- Ref: 1. Solid Waste Management Rules 2016  
2. The Hon'ble NGT order dated 16.01.2019 in OA No.606/2018  
3. Letter No. PCB/HO/RULES/SWM-EKM/2018(VOL II) dated 16 /03/2022  
4. Letter No.PCB/ESC/GEN/MSW/12 dated 12.05.2022 from ESC, Ernakulam  
5. Letter No. PCB/RO-EKM/GEN/258/ao dated 04.03.2023 from the Chief Environmental Engineer, Regional Office, Ernakulam

WHEREAS the Central Government notified the Environmental (Protection) Act, 1986 for the protection and improvement of environment and for matters connected therewith;

WHEREAS as per Section 3, 6, and 25 of the Environment (Protection) Act, 1986, the Central Government re-notified the Solid Wastes Management Rules, 2016 (hereinafter referred as SWM Rules) vide notification S.O. 1357(E) dated 8-4-2016;

WHEREAS the duties and responsibilities of local authorities are prescribed under Rule 15 of the SWM Rules for the management of solid waste;

WHEREAS the Rule 22 of the SMW Rules prescribes the time frame for the implementations by the local bodies ;

WHEREAS as per Rule 22 (1) of the SWM Rules, suitable sites for setting up solid waste processing facilities are to be identified by 8-4-2017;

WHEREAS as per Rule 22 (2) of the SWM Rules, suitable sites for setting up common regional sanitary landfill facilities for suitable clusters of local authorities under 0.5 million population and for setting up common regional sanitary landfill facilities or stand alone sanitary landfill facilities by all local authorities having a population of 0.5 million or more by 8-4-2017;

WHEREAS as per Rule 22 (3) of the SWM Rules, suitable sites for setting up solid waste processing facility and sanitary landfill facilities are to be procured by 8-4-2018;

WHEREAS as per Rule 22 (4) of the SWM Rules, the practice of segregation of biodegradable, recyclable, combustible, sanitary waste, domestic hazardous and inert solid waste shall be ensured at source for waste generators at source by 8-4-2018;

WHEREAS as per Rule 22 (5) of the SWM Rules, door to door collection of segregated waste and its transportation in covered vehicles to processing or disposing facility shall be ensured by 8-4-2018;

WHEREAS as per Rule 22 (6) of the SWM Rules, separate storage, collection and transportation of construction and demolition waste shall be ensured by 8-4-2018;

WHEREAS as per Rule 22 (7) & Rule 22(8) of the SWM Rules, solid waste processing facilities for the complete quantity of waste generated from the local body at 0.4 to 0.5 kg/person/day, shall be set up by 8-4-2019;

WHEREAS as per Rule 22 (11) of the SWM Rules, bio-remediation or capping of old and abandoned dump site shall be ensured;

WHEREAS repeated instructions were issued to the local body for the compliance of the SWM Rules;

WHEREAS you were directed to implement the SWM Rules by providing waste management facilities for collection, treatment and disposal, based on the judgment of the Hon'ble NGT in O.A 606/2018;

WHEREAS the Hon'ble National Green Tribunal vide dated 02/07/2020 in OA 606/2018 laid down compensation scale for continued failure in implementation of Solid Waste Management Rules 2016, after 31-3-2020 and reiterated that the compliance of the Rules requires taking of several steps in Rule 22 and the Court directed that any such continued failure will result in liability of every local body to pay compensation at the rate of Rs. 10 lakhs per month per local body for population above 10 lakhs; Rs. 5 lakhs per month per local body for population between 5 lakhs and 10 lakhs and Rs. 1 lakh per month per other local body from 01/04/2020 till compliance and final compensation may be assessed and recovered by the State PCB/PCCs in the light of the above order;

WHEREAS as per the above the local body shall be liable to pay compensation if there is any failure in the implementation of in the SWM Rules;

WHEREAS legacy waste remediation had to be commenced from 01.11.2019 in compliance with the order of Hon'ble NGT dated 17.07.2019 in O.A. No. 519/2019 even though statutory

timeline for completing the said step is over (as per serial no. 11 in Rule 22), the direction remains unexecuted at the dump site of Brahmapuram;

