

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

**IN**

**ORIGINAL APPLICATION NO. 77 of 2021**

Applicant : Suo Motu Proceedings initiated based on the letter received from Justice A.V. Ramakrishna Pillai, Former Judge, High Court of Kerala, Chairman, SLMC, Kerala.

VS

Respondent : The Chief Secretary,  
Government of Kerala,  
Thiruvananthapuram & Others

**VOLUME 3**

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Dated this the 30<sup>th</sup> day of March 2021

**Rema Smrithi**, Advocate  
ADDITIONAL STANDING COUNSEL FOR THE RESPONDENT

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

**in**

**ORIGINAL APPLICATION NO. 77/2017(SZ)**

Applicant : Justice A.V. Ramakrishna Pillai,  
Former Judge, High Court of  
Kerala, Chairman, SLMC, Kerala.

Respondent : VS  
The Chief Secretary,  
Government of Kerala,  
Thiruvananthapuram & Others

**UPDATED STATUS REPORT FILED BY THE CHAIRMAN, HEAD OFFICE,  
THIRUVANANTHAPURAM FOR AND ON BEHALF OF THE KERALA STATE  
POLLUTION CONTROL BOARD AS PER THE ORDER DATED 03.03.2021**

**Adv. Rema Smrithi**

ADDITIONAL STANDING COUNSEL FOR THE RESPONDENT

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**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**

**In**

**ORIGINAL APPLICATION No. 606/2018**

**ADDITIONAL REPORT IN O A 77/2021 IN COMPLIANCE WITH  
THE ORDER IN O A 606/2018 AS ON MARCH 2021 ON BEHALF  
OF THE CHAIRMAN, KERALA STATE POLLUTION CONTROL  
BOARD**

The Hon'ble National Green Tribunal vide order dated 25.4.2019 in O.A. No. 606/2018 directed the State to identify at least three cities and three towns in the State and at least three villages in every district of the State and to take earnest and demonstrable endeavour to make them fully compliant in respect



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of environmental norms within six months and also to make the remaining State fully compliant within one year.

The Govt. of Kerala vide G.O. (Rt.) No.45/2019/Env. dated 31.5.2019, selected three cities, three model towns and 42 model villages (3 in each district) in the State. Copy of the same is attached herewith and marked as **Annexure 1**. Every effort has been made for the compliance of the Hon'ble NGT order. Training programmes were conducted for the officials and representatives of local body State wide and district level. State Level Advisory Committee on waste management formed in the State headed by the Chief Secretary, is conducting periodical reviews on the projects for waste management. 38 such reviews have been conducted by the Chief Secretary in the State. Eight quarterly progress reports were submitted before the Hon'ble NGT by the Chief Secretary.

Kerala state consists of 14 revenue districts and which are further divided into 6 Municipal Corporations, 87 Municipalities, and 941 Gramapanchayaths and having a population of 3.34 Crore as per 2011 Census. Kerala generates 3.7 million tonnes of municipal solid wastes annually of which 45% is generated by the Municipalities, 41% by the GPs, and 14% by the City Corporations. 77% of the wastes are biodegradable, 18% are non-biodegradable, and 5% are inert as per the State Policy on Solid Waste Management in 2018.

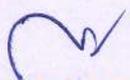
For waste management, a technical support group namely Suchitwa Mission exists in the State under Local Self Government Department. It is responsible for providing technical and managerial support to the Local Self Governments of the State. Clean Kerala Company, formed under the Local Self Government department is for the collection of plastic and electronic waste in the State.

An Environment Monitoring Cell was formed vide G.O. (Rt) No. 22/2020/Env. dated 27.02.2020. This Cell is functioning in the office of the Chief Secretary and is co-coordinating with different departments.

### 1. Solid waste management scenario

In Kerala, the daily generation of solid waste is 11,449 TPD, of which 3,521 TPD is from urban area and 7,928 TPD is generated from rural area. For the wet waste, decentralized system exists for the State except in Kochi Corporation, five



  
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nearby municipalities and also in Kozhikode Corporation. Solid waste management is currently being carried out in a decentralized manner wherein the treatment of biodegradables is being promoted at the waste generator's level (households, institutions, and community) by the use of composting units and a fragmented collection system involving various institutions (Haritha Karma Sena (HKS), Clean Kerala Company, and ULBs) is deployed for collection and recycling of non-biodegradables. The details of the treatment system for wet waste are given in Table 1.1. Of the 11,449 TPD of solid waste generated, about 8,468TPD of waste is treated and the gap between waste generated and treated is 2,981TPD. This gap can be reduced by the reporting of waste treated through composting units in individual households and also of the waste collected by scrap collectors by the local bodies. Status of solid waste management in the State is given in **Annexure 2**.

