



Quarterly Progress Report on the Compliance by the State of Kerala

with the directions of
The Hon'ble National Green Tribunal, Principal Bench, New Delhi

as per the
Order dated 16-1-2019 in O.A. No.606/2018
Order Dated 19-2-2019 in O.A. No. 593/2017
and
Order dated 25-4-2019 & 12-9-2019 in O.A. No.606/2018

Submitted by
The Chief Secretary, Government of Kerala

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List of Acronyms

Acronym	Expansion
AMC	Annual Maintenance Contract
AYUSH	Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy
BMWM	Bio-Medical Waste Management Rules
CAAQMS	Continuous Ambient Air Quality Monitoring Station
CBMWTF	Common Biomedical Waste Treatment Facility
CC	Closed Circuit
CEPI	Comprehensive Environmental Pollution Index
CETP	Common Effluent Treatment Plant
CPA	Critically Polluted Area
CPCB	Central Pollution Control Board
D2D	Door to Door
DG	Diesel Generator
EPR	Extended Producer Responsibility
ETP	Effluent Treatment Plant
GKA	Greater Kochi Area
GO	Government Order
HCI	Health Care Institutions
HKS	Haritha Karma Sena
IEC	Information Education and Communication
IMAGE	Indian Medical Association Goes Eco-friendly
KIFB	Kerala Infrastructure Investment Fund Board
KINFRA	Kerala Industrial Infrastructure Development Corporation
KSIDC	Kerala State Industrial Development Corporation
KWA	Kerala Water Authority
KWIL	Kerala Waterways and Infrastructure Development Ltd
MCF	Material Collection Facilities
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act, 2005
MLD	Million litre Per Day
MoEF&CC	Union Ministry of Environment, Forests and Climate Change
MRF	Material Recovery Facility
MT	Metric Tons
NAMP	National Ambient Air Quality Monitoring Programme
NCAP	National Clean Air Program
NGT	National Green Tribunal
NWMP	National Water Quality Monitoring Programme
OA	Original Application
PET	Polyethylene Terephthalate
PPP	Public-Private Partnership
RRC	Resource Recovery Centre
RRF	Resource Recovery Facility
SAMP	State Ambient Air Quality Monitoring Programme
SLAC	State Level Advisory Committee
STP	Sewage Treatment Plant
SWM 2016	Solid Waste Management Rules, 2016
SWMP	State Water Monitoring Programme
TPA	Tonnes per Annum
TPD	Tonnes Per Day
TVM	Thiruvananthapuram Municipal Corporation
VGF	Viability Gap Funding

1. The Context and Background

It is estimated that 62 million tonnes of waste is generated annually in India at present, out of which 5.6 million tonnes is plastic waste, 0.17 million tonnes is biomedical waste, hazardous waste generation is 7.90 million tonnes per annum and 15 lakh tonnes is e-waste. Only about 75-80% of the municipal waste gets collected and only 22-28% of this waste is processed and treated¹. Establishing effective systems and processes for scientific disposal and management of these wastes is imperative for avoiding health and environmental implications. In 2016, the Union Ministry of Environment, Forests and Climate Change (MoEF&CC) released the Solid Waste Management (SWM) Rules, 2016; these rules replaced the Municipal Solid Wastes (Management and Handling) Rules, 2000 which had been in place for 16 years. The highlights of the SWM 2016 are²:-

- Waste segregation at source is mandatory. Waste generators have to segregate waste into three streams - Organic or Biodegradable waste, Dry waste (Plastic, Paper, Metal, Wood, etc.) and Domestic Hazardous waste (discarded paint drums, pesticide cans, CFL bulbs, tube lights, expired medicines, broken mercury thermometers, used batteries, used needles, and syringes and contaminated gauge etc., at household level). Further, bulk waste generators such as hotels, hospitals etc. are expected to treat organic waste either onsite or by collaborating with the urban local body.
- Municipalities and urban local bodies have been directed to include informal waste pickers and rag pickers into their waste management process. Thus, this is the first time that national policy has acknowledged and included the informal sector into the waste management process.
- FMCG product manufacturers that use non-biodegradable packaging for their products must put in place a system to collect the packaging waste generated due to their production.
- Urban local bodies have been given a provision to charge bulk generators a user fee to collect and process their waste, additionally spot fines may be levied on user's burning garbage or throwing it in a public place.
- No non-recyclable waste having a calorific value of 1,500 Kcal/kg or more should be disposed in the landfills. It should either be utilized for generating energy or can be used for preparing refuse derived fuel or it can be used for co-processing in cement or thermal power plants.

It is estimated that Kerala generates 3.7 million tonnes of municipal solid wastes annually³. 45% is generated by the Municipalities, 41% by the GPs, and 14% by the City Corporations. 77% of the

¹Remarks made by the Union Minister of State for Environment, Forests and Climate Change in September 2018

²SWM Rules, 2016

³Sectoral status study on solid waste management sponsored by the Water and Sanitation Project - South Asia (World Bank)

wastes are biodegradable, 18% are non-biodegradable, and 5% are inert⁴. To facilitate effective solutions for scientific management of wastes and to reiterate its commitment towards realizing the goals of the SWM Rules 2016, the Government of Kerala notified the State Policy on Solid Waste Management in 2016, with an overall goal of transformation of Kerala into a garbage-free and environmentally healthy State. The key strategies prescribed were:-

- Mandatory segregation of waste at source, based on primary characteristics.
- Aerobic or anaerobic composting of biodegradable waste at source (household and institutions) as far as possible.
- Ensure decentralized community facilities for biodegradable waste that overflows from source'.
- Establish door to door collection of non-biodegradable waste.
- Establish procedure for handling domestic hazardous waste and promote its implementation.
- Promote usage of storage bins for dumping wet and dry waste by all vendors and institutions.
- Enforce captive waste management systems for the bulk waste generators.
- Promote modern centralized waste processing facilities in major cities using state-of-the-art technologies.
- Make use of the enabling environment created under the Haritha Keralam Mission to integrate the use of treated waste products, enhance organic agriculture and upkeep of fragile ecosystems.
- Develop regional sanitary landfill facility to dispose of ultimately unusable materials.
- Undertake appropriate IEC campaigns.
- Implement appropriate capacity building programmes for stakeholders.
- Network with academic and research & development institutions for upgrading of technologies and application protocols.

The NGT Order O.A. No. 606/2018 highlighted serious deficiencies in the implementation of waste management initiatives, as reported by various States in their annual reports⁵. The NGT conducted discussions with the relevant officials of the States and UTs on the following matters:- (i) Preparation of State-wise Action Plan with timelines and budgetary support/provision for management of MSW, (ii) Coverage of each city/town/urban local body under the said Plan and individual Action Plan with timelines and budgetary provisions, (iii) Time fixed to completely comply with the provisions of the Rules, 2016, and (iv) Main constraints leading to non-compliance of Rules, 2016. During the discussions by NGT, it was realized that, with few exceptions, most of the States and Union Territories, including Kerala, are lagging behind in compliance of the Rules, 2016. In many cases, Action plans have yet not been prepared even after more than 2 years after the Rules, 2016 have been in operation and in spite of binding directions in the Judgment of the Tribunal vide order dated 22.12.2016.

⁴ Presentation of the Local Self Government Department, Government of Kerala (<http://sanitation.kerala.gov.in/wp-content/uploads/2019/01/NGT-Regional-Monitoring-Committee-review-kochi-25.01.19.pdf>)

⁵ <http://www.greentribunal.gov.in>

The actions taken by the Government of Kerala to abide by the Order dated 16-1-2019 in O.A. 606/2018(para.40), and order in O.A. 593/2017 dated 19-2-2019 were submitted before the NGT on 25-4-2019.

The Hon'ble National Green Tribunal issued directions on 25-4-2019 in O.A. No. 606/2018 to the State on waste management. The directions include:

1. At least three cities and three towns in the State and at least three villages in every district of the State may be identified within two weeks and earnest and demonstratable endeavor be made to make them fully compliance in respect of environmental norms within six months. Remaining State may be made fully compliant within one year
2. A quarterly report is to be furnished by the Chief Secretary, every three months. First such report shall be furnished by July 30, 2019. The Chief Secretary may personally monitor the progress at least once in a month, with all the District Magistrates.
3. The District Magistrates may monitor the status of compliance of environmental norms, at least once in two weeks.

The first quarterly report was submitted before the Hon'ble NGT on 15-7-2019. The second quarterly report was submitted on 31-10-2019. The present report summarizes the actions taken by the Government of Kerala to abide by the Order dated 16-1-2019 in O.A. 606/2018 (para.40), order in O.A. 593/2017 dated 19-2-2019 and order dated 25-4-2019 and 12-9-2019 in O.A. 606/2018. It outlines the status of different interventions, the timelines set for meeting the targets, and the estimated budget.

2. The Status of Implementation of Interventions

A snapshot of the status of interventions is provided in the table given below, while the detailed status is outlined in the subsequent sections.

The colour coding for the cases is presented below:

Colour	Status
Green	Complete
Yellow	In Progress
Red	Yet to be initiated
Blue	Not Applicable to State Context

Sl. No.	Cases		Order	Status	Page No.
2.1.	Order dated 25-4-2019 of the Hon'ble NGT in O.A.No.606/2018 on waste management	Para 48 (i)	At least three cities and three towns in the State and at least three Villages in every District of the State may be identified within two weeks and earnest and demonstrable endeavor be made to make them fully compliant in respect of environmental norms within six months. Remaining State may be made fully compliant within one year.	<p>The State identified three cities, three towns, and three villages in each district (42 villages). Earnest and demonstrable endeavor has been taken to bring those model city/town/villages fully compliant in respect of environmental norms.</p> <p>State Level Advisory Committee on waste management is convened by the Chief Secretary every month to review the progress achieved in the implementation of Solid waste treatment plants.</p> <ul style="list-style-type: none"> • 33 meetings have so far been conducted. • By this drive, in the State, land has been identified at nine places for the Waste to Energy plant and of which work has been initiated at Ernakulam and Kozhikode. • Tendering of the work has been done with the support of Kerala 	18

				State Industrial Development Corporation. Extra manpower (20 technical assistants) has been provided through PCB for monitoring the compliance for the model city/town/villages and for other remaining local bodies (additional 47 technical assistants).	
2.2	Order dated 16-1-2019 in O.A.No.606/2018 on waste management	Para 40(a)	Status of compliance of Solid Waste Management Rules, 2016 in the respective areas.	The State is ensuring compliance to Rules 11, 22, 23 and 24. The State requires two years for achieving full compliance.	34
	Order dated 25-4-2019 in O.A. No. 606/2018 on waste management	Para 48(ii)	A quarterly report be furnished by the Chief Secretary, every three months		
	Order dated 12-9-2019 in 606/2018 on waste management	Para. 4	Information on current status, desirable level of compliance in terms of statutes, gap between current status and desired levels, proposal of attending the gap with time lines, name and designation officer for ensuring compliance to provisions under statutes is to be submitted by the Chief Secretary to CPCB for submitting to Hon'ble NGT		
	Order dated 17-7-2019 in O.A.No.519/2019 with on waste management	Para.25 Para.28	Order deals with the issue of dumpsites and the guidelines of CPCB, and Indore model or other model for bio mining and bioremediation, is found to be suitable to be followed for other big dumps, the same may be followed which may be monitored by the Chief Secretaries The Chief Secretaries may ensure allocation of funds for processing of legacy waste and its disposal and in their respective next reports, give the progress relating to management of all the legacy waste dump sites. Remediation work on all other dumpsites may commence from 1-11-2019 and completed preferably within six months in no case beyond one year.	The State has initiated action for compliance. 40 dumpsites have been identified in the State, of which 10 are large. Action is being initiated for the survey using drone and the remaining by total station survey.	30

2.3	Order dated 16-1-2019 in O.A.No.606/2018 on waste management	Para 40(a)	Status of compliance of Plastic Waste Management Rules, 2016 in the respective areas.	<p>Government have imposed a complete ban on the manufacture, storage, transport, and sale of single use plastic items in the State with effect from 1-1-2020 vide G.O.(Rt) No. 128/2019/ENVt dated 31-12-2019.</p> <p>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 7-12-2019 and evolved proposal for the implementation of EPR and is under the consideration of the Government.</p> <p>The State has ensured compliance to Rules 16 on constitution of State Level Advisory Committee and Rule 17 on annual report. The State requires one year for achieving full compliance.</p>	46
2.4	Order dated 16-1-2019 in O.A.No.606/2018 on waste management		Status of compliance of Bio-Medical Waste Management	<p>The State has complied with Rule 13 on annual report.</p> <p>The State requires two years to complete 3 numbers of common Biomedical Waste Treatment Plants.</p> <p>Presently, Common Biomedical waste treatment facility is in operation in Palakkad.</p> <p>For CBWTF at Ambalamedu by IMA, the Kochi Corporation earmarked 3 acre land to IMAGE for the project.</p>	57

				Work for CBWTF in Ambalamedu by Kerala Enviro Infrastructure Limited will commence soon.	
	Order dated 15-7-2019 in O.A. No. 710/2017, 711/2017, 712/2017 and 713/2017	Para. 8	<p>The State may furnish complete inventory of HCFs and BMW generation within two months and where the inventories are in complete, the same may be completed. The order is to ensure authorization by all HCFs, setting up common treatment and disposal facility, furnish information on the barcode system, and for satisfactory action plans. Chief Secretaries may personally monitor compliance of environmental norms including BMW Rules with the District Magistrate once every month. The District Magistrate may conduct such monitoring twice every month.</p> <p>District Environmental Plan is to be prepared by District Committee chaired and monitored by District Magistrate. Such District Environment Plan and constitution of District committee may be placed in the website of district. Monthly report to be filed by District Magistrate to the Chief Secretary and this may be placed on the website of district for a period of one year. This may be operative from 1-8-2019.</p>	<p>Inventory has been submitted to the Central Pollution Control Board.</p> <p>District Level Monitoring Committee (DLMC) constituted under the Chairmanship of District Collector, has informed to submit the District Environmental Plan. Environmental plan of Alappuzha and Pathanamthitta districts</p>	
2.5	Order dated 25-4-2019 of the Hon'ble NGT in O.A.No.606/2018 on waste management	Para 48(a)	Status of compliance of E-Waste Management Rules, 2016 in the respective areas	The State initiated action for the compliance of EPR. The State has complied with Rule 18 on submission of annual report, and is setting up a waste processing unit which will become operational in 2020. Action is being taken for the implementation of EPR in the State.	65

2.6	Order dated 25-4-2019 of the Hon'ble NGT in O.A.No.606/2018 on waste management	Para 48(a)	Status of compliance of Hazardous Management Rules, 2016 in the respective areas	The State has complied with Rule 20(3).	60
	Orders dated 12.04.2019 and 26.08.2019 in O.A no. 804/2017 in the matter of Rajiv Narayan & Anr. Vs. Union of India & Ors.	Para 10	The Chief Secretaries may look into the issue of capacity building of the SPCB/PCCs to deal with the issue of compliance of the rules. All the Chief Secretary of the all States/UTs have to provide compliance status report on implementation of recommendation made by Monitoring Committee in its interim report as well as final report to monitor of provisions of Hazardous & Other Waste (Management and Transboundary Movement) Rules 2016.		
2.7	Order dated 25-4-2019 of the Hon'ble NGT in O.A.No.606/2018 on waste management	Para 48(a)	Status of Batteries Waste Management and Handling Rules, 2001	The State has complied with Rule.	
2.8	Order dated 16-1-2019 in O.A.No.606/2018 on waste management	Para 40 (b)	Status of functioning of Committees constituted by this order.	The State has complied with the order, and formed a State Level Monitoring Committee and District Level Monitoring Committee. Field visits have been undertaken.	70
2.9.	Order dated 16-1-2019 in O.A.No.606/2018 Order dated 20-9-2018 and 8-4-2019 in O.A.No.673/2018 on polluted stretches. Order dated 25-1-2019 in O.A.No.581/2018 on river		Item (c) of para 40 of the order dated 16-1-2019 in O.A.No.606/2018 on polluted stretches. As per order dated 20-9-2018 in O.A.No.673/2018 action plan is to be submitted for 21 polluted stretches As per order dated 25-1-2019 in O.A.No.581/2018 directing the State to take remedial action on action plan. As per order dated 8-4-2019 in O.A. No. 673/2018 Karamana action plan was approved.	The implementation of Karamana river action plan has been reviewed by RRC. Action plans for 20 Priority IV & V Polluted stretches were submitted in December 2018. Macroplans for 13 stretches were submitted in June 2019. Though the remaining exempted category is in an advanced state, as instructed by the Central Pollution Control Board, action plans were submitted for the remaining seven polluted stretches on 30-7-2019.The progress on the implementation of action	71

	<p>Karamana.</p> <p>Order dated 25-1-2019 in O.A.No.582/2018 on river Tirur-Ponnani.</p> <p>Order dated 17-9-2019 in O.A.No.829/2019</p>		<p>As per order dated 25-1-2019 in O.A.No.582/2018 directing the State to prepare the action plan of Tirur-Ponnani within one month.</p> <p>The Tribunal is also considering the issue of remedying 351 identified polluted stretches.</p>	<p>plan is reviewed.</p> <p>The State requires three years for compliance.</p> <p>Action Plan for Tirur – Ponnani submitted to CPCB and Hon'ble NGT.</p>	
2.10.	<p>Order dated 16-1-2019 in O.A.No.606/2018</p>	Para 40 (d)	<p>Non attainment city on air quality</p>	<p>None of the cities in Kerala is included in the Non-attainment cities. However, the action plan to expand the ambient air-quality monitoring network was submitted to CPCB. Continuous Real-Time Monitoring is being done in 6 locations.</p>	72
	<p>Order dated 8-10-2018-Non-attainment cities (OA No.681/2018)</p>	Para 15 (i)	<p>All the states with non-attainment cities must prepare appropriate action plans within 2 months aimed at bringing the standards of air quality within the prescribed norms within 6 months from the date of finalization of action plans.</p>		
2.11.	<p>Order dated 16-1-2019 in O.A.No.606/2018</p> <p>Order dated 13-12-2018 in O.A.No.1038/2018</p>	Para 40 (e)	<p>As per order dated 13-12-2018 in O.A.No.1038/2018 SPCB is to finalize the time bound action plan with regard to identification of industrial clusters in accordance with the revised norms laid down by the CPCB.</p> <p>To restore environmental qualities within norms.</p>	<p>Greater Kochi was identified as critically polluted in 2009. The score was again calculated in 2011 and the Moratorium imposed on developmental activities in the Greater Kochi Area as CPA was lifted vide office memorandum No. J-11013/5/2010-1A II (I) dated 23.05.2011 by Ministry of Environment and Forest.</p> <p>Now the score has been reduced and now this area is identified as "Other Pollutant Stretches" only. However preparation of Action Plan for monitoring the Air Quality within the limit has been initiated.</p>	79

2.12.	<p>Order dated 16-1-2019 in O.A.No.606/2018</p> <p>Order dated 4-9-2018 in O.A.No.173/2018 by Sudarsan Das Vs. State of West Bengal and others</p>	Para 40 (f)	Item (f) of para 40 of order dated 16-1-2019 in O.A. No.606/2018	Not Applicable	79
2.13.	Order dated 16-1-2019 in O.A.No.606/2018	Para 40 (g)	Total amount collected from erring industries on the basis of "Polluter Pays Principle" "Precautionary Principle and details of utilization of funds collected.	<p>15 Industries have been fined, INR 7.25 Crores have been collected.</p> <p>Direction issued to Thrissur Corporation for environmental compensation of Rs. 4.56 Crore.</p> <p>Notice issued to Thiruvananthapuram Corporation for giving environmental compensation of 14.59 crore and stayed by Hon'ble High Court.</p> <p>Notice was also issued to Kochi Corporation, Municipalities namely Thrippunithura, Aluva, Angamaly, and Kalamassery and Maradu panchayath for taking steps to provide biomethanation plant for the food wastes generated.</p> <p>Direction issued to the three hospitals and to DMO and Urban Directorate and Panchayath in Idukki in OA 585/2018.</p>	79
	Order dated 23-09-2019 in O.A.No. 585/2018	Para 14	As per order dated 23-09-2019 in O.A.No. 585/2018, directed the Chief Secretary, State of Kerala to look into matter along with Director of Urban Directorate and Panchayat Director and the respective Principal Secretaries at the State Level and take appropriate against those erring officers who are standing against of the Rules and delaying the implementation of rules so far.		

2.14.	Order dated 16-1-2019 in O.A.No.606/2018	Para 40 (h)	Identification and development of Model Cities and Towns in the State in the first phase which can be replicated later for other cities and towns of the State	As in Sl. No. 2.1 above	
2.15.	Order dated 16-1-2019 in O.A.No.606/2018 Order dated 19-2-2019 in O.A.No.593/2017 Order dated 28-8-2019 in O.A.No.593/2017		As per order dated 19-2-2019 in O.A.No.593/2017, Chief Secretaries may specially look into the subject of setting up and proper functioning of STPs/CETPs/ETPs in their respective jurisdiction. All the local bodies and or the concerned departments of the state government have to ensure 100% treatment of the generated sewage and in default to pay compensation which is to be recovered by the State/UTs, with effect from 01.04.2020. The Chief Secretaries of all the State/UTs may furnish their respective compliance report on this subject also in O.A.No.606/2018	Non-functioning ETPs have been identified and further action has been initiated. The reports for the term up to November 2019 have been submitted. The Urban Directorate has been informed.	81
2.16	Order dated 17-9-2019 in O.A.No.829/2019		The Tribunal has directed that no untreated sewage/industrial effluent be discharged into any water bodies (which include coastal waters). Any violation is to result in compensation starting from 01.02.2020 District Environment Plans to be prepared on coastal and marine pollution	Informed Urban Directorate	81
2.17	Order dated 26-9-2019 in OA.No. 360/2018	Para. 12	The Department of Environment of all States may collect such District Environment Plans of their respective states and finalize the State Environment Plan covering the specific thematic area in Para. 7 including the information as contained in Para-8 and template of model by CPCB, The action for preparation of State's Environment Plan shall be monitored by the respective Chief Secretaries of the State.	District Environment plan received from Pathanamthitta, Alappuzha district,	81

2.18	Order dated 10-5-2019 in OA 325/2015	Para 13	All the States are directed to review the existing framework of restoration of all the water bodies by preparing an appropriate action plan. Such action plan may be submitted within three months and a report furnished to the CPCB. The Chief Secretaries of all the State in the course of undertaking monitoring exercise in pursuance of order in OA 606/2018 may also include restoration of water bodies.	Preparation of action plan is being done.	81
2.19	Order dated 05-11-2019 in O.A. No. 639/2018		The Hon'ble National Green Tribunal vide Order dated 05-11-2019 in O.A. No. 639/2018 directed that State Pollution Control Board may undertake capacity enhancement out of consent fund by procuring requisite equipments, setting up of modern labs and recruiting/engaging staff and experts. It is also directed that all vacancies must be filled up as already directed by NGT vide order dated 28-08-2019 I O.A. No. 95/2018 which may be ensured by the Chief Secretary.	The Board is working with 433 employees including 93 permanent employees. An amount of Rs.3 crore is incurred monthly towards salary and other expenses which are met from the consent fund. For permanent appointment, notification was issued on 26-12-2015 for appointment by Public Service Commission and rules notified o 14-11-2019. After getting sanction for the renewal of Kerala State Pollution Control Board Subordinate Service Rules, 1999, Government can make permanent appointment to the Board.	82

3. Status of compliance of order dated 25-4-2019 of the Hon'ble NGT in O.A.No. 606/2018 on model city/town/village

3.1 Background

The Government of Kerala vide G.O. (Rt.) No. 45/2019/Env. dated 31-5-2019 selected three model cities, three model towns and 42 model villages (3 each in 14 districts) in the State. The model cities are Thiruvananthapuram, Thrissur and Kozhikode and three model towns are Attingal, Punalur and Kunnankulam. Workshops were convened to make them fully complied with environmental norms.