WHEREAS you have not carried out biomining in a time bound manner and thereby violating orders of Hon'ble NGT and statutory Rules;

WHEREAS huge fire hazard happened in the dump site of Brahmapuram on 02.03.2023 due to not carrying out bioremediation of the legacy waste on time at the site and due to the failure on your part in the implementation of SWM Rules;

WHEREAS it was reported by the Regional Office vide letter 5 that smoke from the site has spread to a wide area causing huge air pollution problems and it was also reported that the fire hydrants provided in the legacy waste storage area were not operational;

WHEREAS though the Board had given several directions for preventing and controlling such incidents it is observed that the Kochi Corporation has not taken any preventive measures for avoiding such fire hazards;

AND WHEREAS Environmental Compensation for an amount of Rs. 180 lakhs (Rupees One Eighty Lakhs) for the period from 01.04.2020 to 04.03.2023 @ Rs 5 lakh per month for non compliance as per the order dated 02/07/2020 of the Hon'ble NGT in OA 606/2018 is assessed hereby;

NOW THEREFORE, in exercise of the powers vested under section 5 of the Environment Protection Act, 1986, read with Government of India notification S.O. 327 (E) dated 10/04/2001 you are directed to show cause reasons within 15 days as to why the Board shall not recover Environmental compensation of Rs.180 Lakhs (Rupees One Eighty Lakhs) calculated for a period from 01.04.2020 to 04.03.2023 against the Corporation for the non-compliance of the SWM Rules 2016.

  
CHAIRMAN

To

The Secretary,  
Kochi Corporation

Copy to:

1. The Chairman  
State Level Monitoring Committee (with covering letter)
2. The Additional Chief Secretary  
Environment Department (with covering letter)
3. The Additional Chief Secretary  
Local Self Government Department (with covering letter)
3. The District Collector, Ernakulam
4. The Director, Urban Directorate
5. The Chief Environmental Engineer, Regional Office, Ernakulam
6. The Environmental Engineer, District Office-2, Ernakulam

IN THE HIGH COURT OF KERALA AT ERNAKULAM  
PRESENT  
THE HONOURABLE MR.JUSTICE S.V.BHATTI  
&  
THE HONOURABLE MR.JUSTICE BASANT BALAJI

Monday, the 13<sup>th</sup> day of March 2023 / 22nd Phalgun, 1944  
WP(C) NO. 7844 OF 2023(S)

SUO MOTU WRIT PETITION INITIATED BY THE HIGH COURT.

RESPONDENTS:

1. STATE OF KERALA, REPRESENTED BY THE CHIEF SECRETARY,  
GOVERNMENT SECRETARIAT, THIRUVANANTHAPURAM - 695 001.
2. KOCHI MUNICIPAL CORPORATION, REPRESENTED BY ITS SECRETARY,  
PARK AVENUE ROAD, MARINE DRIVE, KOCHI - 682 011.
3. KERALA STATE POLLUTION CONTROL BOARD, REPRESENTED BY ITS  
CHAIRMAN, HEAD OFFICE, PATTOM P.O., THIRUVANANTHAPURAM - 695  
004.
4. THE DISTRICT COLLECTOR, DISTRICT COLLECTORATE, KAKKANAD,  
ERNAKULAM- 682 030.
5. THE DIRECTOR GENERAL, KERALA FIRE AND RESCUE SERVICES,  
HEADQUARTERS, FIRE FORCE JUNCTION, PULIMOODU P.O.,  
THIRUVANANTHAPURAM - 695 001.
6. THE STATE POLICE CHIEF, KERALA POLICE HEADQUARTERS,  
THIRUVANANTHAPURAM, KERALA, INDIA - 695 010.