Table 1.1: Status Report on Treatment Facility of Wet Waste Disposal

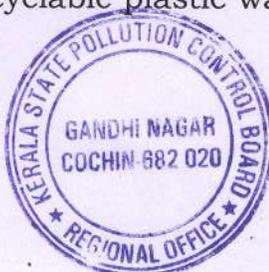
Facility	Type of plant	Number	
Centralized plant	Windrow composting plants(large )	2	Ernakulam, Kozhikode(100TPD)
	Windrow composting plant(Small )	12	1. Attingal(13TPD), 2. NorthParavur(3TPD), 3. Chalakkudy(2TPD), 4. Kodungallur(4TPD), 5. Kothamangalam, 6. Kunnamkulam, 7. Guruvayoor(2.TPD), 8. ChitturThathamangalam(4TPD), 9. Ottappalam(5TPD), 10. Palakkad(4 TPD), 11. Thaliparambun, 12. Payyannur
Community level	Vermi composting plants(Small)	7	1. Attingal(0.25TPD); 2. Thodupuzha; 3. NorthParavur(1TPD); 4. Chavakkad(1.5TPD); 5. Manjeri(0.5TPD);



  
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			6.Koothuparamba; 7.Mattannur(5TPD)
	Aerobins	598	
	Biogas plants	14324	
	Biobins in flats	500	Thiruvananthapuram, Ernakulam, Thrissur
	Material Collection Facility	537	
	Resource recovery facility	79	
Household level supplied	Pipe compost	122560	Total-3, 62,294
	Kitchen bin	16447	
	Biogas plant	9124	
	Bio composter, Bio bin, pot bin	43608	
	Ring compost	3640	
	Bucket compost	6903	
	Compost pit	65237	
Institutional level	Biogas plants, aero bins, bio bins are provided in schools, markets		

For the dry waste management, local bodies have provided 1,464 Material Collection Facilities (MCFs), and 182 Resource Recovery Facilities (RRFs) in the State. 879 Haritha Karma Senas are involved for the collection of dry wastes from the households. Dry waste collected from the MCFs is taken to the RRFs set up with the support of Clean Kerala Company. Shredder and bailing machine are provided in RRFs. Recyclable plastic waste like PET bottles are diverted to recyclers. Recyclable wastes like paper, glass, iron scrap, other metals are taken by the scrap collectors for recycling in the units situated in and outside the State. Non-recyclable plastic waste is shredded in the RRFs and is used for the tarring of



  
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PWD and LSGD roads. 1731.54T of collected plastic has been shredded and 3183.86 km of road has been formed. 50.3 Tones of recyclable waste have also been collected by the company. 1604 T of e-waste has been collected and diverted to registered recyclers by the Clean Kerala Company. Database of waste management in all Corporations, Municipalities, and Gramapanchayaths is attached herewith and marked as **Annexure 3**.

**2. Setting up of Solid Waste Processing facilities as per Rule 22(1), (3), (7) and (8) of the Solid Waste Management Rules, 2016**

The Government of Kerala constituted a State Level Advisory Committee on Waste Management chaired by the Chief Secretary; this Committee has conducted 38 meetings, till date, for monitoring solid waste management on monthly basis. The Government has accorded sanction for establishing Waste to Energy plants in 8 cites having 1 Lakh or more population and in two local bodies having population below 1 Lakh. Kerala State Industrial Development Corporation is entrusted with the tendering activities in connection with the Waste to Energy plants. The details attached herewith and marked as **Annexure 4**.

The construction of "Waste to Energy" plant is about to start at Njaliyanparambu at Kozhikode by Malabar Waste Management Limited. Clearances have been obtained. The clearing of the ground is now going on at the site. M/s. MITCON Consultancy and Engineering Services have been appointed as the project management consultant for the development of the project with Waste to Energy facility at Kozhikode.

For the "Waste to Energy" plants at Chelora, Kannur and at Palakkad, work was awarded to M/s. Blue Planet Kannur Waste Solutions Private Limited. In the case of Palakkad, work was awarded to M/s. Blue Planet Palakkad Waste Solutions Private Limited. In Kollam, for the plant at Kureepuzha work was awarded to M/s Venad Waste Management Solutions Pvt Ltd. The preparation of DPR is in advanced stage.