3.2 Present status

3.2.1 Activities under Rule 22 of the Solid Waste Management Rules, 2016

- (a) **Rule 22(1) - Identification of suitable sites for setting up solid waste processing facilities**
- (b) **Rule 22(3)- Procurement of suitable sites for setting up solid waste processing facility and sanitary landfill facilities**
- (c) **Rule 22(7)- Setting up solid waste processing facilities by all local bodies having one lakh population or more population**
- (d) **Rule 22(8)- Setting up solid waste processing facilities by local bodies and census town below 1 lakh population**

Action taken -

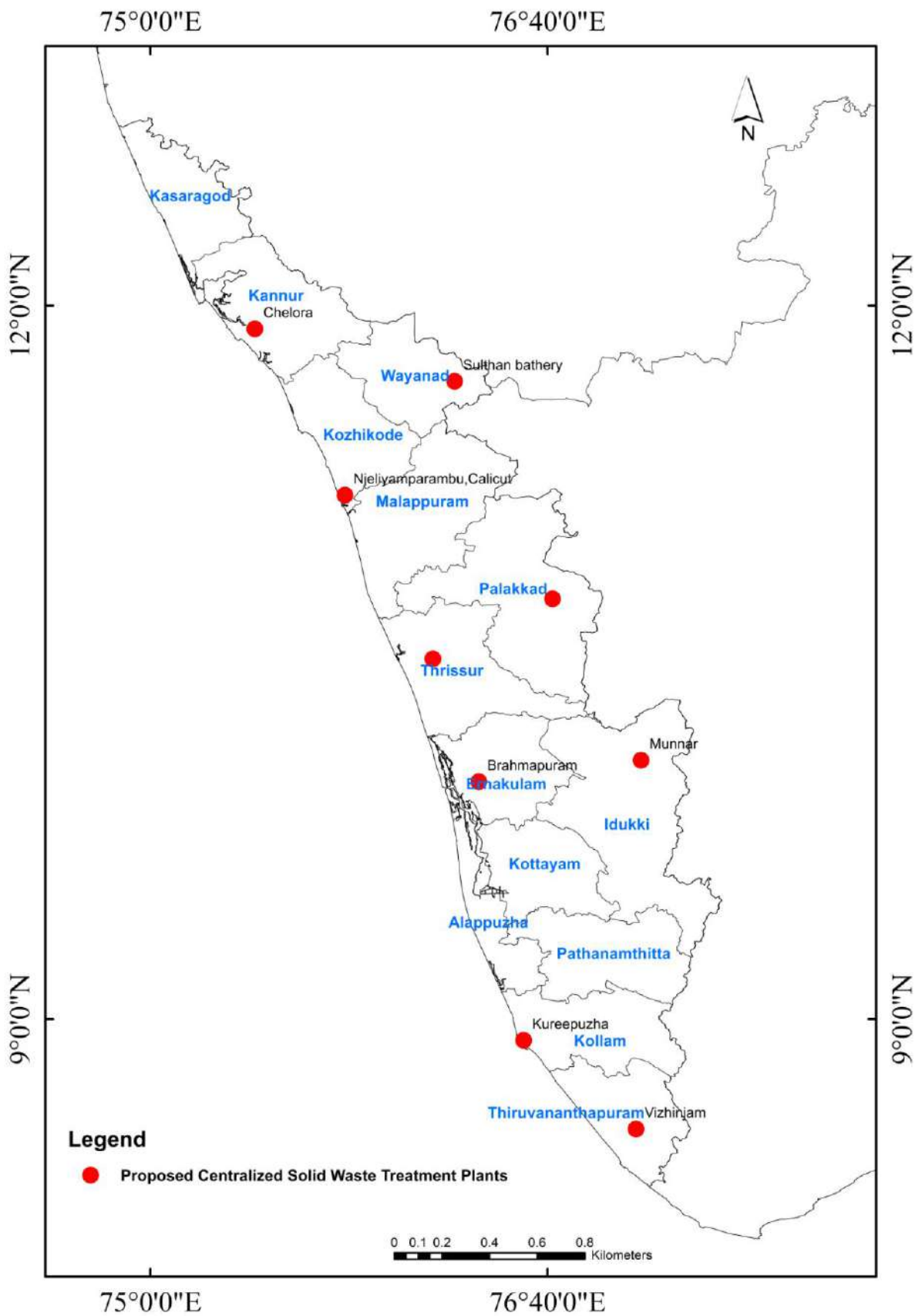
- **Proposal for Co-incineration submitted by Malabar Cements, Palakkad**
 - Entrusted National Council for Cement and Building Materials (NCBM) to study and prepare a technical proposal considering the various technical aspects with regards to AFR/co-processing.
 - NCBM submitted the proposal with multi-channel burner system which is not presently practiced/established in the country and may affect the productivity and smooth operations of the plant at increased thermal substitution rates
 - The facilities for using liquid hazardous waste like used/spent oil on marginal scale can also integrate after conforming 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
- **Sites for Waste to Energy plant identified are Kannur, Kozhikode, Palakkad, Kochi, Thrissur and Kollam.** Work commenced in Kochi and work awarded for the plant at Kozhikode. The progress is given below:
- A revised proposal for allocation of funds for the developmental initiatives of waste to energy projects under Major Infrastructure Development Projects head was submitted by Kerala State Industrial Development Corporation on 18th January 2020, to Planning and LSG Departments.

Sl. No	Corporation/ Municipality	Identified site	Area (acre)	Status	Completion date
1)	Kollam	Kureepuzha (Govt. land)	7.05	<ul style="list-style-type: none"> • Evaluated the technical proposal submitted the Consortium led by M/s Zonta Infratech Pvt Ltd for the development of waste to energy project at Kureepuzha in Kollam district on 07th January 2020. • The Bid Evaluation Committee found the bid submitted to be technically qualified and recommended that the financial bid of the bidder be opened. • Subsequently the financial bid submitted by the Consortium was opened on 14th January 2020. The Tipping Fee quoted by the Consortium for the project is Rs. 3576/- per tonne. • For biomining the site, technical and financial bid have been opened and negotiations done with Zonta Infratech Private Limited • SLAC directed to clear the site and to do the biomining. 	2 years
2)	Ernakulam	Brahmapuram (Govt. land)	20	<ul style="list-style-type: none"> • Work awarded to M/s G.J Eco Power Pvt. Ltd. Piling initiated. • Action is being taken for the widening of approach road • State Government vide GO (Rt) No 259/2020/LSGD dated 31/01/2020 has issued orders specifying a mechanism for the payment to meet the expenses over and above the power tariff to M/s G J Ecopower Pvt Ltd. • It is also directed in the GO that M/s G J Ecopower Pvt Ltd shall achieve the financial closure within 30 days of issue of the above said GO 	2 years from the date of obtaining environmental clearance.

Sl. No	Corporation/ Municipality	Identified site	Area (acre)	Status	Completion date
				<p>and failing which necessary action will be initiated to terminate the Concession Agreement in accordance with the relevant clauses there in.</p> <ul style="list-style-type: none"> State Government vide GO (Rt) No 144/2020/LSGD dated 16/01/2020 directed Kochi Municipal Corporation to take necessary steps to hand over the land to M/s G J Ecopower Pvt Ltd on lease basis with the permission of mortgaging the lease hold rights. 	
3)	Palakkad	Kanjikode (Land taken over from Kerala State Electricity Board Ltd. in advance possession)	15	<ul style="list-style-type: none"> KSIDC issued Letter of Intent (LOI) to the Consortium of M/s Organic Recycling Systems Pvt Ltd and M/s Blue Planet Environment Solutions Pvt Ltd on 19th December 2019. The Consortium of M/s Organic Recycling Systems Pvt Ltd and M/s Blue Planet Environment Solutions Pvt Ltd has accepted the LOI and their acceptance letter received. Steps initiated by the consortium to incorporate an SPV as per the RFP document, to take up the development of the project. Negotiations were held with M/s Zonta Infratech Pvt Ltd to reduce the rate quoted for clearing the legacy waste. 	2 years from the date of obtaining environmental clearance.
4)	Kozhikode	Njaliyanparambu (Govt. land)	12.67	<ul style="list-style-type: none"> Work awarded to Zonta Infratech Private Limited for the construction of Waste to Energy Plant at Njaliyan parambu The final DPR submitted has been forwarded for approval of State Level Empowered Committee Submitted application to KSREC for finalizing the power tariff rate 	2 years

Sl. No	Corporation/ Municipality	Identified site	Area (acre)	Status	Completion date
				<ul style="list-style-type: none"> Registered with K-SWIFT and taken steps to submit individual applications to departments Zonta Infratech Pvt Limited started clearing of legacy waste at the project site 	
5)	Kannur	Chelora (Govt. Land)	9.7	<ul style="list-style-type: none"> KSIDC issued Letter of Intent (LOI) to the Consortium of M/s Organic Recycling Systems Pvt Ltd and M/s Blue Planet Environment Solutions Pvt Ltd on 19th December 2019. The Consortium of M/s Organic Recycling Systems Pvt Ltd and M/s Blue Planet Environment Solutions Pvt Ltd has accepted the LOI and their acceptance letter received. Steps initiated by the consortium to incorporate an SPV as per the RFP document, to take up the development of the project Negotiations were held with M/s Zonta Infratech Pvt Ltd to reduce the rate quoted for clearing the legacy waste.. 	2 years from the date of obtaining environmental clearance.
6)	Wayanad	Sulthan Bathery (Govt. Land)	0.5	<ul style="list-style-type: none"> Construction of platform completed Action to be taken on the installation of machinery 	Expected to be commissioned by August 2019
7)	Thiruvananthapuram	Peringamala (Govt. Land)	15	<ul style="list-style-type: none"> Alternate land has been identified at Vizhinjam and is being taken for its procurement. Notice for environmental compensation was issued to Thiruvananthapuram Corporation for not identifying land for solid waste treatment plant and for not providing door to door collection. It has been stayed by the Hon'ble High Court 	2 years from the date of obtaining environmental clearance.

Sl. No	Corporation/ Municipality	Identified site	Area (acre)	Status	Completion date
8)	Thrissur	Laloor (Govt. Land)	15	<ul style="list-style-type: none"> • Thrissur Corporation identified land at Ollookkara village in Thrissur district • Vide GO (Rt) No 111/2020/LSGD dated 13/01/2020 State Government has accorded sanction to Thrissur Municipal Corporation to purchase the identified land at Ollookkara Village in Thrissur district and to hand over the same on lease basis to KSIDC for the development of the project. 	2 years
9)	Malappuram	Panakkad (Land in possession with Kerala State Industrial Development Corporation)	10	<ul style="list-style-type: none"> • District Administration Malappuram has requested Revenue Department for issuing necessary orders to allot 8.09 acres of land in Kurumbathoor Village in Thirur Thaluk, Malappuram district to KSIDC for the development of the WtE project. • The file is now pending with Land Board. Land Board has sought further details from the District Administration. 	2 years from the date of obtaining environmental clearance.
10)	Idukki	Munnar (Land handed over by M/s Kannan Devan Hills Plantations Pvt. Ltd)	2	<ul style="list-style-type: none"> • KSIDC has re – tendered project on 14th January 2020. Pre bid meeting as part of the tender procedures was held on 24th January 2020. • Replies to the pre bid queries received from M/s Bioxgreen Technologies Pvt Ltd and M/s Respublica Consulting Pvt Ltd uploaded in the website. • 29th February 2020 was the last date for the submission of bids. • Ex Service Charitable Trust to re submit the proposal for clearing the legacy waste at the project site to Suchitwa Mission through Munnar Grama Panchayath. 	2 years



Map showing proposed Waste to Energy plant

- e) **Rule 22(2)- Identification of 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**
- f) **Rule 22(3)- Procurement of suitable sites for setting up solid waste processing facility and sanitary landfill facilities**
- g) **Rule 22(9)-Setting up common or stand alone sanitary landfills by or for all local bodies having 5 lakh or more population for the disposal of only such residual wastes from the processing facilities as well s untreatable inert wastes as permitted under rules**
- h) **Rule 22(10)Setting up common or regional landfills by all localbodies and census town under 5 lakh for the disposal of permitted waste under the rules**

6 Regional Sanitary landfill sites were identified by Suchitwa Mission based on the criteria for locating landfills, using satellite imagery. For Palakkad, detailed study was conducted to establish a pilot sanitary landfill but the Committee appointed by the District Collector found the land to be unsuitable. At Thiruvananthapuram and Kollam, work was started at Vilappilsala and Kureepuzha but had to be abandoned due to public protest. Action initiated for providing secured landfill at Attingal.

- i) **Rule 22(5) -Ensure Door to Door collection of segregated waste and its transportation in covered vehicles to processing or disposal facilities**
- j) **Rule 22(4) – Enforcing waste generators to practice segregation of biodegradable, recyclable, combustible, sanitary waste, domestic hazardous and inert solid waste at source**

For the model city/town/villages, considerable progress has been achieved in providing door to door facility for dry wastes in both households (81.5%) and establishments (73%). Detailed report of all urban local bodies is submitted as Annexure 1.

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 . A copy of show cause notice issued and its reply are submitted as Annexure 2 and 3. However the Corporation approached the Hon'ble High Court and has been stayed (Annexure 4). The case is pending with the Hon'ble High Court.

Direction was issued to Thrissur Corporation for remitting environmental compensation (Annexure.5) and they also 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 implede in the case in NGT or both (Annexure 6). Then they submitted appeal before the High Court (Annexure 7) and the Court stayed the notice and directed to have bond with Pollution Control Board that arrears will be given as per the final order of the Court. However they identified land at Thrissur for solid waste treatment plant and action is taken to procure land. Notice for not levying Environmental Compensation of Rs. 1.12 Crore was issued to Kochi Corporation (Annexure 8). Notice for not levying Environmental Compensation of Rs. 2.47 Crore issued to Kalamassery Municipality (Annexure 9).

I Door to Door Collection

A. Model City/Town/ Panchayath

A 1 Households

Status of Achievement	No of Model city		No of Model town		No of Model villages	
	Dry	Wet	Dry	Wet	Dry	Wet
Below 25 %	2 (Thiruvananthapuram, Thrissur)	2 (Thiruvananthapuram, Thrissur)	-	2 (Attingal, Punalur, Kunnankulam)	1	38
25 - <50%	-	1 (Kozhikode)	1 (Attingal)	-	3	1
50- <75%	1 (Kozhikode)	-	-	-	4	2
<u>75 -100%</u>	-	-	2 (Kunnankulam, Punalur)	-	34	1

A2. Establishments

Status of Achievement	No of Model city		No of Model town		No of Model villages	
	Dry	Wet	Dry	Wet	Dry	Wet
Below 25 %	1 (Thrissur)	1 (Thrissur)	-	2 (Kunnankulam, Punalur)	5	39
25 - <50%	-	1 (Kozhikode)	-	-	3	2
50- <75%	1 (Kozhikode)	-	-	-	3	-
<u>75 -100%</u>	1 (Thiruvananthapuram)	1 (Thiruvananthapuram)	3 (Attingal, Punalur, Kunnankulam)	1 (Attingal)	31	1

B. All Corporations, Municipalities

B1. HOUSEHOLD

Status of Achievement	No of Corporation		No of Municipality	
	Dry	Wet	Dry	Wet
Below 25 %	2 (Thiruvananthapuram, Thrissur)	3 (Thiruvananthapuram, Thrissur, Kollam)	30	80
25 - <50%	-	2 (Kozhikode, Kannur)	17	5
50- <75%	3 (Kollam, Kozhikode, Kannur)	-	13	-
75 -100%	1 (Kochi)	1 (Kochi)	27	2

B2. ESTABLISHMENTS

Status of Achievement	No of Corporation		No of Municipality	
	Dry	Wet	Dry	Wet
Below 25 %	1 (Thrissur)	2 (Thrissur,Kollam)	41	79
25 - <50%	1 (Kollam)	1 (Kozhikode)	10	3
50- <75%	2 (Kozhikode, Kochi)	2 (Kochi, Kannur)	11	1
75 -100%	2 (Thiruvananthapuram, Kannur)	1 ((Thiruvananthapuram)	25	4

C 1. Door to Door collection in all Municipalities- Households

Status of Achievement		Below 25 %	25 - <50%	50- <75%	75 -100%
Thiruvananthapuram	Dry	1 (Nedumangad)	2 (Attingal, Neyyattinkara)	1 (Varkala)	-
	Wet	4 (Nedumangad, Attingal, Neyyattinkara Varkala)	-	-	-
Kollam	Dry	-	1 (Karunagapally)	1 (Kottarakara)	2 (S.paravur, Punalur)
	Wet	4 (Karunagapally, Kottarakara, S.paravur, Punalur)	-	-	-
Pathanamthitta	Dry	2 (Adoor, Pathanamthitta)	-	1 (Pandalam)	1 (Thiruvalla)
	Wet	4 (Adoor, Pathanamthitta, Pandalam, Thiruvalla)	-	-	-
Alappuzha	Dry	4 (Chengananur, Cherthala, Kayamkulam, Mavelikkara)	-	-	2 (Alappuzha, Harippad)
	Wet	6 (Chengananur, Cherthala, Kayamkulam, Mavelikkara, Alappuzha, Harippad)	-	-	-
Kottayam	Dry	4 (Changanassery, Ettumanoor, Kottayam, Vaikom)	1 (Pala)	1 (Erattupetta)	-
	Wet	6 (Changanassery, Ettumanoor, Kottayam,	-	-	-

Status of Achievement		Below 25 %	25 - <50%	50- <75%	75 -100%
		Vaikom, Pala, Erattupetta)			
Idukki	Dry	-	-	-	2 (Thodupuzha, Kattapana)
	Wet	1 (Thodupuzha)	1 (Kattapana)	-	-
Ernakulam	Dry	7 (Angamaly,Eloor, Koothatukulam,Kothamangalam,Muvattupuzha,Maradu,Perumbavoor)	3 (Aluva, Kalamassery, Piravam)	1 (N.paravur)	2 (Thrikkakara, Thripunithura)
	Wet	9 (Angamaly, Eloor, Kothatukulam, Kothamangalam, Muvattupuzha, N.Paravur, Maradu, Perumbavoor, Piravom)	2 (Aluva, Kalamassery)	-	2 (Thrikkakara, Thripunithura)
Thrissur	Dry	1 (Guruvayur)	3 (Chavakkad,Irinjalakuda,Vadakanchery)	-	3 (Chalakydy,Kodungallur, Kunnankulam)
	Wet	7 (Guruvayur, Chavakkad,Irinjalakuda, Vadakanchery, Chalakydy,Kodungallur, Kunnankulam)	-	-	-
Palakkad	Dry	2 (Mannarkkad, Pattambi)	1 (Palakkad)	3 (Cheruplassery, Chittur-Thattamangalam,Ottapalam)	1 (Shornur)
	Wet	7 (Cheruplassery, Chittur-Thattamangalam, Ottapalam, Mannarkkad,Pattambi, Palakkad, Shornur)	-	-	-
Malappuram	Dry	4 (Kottakkal, Manjeri,Nilambur,Valanchery)	3 (Parappanangadi, Perinthalmanna, Thiroorangadi)	2 (Ponnani, Thanoor)	3 (Kondotty, Malappuram, Tirur)
	Wet	11 (Kondotty,Kottakkal,Malappuram,Manjeri,NilamburPerinthalmanna,Ponnani,Thanoor,Thiroorangadi,Tirur, Valanchery)	1 Parappanangadi	-	-
Kozhikode	Dry	3 (Koduvally,Payyoli,Ramanattukara)	1 (Faroke)	1 (Koyilandy)	2 (Mukkam,Vadakkara)
	Wet	6 (Koduvally,Payyoli,Ramanattukara, Koyilandy, Mukkam,Vadakkara)	1 (Faroke)	-	-
	Dry	1 (Sulthanbathery)	2 (Kalpetta,	-	-

Status of Achievement		Below 25 %	25 - <50%	50- <75%	75 -100%
Wayanad			Mananthavady)		
	Wet	3 (Sulthanbathery, Kalpetta, Mananthavady)	-	-	-
Kannur	Dry	1 (Anthoor)	-	2 (Panoor, Thalassery)	6 (Kuthuparambu, Iritty,Matannur, Payannur,Sreek andapuram, Thaliparambu)
	Wet	9 (Anthoor,Panoor, Kuthuparambu,Iritty, Matannur, Payannur,Sreekandapura m, Thalassery, Thaliparambu)	-	-	-
Kasargod	Dry	-	-	-	3 (Kanhagad, Kasargod, Nileshwaram)
	Wet	3 (Kanhagad,Kasargod,Nil eshwaram)	-	-	-

C2. Door to Door collection in all Municipalities- Establishment

Status of Achievement		Below 25 %	25 - <50%	50- <75%	75 -100%
Thiruvananthapuram	Dry	1 (Neyyattinkara)	-	1 (Nedumangad)	2 (Attingal Varkala)
	Wet	3 (Neyyattinkara,Nedumangad, Varkala)	-	-	1 (Attingal)
Kollam	Dry	2 (Kottarakara, Karunagapally)	-	-	2 (S.paravur, Punalur)
	Wet	4 (Karunagapally, Kottarakara, S.paravur, Punalur)	-	-	-
Pathanamthitta	Dry	3 (Adoor, Pathanamthitta, (Pandalam)	-	-	1 (Thiruvalla)
	Wet	4 (Adoor, Pathanamthitta, (Pandalam, Thiruvalla)	-	-	-
Alappuzha	Dry	5 (Chengananur, Cherthala, Kayamkulam,Mavelikkara, Haripad)	-	-	1 (Alappuzha)
	Wet	5 (Chengannur, Cherthala, Kayamkulam,Mavelikkara, Haripad)	-	1 (Alappuzha)	-