ADDL. R7 IMPEADED

7. THE ADDITIONAL CHIEF SECRETARY,  
LOCAL SELF GOVERNMENT DEPARTMENT, GOVERNMENT OF KERALA.

ADDL. R7 IS SUO MOTU IMPEADED AS PER ORDER  
DATED 07/03/2023 IN WPC

ADDL. R8 IMPEADED

8. KERALA STATE ELECTRICITY BOARD,  
REPRESENTED BY ITS CHAIRMAN & MANAGING DIRECTOR,  
VYDUTHI BHAVAN, PATTOM-695 004.

ADDL. R8 IS SUO MOTU IMPEADED AS PER ORDER  
DATED 10/03/2023 IN WPC.

P.T.O.

This Suo Motu writ petition again coming on for admission upon perusing the petition, this Court's orders dated 10/03/2023 and upon hearing the arguments of SRI.K. GOPALAKRISHNA KURUP, ADVOCATE GENERAL for R1, R4, R6 & R7, SRI.K. JANARDHANA SHENOY, STANDING COUNSEL for R2, SRI.T. NAVEEN, STANDING COUNSEL for R3 and of SRI.UNNIKRISHNAN, SPECIAL GOVERNMENT PLEADER for R5, the court passed the following:

P.T.O.



**S.V.BHATTI  
& BASANT BALAJI, JJ.**

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W.P.(C) No.7844 of 2023  
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**ORDER**

(Dated this the 13<sup>th</sup> day of March 2023)

S V Bhatti J.,

The District Collector has placed on record, the report dated 13.3.2023 of the Committee constituted by this court on 10.3.2023. The report, with brief expression, describes the lamentable situation, in which the site is termed as a facility and claiming to discharge the statutory standards set by Solid Waste Management and Handling Rules 2016 is in existence. After a detailed discussion on the report with the Additional Chief Secretary and the District Collector, we direct as follows:

- (i) The request of the Chief Environmental Engineer to place on record the course of action he would take in a situation as the present, we grant him

a day's time to place the options, the Board would be pursuing for the violations noticed in the report of even date and on all previous occasions by Cochin Municipal Corporation and the operators of the site.

(ii). The Secretary, Cochin Municipal Corporation is directed to place before the Court the chronology of the consideration of passing over the responsibility of managing this facility by a 3<sup>rd</sup> party agency, the mode and manner in which the decisions are taken shall also be incorporated in the said chronology. The Secretary shall place before us the contract under which the free handover of responsibility is given to a 3<sup>rd</sup> party. These details are necessitated without concluding on this aspect, the prosecution if warranted the starting point of prosecution and also the persons who are responsible for the present state of affairs.

(iii) The Secretary is directed to place before the court the payments made by the Cochin Municipal Corporation under the head of collection, transportation, handing over, treatment etc. for the

past seven years to the contractors or the staff under any head.

2. The Additional Chief Secretary and the District Collector, Ernakulam have been called upon by us to suggest by tomorrow the terms of consideration in the suo motu Writ Petition. The discussion proceeded that the terms of reference would include one part for Cochin Municipal Corporation and another part for all the local bodies in the State of Kerala.

3. The District Collector, referring to the latest information makes a statement to the court that 90 to 95% of the fire at different places has been put out. However, on account of continuous simmering and raising temperatures in the materials the sporadic occasioning of fires, is taken care and within outer limit of 2 hours doused. We place on

record the statement. The District Collector has informed that there is improvement in air quality near the site, neighbourhood and in the city. We call upon the Collector to place the said reports in tomorrow's hearing.

The Chairman of the Kerala State Pollution Control Board either himself or an officer authorised by him is allowed to file a report by tomorrow.

Post tomorrow. (14.3.2023).

Hand over copies to all the parties.

Sd/-

**S.V.BHATTI, JUDGE**

Sd/-

**BASANT BALAJI, JUDGE**

*dl/wpc7844 13<sup>th</sup> march/*

IN THE HIGH COURT OF KERALA AT ERNAKULAM  
PRESENT  
THE HONOURABLE MR.JUSTICE S.V.BHATTI  
&  
THE HONOURABLE MR.JUSTICE BASANT BALAJI

Tuesday, the 14<sup>th</sup> day of March 2023 / 23rd Phalguna, 1944  
WP(C) NO. 7844 OF 2023(S)

SUO MOTU WRIT PETITION INITIATED BY THE HIGH COURT.