For the Waste to Energy plant for Kochi Corporation at Brahmapuram, tendering process is in an advanced stage. At Munnar, Idukki, also tendering process is in advanced stage for the setting up of Waste to Energy plant. Though at Sulthanbathery, Wayanad, platform was built for the Waste to Energy plant, there is no progress on the matter for a long since.



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In the case of Malappuram, transfer of land from the District Administration to Kerala State Industrial Development Corporation is progressing. The matter is being followed up in the case of Thiruvananthapuram Corporation and Thrissur Corporation.

### 3. Providing of Co-incineration facility in Cement plant

The proposal for co-incineration submitted by Malabar Cements, Palakkad was prepared by National Council for Cement and Building Materials (NCBM) considering the various technical aspects with regards to AFR/co-processing. NCBM submitted the proposal with multi-channel burner system which is not presently practiced/established in the country. The facilities for using liquid hazardous waste like used/spent oil on marginal scale can also integrate after confirming the suitability. The investment required for the same as per the Techno Economical Feasibility Study (TEFS) for Co-processing of Alternate Fuel is around Rs. 44.62 Crore. Finance Department had to expedite the review of the proposal from Malabar Cements Ltd in detail and to explore the possibility of allocating funds under MIDP scheme to Malabar Cements Ltd for modernizing the plant and RKI has accorded approval to the proposal. Industries Department informed that the project has been dropped by the company and the Board issued direction vide letter no. PCB/HO/SEE2/PWCC/2019 dated 22-1-2021 to M/s. Malabar Cements to provide facility for co-incineration. In the meeting of the 38<sup>th</sup> State Level Advisory Committee in Waste Management on 12-1-2021, Chief Secretary instructed them for compliance.

### 4. Ban on single use plastic

Ban of single use plastic items including plastic carrybags irrespective of thickness in the State w.e.f 01/01/2020 vide G.O.(Ms)No. 6/2019 Evt dated 27/11/2019; G.O.(Ms) No. 8/2019/ENVT dated 17/12/2019; G.O. (Ms) No. 8/2019/ENVT dated 19/12/2019; G.O. (Ms) No. 2/2020 /ENVT dated 27-1-2020 and vide GO no G.O. (Ms) No.4/2020 Evt dated 16/02/2020. Other items such as sheets made of plastic for single spread on tables in function venues, Plates, cups and decorative materials made of Styrofoam&thermocool, single use utensils like spoons, forks, straw, stirrer, non-woven bags, plastic flags, plastic packing for fruits and vegetables, PET drinking water bottles less than 500ml and plastic drinking water pouches. Copy of the same is attached herewith and marked as **Annexure 5**. Alternative materials that can be used as a substitute for the banned



  
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single use plastic has been issued vide G.O. (R t.) No.02/2020/Env. dated 27-01-2020.

As per G .O.(Ms)No. 6/2019 Env. dated 27-11-2019, District Collector, Sub-Divisional Magistrate concerned Board officers, Secretaries of all local bodies and officers as per Section 19 of the Environment Protection Act were directed for strict monitoring. Detailed list is attached and marked as **Annexure 6**. The details of inspection conducted as on 4/11/2020 are given below:

Table 2: Details of Inspection Conducted as on 04.11.2020 under PWM Rules

Subject	Quantity
Number of inspections conducted	465
Number of violations observed	153
Fine imposed in Rs.	13,05,000
Fine collected in Rs.	3,35,000

The Board is issuing registration for the manufacture and selling of compostable plastic products namely garbage bag PLA coated paper cups in the State. List of registered manufacturers and sellers is attached herewith and marked as **Annexure 7**.

### 5. Compliance of Rule 22(4) and (5) of the SWM Rule, 2016

As per rule 22(4) of the SWM Rule 100% door to door collection of solid waste from households/establishments is to be attained and segregation of waste at source is also to be ensured. As decentralized treatment for wet waste is followed by local bodies except Kochi and Kozhikode Corporations, in majority of local bodies door to door facility exists only for dry waste disposal.

#### 5.1. Status of Urban Local Bodies

The status of achievement of door to door collection in the Corporation in households and establishments is given in Tables 3 and 4. The details of municipalities are attached herewith and marked as **Annexure 8**.