Status of Achievement		Below 25 %	25 - <50%	50- <75%	75 -100%
Kottayam	Dry	5 (Changanassery, Kottayam, Vaikom, Pala, Erattupetta)	-	1 (Ettumanor)	-
	Wet	6 (Changanassery, Ettumanoor, Kottayam, Vaikom, Pala, Erattupetta)	-	-	-
Idukki	Dry	-	-	-	2 (Thodupuzha, Kattapana)
	Wet	2 (Thodupuzha, Kattapana)	-	-	-
Ernakulam	Dry	7 (Aluva, Angamaly, Koothatukulam, Kothamangalam, Muvattupuzha, Maradu, Perumbavoor)	2 (Kalamassery, Piravam)	1 (Thrikkakara)	3 (Eloor, N.Paravur, Thripunithura)
	Wet	10 (Aluva, Angamaly, Eloor, Koothatukulam, Kothamangalam, Muvattupuzha, N.Paravur, Maradu, Perumbavoor, Piravom)	2 (Kalamassery, Thrikkakara)	-	1 (Thripunithura)
Thrissur	Dry	-	1 (kodungallur)	2 (chalakudy, chavakkad)	4 (Guruvayur, irinjalkuda, kunnamkulam, vadakanchery)
	Wet	7 (Guruvayur, Chavakkad, irinjalkuda, Vadakanchery, Chalakudy, kodungallur, Kunnamkulam)	-	-	-
Palakkad	Dry	3 (chittur-Thattamangalam, Palakkad, Pattambi)	-	1 (Ottapalam)	3 (Cheruplassery, Mannarkkad, Shornur)
	Wet	6 (Cheruplassery, Ottapalam, Mannarkkad, Pattambi, Palakkad, Shornur)	-	-	1 (Chittur-Thattamangalam)
Malappuram	Dry	5 (Kondotty, Nilambur, Thanoor, Thiroorangadi, Valanchery)	4 (Kottakkal, Malappuram, Manjeri, Perinthalmanna)	2 (Parappanangadi, Ponnani)	1 (Tirur)
	Wet	11 (Kondotty, Kottakkal, Malappuram, Manjeri, Nilambur, Perinthalmanna, Ponnani, Thanoor, Thiroorangadi, Tirur, Valanchery)	1 (Parappanangadi)	-	-
Kozhikode	Dry	5 (Faroke, Koduvally, Koyilandy, Payyoli, Ramanattukara)	-	-	2 (Mukkam, Vadakara)
	Wet	7 (Faroke, Koduvally, Koyilandy, Payyoli, Ramanattukara, Mukkam, Vadakara)	-	-	-
Wayanad	Dry	1 (Sulthanbathery)	1 (Mananthavady)	-	1 (Kalpetta)
	Wet	3 (Sulthanbathery, Mananthavady, Kalpetta)	-	-	-

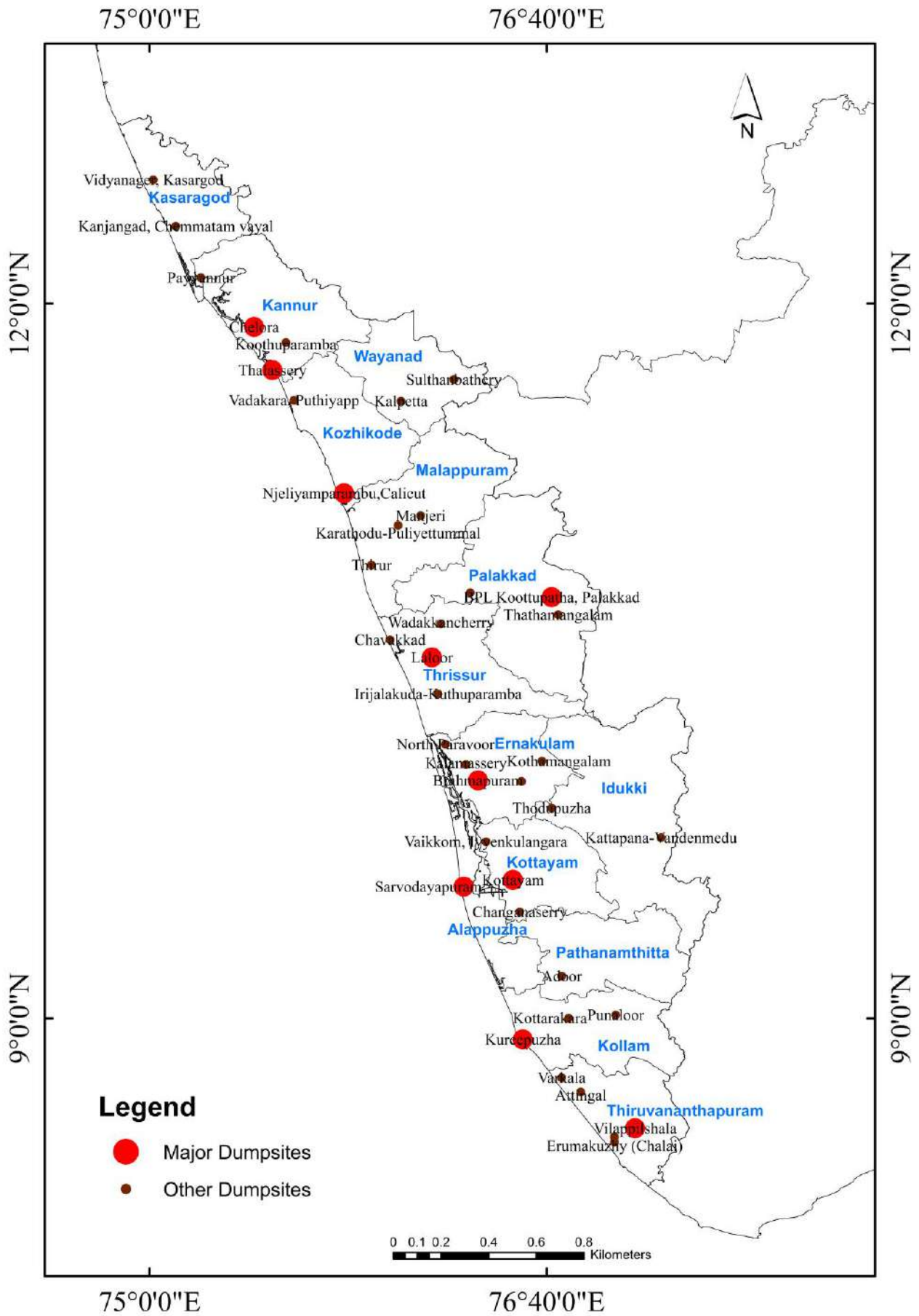
Status of Achievement		Below 25 %	25 - <50%	50- <75%	75 -100%
Kannur	Dry	3 (Thaliparambu, Anthoor, Thalassery)	1 (Panoor)	2 (Iritty, Payannur)	3 (Kothuparambu, Mattanur, Sreekantapuram)
	Wet	8 (Anthoor, Panoor, Koothuparambu, Iritty, Payannur, Sreekantapuram, Thalassery, Thaliparambu)	-	-	1 (Mattanur)
Kasargod	Dry	1 (Kanhangad)	1 (Kasargod)	1 (Nileshwaram)	-
	Wet	3 (Kanhangad, Kasargod, Nileshwaram)	-	-	-

(k) Rule 22(11) -Bioremediation or capping of old and abandoned dumpsites

40 numbers of dumpsites have been identified in the State. Biomining of dumpsites tendered for Kochi, Kozhikode and Kollam. Bio mining is in progress for Palakkad. .

Major Dumpsites locations					
Sl No:	Location	District	Latitude	Longitude	Status
1	Vilappilshala	Thiruvanthapuram	8.5388	77.0388	
2	Kureepuzha	Kollam	8.9116	76.5671	For biomining the site, technical and financial bid have been opened and negotiations done with Zonta Infratech Private Limited. SLAC directed to clear the site and to do the biomining
3	Kottayam	Kottayam	9.5808	76.5253	
4	Sarvodayapuram	Alappuzha	9.5527	76.3189	
5	Brahmapuram	Ernakulam	9.9983	76.3786	Work awarded to M/s G.J Eco Power Pvt. Ltd.
6	Laloor	Thrissur	10.5149	76.1858	
7	BPL Koottupatha, Palakkad	Palakkad	10.7674	76.6881	
8	Njeliyamparambu, Calicut	Kozhikode	11.2036	75.8169	
9	Chelora	Kannur	11.9018	75.4389	
10	Thalassery	Kannur	11.7207	75.5153	
Other Dumpsite locations					
Sl No:	Location	District	Latitude	Longitude	Status
1	Attingal	Thiruvanthapuram	8.6911	76.8105	
2	Erumakuzhy (Chalai)	Thiruvanthapuram	8.4805	76.9522	
3	Palayam	Thiruvanthapuram	8.5029	76.9519	

4	Varkala	Thiruvanthapuram	8.7509	76.7301	
5	Kottarakara	Kollam	9.0014	76.7592	
6	Punaloor	Kollam	9.0145	76.957	
7	Adoor	Pathanamthitta	9.1773	76.7305	
8	Changanaserry	Kottayam	9.447	76.5541	
9	Vaikkom, Iyyenkulangara	Kottayam	9.7418	76.4118	
10	Kattapana-Vandenmedu	Idukki	9.7583	77.1468	
11	Thodupuzha	Idukki	9.883	76.6886	
12	Kalamassery	Ernakulam	10.0653	76.3282	
13	Kothamangalam	Ernakulam	10.0797	76.6476	
14	Moovattupuzha	Ernakulam	9.9942	76.5614	
15	North Paravoor	Ernakulam	10.1505	76.2424	
16	Chavakkad	Thrissur	10.589	76.0099	
17	Irijalakuda-Kuthuparamba	Thrissur	10.3617	76.2115	
18	Kumblagad, Wadakkancherry	Thrissur	10.6565	76.223	
19	Ottapalam	Palakkad	10.7868	76.3456	
20	Thathamangalam- Parakulam	Palakkad	10.6944	76.7154	
21	Karathodu-Puliyettummal	Malappuram	11.0692	76.0434	
22	Manjeri	Malappuram	11.1101	76.1379	
23	Thirur - Pottilathara Trenching ground	Malappuram	10.903	75.9316	
24	Vadakara, Puthiyapp	Kozhikode	11.5945	75.6056	
25	Kalpetta	Wayanad	11.5906	76.0555	
26	Sulthan bathery, Karuvallikunnu	Wayanad	11.6814	76.2772	
27	Koothuparamba	Kannur	11.8364	75.5718	
28	Payyannur	Kannur	12.109	75.2158	
29	Kanjangad, Chemmatam vayal	Kasargod	12.3251	75.1098	
30	Vidyanager, Kasargod	Kasargod	12.5196	75.0154	



Map showing the dumpsites

3.2.2 Ban on single use plastic

- Government have imposed a complete ban on the manufacture, storage, transport, and sale of single use plastic items in the State with effect from 1-1-2020 vide G.O.(Rt) No. 128/2019/ENVT dated 31-12-2019 (Annexure10).
- Alternative materials that can be used as a substitute for the banned single use plastic has been issued vide G.O. (Rt.) No.02/2020/Env. dated 27-01-2020 (Annexure11)
- Surprise checking has been conducted by the officials of Pollution Control Board, Local bodies and District Collectorate and action taken against/charged fine 36 numbers of violators.
- Workshop was conducted on 13-02-2020 for the awareness of "Identification of Single Use Plastics Products by Simple Methods, Alternatives & Compostable Products" by Kerala State Pollution Control Board, CIPET and NIIST to the stakeholders. The programme is also arranged on 24-02-2020 and 26-02-2020 at Ernakulum and Kozhikode.

3.2.3 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 Annexure12.

3.2.4 Other good initiatives

- **Rendering plant for the wastes from chicken stalls** is functioning in Kozhikode. The main feature of this facility is the storage of chicken wastes in refrigerators in chicken stall and transportation in refrigerated vehicle and thereby preventing the emanation of bad odour during transportation. Chicken stall having agreement with the rendering plant shall only be issued consent from the Board. It is reported that Rs. 50,000 has been given by the company to the local body.
- **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 1-10-2019. 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.

4. Status of implementation of Solid Waste Management Rules, 2016

4.1 Background

The Government of Kerala has taken efforts to implement the Solid Waste Management Rules, 2016 in the State. There are 6 Corporations, 87 Municipalities and 941 GPs in the State. The Kerala State Pollution Control Board (KPSCB) issued repeated directions to all local bodies to ensure compliance of the Solid Waste Management Rules, 2016. 3831.6 TPD of solid waste is generated from the cities and towns. The Government of Kerala constituted a State Level Advisory Committee on Waste Management chaired by the Chief Secretary; this Committee has conducted **33** meetings, till date, for monitoring solid waste management on monthly basis.

The colour coding for the cases is presented below:

4.2 Format I on solid waste management

The colour coding for the cases is presented below:

Colour	Status
Green	Complete
Yellow	In Progress
Red	Yet to be initiated
Blue	Not Applicable to State Context

	Name of State/UT: KERALA		1. SOLID WASTE MANAGEMENT				
	Name and designation of Nodal officer: Secretary, Corporation/Municipality/Panchayath						
Sl. No.	Item	SPCB/PCC Response	Remarks	Current Status	Desirable level as per Statutes	Gap between Current Status and desired level	Time frame for addressing the Gap
8	Percentage of Districts in which Special Task Force (Four members nominated by DM, SP, RO SPCB & District Legal Services Authority) for Awareness has been created	100%		Complied			
12	Percentage of ULBs which have framed byelaws incorporating provisions of SWM Rules (15e)?	Common Byelaw is to be finalised		Common bye law is under vetting by law Department Some of the individual local bodies have framed byelaws.	Bye law to be framed		
30	Percentage of operators of Solid Waste processing facility who have submitted Annual report.	0%		Local bodies submitted the annual report			

31	Percentage of ULBs which have appointed nodal officer/committee.	100%		Secretary of Local bodies			
34	Percentage of ULBs which have submitted Annual Report in Form IV to Secy, UD and SPCB	100%		Complied			
36	Percentage of ULBs in which Sweeping is carried out twice or more in public areas	100% (once in public areas)					
38	Percentage of ULBs in which user fees has been incorporated in Byelaws			Common bye law is under vetting by law Department Some of the individual local bodies have framed byelaws.			
39	Percentage of ULBs having Door to door collection system	Dry : 80% Wet: 45%		Dry : 80% Wet: 45%	100%	20%	
40	Percentage of ULBs transporting wastes in covered vehicles	32.3%	Ernakulam, Palakkad	32.3%	100%	67.7%	
41	Percentage of ULBs having GPS installed on garbage collection vans (> 5 lakh population)	0%			100%	100%	
42	Percentage of ULBs using Compartmentalized vehicles for collection of different fractions of waste	8.6%		8.6%	100%	91.4%	2020

43	Percentage of ULBs having Computerized weighing machine for weighing solid waste	0%			100%	100%	2020
44	Percentage of ULBs having tipping fee based on quantum of waste generated/ processed	13%	As per the data from Urban Directorate	13%	100%	87%	
45	Percentage of ULBs having twin-bin system installed at public places	3.2%	As per the data from Urban Directorate	3.2%	100%	96.8%	2020
46	Percentage of ULBs having transfer stations instead of secondary storage bins	13%	As per the data from Urban Directorate	13%	100%	87%	
47	Percentage of ULBs in which PPE has been provided to workers	42%	As per the data from Urban Directorate	42%	100%	58%	
48	Percentage of ULBs in which Capacity building of local bodies has been taken up by State Deptt of UD	100%					
49	Percentage of ULBs in which workers have been educated on Door to door collection of waste	100%					
50	Percentage of ULBs in which Training has been imparted to waste pickers/waste collectors	100%					
51	Percentage of ULBs having separate Street sweepings collection and disposal system	9.67%	As per Form IV, SWM 2016	9.67%	100%	90%	
52	Percentage of ULBs in which Segregation of waste at household level/source has been implemented	Dry : 86.02% Wet: 61.3%	As per the data from Urban Directorate				

53	Percentage of ULBs in which waste Segregation by street vendors has been implemented.	25%	As per the data from Urban Directorate	25%	100%	75%	
54	Percentage of ULBs in which Segregation of waste by RWAs, market associations, gated communities, institutions (> 5000 sqm area), hotels, restaurants etc has been implemented	34%	As per the data from Urban Directorate	34%	100%	66%	
55	Percentage of ULBs in which Segregation of Waste at source for inerts and C&D Waste has been implemented	10%		10%	100%	90%	
56	Percentage of ULBs in which informal sector of waste pickers, waste collectors and recycling industry in reducing waste in state policy has been engaged	85%	As per Data from Urban Directorate (79/93)				
57	Percentage of ULBs in which Space for SW segregation, storage and processing of solid waste for 200 units / 5000 square feet has been allocated	MCF=550 RRF=180			100%		
58	Percentage of ULBs in which Scheme for registration of waste pickers and dealers has been implemented	14%	-	14%	100%	86%	
59	Percentage of ULBs in which land has been identified for setting up waste processing facilities (22 (1))	72%	All 14 districts except Pathanamthitta Kottayam and Kasargod and Alappuzha		100%	28%	
60	Percentage of ULBs in which non-biodegradable waste and inert waste are used for filling up of construction areas and construction of roads	52%	From Clean Kerala Company		100%	48%	

61	Percentage of ULBs in which Usage of RDF by Cement plants /Power plants/Industries located within 200 km of such facility has been implemented	0%	Action taken by Malabar Cements Limited, Government of Kerala undertaking for co-processing installation.	Proposal for making modification for co-incineration submitted	100%	100%	One year October, 2020
65	Percentage of ULBs in which home /decentralized and centralized composting has been initiated	79.60%			100%	20.4%	
66	Percentage of ULBs in which Storage of Horticulture waste on generators own premises has been initiated	17%			100%	83%	
67	Percentage ULBs in which setting up of solid waste and processing facilities has been incorporated in Master Plan of the city	1%			100%	99%	
68	Percentage of ULBs in which 5% or 5 sheds in SEZ, IE, Industrial park have been allocated for recovery and recycling facility		<ul style="list-style-type: none"> •Kuttipuram, Malappuram for plastic recycling unit by Clean Kerala Company •Kannur for converting hair to manure 				
69	Percentage of ULBs in which material recovery facilities for sorting of recyclables by informal sector have been set up	57%	<ul style="list-style-type: none"> • Corporation -6/6 • Municipality -45/87 Total =51/93 =54.83%	Material collection facility is in all ULBs Resource recovery facility is provided in six corporations and 45	100%	0 for MCF 45.2% for RRF	One year

				municipalities Godowns were also hired for storage.			
70	Percentage of ULBs in which Waste from vegetable, flower, fish, meat, poultry market is processed in biomethanation plant	24%	AS per annual report, SWM				
71	Percentage of ULBs in which use of Chemical fertilizers in parks has been phased out	3.4%			100%	96.6%	
72	Percentage /Number of Waste processing based on Waste to Energy/RDF	Nine	Land identified at nine places.	<ul style="list-style-type: none"> • Brahmapuram, Ernakulam and work will be started • Kozhikode, DPR submitted by the company. • Palakkad and Kannur – bidding • Kollam, Munnar-retendering • Sulthan bathery, Wayanad-installation of machinery to be done 	100% (11)	16% (2)	2020
73	Percentage of Waste processing units based on Composting/Biomethanation	28%			100%	72%	

77	Percentage of ULBs in which Biodegradable waste is sent to compost/biomethanation plant	79.50%	Brahmapuram, Attingal, North Paravur, Kumaly, Kattappana	79.50%	100%	20.5%	
78	Percentage of ULBs in which non-biodegradable wastes is sent to MRF/ Secondary storage facility	100%	<ul style="list-style-type: none"> • Corporation -6/6 • Municipality -45/87 • Total =51/93 =54.83% 	<p>Material collection facility is all ULBs</p> <p>Resource recovery facility is provided in six corporations and 45 municipalities</p> <p>Godowns were also hired for storage.</p>	100%	0 for MCF	45.2% for RRF
79	Percentage of W to E plants having Facilities for segregation of waste prior to processing of waste in W to E Plants	0%	Land for WtE plant is identified at 7 places.	<ul style="list-style-type: none"> • Brahmapuram, Ernakulam and work will be started • Kozhikode, DPR submitted by the company. • Palakkad and Kannur – bidding • Kollam, Munnar-retendering 	100%	100%	Two years

80	Percentage increase in number of Authorizations granted	80%	1 No in 2017-2018, 5 Nos in 2018-2019				
81	Percentage of ULBs displaying data related to functioning of plant and its adherence to prescribed parameters displayed on ULB's website	0%	-	-	100%	100%	
83	Percentage of ULBs in which land has been identified for landfill site (11 f)	1.07%	Attingal				
84	Percentage of ULBs in which land has been allocated for landfill site (Rule 12a)		Not available				
85	Percentage of ULBs having own /regional operational Landfill sites	1.07%	Attingal				
86	Percentage of landfill sites in which Provision of Green Belt /Buffer Zone around landfill site has been made.	1					
87	Percentage of Landfill sites for which Buffer zone has been notified	0%			100%	100%	Two years
88	Percentage of landfill sites in which efforts have been taken to prevent/manage generation of leachate	2%	Attingal, Kochi		100%	98%	
89	Percentage of landfill sites in which efforts have been taken to prevent /manage generation of methane gas		Brahmapuram & Villapilsala sites are capped with gas escape capacity				
90	Percentage of landfill/dumpsites in which CCTV has been installed	1%			100%	99%	
91	Percentage of ULBs having Decentralized waste disposal facilities	100%			0	0	

92	Percentage of landfill sites in which landfilling or dumping of mixed waste is continued	2%			100%	98%	
93	Percentage of landfill sites in which only non-usable, non-recyclable, non-biodegradable, non-combustible and non-reactive waste is disposed	80%			100%	20%	
94	Percentage of ULBs in which Investigation of old /existing dumpsites for bio-mining has been initiated	11%	Brahmapuram Ernakulam Kozhikode Kannur Biomining has been started in Palakkad Total-37 identified	11%	100%	89%	2020
102	Percentage of ULBs which have framed Byelaws incorporating User fees and spot fines for littering		Common Byelaw vettied by Law Department and for approval User fee is collected				
104	Have efforts taken to increase public awareness (Attach details)	Yes					
105	Percentage of ULBs having Citizen Grievance redressal mechanism	100%					
106	Percentage of ULBs uploading Month wise details of SWM targets on MIS	0%			100%	100%	
	For item no, 2, 5,10, 22, 30, 62, 63,64,98,99,104: Detailed Information to be uploaded						

4.3 Gap Analysis and Action Points of Solid Waste Management (As per Hon'ble NGT order dated 12/09/2019 in OA No. 606/2018) in ULBs

- i. Quantity of Waste generated / collected /treated: 3452 * / 833 / 663 # TPD { *waste generated 400 g /person per day; # This includes treatment in the centralised system. Decentralised units are reported at household level. Details of centralised and decentralised facilities are enclosed as Annexure.1. }
- ii. Quantity of Waste processed in Composting Sites/ Bio-methanation/ waste to energy plants/ Landfill: 663 TPD
- iii. Existing capacity of Waste Processing/ Disposal Facilities: 663 TPD
- iv. Planned capacity of Waste Processing/ Disposal Facilities: 1800 TPD
- v. Timeframe for installation of planned capacity of Waste Processing/ Disposal Facilities:24 months
- vi. Percentage of Urban Local Bodies (ULBs)/ Village Panchayats (VPs) Covered and timeframe for covering all the ULBs/VPs: 78% , .24 months
- vii. Number of Legacy waste dumpsites in the State/UTs and plan for their Remediation: 40 nos.

4.4 Issue of directions/notice

Notice has been issued to seven Corporation/Municipalities/panchayaths for non compliance of SWM Rules. Direction has been issued to Thrissur Corporation.

As per order in 585/2018 of the Hon'ble NGT, notice issued to Urban Directorate and Panchayat Directorate regarding 54 localbodies in Idukki district. The matter is being followed up.

Notice was also issued to Southern Railway, Thiruvananthapuram and Palakkad divisions. Reply from Southern Railway has been received on 8-10-2019 and they have also submitted the details namely item name, code, quantity and registered recycler and the same is under scrutiny. The major findings in the reply are as follows:

- 1) In Thiruvananthapuram division, segregation of solid waste is done. Aerobin is provided for biodegradable wastes and non-biodegradable waste are cleared of dust, shredded and disposed through Clean Kerala Company.
- 2) Two bottle crusher units are installed in Thiruvananthapuram for the scientific way of treatment of plastic bottles generated from coaches and stations
- 3) Construction of waste water recycling plant at Thiruvananthapuram. Kochuveli, Nagercoil and Ernakulam is under final stage.
- 4) Effluent treatment plant is under construction at Irumpanam, Ernakulam.
- 5) A pilot project for the waste disposal at both Poojappura Railway station and one way station-VAK is under progress.