**RESPONDENTS:**

1. STATE OF KERALA, REPRESENTED BY THE CHIEF SECRETARY, GOVERNMENT SECRETARIAT, THIRUVANANTHAPURAM - 695 001.
2. KOCHI MUNICIPAL CORPORATION, REPRESENTED BY ITS SECRETARY, PARK AVENUE ROAD, MARINE DRIVE, KOCHI - 682 011.
3. KERALA STATE POLLUTION CONTROL BOARD, REPRESENTED BY ITS CHAIRMAN, HEAD OFFICE, PATTOM P.O., THIRUVANANTHAPURAM - 695 004.
4. THE DISTRICT COLLECTOR, DISTRICT COLLECTORATE, KAKKANAD, ERNAKULAM- 682 030.
5. THE DIRECTOR GENERAL, KERALA FIRE AND RESCUE SERVICES, HEADQUARTERS, FIRE FORCE JUNCTION, PULIMOODU P.O., THIRUVANANTHAPURAM - 695 001.
6. THE STATE POLICE CHIEF, KERALA POLICE HEADQUARTERS, THIRUVANANTHAPURAM, KERALA, INDIA - 695 010.

**ADDL. R7 IMPEADED**

7. THE ADDITIONAL CHIEF SECRETARY,  
LOCAL SELF GOVERNMENT DEPARTMENT, GOVERNMENT OF KERALA.

ADDL. R7 IS SUO MOTU IMPEADED AS PER ORDER  
DATED 07/03/2023 IN WPC

**ADDL. R8 IMPEADED**

8. KERALA STATE ELECTRICITY BOARD,  
REPRESENTED BY ITS CHAIRMAN & MANAGING DIRECTOR,  
VYDUTHI BHAVAN, PATTOM-695 004.

ADDL. R8 IS SUO MOTU IMPEADED AS PER ORDER  
DATED 10/03/2023 IN WPC.

P.T.O.

This Suo Motu writ petition again coming on for admission upon perusing the petition, this Court's orders dated 13/03/2023 and upon hearing the arguments of SRI.K. GOPALAKRISHNA KURUP, ADVOCATE GENERAL for R1, R4, R6 & R7, SRI.K. JANARDHANA SHENOY, STANDING COUNSEL for R2, SRI.T. NAVEEN, STANDING COUNSEL for R3 and of SRI.UNNIKRISHNAN, SPECIAL GOVERNMENT PLEADER for R5, the court passed the following:

P.T.O.



**S.V. BHATTI & BASANT BALAJI, JJ.**

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W.P.(C) No.7844 of 2023  
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Dated: 14<sup>th</sup> March 2023

**ORDER**

S.V.Bhatti, J

The District Collector and the Secretary, Cochin Municipal Corporation, both from the inputs they have received and what they have seen in the physical inspection undertaken on 13.03.2023, place a statement before the Court that the fire is completely contained and put out by 100%. The smouldering is not visible to the naked eye. By placing the statement on record, we notice that the first of the problems taken up by the *suo motu* writ petition is answered as stated by the Officers.

2. To reach this stage, this Court is of the view that this Court and the citizens of Cochin place on record their appreciation for discharging a herculean task of putting out the fire at the site at this time of the year by the Personnel of the Fire Department. We are conscious that either the failure to control the fire or allowing the fire to spread to the neighbourhood would have led to unimaginable consequences. We record our recognition, satisfaction, and appreciation to the Personnel of the Fire Department for all their efforts. We also record the same appreciation for the contribution of the Civil Defence Volunteers in putting out the fire.

2.1 We call upon the Director General, Kerala Fire and Rescue Services/5<sup>th</sup> respondent, to convey our appreciation now placed on record to each one of the Personnel who has worked without differentiating the day and the night. At the

W.P.(C) No.7844/2023

-3-

appropriate stage of the proceedings, this Court would also observe suitable rewards and recognition by the State Government to the frontline firefighters.