Table 3 Households

Status of Achievement	No of Corporation		No of Municipality	
	Dry	Wet*	Dry	Wet
75 -100%	1(Kochi)	1 (Kochi)	32	8
50- <75%	2(Kollam,Kannur)	1 (Kannur)	17	1



  
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25 - <50%	2 (Thrissur, Kozhikode)	1(Kozhikode)	15	3
Below 25 %	1(Thiruvananthapuram,)	3*(Thiruvananthapuram, Thrissur,Kollam)	7	12

\*- decentralized units

Table 4 Establishments

Status of Achievement	No of Corporation		No of Municipality	
	Dry	Wet	Dry	Wet
75 -100%	3 (Thiruvananthapuram,Kozhikode, Kannur)	1(Thiruvananthapuram)	30	8
50- <75%	1(Kochi)	3(Kochi, Kannur, Kozhikode)	11	1
25 - <50%	1 (Kollam)	1(Kozhikode)	12	3
Below 25 %	1(Thrissur)	2(Thrissur,Kollam)	19	26

## 6. Slaughter houses and rendering plants for chicken wastes

In Kerala, 11 slaughter houses, 20 rendering plants, and 47 slaughtering units (less than 10 animals) are having 'Consent to Operate' of the Board. 'Consent to establish' was issued to three slaughtering units.

In the rendering plant established at Kozhikode, the main feature of this facility is the storage of chicken wastes in refrigerators in chicken stall and transportation of the same in refrigerated vehicle and thereby preventing the emanation of bad odour at chicken stall and that during transportation. Chicken stall having agreement with the rendering plant shall only be issued consent of the Board. It is reported that Rs. 50,000 has been given by the company to the local body.

Action is being taken for the setting up of modern slaughter houses in Kozhikode and Thrissur Corporations; seven municipalities namely Attingal, Punalur, Kayamkulam, Thiruvalla, Irinjalakkuda, Palakkad and Perinthalmanna and in the two district panchayaths (Kannur and Kasargod). Approval has been obtained for the DPRs of Thiruvalla and Perinthalmanna municipalities and Kannur district Panchayath. DPRs were prepared for Chalakkudy, Kunnamkulam, Kondotty and Kanjangad municipalities.



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## 7. World Bank's Kerala Solid Waste Management Project

Kerala Solid Waste Management Project has been developed with the support of World Bank for an amount of 300 million US dollars. The Government of Kerala (GoK) intends to utilize financial support from the World Bank KSWMP which aims to strengthen the institutional and service delivery systems for Waste Management services in urban areas in Kerala. The project is for improving SWM service delivery of all Urban Local Bodies (ULBs) in Kerala in addition to supporting the development of regional Biomedical Wastes (BMW), and Construction and Demolition (C&D) Waste Management facilities. The proposed geographical coverage for SWM includes all ULBs.

KSWMP would indicatively support the following interventions:

- a) Strengthening and scaling up city-level SWM systems
- b) Up gradation of existing household/institution decentralized treatment plants to scientific treatment such as bio-digestion
- c) Scaling up the decentralized treatment by setting up improved community-level bio-degradable treatment plants
- d) Providing necessary infrastructure (bins, collection vehicles) for primary collection.
- e) Setting up the primary collection mechanism for untreated biodegradable waste (for households with no decentralized processing facilities) and left-over's/inert post decentralized processing.
- f) Up gradation of existing Material Collection and Recycling Facilities (MCFs, MRFs) and Resource Recovery Facilities (RRFs) Scaling up of necessary secondary collection infrastructure (such as MCFs, RRFs) based on holistic need assessment
- h) Setting up Regional Treatment and Disposal Facilities for Solid wastes, BMW and C&D wastes, and
- i) Improvements to existing dumpsites.
- j) Support for COVID 19 Response activities

The State is in its efforts to treat waste at source and parallelly set up facilities to dispose-off the rejects, inerts, and to upscale and recycle the recyclables. The project aims to support the State in this endeavor by providing solutions for disposal and recycle, improving existing systems to minimize and manage negative externalities.