4.4 Other initiatives

4.4.1 Proposed Kerala Waste Management Authority

The Government of Kerala has amended the Panchayath Raj Act to take over the powers of local bodies in waste disposal and is working on the proposal to set up Kerala Waste Management Authority in the State especially for the setting up of modern solid waste treatment plants, rendering plant, slaughter house, sanitary landfills, and common biomedical waste treatment facilities. This

Authority shall take care of the wastes that are not presently handled by the local bodies and the Kerala Water Authority (KWA). Real-time monitoring of water quality of water bodies shall be made available to the authority. The proposal is now under the Law Department for vetting.

4.4.2 Project Green Grass in Forest Area

Following the NGT Order in OA No. 585/2018, 126 waste dumping sites in forest areas were mapped in the State (Project "Green Grass"). Rs. 51 lakh was the project outlay and waste from Thalekkod to Valara in NH 85 passing through Munnar was successfully removed by DFO with the help of Ex-service men Trust. Following this, Chief Wildlife Warden has initiated action for bringing all 11 WL Division, 17 WL Sanctuaries, 5 National Parks under the project.

Tourism department has implemented the following three projects

No.	Project	Amount in Rs.	Remarks
1.	Nilakurinji Waste Management	89,66,600	Waste disposal-35km road from Adimali to Munnar
2.	Save Road-Save Tourism	48,41,760	Waste removal twice
3.	Solid waste management in Idukki district	70,20,000	Waste removal twice in a week from eight destinations

4.4.3 Removal of garbage on road sides

Public Works Department is in the process of mapping the garbage dumped on the sides of all PWD roads. The garbage will be kept in the material recovery centers till its proper disposal.

4.4.4 Removal of waste has been declared as a priority activity of all departments; by earmarking 5% of the departmental budget for waste reduction, collection and treatment. Power Department is mapping waste in hydal tourism sites and dams; Irrigation department is mapping wastes in dam sites; Devaswom Department is mapping waste disposal from pilgrim centers and Health department from hospitals.

5. Status of implementation of Plastic Waste Management Rules, 2016

5.1 Gap Analysis and Action Points of Plastic Waste Management (As per Hon'ble NGT order dated 12/09/2019 in OA No. 606/2018)

- Quantity of plastic waste generated: 1,33,316 TPA
- Coverage of ULBs/VPs: Material collection facility is all ULBs
- Channelization through various routes including recycling, road making co –processing: Detailed in Sl. No. 5 in the table detailed below.
- Thrust areas which require attention is EPR framework and Processing of Plastic waste through alternate routes available: Plastic bottles, mineral water bottles, plastic cover, plastic carry bags, plastic packaging in FMCG products, mattresses. Detailed in sl. No. 3 in the table below.

5.2 Information on plastic waste management

Sl. No.	Item	Status									
1	What is the quantity of plastic waste generated (Annual Report form VI pt.2,6) (TPD)	1,33,316 TPA (As per the annual report vide letter No. PCB/HO/PLA/AR/4/2019 dated 23-07-2019)									
2	Percentage of ULBs which have set-up of plastic waste management system as per Rule 6(2)? (including collection, segregation, channelization & processing of plastic waste)	Material collection facility in all ULBs Resource recovery facility in all ULBs as follows: Corporation-6/6 Municipality-45/87 Total =51/93 =54.83%									
3	Percentage of Grama Panchayat which have set-up of plastic waste management system as per Rule 7?	453 in a total of 941 Grama panchayaths									
4	Has the system for plastic waste management with assistance of producers been set-up? Rule (6(3))?	<table border="1"> <thead> <tr> <th>Sl. No.</th> <th>Item</th> <th>Action done</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Plastic bottles</td> <td>Reverse Vending machine functioning at Reliance outlet, Edappazhinji. Direction will be given to other supermarkets and malls to provide such reverse vending machine.</td> </tr> <tr> <td>2.</td> <td>Beverage bottles</td> <td>Direction to pay Rs. 5/- per bottle and to take back through their own distribution channel was issued to Kerala State Beverages Limited. Kerala State Civil Supplies Corporation and Kerala State Co-operative Consumers Federation Limited on 14-8-2019 and 24-9-2019. They have submitted action plan and reply given.</td> </tr> </tbody> </table>	Sl. No.	Item	Action done	1.	Plastic bottles	Reverse Vending machine functioning at Reliance outlet, Edappazhinji. Direction will be given to other supermarkets and malls to provide such reverse vending machine.	2.	Beverage bottles	Direction to pay Rs. 5/- per bottle and to take back through their own distribution channel was issued to Kerala State Beverages Limited. Kerala State Civil Supplies Corporation and Kerala State Co-operative Consumers Federation Limited on 14-8-2019 and 24-9-2019. They have submitted action plan and reply given.
Sl. No.	Item	Action done									
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2.	Beverage bottles	Direction to pay Rs. 5/- per bottle and to take back through their own distribution channel was issued to Kerala State Beverages Limited. Kerala State Civil Supplies Corporation and Kerala State Co-operative Consumers Federation Limited on 14-8-2019 and 24-9-2019. They have submitted action plan and reply given.									

		3.	Plastic carry bag	Proposal to buy back used plastic carry bags at a price of Rs. 0.80/bag , either priced or gratis by all shops and establishments handing out plastic carry bags submitted to Urban and Panchayath directorate on 27-8-2019 and the matter is being followed up. Government have imposed a complete ban on the manufacture, storage, transport, and sale of single use plastic items in the State with effect from 1-1-2020 vide G.O.(Rt) No. 128/2019/ENVT dated 31-12-2019
		4.	Milk cover	Meetings were held with MILMA, KERA, Kerala Beverages Limited. MILMA and Kerala Beverages Limited engaged Clean Kerala Company Limited, Government company to prepare action plan. Action is being taken for the implementation of EPR.
		5.	Mineral water bottles	Meetings held with the associations of Mineral water bottles and proposed to introduce Bottle return scheme by increasing Rs. 1 for packaged drinking water bottle as "Bottle return scheme". And also to get feed back from Vyapari Vyavasaya Ekopana Samithi. Action is being taken for the implementation of EPR.
		5.	FMCG products	Direction issued on 11-10-2019 to brand owners who have obtained EPR authorization from Central Pollution Control Board to submit the address and name of the distributors in Kerala State and also informed the proposal of the board to register all brand owners who see within the State and collect registration fee at the rate of Rs. 10/kg of packaging introduced into market and the registration fee need to compensate local bodies on submission of their annual report under Solid waste Management rules, 2016. The payment of registration fee shall be taken as discharge of EPR of brand owners and inform their distributors details, as their action plan for taking back was not obtained in the State. Action is being taken for the implementation of EPR.
		6.	Mattress	As per the meeting conducted with Indian Sleep Producer Federation(ISPF), it has been decided <ul style="list-style-type: none"> • to have a collection point by dealers/retailers in each district irrespective of brand of mattresses • All manufacturers shall arrange for take back of old mattresses irrespective of brand , through retail outlets that sell their branded mattresses • Brand owners and manufacturers are urged to introduce buy back prices for old mattresses against sale of new mattresses
		7.	Unused medicines in houses	Initiated by Chemists and Druggist Association and Drugs Controller (PROUD programme) in Thiruvananthapuram Corporation. Around 200 bins were provided in front of

			<p>medical shops in Thiruvananthapuram Corporation.</p> <p>The first load of collected waste of 5T has been flagged off from Thiruvananthapuram to biomedical waste treatment facility on 1-10-2019. This was done with the funding of Chemists and Druggists Association.</p> <p>Action is being taken to have this collection programme in other parts of the State.</p> <p>Action is taken to get fund from manufacturers, producers and brand owners as per EPR.</p>
		8.	<p>End of life vehicle</p> <p>As per the meeting 24-05-2019, it has been decided to take steps to control the unauthorized dismantling centers; to arrange meeting with KINFRA, SIDCO, KSIDC for setting up dismantling units and to have own authorized dismantling centers for KSRTC.</p>
5	Status of Utilization of plastic waste (Annual Report form VI pt.4)		
A	In Recycling	<ul style="list-style-type: none"> Clean Kerala Company-100T by Clean Kerala Company 	
B	Road Construction	<ul style="list-style-type: none"> Clean Kerala Company collected 845.5 T of plastic waste and 583.4T (69%) has been used for road construction by Clean Kerala Company Limited. 	
C	Waste to oil	Nil	
D	Co-processing of Plastic Waste in Cement kilns	Nil	
E	RDF	Nil	
F	Footpath /Tiles	Nil	
G	Others	-	
6	Whether local bodies have framed bye-laws [Rule 6(4)]?	Common byelaw	
7	Whether plastic carry bags & plastic sheet of thickness < 50 micron banned or not [Rule 4(c)]?	Banned	
8	Has complete ban on plastic carry bags been imposed? (Annual Report format pt.3)	<ul style="list-style-type: none"> Plastic ban in and around Nilackal, Sabarimala, Pamba, Pilgrim area vide notification dated 08-11-2018. Plastic ban in Erumeli by District collector vide order No. Dated 02-11-2015. Plastic ban in tourist spots as per order no. PCB/T4/115/97 dated 14-6-2018. 	

9	Status of action taken on noncompliance of PWM Rules (Annual Report format pt.9)	<p>Fine collected for illegal sale of plastic carry bag (<50 micron) by Mannarkad Municipality –Rs. 1,05,500</p> <p>Fine collected for illegal sale of plastic carry bag (<50 micron) by Nedumagad Municipality –Rs. 85,500 from 19-2-2018 -19-8-2019 and 96.318 kg of plastic confiscated.</p> <p>Cherthala municipality imposed registration fees of Rs.4000/- (for one month) for the use of plastic carry bag (<50 micron).</p> <p>Thrissur Corporation,Attingal and Manjeri municipality constituted squad for checking the sale of plastic carry bags.</p>
10	Status of marking &labelling on plastic carry bags & multi layered packaging.(Rule 11)	<ul style="list-style-type: none"> • Kerala State Pollution Control Board issued registration to 1,185 plastic units. • The Board inspected the plastic carry bag units and verified the thickness of carry bags. The Board also verified whether the conditions of registration were complied with.
11	No. of registered plastic manufacturing units / recycling units/ Producers / brand owners/ importers as per Rules 9 &13 of PWM Rules?	<ul style="list-style-type: none"> • Registered plastic manufacturing units-1185 • Registered plastic recycling units - 214
12	No. of unregistered plastic manufacturing or recycling units (Annual Report format pt.7)	Action has been taken to bring all units under the purview of registration.
13	Whether State Level Advisory Committee is constituted or not? [Rule 16] If yes, details of number of meetings conducted in a year and implementation of suggestions of committee in the last two years.	Yes 33 meetings were conducted by SLAC and review
14	Status of phasing out of manufacture and use of multi-layered plastic which is non-recyclable or non-energy recoverable or with no alternate use of plastic in two years' time [Rule 9-3]	PVC flex has been banned in the State. Action has been initiated for its implementation.

6. Format on sewage management

Sl. No	Action Point	A	B	C=A-B	D
		Existing Status	Desired/ Projected	Gap	Timeline
1	Estimated Sewage Generation MLD	1117	1200	83	
2	Treatment Capacity (projection for 5 years to be taken into consideration)	125 962 high rise buildings are having STP	STP in all municipalities and Corporation except Thiruvananthapuram Augment sewer system in Thiruvananthapuram		
3	Status of Sewerage System (in km)	Sewerage system in Thiruvananthapuram	In all municipalities and Corporation except Thiruvananthapuram	In all other municipalities and Corporation Augment sewer system in Thiruvananthapuram	
4	No. of STPs (Details to be provided as per Annexure)	9			Annexure
5	Has bulk users identified for reuse of treated Water such as industrial clusters, Metro Rail, Indian Railways, Infrastructure Projects, Agriculture, Bus Depots and PWD(Y/N)	N			
6	Quantity of treated wastewater being used by Bulk User (in MLD)	N			
	Industrial clusters,				
	Metro Rail,				
	Indian Railways,				
	Infrastructure Projects,				
	Agriculture, Bus Depots and PWD.				
7.	No. of Water Aquatic Sources (Lakes, Pond etc.) being developed through treated waste water	N			

ANNEXURE

INVENTORIZATION OF SEWAGE TREATMENT PLANTS LOCATED IN KERALA

Sl. No.	City/Town	STP location	STP commissioned in Year	Status (Operational/ Non-Operational/ Under construction)	STP Installed capacity	Actual utilization capacity	Technology (UASB/ASP/OP/SBR/MBR/FAB/Etc.)	Water supply	Disposal (land, River, Sea or any other)	Consent status
1	Thiruvananthapuram	Common Sewage Treatment Plant, Muttathara, Trivandrum (105MLD) Maintained by Kerala Water Authority	2015	Operational	107 MLD	44 MLD	ASP	Thiruvananthapuram	Land	Consented
2	Pathanamthitta	Sewage Treatment Plan at Sannidhanam (5MLD) Maintained by Travancore Devaswam Board		Seasonly Operated during festival season	5 MLD	3.5 MLD	VASB/SBR	Kunnar Dam	River	Consented
		Sewage Treatment Plan at Pamba (3.5 MLD) Maintained by Travancore Devaswam Board		Seasonly Operated during festival season	3.5 MLD	3.5 MLD	Congulation & Setting	Kochu Pamba	River	Validity expired

3	Kottayam	STP for Houseboat (0.09 MLD) at Kumarakom Maintained by District Tourism Promotion Council, Kottayam		Operational	90 KLD	90 KLD	ASP (Activated sludge process)	From House Boat	Irrigation	Consent valid up to 30/06/2018
4	Ernakulam	Sewage treatment unit, Kerala Water Authority, Elamkulam, Ernakulam(3 MLD)	1988	Operational	4.5MLD	3 MLD	ASP (Activated sludge process)	Corporation water	River	Consent valid up to 30/06/2018
		STP owned by Greater Cochin Development Authority, Kadavanthra, Kochi (0.45 MLD)	2014	Operational	0.45 MLD	0.45 MLD	ASP (Activated sludge process)	Corporation water	River	Consent 19/07/2019
		Septage Treatment Plant at Brahmapuram (0.1 MLD) Kochi Corporation, Ernakulam	2016	Operational	100m ³ /D	100m ³	MBR	Corporation water	Land	Issued consent to establish consent to operate under process
		Sewage Treatment Plant, DO - 1, Aluva Municipality								

5	Kannur	Sewage treatment Plant at Taliparambu (0.5MLD) Taliparambu Municipality, Kannur	2012	Operational	0.5MLD	0.5MLD	ASP with MBBR	Waste water from Thaliparambu municipal area	Storm water drain leading to Kuppam river	applied for consent to operate - under processing
6	Thrissur	Sewage treatment Plant at Guruvayur in Thrissur District		Not yet commissioned	3 MLD	3 MLD	ASP	Guruvayur Municipal area		applied for consent to operate - under processing

6.1. Status of Sewage treatment plants under AMRUTH Scheme

a) Thiruvananthapuram Corporation commissioned a sewage treatment plant of 107MLD capacity but the augmentation of sewer pipe lines which leads to bypass of sewage from manholes, pumping stations etc into water bodies are to be done. Works regarding the augmentation of sewer pipe line have been included in the Karamana River Action Plan. Longterm and short term plans are also included in the Karamana River Action Plan.

It is noted that under the Amruth Project, 112 projects including 24 main projects at a cost of Rs. 159.81 Crore are included. Of which they have completed 38 works for an amount of Rs. 25 crore.

b) In Kollam Corporation, five projects including three projects at a total cost of Rs. 87.74 Crore. Technical Sanction has been issued for an amount of Rs. 39.67 Crore and it is in the stage of tendering.

c) In Alappuzha municipality, four projects are at a cost of 10.09 Crore. Of which technical sanction issued to two projects at a cost of Rs. 3.05 Crore and it is in the tendering stage.

d) In the case of Kochi Corporation, there are four projects at a cost of Rs. 103.34 Crore. Of which, technical sanction issued to three projects at a cost of Rs 56.644 Crore and it is in tendering stage.

e) For Thrissur, there are three projects at a cost of Rs. 103.34 Crore and of which technical sanction is given for three projects at a cost of Rs. 52.92 crore and is in a tendering stage.

f) In Guruvayoor, there is one project at a cost of Rs. 4.5 Crore. Technical sanction is issued for Rs. 3.9 Crore and is in the tendering stage.

g) For Kozhikode Corporation, there are three projects at a cost of Rs. 120.81 Crore. Technical sanction was issued for three projects at a cost of Rs. 130.6 Crore. Work awarded to one project at a cost of Rs. 14.1 Crore. The actionplan for Kallayi river included in Polluted stretch includes proposal for sewage treatment plant.

h) For Kannur, there are two projects at a cost of Rs. 50.23 crore and of which technical sanction issued to one project at a cost of Rs. 2.36 crore and is in tendering stage.

6.2. Status of sewage treatment plant planned to set up under AMRUTH scheme

The details of Sewage Treatment Plant which is planned to set up in 14 districts under the AMRUTH scheme obtained from Suchitwa Mission are enclosed as Annexure 13.

7. Format on Noise pollution

Sl. No	Content	Current Status	Desirable	Gap	Time
1.	No. of stations for Ambient Noise Monitoring	Nil	Proposed 4 Nos. of Stations	Setting up of Ambient monitoring station	2019-2020
2.	No. of stations in Industrial Zone	Nil		Setting up of Ambient monitoring station	-
3.	No. of stations in commercial Zone	Nil		Setting up of Ambient monitoring station	2019-2020
4.	No. of stations in Residential Zone	Nil		Setting up of Ambient monitoring station	-
5.	No. of stations in Silence Zone	Nil		Setting up of Ambient monitoring station	2019-2020
6.	Compliance of Ambient Standards (No. of Stations) Industrial Zone Commercial Zone Residential Zone Silence Zone	Noise mapping was done and it was observed that junctions are non complying	Setting up of Ambient monitoring station	Setting up of Ambient monitoring station	2019-2020-
7.	Identification of Hot Spots	Yes in Thiruvananthapuram, noise mapping was done and it was observed that junctions are non complying	Noise mapping in other cities	Noise mapping in other cities	2020
8.	Designated Authorities defined as per Noise Rules (Y/N) Details to be provide)	Yes District Magistrate, Commissioners of Police / Superintendents of Police and Deputy Superintendents of Police (Sub Divisional Officers) were designated as per G.O No. 111/2002 the Home (F) Department			
9.	Has Methodology been prepared for granting permission for installation of Public Address System (Y/N) (Details to be provide)	Yes		Police department is granting the permission for public address system	-
10.	Has Methodology been prepared for redressal of complaint on noise pollution ? (Y/N) (Details to be provided)	Yes		<ul style="list-style-type: none"> • Pollution Control Board for noise due to various activities such as operation of machinery • District 	-

				Magistrate and Police Department are the authorities for ensuring ambient noise standards with respect to public redressal system. <ul style="list-style-type: none"> Support to the Police Authority is being given by the Board on request basis for the measurement of the sound level 	
11.	No. of Police Stations equipped with sound level meter	-	Sound level meter	Sound level meters	2020
12.	No. of Police Stations having officers trained as per noise Pollution Rules by SPCBs/PCs.	<ul style="list-style-type: none"> Specification of sound level meter and the list of leading suppliers were given to the State Police department as per order dated 25-6-2019 in OA 681/2018 Discussion done with ADGP regarding training and training will be conducted on getting the training schedule and reply awaited. 	-	Training to be given	2020
13.	Has protocol been developed for taking appropriate action against the defaulters?	-	Development of protocol by Police department	Development of protocol by Police department	2020
14.	No. of cities in which Noise Mapping has been done (if applicable) #	Study on noise has been done for Thiruvananthapuram	Noise mapping in other cities	Noise mapping in other cities	2020

8. Format on Biomedical Waste Management

Sl. No.	Query	Reply
1	Why inventory on numbers of Healthcare Facilities is still incomplete in State/UT, as required under BMWM Rules, 2016?	Inventory has been updated by the Board (bedded, non-bedded and AYUSH) and the same has been submitted to CPCB on 30-9-2019.
2	What is the reason that inventory is still under process?	
3	As observed that non-bedded HCFs have not applied for authorization, why such HCFs are allowed to operate without authorization under BMWM Rules, 2016?	Concerned departments were addressed to ensure that HCF under their jurisdiction is complying with the BMW Rules. Applying for authorization. As per order in 585/2018 of the Hon'ble NGT, directions issued to thee defaulting hospitals for remitting Environmental compensation. Direction issued DMO, Health regarding other 64 HCLs in Idukki district. The matter is being followed up.
4	How many applications are still under process with State Boards for grant of authorization?	3
5	In case of no Common Biomedical Waste Treatment Facility in Arunachal Pradesh, Andaman & Nicobar, Goa, Lakshadweep, Mizoram and Nagaland & Sikkim Sate/UT how generated biomedical waste is being treated and disposed.	NA
6	Why still there is no proposal submitted by Arunachal Pradesh, Andaman & Nicobar, Goa, Lakshadweep, Mizoram and Nagaland & Sikkim State/UP for setting up CBWTF?	NA
7	Why Barcode system is not implemented in Andaman Nicobar, Arunachal Pradesh, Assam, J & K, Lakshadweep, Mizoram, Orissa, Puducherry, Sikkim, Uttar Pradesh, West Bengal, Chandigarh, Delhi, Jharkhand, Madhya Pradesh, Maharashtra, Rajasthan and Tamil Nadu so far even when the deadline is over as per BMWM Rules, 2016?	NA
8	Whether State/UT has constituted State Advisory Committee so as to review the implementation status?	Yes
9	What steps have been taken by Advisory Committee so as ensure implementation of BMWM Rules, 2016?	The first meeting of the Advisory committee was conducted on 3-9-2019. Steps taken are as follows: <ul style="list-style-type: none"> State Finance department allowed for earmarking funds not

		<p>more than 5% from the Annual plan amount allotted to the Health department for utilizing or the activities of solid and liquid waste management in hospitals.</p> <ul style="list-style-type: none"> • To take action for the gap identified in 127 hospitals for conducting verification, present stage of working, adequacy, need for augmentation of existing facilities, filling up of gap in biomedical, general waste and sewage management in those hospitals in the first phase and for primary level health care institutions in the second phase. • To ensure proper segregation, collection, transportation and on site storage facility of biomedical wastes. • For establishing sewage treatment facility in hospitals and the to follow MBR technology • For establishing modern biogas plant(like BARC model) in hospitals for treatment of food and vegetable waste; source segregation of general wastes other than biomedical wastes; establishing MCF and RRF • For giving proper IEC activities for reduction of waste • To promote common treatment and disposal facility in Medical colleges where there is sufficient land available for catering the need of the hospital and other small hospitals in the district • Monitoring by District Level Monitoring committee chaired by District Collectors
10	How many HCFs other than hospitals, nursing homes etc. such as veterinary hospitals, animal houses, and AYUSH hospitals have been monitored?	257 veterinary institutions, two animal houses and 256 AYUSH units have been identified. Notice was issued to the concerned departments for bringing all such HCFs under authorization.