Handover copy.

Sd/-  
S.V. BHATTI  
JUDGE



Sd/-  
BASANT BALAJI  
JUDGE

jjj 14/03/2023

## AIR QUALITY DATA

DATE	CONTINUOUS AMBIENT AIR QUALITY MONITORING STATION DATA		
	VYTILA		
	Daily average PM10 ( $\mu\text{g}/\text{m}^3$ ) Standard(100 $\mu\text{g}/\text{m}^3$ )	Daily average PM2.5( $\mu\text{g}/\text{m}^3$ ) Standard(60 $\mu\text{g}/\text{m}^3$ )	AQI CPCB
01.03.2023	100	67	136
02.03.2023	96	65	103
03.03.2023	154	109	-
04.03.2023	134	209	186
05.03.2023	135	144	184
06.03.2023	135	90	148
07.03.2023	169.18	130.41	215
08.03.2023	129	88	158
09.03.2023	154	116	-
10.03.2023	121	81	150
11.03.2023	128	98	-
12.03.2023	122	90	176
13.03.2023	106	72	138
14.03.2023	101.96	66.11	125

## AIR QUALITY DATA

DATE	TIME	NAMP DATA(MANUAL STATION)											TIME	Daily average PM2.5( $\mu\text{g}/\text{m}^3$ ) Standard (60 $\mu\text{g}/\text{m}^3$ )
		IRUMPANAM		KALAMASSERY		ERNAKULAM SOUTH		M.G ROAD		VYTTILA		PUTHENCRUZ (Started on 06/03/2023)		
		Daily average PM10 ( $\mu\text{g}/\text{m}^3$ ) Standard (100 $\mu\text{g}/\text{m}^3$ )	Daily average PM2.5( $\mu\text{g}/\text{m}^3$ ) Standard (60 $\mu\text{g}/\text{m}^3$ )	Daily average PM10 ( $\mu\text{g}/\text{m}^3$ ) Standard (100 $\mu\text{g}/\text{m}^3$ )	Daily average PM2.5( $\mu\text{g}/\text{m}^3$ ) Standard (60 $\mu\text{g}/\text{m}^3$ )	Daily average PM10 ( $\mu\text{g}/\text{m}^3$ ) Standard (100 $\mu\text{g}/\text{m}^3$ )	Daily average PM2.5( $\mu\text{g}/\text{m}^3$ ) Standard (60 $\mu\text{g}/\text{m}^3$ )	Daily average PM10 ( $\mu\text{g}/\text{m}^3$ ) Standard (100 $\mu\text{g}/\text{m}^3$ )	Daily average PM2.5( $\mu\text{g}/\text{m}^3$ ) Standard (60 $\mu\text{g}/\text{m}^3$ )	Daily average PM10 ( $\mu\text{g}/\text{m}^3$ ) Standard (100 $\mu\text{g}/\text{m}^3$ )	Daily average PM2.5( $\mu\text{g}/\text{m}^3$ ) Standard (60 $\mu\text{g}/\text{m}^3$ )			
02.03.2023-03.03.2023	06.00AM-06.00AM	110	82	134	84	119	76	63	84	139	76		-	
03.03.2023-04.03.2023	10.00AM-10.00AM	192	119	251	101	-	-	-	-	-	-		-	
04.03.2023-05.03.2023	02.00PM-02.00PM	146	105	115	89	-	-	-	-	-	-		-	
06.03.2023-07.03.2023	10.00AM-10.00AM	184	140	-	-	-	-	-	-	260	195	01.00PM-01.00PM	89	
07.03.2023-08.03.2023	02.00PM-02.00PM	399	201							104	60	04.00PM-04.00PM		
08.03.2023-09.03.2023	10.00PM-10.00PM	136	52							132	54	10.00PM-10.00PM	31	
10.03.2023-11.03.2023	6.00AM-6.00AM	136	97							91	71	11 hrs sampling only	14	
11.03.2023-12.03.2023	8.00AM - 8.00AM	143	113							102	51		52	