  
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### **8. Indo-German Technical Co-operation Project on “Circular Economy Solution Preventing Marine Litter in Ecosystems”**

Kerala has now been selected in the joint project of the Ministry of Environment and Climate Change and GIZ, “Circular Economy Solution Preventing Marine Litter in Ecosystems”. The objective of the project is to demonstrate technological solutions in the riverine, coastal and marine ecosystems to close material cycles of marine litter (plastic). It will support effective management of Marine Litter(ML) in selected hotspots within an ecosystem. A key component of the project is the implementation of demonstration projects with a focus on establishing the business case for innovative recycling technologies. Accompanying measures for capacity development would enable the rolling out of identified technological solutions in similar system outside the project area. The project also caters to plastic waste reduction at source through collaborations with the private sector, including the development of alternate packaging materials to avoid single use plastic. The project is to support the Department of Environment and the State Pollution Control Board to prevent plastic waste from leaking into marine or riverine ecosystems and enable effective implementation of Extended Producer Responsibility as a part of Plastic Waste Management Rules, 2016.

### **9. Extended Producer Responsibility under Solid Waste Management Rules**

For the implementation of the producer responsibility as per Solid Waste Management Rules, 2016 and Plastic Waste Management Rules, 2016, Kerala State convened National level seminar on 12-6-2019. A hearing of brand owners was conducted on 07-12-2019 and evolved proposal for the implementation of EPR and is under the consideration of the Government. The financial assistance by brand owners/producers/manufacturers/importers can be remitted in the EPR fund and this fund can be utilized for meeting to the extent possible cost of door-to-door collection. A copy of the proposal is submitted herewith as **Annexure 9**. The approval for the same is to be obtained from the Government.

### **10. Bio mining of dumpsites**

Of the 50 dumpsites in the State, ten are large and others are small. Dumpsites at Guruvayoor, Punalur, Kottarakkara, Adoor, Thathamangalam, Vaikkom, Adoor are informed as cleared and are thus removed from the list. Biomining is progressing at NjaliyanParambu, Kozhikode. About 50% of the work has been completed. Tendering of biomining of dumpsites of Kochi, and



  
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Kollam is in an advanced stage. Bio mining is in progress for Palakkad. The list of dumpsite is attached herewith and marked as **Annexure 10**.

Legacy waste clearing completed at nine dumpsites. (1. Erumakkuzhi-Thiruvananthapuram 2. Punalur 3. Kottarakkara 4. Adoor 5. Erumeli 6. Vaikkom, 7. Guruvayoor, Thrissur 8. Pattambi 9. Thathamangalam, Palakkad)

- Clearing going on at five (1. Kozhikode, 2. Kunnamkulam, 3. Chalakkudy, 4. Irinjalakkuda, 5. Palayam, 6. Munnar, 7. Varkala)
- Biomining Work awarded to two places (1. Kureepuzha, 2. Kollam and Chelora, Kannur)
- Tendering stage at three sites (1. Kottayam, 2. Bhramapuram, Ernakulam, 3. Attingal)

### 11. Sanitary landfill

For Regional Sanitary Landfill, 25 acre of land has been identified at the site of FACT, Ambalamedu, Ernakulam and action is initiated for taking over the land.. The copy of govt. order is attached herewith and marked as **Annexure 11**.

Secured landfill is under construction at Attingal Municipality, Thiruvananthapuram district.

### 12. Action taken against defaulters

- Direction for levying Environmental compensation of Rs. 14.92 Crore was issued to Kochi Corporation vide PCB/HO/SEE2/KOCHI CORPN/2019 on 13-1-2021 after serving notices and conducting hearing. Kochi Corporation obtained stay for the direction from the Hon'ble High Court. Board is taking necessary action to vacate the stay.
- Action has been initiated for prosecution against the Kochi Corporation as per section 19 of the Environment (Protection) Act 1986 and Section 49 of the Water (Prevention & Control) of Pollution Act 1974, and also to initiate prosecution and make complaint in the respective Magistrate Court against Kochi Corporation for the violations of the provisions under the Solid Waste Management Rules 2016 and Section 24 of the Water (Prevention and Control of Pollution) Act, 1974 respectively.
- Notice for not levying Environmental Compensation of Rs. 1.12 Crore was issued to Kochi Corporation.
- Notice for not levying Environmental Compensation of Rs. 2.47 Crore issued to Kalamassery Municipality.
- Show cause notices were issued to five municipalities, Aluva, Kalamassery,



  
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Thrikkakara, and Thripunithura municipalities. Kalamassery Municipality obtained stay.