11	What is the frequency for conducting training or capacity building programmes for State Board officials and for staff of HCFs?	<p>Board in association with National Safety Council is conducting training to the staff of HCF and CBMWTF once in a year.</p> <p>The CBMWTF, (IMAGE) conducts training to</p> <ul style="list-style-type: none"> • newly affiliated HCF; • newly appointed staff if any on need basis; • Whenever notices improper segregation/handling of BMW, in any HCF; • CBMWTF conducts routine training also with not less than twice a year.
12	What is the status of installation of Continuous Online Emission Monitoring System with CBWTF and why it has not been implemented by all CBWTFs? What follow-up action has been taken by State Boards?	<p>Online emission monitoring system installed in CBMTWT and is connected to Board's server.</p> <p>The parameters namely CO, CO₂ and primary and secondary temperatures are continuously monitored and the other parameters namely PM, HCl, NO_x and VOC are monitored by CBMTW on monthly basis.</p>
13	How OCEMS data received by state Boards is being validated?	The values of CO, CO ₂ , and primary and secondary temperature are connected to Board's server and exceedances if any are noticed.
14	What is the status of compliance to BMWM Rules, 2016 by CBWTFs? What action has been taken against defaulting facilities?	<p>Common Biomedical waste treatment facility is in operation in Palakkad.</p> <p>For another CBWTF at Ambalamedu by IMA, the Kochi Corporation has been instructed to earmark the area of five acre for the project.</p> <p>Work for CBWTF in Ambalamedu by Kerala Enviro Infrastructure Limited will commence soon.</p>
15	What is the frequency of monitoring of Healthcare Facilities for verification of compliance to BMWM Rules?	<p>Health care institutions having more than 100KL generation of effluent falls under Red category and for such category, time frame fixed for inspection and collection of sample is once in a month.</p> <p>The other HCIs fall under orange category For such units, frequency of inspection is once in three for large scale, once in six months for medium and once in a year for small scale.</p>

9. Format for compliance of Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016

Sl. No.	Direction of Hon'ble Tribunal in O.A. No. 804/2017	Action Plan along with time line for implementation of orders of Hon'ble Tribunal	Current status of implementation	Gaps identified for implementing the direction of Hon'ble Tribunal	Details of state level committee constituted for the purpose of compliance of HOWM Rules, 2016				
1.	Vide orders dated 12.04.2019 Hon'ble NGT directed that "Having regard to the sensitiveness of the issue and impact of noncompliance on environment and public health, the above recommendations need to be fully implemented and monitored by the Chief Secretaries at State Level."	<table border="1" data-bbox="779 528 1550 1273"> <thead> <tr> <th data-bbox="779 528 1184 587">Directions given on 4-7-2019 and 16-8-2019</th> <th data-bbox="1184 528 1550 587">Organizations to which directions given</th> </tr> </thead> <tbody> <tr> <td data-bbox="779 587 1184 1273"> <p>To fully implement the following provision as stipulated under Rule 5(1), 5(2), 5(3) and Schedule VII pertaining to</p> <ul style="list-style-type: none"> • Allocation/earmarking of industrial space • Recognition/registration/ health safety etc of workers involved in recycling/pre-processing. • Other utilization activities of hazardous waste, • Submission of integrate plan, identification and notifications of sites for common TSDF • Publication of periodic inventory of disposal sites </td> <td data-bbox="1184 587 1550 1273"> <p>Director, Department of industries & Commerce</p> <p>Additional Chief Secretary, Department of Labour Skills</p> <p>Labour Commissioner, Government of Kerala,</p> <p>Managing Director, Kerala State Industrial Development Corporation LTD</p> <p>Director, KINFRA, Thiruvananthapuram</p> </td> </tr> </tbody> </table>	Directions given on 4-7-2019 and 16-8-2019	Organizations to which directions given	<p>To fully implement the following provision as stipulated under Rule 5(1), 5(2), 5(3) and Schedule VII pertaining to</p> <ul style="list-style-type: none"> • Allocation/earmarking of industrial space • Recognition/registration/ health safety etc of workers involved in recycling/pre-processing. • Other utilization activities of hazardous waste, • Submission of integrate plan, identification and notifications of sites for common TSDF • Publication of periodic inventory of disposal sites 	<p>Director, Department of industries & Commerce</p> <p>Additional Chief Secretary, Department of Labour Skills</p> <p>Labour Commissioner, Government of Kerala,</p> <p>Managing Director, Kerala State Industrial Development Corporation LTD</p> <p>Director, KINFRA, Thiruvananthapuram</p>		<p>Industrial space is to be identified</p> <p>Projects for utilizing hazardous waste to be identified</p> <p>One hazardous waste treatment disposal facility in the State</p> <p>Inventory is to be updated</p>	2020
Directions given on 4-7-2019 and 16-8-2019	Organizations to which directions given								
<p>To fully implement the following provision as stipulated under Rule 5(1), 5(2), 5(3) and Schedule VII pertaining to</p> <ul style="list-style-type: none"> • Allocation/earmarking of industrial space • Recognition/registration/ health safety etc of workers involved in recycling/pre-processing. • Other utilization activities of hazardous waste, • Submission of integrate plan, identification and notifications of sites for common TSDF • Publication of periodic inventory of disposal sites 	<p>Director, Department of industries & Commerce</p> <p>Additional Chief Secretary, Department of Labour Skills</p> <p>Labour Commissioner, Government of Kerala,</p> <p>Managing Director, Kerala State Industrial Development Corporation LTD</p> <p>Director, KINFRA, Thiruvananthapuram</p>								
		<ul style="list-style-type: none"> • Principal Secretary, Environment Department, Government Secretariat requested 0 22-7-2019, PCB to take necessary steps to liaison with Industries department and Labour Department and monitor the setting up and operation of the common or captive treatment storage and disposal facility in the State 							

2.	Vide orders dated 26.08.2019 Hon'ble NGT directed that "All the Chief Secretaries of the States/UTs may be directed to submit biannually compliance report to CPCB by collecting information from the State Government/ Departments like Labour/ Industries/Environment and SPCBs/PCCs."				Complied
		Date of direction	Directions given	Organization to which direction given	
		6-9-2019	<ul style="list-style-type: none"> Practice of returning HW consignment needs to be immediately stopped and the consignment needs to be stored within the TSDf with information to the Waste generator and PCB. TSDf shall take appropriate measures to dispose this waste at the risk and cost of the waste generator with intimation to SPCB. Provide the laboratory attached to TSDf with facilities to analyse all the hazardous waste parameters Immediately open the Escrow account as per OM of MoEF &CC including deposition of mandatory amount, disclose the details of the mandatory amount deposited in Escrow account annually to SPCB/CPCB and display those details in their website 	Director, KEIL	
16-9-2019	<ul style="list-style-type: none"> Used /waste oil from ships collected by the reception facilities of various ports shall be covered under 	Director of Ports, PCB officials	Escrow amount was earmarked but Escrow account is to be opened		
					Action has been initiated

				<p>authorization purview of SPCB</p> <ul style="list-style-type: none"> Regarding disposal of illegally imported consignments, Port authorities/ICDs may also devise a policy in consultation with customs to ensure HW disposal and its cost for expediting the disposal of all unclaimed cargo lying at various ports. Laboratory up gradation in ports/docks for testing HW Authorisation from SPCB to be obtained to deal with hazardous waste, manifest shall be submitted at waste reception and port operations and annual report is to be submitted 			Action has been initiated
		16-9-2019	<ul style="list-style-type: none"> SPCB shall have atleast one laboratory where all HW parameters as required under the rules can be analysed. 	SPCB			
		18-9-2019	<p>Directions regarding illegally imported consignments, laboratory upgradation in ports/docks, verification of documents for HW, RMS system and harmonization of other category in line with</p>	Commissioner, Central Excise and Customs, Kozhikode and Kochi			

				HWM Rules, penal action against defaulters and in obtaining authorisation		
			17-10-2019	Take action to include HWM Rules with special reference to assessment, inventorisation, hazardous waste treatment process, remediation and restoration of hazardous waste contaminated sites in MTech Environmental Engineering course	Registrar Cochin University of Science and Technology, Registrar APJ Abdul Kalam Technological University	
			17-10-2019	Provide hazardous waste incinerator at TSDF	Kerala Enviro Infrastructure Limited	2021
			17-10-2019	Malabar cements	Submit a proposal regarding the possibility of burning hazardous waste(liquid/sludges) via multichannel burner	
			17-10-2019	Indian Institute of Chemical engineers	Conduct a material balance study of major hazardous waste generating industries in the State	2020
			14-10-2019	Centre for Environment and development	Inventorisation of hazardous waste	2020

3.	Vide orders dated 26.08.2019 Hon'ble NGT directed that "The committee recommends Hon'ble Tribunal to direct Chief Secretaries of States to ensure effective and urgent implementation of the provisions of the rules as stipulated under Rule 5(2) of HOWM Rules, 2016 by Department of Labour."	<table border="1"> <thead> <tr> <th data-bbox="779 172 1184 236">Directions given on 4-7-2019</th> <th data-bbox="1184 172 1550 236">Organizations to which directions given</th> </tr> </thead> <tbody> <tr> <td data-bbox="779 236 1184 887"> <p>To fully implement the following provision as stipulated under Rule 5(1), 5(2), 5(3) and Schedule VII pertaining to</p> <ul style="list-style-type: none"> • Allocation/earmarking of industrial space • Recognition/registration/ health safety etc of workers involved in recycling/pre-processing. Other utilization activities of hazardous waste, • Submission of integrate plan, identification and notifications of sites for common TSDF • Publication of periodic inventory of disposal sites </td> <td data-bbox="1184 236 1550 887"> <p>Director, Department of industries & Commerce</p> <p>Additional Chief Secretary, Department of Labour Skills</p> <p>Labour Commissioner, Government of Kerala,</p> <p>Managing Director, Kerala State Industrial Development Corporation LTD</p> <p>Director, KINFRA, Thiruvananthapuram</p> </td> </tr> </tbody> </table>	Directions given on 4-7-2019	Organizations to which directions given	<p>To fully implement the following provision as stipulated under Rule 5(1), 5(2), 5(3) and Schedule VII pertaining to</p> <ul style="list-style-type: none"> • Allocation/earmarking of industrial space • Recognition/registration/ health safety etc of workers involved in recycling/pre-processing. Other utilization activities of hazardous waste, • Submission of integrate plan, identification and notifications of sites for common TSDF • Publication of periodic inventory of disposal sites 	<p>Director, Department of industries & Commerce</p> <p>Additional Chief Secretary, Department of Labour Skills</p> <p>Labour Commissioner, Government of Kerala,</p> <p>Managing Director, Kerala State Industrial Development Corporation LTD</p> <p>Director, KINFRA, Thiruvananthapuram</p>	<p>Industrial space is to be identified</p> <p>Projects for utilizing hazardous waste to be identified</p> <p>One hazardous waste treatment disposal facility in the State</p> <p>Inventory is to be updated</p>	
Directions given on 4-7-2019	Organizations to which directions given							
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10. Status of implementation of E- Waste Management

FORMAT FOR IMPLEMENTATION OF E- WASTE MANAGEMENT

Sl. No.	Challenge/ Activities	Stakeholder responsible for implementation	Action	Current Status	Desirable level of compliance in terms of statuses	Gap between current status & desired timelines	Proposal for attending the gap with timelines	Name, designation, contact number of designated officer for Compliance to the provisions under statute
a.	Checking of informal trading dismantling and recycling	SPCBs/PCCs / District Administration	SPCBs/PCCs/ in coordination with District Administration has to carry out quarterly drive for checking of this activity	The DLMC was constituted as per OA 606/2018, has been entrusted to overlook the matter on E-waste Rule implementation.	From the informal sector, 19 T of e-waste disposed to registered recyclers.	E-waste from informal sector is to be disposed through registered recyclers	2020	Smt. Premalatha Environmental Engineer 9447975725
				No authorized dismantling and recycling facility in the State	Authorized dismantling and recycling facility are to be provided in the State	Authorized dismantling and recycling facility are to be provided in the State	<p>1) Action is being done to have dismantling unit at Kuttipuram, Malappuram by Clean Kerala Company, Government undertaking</p> <p>2) From the informal sector, 19 T of e-waste disposed to registered recyclers. by Eco</p>	

							<p>Friendly Solutions, Erattupetta, Kottayam and they have also submitted the details namely item name, code, quantity and registered recycler</p> <p>3) Industrial sites for setting up of facilities are being identified.</p>	
b.	Facilitate collection and disposal of e-waste	SPCBs/PCCs / District Administration/ CPCB	State Government to formulate mechanism for collection and for incentivizing settling up of recycling facilities	<p><u>I. Facility available for the collection and disposal of e-waste</u></p> <p>1) Clean Kerala company, Government Company is collecting E-waste.</p> <p>2) Collection centers are provided by recyclers and by brand owners.</p> <p>3) Collection of E-waste from informal sector to registered recyclers is being carried out.</p> <p><u>II. Identification of land in industrial estate</u></p> <p>There are 39 industrial estate with a total area of 2420 acre of land. The Director of Commercial Industrial department reported regarding the allotment of land in the industrial estate</p>				

				<p>for plastic/e-waste management.</p> <ol style="list-style-type: none"> 1) Thuvananthapuram-Veli Industrial area - 1 acre 2) Alappuzha – Punnapra Industrial Development area- 20 cents 3) Pathanamthitta-Kummathanam-area 50 cents 4) Ernakulam-Edayar Industrial Developemtn Area-1 Acre 5) Thrissur- Paravoor Veli Industrial Development-50 cents 6) Kasargod-Aanthapuum lud development- 1 acre 				
c.	Governance frame work for monitoring compliance	SPCBs/PCCs / District Administration/ CPCB	Monitoring to be ensured at city/ district and State levels for which nodal officers (State environmental secretary, district collector, CMD/ Commissioners) to be designated. Time Frame - Three (3) months	The DLMC was constituted as per OA 606/2018, has been entrusted to overlook the matter on E-waste Rule implementation.				

d.	Capacity building at district/State / CPCB level	SPCBs/PCCs / District Administration/ CPCB	Special workshops to educate functionaries in government/ NGOs be run over one year	MAIT conducted an awareness program on the responsible handling of E-waste among various stakeholders including schools, colleges, RWA/s, bulk consumers, informal sector, refurbishers, and in creating green e-champions in the State.				
e.	IEC plan be firmed up and executed	SPCBs/PCCs / District Administration/ CPCB	State Government to firm up IEC plan for education public at large about the system of collection, incentive structure and facilities for recycling. The IEC plan to be executed over one year					
f.	Strengthen system of enforcement	SPCBs/PCCs / District Administration/ CPCB	Quarterly review of violations and enforcement actions at city/district/ state level and quarterly reports to be filed with CPCB.	Collection centers operated by various brand owners were inspected in Thiruvananthapuram district, based on the violation notices and reported to CPCB and subsequently CPCB revoked the EPR authorization issued. The matter is being followed up.				
				Brand owners/producers while applying for EPR authorization have to submit action plan. But the Urban Directorate in the State	Action plan by brand owners is to be endorsed	Not submitted the action plan by producers/	Central Pollution Control Board is to instruct the producers in this regard.	

				Government and State PCBs are not aware about the action plan. Hence the action plans have to be endorsed by the State Government	by State Government and SPCB	brand owners		
				Annual reports are not regularly submitted by the producers/ brand owners.		Not submitting the annual report by producers/ brand owners	2020	
				Inventorisation of E-waste as per the schedule in the E-waste Rule is a difficult task and the Board taken steps to outsource the inventory work.			2020	
				Annual reports for the year 2018 based on the available information was submitted to CPCB.				

10.1 Other good initiatives

From the informal sector, 19 T of e-waste disposed to registered recyclers by Eco Friendly Solutions, Erattupetta, Kottayam on 9-10-2019 and 15-10-2019 to registered recyclers through PRO, RLG India who got approval from Central Pollution Control Board. They have also submitted the details namely item name, code, quantity and registered recycler to the Board.

11. Compliance of NGT order dated 16-1-2019 in OA 606/2018

In compliance with the Order dated 16/01/2019 of the Hon'ble NGT on in O.A. no. 606/2018, 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 8 meetings from February to October 2019.

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, Brahmappam dumping yard, Kalamassery dumping yard and Periyar were also inspected.

11.1 Details of SLMC, DLMC Meeting up to 06-02-2019

Subject	District	No. of Meetings
SLMC Meeting- Total meetings		12
DLMC Meeting	Thiruvananthapuram	5
	Kollam	3
	Pathanamthitta	3
	Alappuzha	6
	Kottayam	2
	Idukki	3
	Ernakulam	1
	Thrissur	1
	Palakkad	3
	Malappuram	5
	Kozhikode	1
	Wayanad	2
	Kannur	2
	Kasargod	2

12. Polluted river stretches in O.A. No. 673/2018

12.1 Status

- There are 21 polluted river stretches in Kerala. Critically Polluted (Priority 1) is the Karamana River stretch from Melekadu to Moonnattumukku. The other rivers fall in Priority
- For the river Karamana, Action Plan was approved by the NGT vide order dated 8-4-2019 in OA 673/2018. The action plan is being implemented by the concerned departments. For the remaining 20 polluted stretches, action plans were prepared and submitted to the NGT. The compliance status is regularly monitored.
- Out of the 20 polluted stretches, action plans for the 13 polluted stretches were submitted to CPCB and to Hon'ble NGT on 26-6-2019. Though for the remaining seven stretches (Pamba, Manimala, Kavvai, Kuttiyadi, Uppala, Mogral, Bhavani), BOD is within the standard of 3 mg/l as per the water quality report during 2017-18. As instructed by the Central Pollution Control Board, action plans were submitted for the remaining seven polluted stretches on 30-7-2019.
- As per the Hon'ble NGT order website exclusively for RRC was developed by KSPCB as www.ksrrc.in.
- The progress on the implementation of Karamana Action Plan by the departments was reviewed on 8-7-2019, 30-8-2019, and 24-10-2019. The Principal Secretary reviewed the status of implementation on 9-12-2019.
- For the Karamana action plan, more than 50% of short term measures were implemented and the departments are also in the process of implementing long term measures. Progress of action plan for other rivers is also reviewed periodically.
- As per the NGT order in OA No. 673/2018, Board's all district offices were instructed to monitor Faecal Streptococci also in addition to Faecal coliform while monitoring the water quality of polluted stretches
- One day training was given to officers regarding the method of analysis of the same.
- As per the order dated 6-12-2019 of the Hon'ble NGT in OA 672/2018, Board all district offices were instructed to conduct a survey with all said parameters such as BOD, FC, pH, COD, DO and other recalcitrant toxic pollutants having tendency of bio-magnification, within three months and that monitoring gaps be identified and upgraded so to cover upstream and downstream locations of major discharges to the river.
- Board's six district offices are equipped with portable water quality monitoring analyzers to measure pH, DO etc, Action is being taken to equip rest of district officers also with such analyzers

12.2 Other Projects

a) National Hydrology Project

Under the National Hydrology Project, a study is planned on 5 major rivers, namely Meenachil, Periyar, Bharathapuzha, Kallai and Valapatnam.

b) Urban Regeneration and Integrated Water Transport System in Cochin

A project titled Urban Regeneration and Integrated Water Transport System in Cochin with a project outlay of Rs 1365.16 crores has been appraised by KIIFB for funding. It is intended to regenerate the urban area in and around the 5 canals in Kochi, rehabilitate the slum dwellers and make use of the commercial area near the canal along with creation of tourism destinations and navigation through the canals. In principle, approval has been given for KIIFB funding for Rs 566.51 crores for land acquisition and building compensation in 2 Phases, namely Phase 1 for Rs 340.69 crores and Phase 2 for Rs 225.82 crores. Kochi Metro Limited is the Special Purpose Vehicle for this project.

c) Akkulam Lake Rejuvenation

A project titled Akkulam Lake Rejuvenation with a project outlay of Rs 126 crores has been appraised by KIIFB for funding. In principle, sanction has been accorded for conducting bathymetric and other studies for Rs 4 crores, as the 1st step. Translational Engineering Centre at Barton Hill Engineering College is the project consultant. WAPCOS is the Special Purpose Vehicle for the project. Bathymetry study has been conducted.

13. O.A. 681/2018 on Ambient Air Quality

13.1 Online Continuous Real Time Monitoring Data Of Industries/Public Places (Status as on 17-2-2020)

13.1.1 Active

Active								
Sl. No	Industry	Category	Emission	Effluent	Ambient	District	Status	Exceedence
1	Kozhikode Diesel Power Project Kerala State Electricity Board Limited	Power Plant	√	√	-	Kozhikode	Active	No Exceedence
2	The Fertilisers And Chemicals Travancore Ltd (FACT) Udyogamandal Complex- Petrochemical Plants	Petrochemicals	√	√	-	Ernakulam	Active	No Exceedence
3	The Kerala Minerals And Metals Ltd	Iron And Steel	-	-	√	Kollam	Active	No Exceedence
4	Hindustan Insecticides Limited	Pesticide	-	√	-	Ernakulam	Active	No Exceedence

Active								
Sl. No	Industry	Category	Emission	Effluent	Ambient	District	Status	Exceedence
5	Prodair Air Products India Pvt Ltd	Chemical	√	-	√	Ernakulam	Active	No Exceedence
6	The Canara Paper Mills Pvt. Ltd	Pulp And Paper	-	√	-	Kottayam (Changanassery)	Active	No Exceedence
7	Greenland Paper Mills Ltd	Pulp And Paper	-	√	-	Kollam	Active	No Exceedence
8	KSPCB Calicut Palayam Station	Public Location	-	-	√	Kozhikode	Active	Exceedence Detected
9	KSPCB Trivandrum Plamood Station	Public Location	-	-	√	Trivandrum	Active	Exceedence Detected
10	P P S Steels Pvt Ltd	Iron And Steel	√	-	-	Palakkad (Kanjikode)	Active	No Exceedence
11	TMS Leathers	Tannery	-	√	-	Ernakulam (Edayar)		Exceedence Detected
12	The Travancore Cement Ltd	Cement	√	-	-	Kottayam (Nattacom)	Active	Exceedence Detected
13	RPC Paper Mills	Pulp And Paper	-	√	-	Kollam (Punalur)	Active	No Exceedence
14	Adani Vizhinjam Port Private Limited	Port	-	-	√	Trivandrum (Vizhinjam)	Active	Exceedence Detected
15	Kunnath Paper Mills Ltd	Pulp And Paper	-	√	-	Palakkad (Meenkaramdam)	Active	No Exceedence
16	Hindustan Organic Chemicals Limited	Petrochemicals	-	√	-	Ernakulam	Active	No Exceedence
17	Prince Rollings Private Limited	Iron And Steel	√	-	-	Palakkad (Pattambi)	Active	No Exceedence
18	KSPCB Ernakulam Vyttila Station	Public Location	-	-	√	Ernakulam	Active	Exceedence Detected
19	Cochin Cements Ltd	Cement	√	-	-	Kottayam	Active	No Exceedence
20	Malabar Cements Ltd	Cement	-	-	√	Pallakad	Active	Exceedence Detected
21	Malabar Cements Ltd_Cherthala	Cement	√	-	√	Alappuzha (Cherthala)	Active	No Exceedence
22	The Fertilisers And Chemicals Travancore Ltd (FACT) Udyogamandal Complex-Fertiliser Plants	Fertilizer	√	√	-	Ernakulam (Eloor)	Active	Exceedence Detected

Active								
Sl. No	Industry	Category	Emission	Effluent	Ambient	District	Status	Exceedence
23	The Fertilisers And Chemicals Travancore Ltd (FACT) Cochin Divison	Fertilizer	√	√	-	Ernakulam (Ambalam edu)	Active	No Exceedence
24	Apollo Tyres Limited	Manufacturing	√	-	√	Ernakulam (Kalamassery)	Active	No Exceedence
25	Kairali Steels And Alloys Private Limited	Iron And Steel	√	-	-	Palakkad (Kanjikode)	Active	No Exceedence
26	M/s Nitta Gelatin India Ltd	Drugs And Pharmaceuticals	-	√	-	Thrissur (Koratty)	Active	No Exceedence
27	Rubber Park India Private Limited	Cetp	-	√	-	Ernakulam	Active	No Exceedence
28	Travancore Cochin Chemicals Limited	Chlor Alkali	√	√	-	Ernakulam (Eloor)	Active	No Exceedence

13.1.2 In active

Action has been taken to make it active.