- Show cause notice for not levying Environmental compensation of Rs. 2.7663 Crore was issued to Chalakkudy municipality vide PCB/HO/SEE2/Chalakkudy Municipality/2020 dated 2-11-2020.
- For Kollam Corporation, an amount Rs. Rs. 8.8928 Crore was assessed as Environmental compensation and notice was issued on 29-9-2020 informing about the assessed fee. Video conference in this regard was conducted with the Kollam Corporation, giving them an opportunity to explain the reason for non-compliance.
- Show cause notice was issued to two municipalities and 51 panchayaths in Idukki district for not levying environmental compensation as per the violation of Solid Waste Management Rules, 2016
- Show cause notice was also issued to 127 health care facilities in Idukki district for not levying environmental compensation as per the violation of Biomedical Waste Management Rules, 2016.
- Direction was issued to Thrissur Corporation for remitting environmental compensation. They approached Hon'ble High Court and the Court in judgment dated 26-11-2019 in WP (c) No. 30789 of 2019, directed to approach Hon'ble NGT within the stipulated time or to implead in the case in NGT or both. Then they submitted appeal before the High Court and the Court stayed the notice and directed to the Chairman to issue notice to the Corporation and finalise the proceedings after providing the Corporation an opportunity of being heard. As per the subsequent direction of the High Court, the Board heard the Secretary and directed to report the progress. However they identified land at Thrissur for solid waste treatment plant and action is taken to procure land. This land has been identified for centralized system at Ollukkara, Thrissur.
- Show cause notice for not levying Environmental Compensation of Rs. 14. 59 crore was issued to the model city, Thiruvananthapuram Corporation having no considerable progress in the identification of land and on door to door collection. However the Corporation approached the Hon'ble High Court and has obtained stay order. The case is pending with the Hon'ble High Court. The land has been identified for centralized system at Vizhinjam, Thiruvananthapuram.
- Notice was also issued to Southern Railway, Thiruvananthapuram and Palakkad divisions.

Copy of the above show cause notices and directions are attached herewith and marked as **Annexure 12**.



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### 13. Setting up of Environmental Monitoring Cell

An Environment Monitoring Cell was formed vide G.O.(Rt)No.22/2020/Envt dated 27.02.2020. The Cell is functioning in the office of the Chief Secretary and is co-coordinating with different departments. Copy of the Government Order is marked as **Annexure 13**.

### 14. State Level Monitoring Committee and District Level Monitoring Committees

The State Level Monitoring Committee was constituted under the Chairmanship of Hon'ble Justice A.V. Ramakrishna Pillai, Former Judge, High Court of Kerala, and Member Secretary, Kerala State Pollution Control Board as the Member Secretary of the Committee. Other members are Additional Chief Secretary - Local Self-Government Department; Additional Chief Secretary - Health, Family Welfare Department; and the Principal Secretary - Environment Department. The Committee held meetings at State Level. In accordance with SLMC meeting decision, training for secretaries and officials of Corporation and Municipalities with population more than 1 lakh was conducted at Thiruvananthapuram. Training for remaining secretaries and officials of municipalities and panchayat was also conducted. The Chairman and the Member Secretary of the State Level Monitoring Committee inspected all the 14 districts in the State for streamlining the action of newly formed District Level Monitoring Committees headed by the District Collector. The sites of Tirur -Ponnani River, Malappuram, Brahmapuram dumping yard, Kalamassery dumping yard and Periyar were also inspected. Reports were submitted to the NGT. Meetings done with the Boards Officers, Regional Officers and District Office for the compilation of the Report.

The number of meetings conducted by the District Level Monitoring Committee is given in Table 5. The details of the proceedings are given in **Annexure 14**.

Table 5 District Level Monitoring Committee meetings

Subject	District	No. of Meetings
DLMC Meeting- Total meetings		60
DLMC Meeting	Thiruvananthapuram	7
	Kollam	4
	Pathanamthitta	4
	Alappuzha	9



  
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Kottayam	2
Idukki	6
Ernakulam	7
Thrissur	5
Palakkad	4
Malappuram	9
Kozhikode	4
Wayanad	3
Kannur	3
Kasargod	4

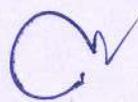
### 15. Sewage Management

Of the total quantity of 1192 MLD of sewage generated in the State, 317 MLD from the urban area and 875 MLD from rural area. The existing sewerage treatment consisting of 12 common STPs for 124 MLD fecal sludge treatment system for 0.2 MLD; 1000 individual STPs for 69 MLD; septic tank/soak pit/leach pit for the remaining 992 MLD. Augmentation and installation projects for 124 MLD are at different stages at different parts of the urban area. Centralised sewage treatment plant is functioning at Thiruvananthapuram. Facility for treating septage is available and control unit exists for the monitoring of vehicles engaged in collection and transport of septage. Augmentation work of sewerage is also going on. Fecal septage treatment plant is functioning at Willington Island and Model DEWATS plant in a slum area at Chathanad, Alappuzha. Draft dossier on sewage and effluent management in the State has been prepared.

### 16. Preparation of Detailed Project Report for polluted stretches

In Kerala, 21 river stretches were categorized as polluted. (Stretch in Karamana River as priority 1 & other 20 stretches as priority 4 & 5). Kerala State Pollution Control Board prepared Action plan for the polluted stretch of Karamana River (Priority 1) & was approved by the Honorable National Green Tribunal and its progress is reviewed by the River Rejuvenation Committee. Action plan for the other 20 stretches were also prepared & the same is being implemented. Percentage of progress is 61.25% in liquid waste management & 25% on solid waste management for river Karamana; for river Pamba is 76%; for river Manimala is 22.5%; for river Periyar is 60%; for river Puzhakkal is 68.33%; for river Kallayi is



  
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57.57%; for river Tirur is 62%; for river Kadalundi is 92%; for river Kavvayi is 92%; for river Peruvamba is 64%; for river Ramapuram is 50%; for river Uppala is 37.5 %; for river Morgal is 69.4%.

Government authorized 33 Engineering colleges in the State to prepare detailed project report in collaboration with Water Resources department and accordingly DPRs were prepared for 21 polluted river stretches for the abatement of pollution and for its rejuvenation. The details of municipalities are attached herewith and marked as **Annexure 15**.

#### **17. Action plan for lakes and ponds**

Kerala State Pollution Control Board along with concerned departments prepared action plan for the restoration of all the water bodies as per order dated 10-5-2019 and 1-6-2020 in OA 325/2015. It was approved by the Hon'ble NGT. Government has now identified Irrigation (IDRB) as nodal office for the implementation of Action plan already approved.

#### **18. Coastal action plan**

Coastal survey conducted by the Board and coastal action plan also submitted to CPCB for approval as per orders of Hon'ble NGT in OA 829/2019. For coastal discharges, meetings were conducted with Kerala Coastal Zone Management Authority, CUSAT & National Centre for Coastal Research, Chennai.

#### **19. Collection and disposal of unused medicines from houses**

Collection and disposal of unused medicines from houses were initiated by Chemists and Druggist Association and Drugs Controller (PROUD programme) in Thiruvananthapuram Corporation. Around 200 bins were provided in front of medical shops in Thiruvananthapuram Corporation. The first load of collected waste of 5T has been flagged off from Thiruvananthapuram to biomedical waste treatment facility on 1-10-2018. Action is being taken to have this collection programme in other parts of the State. The scope for getting fund from manufacturers, producers and brand owners as per EPR is also looked into.

#### **20. Domestic hazardous waste disposal**

In the Common Hazardous Waste Management facility located at Ernakulam, there is facility for the treatment and disposal of domestic hazardous waste like tube lights. Such wastes are collected by the Clean Kerala Company



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from local bodies and disposed in the tube light destroyer provided in the common facility and the hazardous wastes are then disposed in the hazardous landfill.

### **21. Biomedical waste disposal**

Common biomedical waste treatment plant (IMAGE) of capacity 55.8TPD is in operation at Palakkad. Establishment of one more common plant of 16 TPD is in an advanced stage at Ambalamughal, Ernakulam District and is expected to have trial run shortly. Land for installation of another plant at Brahmapuram was also allocated. Action is being initiated to set up new common plants in Southern & Northern Districts. Inventory on biomedical wastes was submitted to the Central Pollution Control Board. As per the inventory, there are 17,354 health care facilities (HCF) which include 817 AYUSH and 533 veterinary.

### **22. E-wastes**

Clean Kerala Company is the company set up the Government. They are collecting plastic waste and electronic waste. Plastic waste is used for road tarring by local self government and PWD. They have also taken steps to set up e-waste dismantling unit.

From the informal sector, around 250 T of e-waste disposed to registered recyclers, by Eco Friendly Solutions, Erattupetta, Kottayam and they have also submitted the details namely item name, code, quantity and registered recycler. Action is being initiated for setting up e-waste dismantling unit.