Sl. No	Industry	Category	Emission	Effluent	Ambient	District	Status
1	Brahmapuram Diesel Power Plant	Power Plant	√	√	-	Ernakulam (Kakkanad)	Inactive
2	NTPC Limited, Rajiv Gandhi Combined Cycle Power Project	Power Plant	√	√	√	Allapuzha	Inactive
3	KINFRA Textile Centre, Kannur	Textile	-	√	-	Kannur (Thaliparamb)	Inactive
4	Hindustan Newsprint Ltd	Pulp And Paper	-	√	-	Kottayam	Inactive
5	Gramox Paper and Boards Ltd	Pulp And Paper	-	√	-	Ernakulam (Muvattupuzha)	Inactive
6	Amrita Institute of Medical Sciences and Research Centre	Public Location	-	√	-	Ernakulam	Inactive
7	Southern Ispat & Energy Ltd	Iron And Steel	√	-	-	Palakkad	Inactive
8	INDIAN NAVAL ACADEMY SEWAGE TREATMENT PLANT	STP	-	√	-	Kannur (Payyanur)	Inactive

13.1.3 Partial

Partial Connected									
Sl. No	Industry	Category	Emission	Effluent	Ambient	Place	District	Status	Exceedence
1	KSPCB Eloor Station	Public Location	-	-	√	Eloor	Ernakulam	Partial connected	No Excedence
2	Cochin Special Economic Zone Authority	CBMWTF	-	√	-	Cochin	Ernakulam	Partial connected	No Excedence
3	BPCL Kochi Refinery	Oil Refinery	√	√	√	Kochi	Ernakulam	Partial connected	No Excedence
4	Indian Medical Association Goes Ecofriendly	CBMWTF	√	-	-	Palakkad	Palakkad	Partial connected	No Excedence
5	KSPCB Ernakulam MG Road Station	Public Location	-	-	√	Opp Seematti MG Road Cochin	Ernakulam	Partial connected	No Excedence

13.2 Real time ambient air quality stations at public places

Ambient air quality data of 6 real time ambient monitoring stations in the State located at the following places:

1. Thiruvananthapuram-Plamood (Capital of Kerala)
2. Thiruvananthapuram-Kariyavattom (University of Kerala)-Not connected to server
3. Ernakulam- Eloor (Industrial Hub of the State)
4. Ernakulam-MG Road (Ernakulam- Central City)
5. Ernakulam- Vytilla Bus Stand (Ernakulam- Commercial Area)
6. Kozhikode Palayam Bus Stand (Kozhikode- Commercial Area)
7. Kollam – Not connected to server
8. Kannur – Not connected to server

13.3 Ambient air quality stations:

Apart from the real time ambient air quality monitoring stations, the Board monitors the ambient air quality at prominent stations under the NAMP (National Ambient Air Quality Monitoring Programme) and SAMP (State Ambient Air Quality Monitoring Programme). New SAMP station was established at Moovattupuzha in Ernakulam district.

A. Ambient air quality stations under National Ambient Air Quality Programme

Sl. No.	Location	District	
a)	COSMO Politian Hospital, Pattom	Thiruvananthapuram	NAMP
b)	SMV Govt. Model High School over bridge	Thiruvananthapuram	NAMP
c)	Filatex, Veli	Thiruvananthapuram	NAMP
d)	Kerala State Pollution Control Board, District Office, Plamood, Thiruvananthapuram	Thiruvananthapuram	NAMP
e)	Krishna Leela Tower Kadapakkada Kollam	Kollam	NAMP
f)	Chavra KMML Guest House,Chavara, Kollam	Kollam	NAMP
g)	Kerala State Pollution Control Board District Office Pathanamthitta	Pathanamthitta	NAMP
h)	D C Mills Pvt Ltd Pathirapilly Alappuzha	Alappuzha	NAMP
i)	Kerala State Pollution Control Board District Office Thondankualgara, Alappuzha	Alappuzha	NAMP
j)	Kerala State Pollution Control Board V-Publishers Building Kottayam	Kottayam	NAMP
k)	MRF Ltd, Vadavathoor,Kottayam	Kottayam	NAMP
l)	Ernakulum (South Over Bridge)	Ernakulum	NAMP
m)	Ernakulum MG Road	Ernakulum	NAMP
n)	Vytila FCI-OEN ConnectersErnakulam	Ernakulum	NAMP
o)	Irumbanam, Thripunithara	Ernakulum	NAMP
p)	Womens Apparel Park Industrial Area Kalamassery	Ernakulum	NAMP
q)	Travancore Kochin Chemical Udyogamandal	Ernakulum	NAMP
r)	Building No.EP.III-348 Methanam, North Eloor,	Ernakulum	NAMP
s)	Poonkunnam Thrissur	Thrissur	NAMP
t)	SEPR Refractories India Pvt Ltd Kanchikode West Palakkad	Palakkad	NAMP
u)	Synthite Industries Ltd, Kakkenchery, Malappuram	Malappuram	NAMP
v)	Nallalam Diesel Power Project Nallalam Kozhikode	Kozhikode	NAMP
w)	Women and Children Hospital Complex Kottaparamb Kozhikode	Kozhikode	NAMP
x)	SulthanBatheryNearGramapanchayath Office Wayanad	Wayanad	NAMP

B. Ambient air quality stations under State Ambient Air Quality Programme

Sl. No.	Location	District	
a)	Kannur	Kannur	SWMP
b)	Mangattuparambu	Kannur	SWMP
c)	Kasargod	Kasargod	SWMP
d)	Kanjangad	Kasargod	SWMP
e)	Thodupuzha	Idukki	SWMP
f)	St.Jacobs Church,Kuttipadam, Perumbavoor.	Ernakulum	SWMP

Air quality index falls within acceptable levels except some parameters occasionally exceeded in certain stations. These exceeding values may be due to some construction activities and heavy vehicle traffic. The results are available in the Board's website and the copies sent to concerned departments. Generally, air quality in the State is generally found good as per monitoring results.

13.4 Ambient air quality data map is available in the website

<https://keralapcb.glensserver.com/public/graph.html> is the link on which the data map can be accessed.

Monthly reports of NAMP and SAMP for pollutants measured upto November 2019 were published in KSPC's website, www.keralapcb.nic.in under the head 'News'.

The data of CAAQM stations are available in website, www.keralapcb.nic.in homepage – Online Continuous Real-time monitoring data and AQI data are uploaded on daily basis in KSPCB's website, www.keralapcb.nic.in under the head, 'News'.

13.5 Water and Air quality directory

Kerala State Pollution Control Board published Water and Air Quality Directory, 2018 on 5th June 2019.

13.6 Air quality seminar

Kerala State Pollution Control Board conducted the Air quality seminar on 5th June 2019.

13.7 Electric vehicle policy

Electric vehicle policy was developed for the State. The first charging station for electric vehicle is in operation in the Secretariat.

13.8 Proposal for strengthening of the air quality stations

The proposal submitted by the Kerala State Pollution Control Board to the Central Pollution Control Board on strengthening of the air quality stations is as follows:

**13.9 Draft format for status of CAAQMS / NAMP Monitoring station under SPCB's /PCC's
-reg.**

Sl. No.	Population as per census 2011	Name of the State	Number of Towns/cities	Name of Towns/cities	Manual ambient air quality monitoring stations		Continuous ambient air quality monitoring stations		Remarks
					Existing Stations	Required Stations	Existing Stations	Required Stations	
1.	1,00,000- <5,00,000	Kerala	5	Kozhikode	Commercial /Residential-2	1- Background	1-Commercial	1- Residential	Supply Order issued for setting up CAAQMS, one each at Kollam and Thrissur. Action initiated for setting up CAAQMS at Palakkad with financial support from industries. One CAAQMS will be installed in Alapuzha during 2019-20
				Kollam	Commercial /Residential-2	1- Background	Nil	1- Residential (Proposed 2019-20)	
				Trissur	Residential-1	1- Background 1- Residential / Commercial	Nil	1- Residential (Proposed 2019-20)	
				Alappuzha	Commercial /Residential-2	1- Background	Nil	1- Residential (Proposed 2019-20)	
				Palakad	Industrial-2	1- Background 2- Residential / Commercial	Nil	1- Residential (Proposed 2019-20)	
2.	5,00,000- <10,00,000	Kerala	2	Thiruvananthapuram	Residential /Commercial-3 Industrial-1	1- Background	1- Traffic	1- Residential (proposed) 1- Commercial	Supply Order Issued for setting Up one CAAQMS at Thiruvananthapuram with 50% fund from the CPCB under project setting up of CAAQMS in million plus cities and State and Capitals CAAQMS installed at Eloor, MG Road and Vyttila
				Kochi	Residential-5 Industrial-3	1- Background	1-Traffic 1Commercial 1-Industrial	1- Residential	

14. Industrially Polluted clusters (OA 1038 of 2018)

The order dated 13.12.2018 in O.A.No. 1038 of 2018 by the Hon'ble NGT is based on the CEPI score of Greater Cochin Area done in 2009. The CEPI assessment was done in 2009 by the Central Pollution Control Board (CPCB) in collaboration with IIT Delhi as part of their comprehensive environmental assessment of 88 industrial clusters in the Country.

Out of these 88 industrial clusters, 32 industrial clusters having CEPI score in between 60 and 70 were categorized as severely polluted area (SPA). Further, 43 industrial clusters in 16 states having CEPI score of 70 & above were identified as Critically Polluted Area(CPA). Greater Kochi Area (GKA) was identified in Kerala. The CEPI score for the area as reported by Central Pollution Control Board was 75.08, and the GKA subsequently termed as CPA.

During 2011, CPCB again estimated CEPI score as per the monitoring data of 2011 with same criteria pollutants as considered by IIT Delhi and the score was 57.39 and the moratorium imposed for developmental activities in the Greater Kochi Area as CPA was lifted vide office memorandum No. J- 11013/5/2010-1A II (I) dated 23.05.2011 by Ministry of Environment and Forest.

After lifting the moratorium, monitoring was conducted in the year 2013 by CPCB but not published. The CEPI score using the third party monitoring data was 45.29 in the year 2013.

While CPCB had conducted monitoring in 2018, the Board also had engaged an accredited agency as third party for the monitoring and the score obtained was 44.68 and comes under the category of OPA (Other Polluted Area) and however action plan is being prepared.

15. Order dated 4-9-2018 in OA o. 173/2018 by Sudarsa Das Vs State of West Bengal and others

Not applicable

16. Total amount collected from erring industries on the basis of "Polluter Pays Principle" "Precautionary Principle and details of utilization of funds collected

15 Industries have been fined, INR 7.25 Crores have been collected.

Direction issued to Thrissur Corporation for environmental compensation of Rs. 4.5 Crore. Notice issued to Thiruvananthapuram Corporation for giving environmental compensation of 14.59 crore. Notice was also issued to Kochi Corporation, Municipalities namely Thrippunithura, Aluva, Angamaly, and Kalamassery and Maradu panchayath for taking steps to provide biomethanation plant for the food wastes generated.

Direction issued to the three hospitals and to DMO and Urban Directorate and Panchayath in Idukki in OA 585/2018.

S No	Company	Amount Collected (INR Crore)	Utilization of fund	Remarks
a)	Binani Zinc Ltd, Ernakulum	0.5	Drinking water supply to nearby residents Edyar area in Kadungalloor Grama Panchayath	As per the order of Supreme Court Monitoring Committee
b)	FACT Ltd., Ernakulum	1.25	Kuzhikandom cleaning	Kuzhikandom
c)	FACT Ltd., Ernakulum	0.35	Drinking water supply to nearby residents(Eloor Municipality)	As per the order of Supreme Court Monitoring Committee
d)	Hindustan Insecticide Limited, Ernakulum	1.24	Kuzhikandom cleaning	Kuzhikandom
e)	Hindustan Insecticide Limited, Ernakulum	0.35	Drinking water supply to nearby residents(Eloor Municipality)	As per the order of Supreme Court Monitoring Committee
f)	Indian Rare Earths Limited	1.25	Kuzhikandom cleaning	Kuzhikandom
g)	Indian Rare Earths Limited, Ernakulum	0.35	Drinking water supply to nearby residents(Eloor Municipality)	As per the order of Supreme Court Monitoring Committee
h)	Kerala Minerals and Rutilites Limited, Kollam	1	Remediation and/or distribution to affected persons either as per the direction of Tribunal or as per the decision of State Govt.	As per NGT order dated 31-8-2017 in Application No.142,290, 453 of 2013
i)	Marthoma Granites, Thodupuzha	0.258516	Protection of environment	Environment Protection Fund
j)	Merchem Limited, Ernakulum	0.0875	Drinking water supply to nearby residents(Eloor Municipality)	As per the order of Supreme Court Monitoring Committee
k)	New Hotel/Lodging House, Idukki	0.01	Environment protection in Idukki	Environment Protection Fund
l)	Organo fertilizers Ernakulum	0.025	Board's account	Forfeiting of bank guarantee
m)	Sree Sakthi Limited, Ernakulum	0.24	Removal of plastic waste in their premises	Forfeiting of bank guarantee
n)	Vijay Construction, Ernakulam	0.02	Board's account	Forfeiting of bank guarantee

17. Primary Effluent Treatment Plant as per order dated 19-2-2019 in O.A. No.593/2017

The report for the month up to November 2019 was submitted to Central Pollution Control Board. As per the reports up to November, 2019, 5067 units require ETP. Of these, 191 were inspected and 5040 units have provided functional ETP. 27 units were found to be operating without ETP. 5013 units complied with the effluent standards. Closure direction was issued to one unit. For the remaining 26 units, the Board has taken action for its compliance. ,

Total no. of STP in the state is 2775, of these 2763 STPs are complying with the standards. 12 STPs are found to be non-complying.

There are four Municipal STPs in Ernakulum, one each in Thiruvananthapuram and Kannur. The two STPs in Pathanamthitta district are for treating sewage generated during Sabarimala festival at Pamba and Sabarimala and not municipal STPs. The STPs in Alappuzha and Kottayam are also not municipal STPs, but for treating sewage from houseboats. The STP for houseboats at Alappuzha is not working.

18. Sewage management as per order dated 17-9-2019 in O.A. No. 829/2019

The Tribunal has directed that no untreated sewage/industrial effluent be discharged into any water bodies (which include coastal waters). Any violation is to result in compensation starting from 01.02.2020

District Environment Plans to be prepared on coastal and marine pollution

19. Environment Plan as per order dated 26-9-2019 in O.A. No. 360/2018

The Department of Environment of all States may collect such District Environment Plans of their respective states and finalize the State Environment Plan covering the specific thematic area in Para. 7 including the information as contained in Para-8 and template of model by CPCB, The action for preparation of State's Environment Plan shall be monitored by the respective Chief Secretaries of the State.

20. Restoration of water bodies as per order dated 10-5-2019 in O.A. No. 325/2015

All the States are directed to review the existing framework of restoration of all the water bodies by preparing an appropriate action plan. Such action plan may be submitted within three months and a report furnished to the CPCB. The Chief Secretaries of all the State in the course of undertaking monitoring exercise in pursuance of order in OA 606/2018 may also include restoration of water bodies.

21. Utilization of consent funds - Order dated 05-11-2019 in OA 639/2018

- There are 433 employees with 94 permanent employees working in the Kerala State Pollution Control Board on permanent basis. An amount of 3 Crore (approx) is incurred as monthly salary and other expenses.
- Notification was issued on 26-12-2015 for appointment by Public Service Commission. On 14-1-2019 the Kerala State Pollution Control Board rules 2019 was notified. The Kerala State Pollution Control Board State/Subordinate services rules 1999 is now under consideration of Kerala Public Service Commission and Government the Board can make permanent appointment in the Board.
- The vacancies in the entry cadre have been filled up by appointing person on contract basis. Steps are being initiated to make appointment in the cadre of Assistant Environmental Engineer, Assistant Environmental Scientist on contract/deputation basis.
- Extra manpower (20 technical assistants) has been provided through PCB for monitoring the compliance for the model city/town/villages and for other remaining local bodies (additional 47 technical assistants).
- Kerala is the first State which has taken initiative for the implementation of Anti Microbial Resistance action plan. Kerala State Pollution Control Board is funding 2 projects namely (1) study on anti microbial resistance in waste water by College of Engineering, Thiruvananthapuram (2) Surveillance of anti microbial resistance in selected surface bodies of Trivandrum District by Department of Environmental Science, University of Kerala. Total cost of these project is Rs. 23,62,000/- and the same is met from the consent fund.
- For the Annual maintenance Contract of CAAQMS and display system at 2 places.
- For the setting up of 2 continuous ambient noise monitoring stations an amount of 15,00,000/- was sanctioned from non-plan fund. For the revamping of connectivity between control room and CCTV an amount of Rs. 7,16,314/- was also sanctioned under non-plan fund.
- Based on judgment in W.P (C) No. 9155 of 2016 an amount of Rs. 35,14,026/-has been sanctioned for the implementation of the project to install a model pollution control facility in an identified plywood industry
- The Board conducted a project, "Hydrochemistry" of Vembanad backwaters with special reference to pollution problems and management measures. 10% of the project amount is sanctioned from the non-plan fund.
- The Board is utilizing consent fund for the purchase/maintenance of equipments/consumables for the proper working of laboratory. An amount of Rs. 1,14,69,874/- has been sanctioned for the purchase of equipments/consumables for the proper working of laboratory.

22. Utilization of treated sewage as per O.A No 148/2016

Construction of 5 MLD capacity tertiary treatment is proposed at the existing STP, Muttathara (107 MLP capacity) at a total cost of Rs 500 lakhs. Kerala water authority is executing 5 MLD STP at Medical College with reuse for gardening facility, the work awarded. The Proposal of NIT for the disposal of sludge is under processing.

Annexure 1

STATUS REPORT ON SOLID WASTE MANAGEMENT AS ON 06/02/2020 (Details submitted by localbodies)

A. Corporation

A.1. Segregation and Collection									
Name of District			Thiruvanthapuram	Kollam	Ernakulam	Thrissur	Kozhikode	Kannur	
Name of Corporation			Thiruvanthapuram (Model city)	Kollam	Kochi	Thrissur (Model city)	Kozhikode (Model city)	Kannur	
No of Wards			100	55	74	55	75	55	
No of Household			2,72,820	88,332	1,67,935	86,604	1,26,100	68,059	
No of Establishment			18,882	9,825	18,706	15,250	26,893	11,887	
No of Household having segregation at source		Dry	2,18,150	52,899	1,13,306	18,000	82,500	43,210	
		Wet	2,18,150	52,899	1,13,307		22,550	43,210	
No of Establishment having segregation at source		Dry	16,723	4,800	13,665	18,000	22,550	28,824	
		Wet	16,723	4,800	13,665		17,463	28,824	
D2D Collection	Households	Number	Dry	52,726	52,899	1,50,730	20,150	83,638	43,210
			Wet	NIL	NIL	150730	716	50540	28824
		Percentage	Dry	19.4	59.9	89.8	23.3	66.4	63.5
			Wet			89.8	0.9	40.1	42.4
		Collection Frequency	Dry	WEEKLY ONCE	WEEKLY ONCE	Every 3 days	Once in month	Monthly	Monthly
			Wet	NIL	NIL	Daily	once in two days	Daily	Daily
	Establishments	Number	Dry	17,382	4,800	11,175	3,000	18,632	10,613
			Wet	17,382	NIL	11,175	2,500	9,292	7,517
		Percentage	Dry	92.1	48.9	59.8	19.7	69.3	89.3
			Wet	92.1		59.8	16.4	34.6	63.3
Collection Frequency		Dry	DAILY	WEEKLY ONCE	Daily	once in two days	Twice in a week	Fortnightly	
		Wet	WEEKLY ONCE	NIL	Every 3 days	daily	Daily	Daily	
No of collectors			25 SERVICE PROVIDERS	124 (HKS)	1200	145	602	44	

Annexure 1

A.1. Segregation and Collection							
Name of District		Thiruvanthapuram	Kollam	Ernakulam	Thrissur	Kozhikode	Kannur
Name of Corporation		Thiruvanthapuram (Model city)	Kollam	Kochi	Thrissur (Model city)	Kozhikode (Model city)	Kannur
No of vehicles used		54	2	84	22	21	7
No. having source level treatment of wet waste in operation	Household	11,0341	2,206	15,466	716	13,555	23,318
	Establishment	1,850	68	315	2,500	1,423	3,120
Percentage having source level treatment of wet waste in operation	Household	40.44	2.5	9			34.3
	Establishment	9.8	0.69	1.7			26.2
No. disposing to centralised system	Household	NIL	NIL	150,730		Nil	Nil
	Establishment	NIL	NIL	13,665	2000	8	Nil
Percentage having disposal to centralised system	Household	NIL	0	89.7			0
	Establishment	NIL	0	73			0
No. existing	MCF	54	7	3	8	2	2
	RRF	4	1	5	3	Nil	1
No. needed	MCF	55	275	71	15	75	25
	RRF	10	2	1	35	5	5
ULBs in which sweeping is carried out twice or more in public areas				NA	NA	Yes	
User fee		Rs.7/kg for poultry waste rs.5/kg for commercial waste plan 100- collection of nonbiodegradable from households plan 200-providing kitchen bin and inoculam to households	60-750	100-300	Rs. 50 for non bio degradable. Rs 350 for biodegradable. Commerical establishment depends on the quantity of waste		Collecting
Remarks							Nil

Annexure 1

A.2. Decentralised units namely pipe compost, kitchen bin, bio composter, biobin, pot bin, biogas plant.