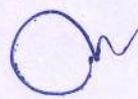
### **23. Awareness Programmes**

Awareness programmes on all environmental statutes including Solid Waste Management and Plastic Waste Management were conducted at the State level and district levels were conducted for all the local bodies.

An awareness programme on 'identification of Single use plastic products by simple methods, its alternatives and compostable products' was conducted by Central Institute of Plastics Engineering & Technology (CIPET) in co-ordination with Kerala State Pollution Control Board at Thiruvananthapuram, Ernakulam and Kozhikode. The officials of Urban and panchayath directorate, Officials of corporation, Municipality, Panchayath (including Engineers and Health inspectors), the members of associations concerned with plastic and PCB officials participated in this programme. The Board also conducted programmes on implementation of Rules at State level, Regional level and District level.

- Webinar on Indore solid waste management was done by Dr. Sayed Asad Ali



  
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Warsi, Advisor, Indore Municipal Corporation on 24th February, 2021 & on 26th February 2021.

- Webinar on plastic waste management was done by Mr. Gautam Mehra on 25th February, 2021& on 26th February 2021.
- Webinar on Waste to Energy plants and bioremediation was done by Dr. Syed Asad Ali Warsi, Advisor, Indore Municipal Corporation on 26th February, 2021.
- Webinar on electronic waste management was done by Mr. Gautam Mehra on 26th February, 2021

The participants included officials from Local Self Government department, local bodies and Kerala State Pollution Control Board.

Training given to the police officers by the officials of the Central Pollution Control Board in December 2020 and the training programme was arranged by the Kerala State Pollution Control Board.

#### 24. Green award for Government offices

A total of 18,454 offices exist in the State. Green auditing was done for 14,924 offices and 11,150 offices have passed the green auditing successfully in the State (Table 6). Of which 3,507 offices have obtained A grade. Green audit is done by evaluating the aspects like the existence for the facility for the proper segregation, treatment and disposal of both biodegradable and non-biodegradable wastes, implementation of ban on single use plastic, green protocol implementation, cleanliness of the office, farming etc.

Table 6 Green Office Declaration

Sl. No	Name of District	Total no. of Govt. offices in the District	Total no. of Govt. offices in the District where Green auditing done	Total no. of Govt. offices in the District who passed the Green auditing successfully	Total no. of Govt. offices in the District who received A grade	Total no. of Govt. offices in the District who received B grade	Total no. of Govt. offices in the District who received C grade	Total no. of Govt. offices in the District which were issued certificate
1	Thiruvananthapuram	2417	1350	1016	337	357	322	0
2	Kollam	1383	1293	894	261	291	342	823



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3	Pathanamthitta	639	629	453	115	191	147	0
4	Alappuzha	1294	1080	865	273	272	320	23
5	Kottayam	1286	1092	900	255	347	298	0
6	Idukki	713	719	634	259	203	172	0
7	Ernakulam	1243	1052	1019	413	368	238	146
8	Thrissur	1290	1155	915	322	274	319	293
9	Palakkad	1861	1554	1169	287	471	411	5
10	Malappuram	1362	1209	912	204	337	371	114
11	Kozhikode	1621	933	727	236	269	222	0
12	Wayanad	448	418	316	74	118	124	0
13	Kannur	2318	1892	1242	347	445	450	97
14	Kasargod	579	548	448	124	125	199	0
Total		1845						
		4	14924	11510	3507	4068	3935	1501

## 25. Suchitwa Padavi (Clean Status) for local bodies

Local Self Government department vide order 1497/2020/LSGD dated 12/08/2020 graded the local bodies based on different criteria on solid waste management. Criteria were developed by Suchitwa Mission and Haritha Kerala Mission. 836 local bodies have so far attained "Suchitwa Padavi".

## 26. Other activities of the Kerala State Pollution Control Board

Data on collection, treatment and disposal of dry and wet waste are collected through Google spread sheets and compiled in the required formats. Sanitation survey is done through mobile application, Enviclean in different local bodies. Litter surveys are also conducted by the Board staff in different districts. Standard Office Procedures for Sanitary napkin incinerator, railways, rendering plant, pig farms, harbour have been issued by the Board. District environment plan has been prepared for the fourteen districts.

It is respectfully submitted that all efforts have been taken by the State Pollution Control Board in enforcing the rules in the State.

Dated this the 30<sup>th</sup> day of March 2021



**CHIEF ENVIRONMENTAL ENGINEER**

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