Name of District	Thiruvanthapuram	Kollam	Ernakulam	Thrissur	Kozhikode	Kannur
Name of Corporation	Thiruvanthapuram	Kollam	Kochi	Thrissur	Kozhikode	Kannur
No of units supplied:	110,091	2,206	NIL	3,499	11,360	2,299
No of units working:	97,365	1,986	NIL	3,499	11,185	2,299
No of units not working:	12,726	220	NIL	nil	175	0
Reason for failure:	Improper usage by the beneficiaries	Due to improper usage	NA	nil		0

A.3. Centralised System

Name of District	Thiruvananthapuram	Kollam	Ernakulam	Thrissur	Kozhikode	Kannur
Name of Corporation	Thiruvananthapuram corporation	Kollam Corpn.	Kochi Corpn	Thrissur corpn.	Kozhikode	Kannur
Quantity of Waste generated (TPD) based on population	399	165	326	153	254	148
Quantity of Waste generated (TPD) as reported by localbodies	353.58	112.45	326	152.5 TPD	300	15
Quantity of Waste collected (TPD)		10.5	308	103.12 TPD	98	15
Quantity of Waste treated (TPD)		10.5	211	103.12 TPD	95	15
Quantity of Waste processed in Composting Sites (TPD)			211	12 TPD	75	15
Quantity of Waste processed in biomethanation (TPD)	NIL	7.75	NIL	2 TPD	65	0

Annexure 1

Quantity of Waste processed in waste to energy plants (TPD)	NIL	NIL	NIL	NII	0	0
Quantity of Waste processed in Landfill (TPD)	NIL	NIL	97	Nil	0	0
Existing capacity of Waste Processing Facilities: (TPD)		20	250	103 TPD	100	0
Existing capacity of Waste Disposal Facilities: (TPD)		nil	100	103 TPD	100	0
Planned Capacity of Waste Processing Facilities (TPD)		16	300	48.37 TPD	100	0
Planned Capacity of Waste Disposal Facilities (TPD)		nil	300	48.37 TPD	100	0
Timeframe for installation of planned capacity of Waste Processing Facilities: (Months)		6	18	1 year	1 Year	0
Timeframe for installation of planned capacity of Waste Disposal Facilities: (Months)		6	18	1 year	8 Months	0
Number of Legacy waste dumpsites in the State/UTs and plan for their Remediation:		1 (Kureepuzha)	1(Kochi M.Corp)	1	1 Njeliyan Paramba	1

Annexure 1
B. Municipalities

B1. Municipalities in Thiruvananthapuram

B.1.1. Segregation and Collection

Name of District			Thiruvananthapuram				
Name of Municipality			Attingal (Model Town)	Neyyattinkara	Nedumangad	Varkala	
No of Wards			31	44	39	33	
No of Household			13,891	19,696	16,169	11,485	
No of Establishment			974	1,940	1,600	1,120	
No of Household having segregation at source		Dry	6,731	17,531		5,850	
		Wet	2433			0	
No of Establishment having segregation at source		Dry	974	1145		980	
		Wet	974			81	
D2D Collection	Households	Number	Dry	6731	9454	1000	5850
			Wet	2433	0		0
		Percentage	Dry	48.5	48	6.2	51
			Wet	17.6	0	0	0
		Collection Frequency	Dry	monthly	Twice in a month	15 days	1/month
			Wet	daily	Nil	nil	0
	Establishments	Number	Dry	974	355	1000	980
			Wet	974	0	nil	80
		Percentage	Dry	100	18.3	62.5	87.5
			Wet	100	0		7.2
		Collection Frequency	Dry	weekly twice	Once in a week	weekly	twice in a week
			Wet	daily	Nil		daily

Annexure 1

B.1.1. Segregation and Collection

Name of District		Thiruvananthapuram			
Name of Municipality		Attingal (Model Town)	Neyyattinkara	Nedumangad	Varkala
	No of collectors	43	88	22	18
	No of vehicles used	15 Push cart 2 LCV	2	2	3
No. having source level treatment of wet waste in operation	Household	412	14181	15000	1280
	Establishment	6(Community Level	213	1500	31
Percentage having source level treatment of wet waste in operation	Household	10	72		100
	Establishment		11		45
No. disposing to centralised system	Household	only one centralized plant	nil	200	0
	Establishment	only one centralized plant	nil	50	0
Percentage having disposal to centralised system	Household	90	0		0
	Establishment	90	0		0
No. existing	MCF	1	1	1	3
	RRF	1	0	1	1
No. needed	MCF	nil	3	1	2
	RRF	2	1	1	0
User fee		Rs 50-150 house hold/monthly Rs 300-2000 shop/monthly		60-1600	100 - Dry waste

Annexure 1

B.1.1. Segregation and Collection

Name of District	Thiruvananthapuram			
Name of Municipality	Attingal (Model Town)	Neyyattinkara	Nedumangad	Varkala
Remarks	User fee various depending on the quantity of waste collected	User fee collections started	User fee charged as per the type of plastic collected from establishments and house holds	Wet waste - 3/Kg (As per Kg)

B.1.2. Decentralised units namely pipe compost, kitchen bin, bio composter, biobin, pot bin, biogas plant.

Name of District	Thiruvananthapuram			
Name of Municipality	Attingal	Neyyattinkara	Nedumangad	Varkala
No of units supplied:	410 house hold level 2 kitchen bio bin 6 community level bio gas plant	110	150 Biogas, 1548 Kitchen bin	
No of units working:	410 portable bio gas plant 2 kitchen bio bin	104	150 Biogas, 1548 Kitchen bin	
No of units not working:	2 bio gas plant	6	nil	
Reason for failure:	not proper maintain(O&M)	Inproper Handling	All are maintainig properly	

Annexure 1

B.1.3. Centralised System

Name of District	Thiruvananthapuram			
	Attingal	Neyyattinkara	Nedumangad	Varkala
Name of Corporation /Municipality /Panchayath				
Quantity of Waste generated (TPD) based on population	17	30	25	17
Quantity of Waste generated (TPD)	17 TPD	24	3	8
Quantity of Waste collected (TPD)	16 TPD	3	1.5	4.8
Quantity of Waste treated (TPD)	16 TPD	2.25	1.5	4.8
Quantity of Waste processed in Composting Sites (TPD)	15	0	1	4.3
Quantity of Waste processed in biomethanation (TPD)	1.5	1	500 Kg	4.3
Quantity of Waste processed in waste to energy plants (TPD)		0	nil	0
Quantity of Waste processed in Landfill (TPD)		0	nil	0
Existing capacity of Waste Processing Facilities: (TPD)	16	1	1.5	5
Existing capacity of Waste Disposal Facilities: (TPD)	16	0.25	1.5	0
Planned Capacity of Waste Processing Facilities (TPD)	16	0.5	1.5	3
Planned Capacity of Waste Disposal Facilities (TPD)	16	0.5	1.5	0
Timeframe for installation of planned capacity of Waste Processing Facilities: (Months)	2007	3		5
Timeframe for installation of planned capacity of Waste Disposal Facilities: (Months)	commissioned months	3	6 months	0
Number of Legacy waste dumpsites in the State/UTs and plan for their Remediation:	1	NIL	nil	Nil

Annexure 1

B.2. Municipalities in Kollam

B.2.1. Segregation and Collection

Name of District		Kollam					
Name of Municipality		Karunagapally	Paravur (South)	Punalur (Model Town)	Kottarakara		
No of Wards		35	32	35	29		
No of Household		14929	15069	13062	8393		
No of Establishment		1700	2570	1232	3774		
No of Household having segregation at source		Dry	4375	15069	3265.5 kg	5589	
		Wet	0	15069	4571.7 kg	0	
No of Establishment having segregation at source		Dry	350	2570	2525 kg	834	
		Wet	45		527 kg	0	
D2D Collection	Households	Number	Dry	4375	15069	12954	5589
			Wet	0	Nil	Nil	0
		Percentage	Dry	29.4	100	99.2	66.6
			Wet	0			0
	Collection Frequency	Dry	15 days	weekly	4 days	5589	
		Wet	0	nil	Nil	0	
	Establishments	Number	Dry	350	2570	1230	756
			Wet	0	nil	Nil	0
		Percentage	Dry	20.6	100	99.9	20.1
			Wet	0			0
Collection Frequency		Dry	15days	weekly	Daily	756	
		Wet	0		Nil	0	

Annexure 1

B.2.1. Segregation and Collection

Name of District		Kollam			
Name of Municipality		Karunagapally	Paravur (South)	Punalur (Model Town)	Kottarakara
	No of collectors	35	32	127	58HKS
	No of vehicles used	3	1	3	1
No. having source level treatment of wet waste in operation	Household	375		13062	5356
	Establishment	225		1232	745
Percentage having source level treatment of wet waste in operation	Household	25		100%	0
	Establishment	22		100%	0
No. disposing to centralised system	Household	0		Nil	0
	Establishment	0		Nil	0
Percentage having disposal to centralised system	Household	0		Nil	0
	Establishment	0		Nil	0
No. existing	MCF	1		200	2
	RRF	1		1	1
No. needed	MCF	1		0	29
	RRF	1		0	1
User fee		Rs 50/month/household		Each house 30 Shop 100 Rs fee	
Remarks		nil			Lack of suitable land for MCF

Annexure 1

B.2.2. Decentralised units namely pipe compost, kitchen bin, bio composter, biobin, pot bin, biogas plant.

Name of District	Kollam			
Name of Municipality	Karunagapally	Paravur (South)	Punalur	Kottarakara
No of units supplied:	27 Biogas	75 biogas, 300 pipe compost	1250 Biogas, 5000 Pipe Compost,6500 Compost pit	
No of units working:	22	biogas 20	1250 Biogas, 5000 Pipe Compost,6500 Compost pit	
No of units not working:	5	biogas-55, pipe compost 300	Nil	
Reason for failure:	lack of maintenance	Smell and worms	All are maintaining properly	

Annexure 1
B.2.3. Centralised System

Name of District	Kollam	Kollam	Kollam	Kollam
Name of Municipality	Karunagapally	South Paravur	Punalur	Kottarakara
Quantity of Waste generated (TPD) based on population	20	15	20	13
Quantity of Waste generated (TPD)	13	.250 TON (250 KG)	10.5	
Quantity of Waste collected (TPD)	7	.250 TON (250 KG)	10.5	
Quantity of Waste treated (TPD)	1	.250 TON (250 KG)	10.5	
Quantity of Waste processed in Composting Sites (TPD)	0	.250 TON	500 KG	
Quantity of Waste processed in biomethanation (TPD)	0	NIL	Nil	
Quantity of Waste processed in waste to energy plants (TPD)	0	NIL	Nil	
Quantity of Waste processed in Landfill (TPD)	0	NIL	Nil	
Existing capacity of Waste Processing Facilities: (TPD)	0.5	.250 TON	15 ton	
Existing capacity of Waste Disposal Facilities: (TPD)	1.5	.250 TON	10.5 ton	
Planned Capacity of Waste Processing Facilities (TPD)	Nil	NIL	Nil	
Planned Capacity of Waste Disposal Facilities (TPD)	0		Nil	
Timeframe for installation of planned capacity of Waste Processing Facilities: (Months)	0			
Timeframe for installation of planned capacity of Waste Disposal Facilities: (Months)				
Number of Legacy waste dumpsites in the State/UTs and plan for their Remediation:	nil		Nil	

Annexure 1

B.3. Municipalities in Pathanamthitta

B.3.1. Segregation and Collection							
Name of District			Pathanamthitta				
Name of Municipality			Adoor	Pathanamthitta	Thiruvalla	Pandalam	
No of Wards			28	32	39	33	
No of Household			7911	12253	21099	12440	
No of Establishment			1860	2450	6756	1234	
No of Household having segregation at source			Dry	0	750	21099	
			Wet	0	350	957	
No of Establishment having segregation at source			Dry	65	150	6756	
			Wet	0	75	0	
D2D Collection	Households	Number	Dry	0	300	21099	
			Wet	0	0	-	
		Percentage	Dry	0	2.5	100	60
			Wet	0	0	0	0
		Collection Frequency	Dry		weekly	once in a month	2 days per Week
			Wet		0		
	Establishments	Number	Dry	65	150	6756	
			Wet	0	150		
		Percentage	Dry	3.5	6.2	100	0
			Wet	0	6.2	0	0
Collection Frequency		Dry		daily	Weekly twice		
		Wet		daily			

Annexure 1

B.3.1. Segregation and Collection					
Name of District		Pathanamthitta			
Name of Municipality		Adoor	Pathanamthitta	Thiruvalla	Pandalam
	No of collectors	4	16+1 (1 agency)	55	
	No of vehicles used	1	2	3	
No. having source level treatment of wet waste in operation	Household	1250 Pipe Compost, 250 Ring Compost	500	-	
	Establishment		15	1140	
Percentage having source level treatment of wet waste in operation	Household	0	Nil		
	Establishment	65	Nil	90%	
No. disposing to centralised system	Household		0		
	Establishment		0		
Percentage having disposal to centralised system	Household	0	0		
	Establishment	65	0		
No. existing	MCF	1	3	1	
	RRF	0	1		
No. needed	MCF	4	59	5	
	RRF	0	4	1	
User fee		75000/-per month	House hold- Rs-60/- Per month Establishment- Asper quantity	House hold- Rs-60/- Per month Establishment- Asper quantity	

Annexure 1

B.3.1. Segregation and Collection				
Name of District	Pathanamthitta			
Name of Municipality	Adoor	Pathanamthitta	Thiruvalla	Pandalam
Remarks		Establishment waste collected through a pvt agency aproved by council		

B.3.2. Decentralised units namely pipe compost, kitchen bin, bio composter, biobin, pot bin, biogas plant.

Name of District	Pathanamthitta			
Name of Municipality	Adoor	Pathanamthitta	Thiruvalla	Pandalam
No of units supplied:	1210, 8 Units, 9 Nos	Ring 350, Bio Bin 150, Bio Gas 250		
No of units working:	1010, 3 Unit, 9 Nos	700		
No of units not working:	200, 5 Unit, 9 Nos	50		
Reason for failure:	Mismanagement from benefeciaries, construction not completed	lack of Proper maintenance		

Annexure 1

B.3.3. Centralised System

Name of District	Pathanamthitta			
Name of Municipality	Adoor	Pathanamthitta	Thiruvalla	Pandalam
Quantity of Waste generated (TPD) based on population	12	16	22	17
Quantity of Waste generated (TPD)	10.96TPD			
Quantity of Waste collected (TPD)	10.96TPD			
Quantity of Waste treated (TPD)				
Quantity of Waste processed in Composting Sites (TPD)	0.8TPD			
Quantity of Waste processed in biometanation (TPD)				
Quantity of Waste processed in waste to energy plants (TPD)	Nil			
Quantity of Waste processed in Landfill (TPD)	Nil			
Existing capacity of Waste Processing Facilities: (TPD)	10.96TPD			
Existing capacity of Waste Disposal Facilities: (TPD)	10.96TPD			
Planned Capacity of Waste Processing Facilities (TPD)	18Months			
Planned Capacity of Waste Disposal Facilities (TPD)	18Months			
Timeframe for installation of planned capacity of Waste Processing Facilities: (Months)	18Months			
Timeframe for installation of planned capacity of Waste Disposal Facilities: (Months)	18Months			
Number of Legacy waste dumpsites in the State/UTs and plan for their Remediation:				

Annexure 1

B.4. Municipalities in Alappuzha

B.4.1. Segregation and Collection

Name of District		Alappuzha							
Name of Municipality		Alappuzha	Chengannur	Cherthala	Kayamkulam	Mavelikara	Haripad		
No of Wards		52	27	35		28	29		
No of Household		48000	7654	21913		7365	9129		
No of Establishment		9800	1635	2467		1414	1423		
No of Household having segregation at source		Dry	45231	1234	1050		6345	8000	
		Wet	45231	0			1240	0	
No of Establishment having segregation at source		Dry	8054	678			645	80	
		Wet	8054	234	232		340	0	
D2D Collection	Households	Number	Dry	45000		0.3 ton		645	8000
			Wet	0		0		340	Nil
		Percentage	Dry	93.8	0			8.8	87.7
			Wet	0	0	0		4.7	
		Collection Frequency	Dry	MONTHLY	ONCE A MONTH	ONCE A MONTH		ONCE A MONTH	Monthly
			Wet	N A	0	0		ONCE A MONTH	----
	Establishments	Number	Dry	8054		0.7 TON		0	80
			Wet	6203		0		46	Nil
		Percentage	Dry	82.2	0			0	5.7
			Wet	63.3	0	0		3.3	
		Collection Frequency	Dry	WEEKELY		DAILY		0	Monthly
			Wet	DAILY		0		DAILY	---
No of collectors		76	25			6	30		

Annexure 1

B.4.1. Segregation and Collection

Name of District		Alappuzha					
Name of Municipality		Alappuzha	Chengannur	Cherthala	Kayamkulam	Mavelikara	Haripad
	No of vehicles used	6	1			2	1
No. having source level treatment of wet waste in operation	Household	17200	0	NIL		22	
	Establishment	102		NIL		0	
Percentage having source level treatment of wet waste in operation	Household	35		0		22	
	Establishment	1		0		0	
No. disposing to centralised system	Household	0		NIL		0	
	Establishment	0		NIL		0	
Percentage having disposal to centralised system	Household	0		0		0	
	Establishment	0		0		0	
No. existing	MCF	23	1	1		1	
	RRF	3	0	1		1	
No. needed	MCF	15	1	1		1	
	RRF	5	1	1		1	
User fee		House hold -Rs 40 per month (dry waste)	House hold- Rs-50/- Per month Establishment- rs 100,200,300 as per category	NIL		30	

Annexure 1

B.4.1. Segregation and Collection

Name of District	Alappuzha					
Name of Municipality	Alappuzha	Chengannur	Cherthala	Kayamkulam	Mavelikara	Haripad
Remarks	People bringing waste to their nearby aerobic compost unit and no user fee is charged by the ULB			Need one more mcf & rrf for proper functioning		

B.4.2. Decentralised units namely pipe compost, kitchen bin, bio composter, biobin, pot bin, biogas plant.

Name of District	Alappuzha					
Name of Municipality	Alappuzha	Chengannur	Cherthala	Kayamkulam	Mavelikara	Haripad
No of units supplied:	17200		1050			72
No of units working:	16400		950			72
No of units not working:	800		100			0
Reason for failure:	Noproper handling		Not properly maintained			NA

Annexure 1
B.4.3. Centralised System

Name of District	Alappuzha					
Name of Corporation /Municipality /Panchayath	Alappuzha	Chengannur	Cherthala	Kayamkulam	Mavelikara	Haripad
Quantity of Waste generated (TPD) based on population	72	10	19	30	11	13
Quantity of Waste generated (TPD)	58/51.388/40		3			1.5
Quantity of Waste collected (TPD)	35/2/00/TPD		2			1
Quantity of Waste treated (TPD)			2			1
Quantity of Waste processed in Composting Sites (TPD)			0.3			1
Quantity of Waste processed in biomethanation (TPD)						Nil
Quantity of Waste processed in waste to energy plants (TPD)						Nil
Quantity of Waste processed in Landfill (TPD)						Nil
Existing capacity of Waste Processing Facilities: (TPD)			0.52			Nil
Existing capacity of Waste Disposal Facilities: (TPD)						1.5
Planned Capacity of Waste Processing Facilities (TPD)						Nil
Planned Capacity of Waste Disposal Facilities (TPD)						0.03
Timeframe for installation of planned capacity of Waste Processing Facilities: (Months)						..
Timeframe for installation of planned capacity of Waste Disposal Facilities: (Months)						5
Number of Legacy waste dumpsites in the State/UTs and plan for their Remediation:			0			0

Annexure 1
B.5. Municipalities in Kottayam

B.5.1. Segregation and Collection									
Name of District			Kottayam						
Name of Municipality			Changanassery	Ettumanoor	Erattupetta	Kottayam	Pala	Vaikom	
No of Wards			37	35	28	52	26	26	
No of Household			16606	110129	7686	48273	5280	7843	
No of Establishment			3000	1807	1282	6568	1900	1782	
No of Household having segregation at source		Dry	16000	10964	23	8	4500	0	
		Wet	16000	10964	11	24	250	0	
No of Establishment having segregation at source		Dry	2800	1801	6	14		0	
		Wet	2000		2	6		0	
D2D Collection	Households	Number	Dry	404	10964	4212	8	1815	0
			Wet			1866	24	0	0
		Percentage	Dry	2.5	10	54.9	0.1	34.4	0
			Wet	0	0	24.3	0.1	0	0
		Collection Frequency	Dry	monthly	monthly	Monthly	2 TIMES IN A MONTH	Weekly	0
			Wet		0	Monthly	0	Nil	0
	Establishments	Number	Dry	Nil	1027	22	14	94	0
			Wet	Nil	0	26	6	0	0
		Percentage	Dry		56.9	1.8	0.3	5	0
			Wet		0	2.1	0.1	0	0
Collection Frequency		Dry	Nil	Monthly	daily	0	weekly	once in month	
		Wet	Nil	0	daily	3 TON PER DAY	Nil	daily	

Annexure 1

B.5.1. Segregation and Collection

Name of District		Kottayam					
Name of Municipality		Changanassery	Ettumanoor	Erattupetta	Kottayam	Pala	Vaikom
	No of collectors	Haritha Karma Sena	56	62	104	14	64
	No of vehicles used		1	2	13	2	1
No. having source level treatment of wet waste in operation	Household	2600	10964	5432	48273	5162	0
	Establishment	70	118		Not started	250	0
Percentage having source level treatment of wet waste in operation	Household	18%	100%	68		5162	0
	Establishment	2.2	100%			250	0
No. disposing to centralised system	Household	1200	Nil	0	0	1815	0
	Establishment	Nil	80	0	0	94	0
Percentage having disposal to centralised system	Household	8%	0			0	0
	Establishment	0	67%			0	0
No. existing	MCF	1	1	1	1	1	1
	RRF	1	1	1	1	0	0
No. needed	MCF	28	35	7	15		0
	RRF	28	1	1	15		0
User fee		100 Rs per houses	50 for HH 150 for Establishments		61 including cess	60, 120	0
Remarks						60(for houses) 120(establishments)	0

Annexure 1

B.5.2. Decentralised units namely pipe compost, kitchen bin, bio composter, biobin, pot bin, biogas plant.

Name of District	Kottayam					
Name of Municipality	Changanassery	Ettumanoor	Erattupetta	Kottayam	Pala	Vaikom
No of units supplied:		6580		1479	5162	125
No of units working:		6548		1479	4500	65
No of units not working:		38			662	0
Reason for failure:	8800 Ring compost 1800 Biobin unit included in 2019- 20 project and is under process	Mishandling	750 biobin included in 2019-20 project and will supply from march 2020		Not properly manage.	

B.5.3. Centralised System

Name of District	Kottayam					
Name of Municipality	Changanassery	Ettumanoor	Erattupetta	Kottayam	Pala	Vaikom
Quantity of Waste generated (TPD) based on population	54	11	13	57	52	10
Quantity of Waste generated (TPD)	15 Tone/day	5	6 ton/day	30 ton	4.2 ton	1.5
Quantity of Waste collected (TPD)	2 tone/day	4.5	4 ton/day	6 ton	4.2 ton	1.5
Quantity of Waste treated (TPD)	2 tone/day	4.5	2.5 ton/day	3 ton/day	4.2 ton	1

Annexure 1

Quantity of Waste processed in Composting Sites (TPD)	2 tone	0.5	2.5 ton/day	yes	4.2 ton	0
Quantity of Waste processed in biomethanation (TPD)	Nil	0	nil	0	0	0
Quantity of Waste processed in waste to energy plants (TPD)	Nil	0	nil	0	0	0
Quantity of Waste processed in Landfill (TPD)	Nil	0	nil	0	0	0
Existing capacity of Waste Processing Facilities: (TPD)	2	4.5	24 unit aerobic bin	62 unit aerobic bin\0	pipe compost	0
Existing capacity of Waste Disposal Facilities: (TPD)	2 Tone/day	4.5	10 ton/day	0	0	0
Planned Capacity of Waste Processing Facilities (TPD)	9 TPD	10	0	0	0	0
Planned Capacity of Waste Disposal Facilities (TPD)	100 tone	10	0	0	0	0
Timeframe for installation of planned capacity of Waste Processing Facilities: (Months)	3 months	1	0	0	0	0
Timeframe for installation of planned capacity of Waste Disposal Facilities: (Months)	1 years	3	0	0	0	0
Number of Legacy waste dumpsites in the State/UTs and plan for their Remediation:	one	NA		0	0	0

Annexure 1

B.6. Municipalities in Idukki

B.6.1. Segregation and Collection					
Name of District			Idukki		
Name of Municipality			Thodupuzha	Kattapana	
No of Wards			35	34	
No of Household			12604	10419	
No of Establishment			3108	2500	
No of Household having segregation at source		Dry	10000	7815	
		Wet	10000	7815	
No of Establishment having segregation at source		Dry	2500	2000	
		Wet	2200	820	
D2D Collection	Households	Number	Dry	10000	7815
			Wet	0	4800
		Percentage	Dry	79.4	75.1
			Wet	0	46.1
		Collection Frequency	Dry	Weekly	Monthly
			Wet	Nil	nil
	Establishments	Number	Dry	2500	2000
			Wet	80	65
		Percentage	Dry	80.5	80
			Wet	2.6	2.6
Collection Frequency		Dry	Daily	Daily	
		Wet	Daily	Daily	

Annexure 1

B.6.1. Segregation and Collection			
Name of District		Idukki	
Name of Municipality		Thodupuzha	Kattapana
	No of collectors	81	82
	No of vehicles used	3	2
No. having source level treatment of wet waste in operation	Household	10000	7815
	Establishment	2500	2000
Percentage having source level treatment of wet waste in operation	Household	80	80
	Establishment	80	80
No. disposing to centralised system	Household	0	0
	Establishment	0	0
Percentage having disposal to centralised system	Household	0	0
	Establishment	0	0
No. existing	MCF	2	1
	RRF	1	1
No. needed	MCF	4	2
	RRF	2	0
User fee		30	20
Remarks		0	

Annexure 1

B.6.2. Decentralised units namely pipe compost, kitchen bin, bio composter, biobin, pot bin, biogas plant

Name of District	Idukki	
Name of Municipality	Thodupuzha	Kattapana
No of units supplied:	1300	1325
No of units working:	1300	1325
No of units not working:	0	0
Reason for failure:	Nil	nil

B.6.3. Centralised System

Name of District	Idukki	Idukki
Name of Municipality	Thodupuzha Municipality	Kattappa Municipality
Quantity of Waste generated (TPD) based on population	22	18
Quantity of Waste generated (TPD)	10	4.98
Quantity of Waste collected (TPD)	5.5	3.24
Quantity of Waste treated (TPD)	5	3.24
Quantity of Waste processed in Composting Sites (TPD)	0	3
Quantity of Waste processed in biomethanation (TPD)	0	0
Quantity of Waste processed in waste to energy plants (TPD)	1	0

Annexure 1

Name of District	Idukki	
Name of Municipality	Thodupuzha	Kattapana
Quantity of Waste processed in Landfill (TPD)	3	0
Existing capacity of Waste Processing Facilities: (TPD)	5	5
Existing capacity of Waste Disposal Facilities: (TPD)	4	4
Planned Capacity of Waste Processing Facilities (TPD)	10	10
Planned Capacity of Waste Disposal Facilities (TPD)	10	10
Timeframe for installation of planned capacity of Waste Processing Facilities: (Months)	18	12
Timeframe for installation of planned capacity of Waste Disposal Facilities: (Months)	18	12
Number of Legacy waste dumpsites in the State/UTs and plan for their Remediation:	0	1

Annexure 1

B.7. Municipalities in Ernakulam

B.7.1. Segregation and Collection										
Name of District			Ernakulam							
Name of Municipality			Aluva	Angamaly	Eloor	Koothatukulam	Kalamassery	Kothamangalam	Muvattupuzha	
No of Wards			26	30	31	25	42	31	28	
No of Household			5641	8421	10307	4832	27924	12000	7414	
No of Establishment			2214	2500	1015	1072	3360	2950		
No of Household having segregation at source		Dry	2400	4500	10307	5	11800	1075	1800	
		Wet	1673	4500	10307	5	11800	source level management	source level management	
No of Establishment having segregation at source		Dry	520	3000	925	5	1345	600	200	
		Wet	150	3000	155	195	1345	800	250	
D2D Collection	Households	Number	Dry	2400	0	Harithakarmasena	nil	11800	450	500
			Wet	1673	0	Source level management		11800	source level management	source level management
		Percentage	Dry	42.6	0			42.3	3.8	6.8
			Wet	29.7	0		0	42.3		
		Collection Frequency	Dry	monthly	0	Monthly		weekly	MONTHLY	monthly
			Wet	daily	0	not collected		alternate days	NOT COLLECTED	not collected
	Establishments	Number	Dry	520	0	925		1345	300	200
			Wet	150	25	155		1345	240	250
		Percentage	Dry	23.5	0	91.2	0	40.1	10.2	#DIV/0!

Annexure 1

B.7.1. Segregation and Collection

Name of District			Ernakulam							
Name of Municipality			Aluva	Angamaly	Eloor	Koothat tukulam	Kalamassery	Kothamangalam	Muvattupuzha	
	Collection Frequency	Wet	6.8	1	15.3	0	40.1	8.2		
		Dry	weekly	0	monthly		twice in a week	MONTHLY	monthly	
		Wet	daily	daily	not collected		daily	MONTHLY	monthly	
	No of collectors					81	0	19	2	49
	No of vehicles used					2	0	4	1	auto 17,tipper lorry 4
No. having source level treatment of wet waste in operation		Household	1673	3500	598	18	nil	1800	2000	
		Establishment	80	2500	30	12	130	collected by harithakarmasena	collected by haritha karma sena	
Percentage having source level treatment of wet waste in operation		Household	80	42	85	-	0	95	90	
		Establishment	80	80	80	-	4	95	90	
No. disposing to centralised system		Household	0	NIL	Nil	-	11800	1	1	
		Establishment	0	NIL	Nil	-	1345	1	1	
Percentage having disposal to centralised system		Household	0	NA	NA	-	40	100	100	
		Establishment	0	NA	NA	-	40	100	100	
No. existing		MCF	nil	NIL	1	Nil	1	1	1	
		RRF	1	NIL	0	Nil	1	1	0	

Annexure 1

B.7.1. Segregation and Collection

Name of District		Ernakulam						
Name of Municipality		Aluva	Angamaly	Eloor	Koothattukulam	Kalamassery	Kothamangalam	Muvattupuzha
No. needed	MCF	3	5	5	6	2	11	2
	RRF	0	1	1	1	2	0	1
User fee		50	Rs.50	50 Rs.	-	Rs.100/month /house, Rs.5 /kg for wet, Rs10/kg for dry waste for hotel and others	Rs. 50/house and Rs. 80 - 100/shops	50
Remarks					-			

B.7.2. Decentralised units namely pipe compost, kitchen bin, bio composter, biobin, pot bin, biogas plant

Name of District	Ernakulam						
Name of Municipality	Aluva	Angamaly	Eloor	Koothattukulam	Kalamassery	Kothamangalam	Muvattupuzha
No of units supplied:	53		598	Nil	Nil	204	1224
No of units working:	53	3000	326	Nil	Nil	204	1000
No of units not working:	0		272	Nil	Nil	204	224
Reason for failure:	na		Flood	Not established	Nil	nil	flood

Annexure 1
B.7.3. Centralised System

Name of District	Ernakulam						
Name of Corporation /Municipality /Panchayath	Aluva	Angamaly	Eloor	Koothattukulam	Kalamassery	Kothamangalam	Muvattupuzha
Quantity of Waste generated (TPD) based on population	10	14	14	8	30	48	13
Quantity of Waste generated (TPD)	10	10	10	0.6	14	5	5
Quantity of Waste collected (TPD)	8	1	2		14	5	5
Quantity of Waste treated (TPD)	8	0	2		14	5	3
Quantity of Waste processed in Composting Sites (TPD)	nil	nil	1		Nil	nil	3
Quantity of Waste processed in biomethanation (TPD)	nil	nil	1		Nil	nil	Nil
Quantity of Waste processed in waste to energy plants (TPD)	nil	nil	Nil		Nil	nil	Nil
Quantity of Waste processed in Landfill (TPD)	nil	nil	Nil		Nil	nil	Nil
Existing capacity of Waste Processing Facilities: (TPD)	nil	nil	15 TPD (5 Unit)		Nil	5	3
Existing capacity of Waste Disposal Facilities: (TPD)	nil	nil	15 TPD (5 Unit)		Nil	NA	Nil
Planned Capacity of Waste Processing Facilities (TPD)	nil	nil	NA		Na	nil	Nil
Planned Capacity of Waste Disposal Facilities (TPD)	nil	nil	Na		NA	6 months	Nil

Annexure 1

Timeframe for installation of planned capacity of Waste Processing Facilities: (Months)	na	na	Na		NA	nil	Nil
Timeframe for installation of planned capacity of Waste Disposal Facilities: (Months)	na	na	Na		NA	6 months	Nil
Number of Legacy waste dumpsites in the State/UTs and plan for their Remediation:	nill	na	NA		NA	NA	Yes

B.7. Municipalities in Ernakulam

B.7.1. Segregation and Collection									
Name of District			Ernakulam						
Name of Municipality			North Paravur	Maradu	Perumbavoor	Piravam	Thrikkakkara	Thripunithura	
No of Wards			29	33	27	27	43	49	
No of Household			8964	53305	10495	8905	31230	29495	
No of Establishment			2500	1475	3364	1155	958	3400	
No of Household having segregation at source			Dry	6089		10388	8905	31230	25690
			Wet	source level management		3364	NIL	31230	26730
No of Establishment having segregation at source			Dry	1975		5860	1155	68	2920
			Wet	200		0	0	0	2860
D2D Collection	Households	Number	Dry	6089	6500	0	3621	31230	25690
			Wet	source level management	source level management	0	0	31230	26730
		Percentage	Dry	68	12.2	0	40.7	100	87.1
			Wet			0	0	100	90.7
		Collection	Dry	monthly	monthly	Twicw in a	monthly	daily	Daily

Annexure 1

B.7.1. Segregation and Collection

Name of District		Ernakulam							
Name of Municipality		North Paravur	Maradu	Perumbavoor	Piravam	Thrikkakkara	Thripunithura		
	Frequency	Wet	not collected	not collected	0	0	daily	Daily	
		Dry	1975	100	0	545	680	2920	
	Number	Wet	200	200	0	0	278	2860	
		Dry	79	6.8	0	47.2	71	85.9	
	Percentage	Wet	8	13.6	0	0	29.1	84.2	
		Dry	monthly	monthly	0	daily	daily	Daily	
	Collection Frequency	Wet	not collected	not collected	0	0	daily	Daily	
		No of collectors				185	66	12	64
	No of vehicles used				5	0	1	2	
	No. having source level treatment of wet waste in operation		Household	1800	20	1671	8905	31	26730
Establishment			collected by the municipality	not collected	96	32	0	2860	
Percentage having source level treatment of wet waste in operation		Household	100	70	0	100%	0.50%	40%	
		Establishment	100	80	0	100%	0	65%	
No. disposing to centralised system		Household	29	1		3621	0	450	
		Establishment	1	1		545	0	Nil	
Percentage having disposal to centralised system		Household	100	65		40%	nil	Nil	
		Establishment	100	70		47%	nil	Nil	
No. existing		MCF	1	4	1	1	nil	1	
		RRF	1	1	1	1	nil	Nil	

Annexure 1

B.7.1. Segregation and Collection

Name of District		Ernakulam					
Name of Municipality		North Paravur	Maradu	Perumbavoor	Piravam	Thrikkakkara	Thripunithura
No. needed	MCF	10	29	3	5	43	48
	RRF	3	1	1	2	1	49
User fee		50 per house	30 per house, 100 Establishment	Rs.30/- for houses and rupess 50/- for shops/month	Yes.	130 /- per house	3.50/kg
Remarks		in institution rs 100			Varies in commercial area . Rs. 50/- per month from Household		

B.7.2. Decentralised units namely pipe compost, kitchen bin, bio composter, biobin, pot bin, biogas plant

Name of District	Ernakulam					
Name of /Municipality	North Paravur	Maradu	Perumbavoor	Piravam	Thrikkakkara	Thripunithura
No of units supplied:	1800	900			31	13741

Annexure 1

Name of District	Ernakulam					
Name of /Municipality	North Paravur	Maradu	Perumbavoor	Piravam	Thrikkakkara	Thripunithura
No of units working:	1500	450	Biogas plant-140, Pot compost -895, Ring compost-616	1167	31 BIOGAS	13741
No of units not working:	300	450	21	NIL	0	Nil
Reason for failure:	flood	not working	Lack of Maintenance by beneficiaries		nil	Nil

B.7.3. Centralised System

Name of District	Ernakulam					
Name of Corporation /Municipality /Panchayath	North paravur	Maradu	Perumbavoor	Piravom	Thrikkakara	Tripunithura
Quantity of Waste generated (TPD) based on population	14	19	12	12	33	39
Quantity of Waste generated (TPD)	12.27	nil	10	1.54	5 TON	5 tonne
Quantity of Waste collected (TPD)	3.12	nil	3.2	0.4	4 TON	4.50 tonne
Quantity of Waste treated (TPD)	3.120/day	nil	2	0.4	Treated at Brahmapuram Plant	Composting at Brahmapuram Plant (Ownership Kochi Corporation)
Quantity of Waste processed in Composting Sites (TPD)	3.12	nil	2	0.8	NIL	Nil
Quantity of Waste processed in biomethanation (TPD)	na	nil	0	0	NIL	Nil

Annexure 1

Name of District	Ernakulam					
Name of /Municipality	North Paravur	Maradu	Perumbavoor	Piravam	Thrikkakkara	Thripunithura
Quantity of Waste processed in waste to energy plants (TPD)	na	nil	0	0.34	NIL	Nil
Quantity of Waste processed in Landfill (TPD)	na	nil	1.2	0	NIL	NA
Existing capacity of Waste Processing Facilities: (TPD)	3.41	Nil	2	1 TPD	NIL	NA
Existing capacity of Waste Disposal Facilities: (TPD)	na	Nil	2	1 TPD	NIL	NA
Planned Capacity of Waste Processing Facilities (TPD)	3.41	Nil	2	2	3 TON	NA
Planned Capacity of Waste Disposal Facilities (TPD)	3.41		2	2	NA	NA
Timeframe for installation of planned capacity of Waste Processing Facilities: (Months)	na	Nil	6	12	NA	NA
Timeframe for installation of planned capacity of Waste Disposal Facilities: (Months)	na	Nil	6	12	NA	NA
Number of Legacy waste dumpsites in the State/UTs and plan for their Remediation:	yes	Na	NA	0	NA	NA

Annexure 1

B.8. Municipalities in Thrissur

B.3.1. Segregation and Collection

Name of District			Thrissur							
Name of Municipality			Chalakkudy	Chavakkad	Guruvayoor	Irinjalakuda	Kodungallur	Kunnamkulam (Model Town)	Vadakkanchery	
No of Wards			36	32	43	41	44	37	41	
No of Household			14850	9947	18000	15933	19492	13156	17536	
No of Establishment			2682	1483	2683	2898	2846	3028	4844	
No of Household having segregation at source		Dry	14850		18000	7563	14896	13156	17536	
		Wet			18000	7563	14896		17536	
No of Establishment having segregation at source		Dry	1620		2683	2500	2846		4844	
		Wet			2683	150	2846		4844	
D2D Collection	Households	Number	Dry	14850	3600	4400	7563	14896	13156	6000
			Wet		NIL	880	1200	0	0	Nil
		Percentage	Dry	100	36.2	24.5	47.5	76.5	100	34.3
			Wet	0		4.9	7.6	0	0	
		Collection Frequency	Dry	14850	once in a month	monthly	monthly	weekly	monthly	1/month
			Wet		nil	alternative days	alternative days	source reduction method	nil	Nil
	Establishments	Number	Dry	1620	756	2683	2500	1412	3028	4844
			Wet	115	nil	193	150	0	148	100
		Percentage	Dry	60.5	51	100	86.3	49.7	100	100
			Wet	4.3		7.2	5.2	0	4.9	2.1
Collection Frequency		Dry	1620	once in a week	weekly	weekly		weekly	1/month	
		Wet	115	nil	daily	daily		Daily	All working days	

Annexure 1

B.3.1. Segregation and Collection

Name of District		Thrissur						
Name of Municipality		Chalakkudy	Chavakkad	Guruvayoor	Irinjalakuda	Kodungallur	Kunnamkulam (Model Town)	Vadakkanchery
	No of collectors	54	31	58	130	84	6	40
	No of vehicles used	3	2	6	7	2	5	2
No. having source level treatment of wet waste in operation	Household	1	1082 Municipality is taken action to disribute 2600 kitchen bins and 500 Bio - gas plant to promote source level treatment of wet waste at house hold level. The project received technical sanction and its ready to implement with in two weeks	13000	4600	6200	13156	17536
	Establishment	548	6	2400	1400	1350	13	4744
Percentage having source level treatment of wet waste in operation	Household		11%	72	28.87	32%	0	100%
	Establishment		0.40%	89	48.31	47	135	97.90%
No. disposing to centralised system	Household	0	nil	600	7563	0	0	0
	Establishment	1620	nil	90	2500	0	50	100
Percentage having disposal	Household		N.A	3.2	47.47	0		0

Annexure 1

B.3.1. Segregation and Collection

Name of District		Thrissur						
Name of Municipality		Chalakkudy	Chavakkad	Guruvayoor	Irinjalakuda	Kodungallur	Kunnamkulam (Model Town)	Vadakkanchery
to centralised system	Establishment		N.A	3.3	86.26	75%		2.1
No. existing	MCF	1	1	1	2	Temporary MCF	1	2
	RRF	1	1	1	1	under construction	1	1
No. needed	MCF	2	1	10	2	10	37	3
	RRF	1	1	2	1	3	1	1
User fee		30/household, 100/establishment	Rs.60/- per month/Home	dry waste household 50/month .wet waste 200/month h.dry waste establishment 100/sack .wet waste 5/kg	Rs.60/- per month/Home	House 50/Rs /month establishments 100/month	House 60 Rs/month and establishments 100-200s / month	House 60Rs/month ,Estsblishments 100-500 Rs/month
Remarks							Door to door collection Facility of dry waste provide at 100%. But due to unwillingness	

Annexure 1

B.3.1. Segregation and Collection

Name of District	Thrissur						
Name of Municipality	Chalakkudy	Chavakkad	Guruvayoor	Irinjalakuda	Kodungallur	Kunnamkulam (Model Town)	Vadakkanchery
						of certain households. Full collection of dry waste could not be done.	

B.8.2. Decentralised units namely pipe compost, kitchen bin, bio composter, biobin, pot bin, biogas plant

Name of District	Thrissur						
Name of /Municipality	Chalakkudy	Chavakkad	Guruvayoor	Irinjalakuda	Kodungallur	Kunnamkulam	Vadakkanchery
No of units supplied:	2		bio gas 294,pot bin 500	4600	3450 PIPE COMPOST		219

Annexure 1

Name of District	Thrissur						
Name of /Municipality	Chalakkudy	Chavakkad	Guruvayoor	Irinjalakuda	Kodungallur	Kunnamkulam	Vadakkanchery
No of units working:	2	1082	bio gas 290,pot bin 490	4590	2860	Biogas plant - 196, Biobin - 4226	217
No of units not working:		NA	bio gas 4,pot bin 10		590	Nil	2
Reason for failure:		NA	lack of awareness	mis handling	Mishanling	NA	technical error

B.8.3. Centralised System

Name of District	Thrissur						
Name of Municipality	Chalakkudy	Chavakkad	Guruvayoor	Irinjalakuda	Kodungallur	Kunnamkulam	Vadakkanchery
Quantity of Waste generated (TPD) based on population	21	17	29	26	40	23	22.68
Quantity of Waste generated (TPD)	15	0.8 to 1 TPD	18	25.8	4.72 TPD	15	22.68
Quantity of Waste collected (TPD)	15	0.8 to 1 TPD	4	5.5	3TPD	3.197 TPD	2.5
Quantity of Waste treated (TPD)	15	0.5 to 0.8 TPD	4	1.5	Nil	3.197 TPD	2.5
Quantity of Waste processed in Composting Sites (TPD)	3	0.5 to 1 TPD	2.75	0	Nil	3.197 TPD	2
Quantity of Waste processed in biomethanation (TPD)	nil	Nil	0	0.6	Nil		2
Quantity of Waste processed in waste to energy plants (TPD)	nil	Nil	0	0	Nil		2

Annexure 1

Name of District	Thrissur						
Name of /Municipality	Chalakkudy	Chavakkad	Guruvayoor	Irinjalakuda	Kodungallur	Kunnamkulam	Vadakkanchery
Quantity of Waste processed in Landfill (TPD)	0.5	Nil	0	0.4	nil		0
Existing capacity of Waste Processing Facilities: (TPD)	6	0.5 to 1	4	0.6	10TPD	5 TPD-Dry waste	2TPD
Existing capacity of Waste Disposal Facilities: (TPD)	0.5	0.5 to 1 TPD	4	5	9TPD		2TPD
Planned Capacity of Waste Processing Facilities (TPD)	1	0.5 to 1	5	10	22TPD		2TPD
Planned Capacity of Waste Disposal Facilities (TPD)	0.5	12	5	5	5TPD		
Timeframe for installation of planned capacity of Waste Processing Facilities: (Months)	12	NA	2yrs	4	24 Months	NA	
Timeframe for installation of planned capacity of Waste Disposal Facilities: (Months)	12	NA	2yrs	4	24 months	100%	
Number of Legacy waste dumpsites in the State/UTs and plan for their Remediation:		1	1	1	1	0	

Annexure 1

B.9. Municipalities in Palakkad

B.9.1. Segregation and Collection

Name of District		Palakkad								
Name of Corporation/Municipality/Panchayath		Cheruplassery	Chitttur-Thattamangalam	Mannarkadu	Ottapalam	Palakkad	Pattambi	Shornur		
No of Wards		33	29	29	36	52		33		
No of Household		8892	10956	8718	12484	42124	5286	10407		
No of Establishment		1634	1210	1434	2030	7200	1600	1468		
No of Household having segregation at source		Dry	5320	5656	8718	7200	16850	0	10407	
		Wet	5320	1235	1434	0	2200	0	400	
No of Establishment having segregation at source		Dry	1260	140	8718	1020	761	0	1200	
		Wet	1260	112	Nil	0	nil	0	0	
D2D Collection	Households	Number	Dry	5320	5656	One day/month	7200	16850	0	10407
			Wet	Nil	1235	0	0	2200	0	400
		Percentage	Dry	59.9	51.7		57.7	40.1	0	100
			Wet		11.3	0	0	5.3	0	3.9
		Collection Frequency	Dry	Monthly one	4 Time per month	one day/Month	twice in a month	Weekly once	0	Fortnight
			Wet	Nil	14 Time per month	0	0	weekly Twice	0	Daily
	Establishments	Number	Dry	1260	140	1200	1020	761	0	1200
			Wet	Nil	1235	0	0	Nil	0	0
		Percentage	Dry	77.2	11.6	83.7	50.3	10.6	0	81.8
			Wet		102.1	0	0		0	0
Collection Frequency		Dry	Daily/Weekly	4 Times per month	Weekly	twice in a month	Weekly Once	0	Once in a week	
		Wet	Nil	25 Times per	0	0	Nil	0	na	

Annexure 1

B.9.1. Segregation and Collection

Name of District		Palakkad							
Name of Corporation/Municipality/Panchayath		Cheruplassery	Chitttur-Thattamangalam	Mannarkadu	Ottapalam	Palakkad	Pattambi	Shornur	
			month						
	No of collectors	22 HKS	56 Nos	58	56	156	20	65	
	No of vehicles used	2	5 Nos	Nil	2	52	1	2	
No. having source level treatment of wet waste in operation	Household	1230	1242	8565	5400	4650	0	2902	
	Establishment	46	NIL	1434	400	20	0	136	
Percentage having source level treatment of wet waste in operation	Household	9%	15%	55%	11%	0	0		
	Establishment	2.50%	NIL	20%	0.30%	0	0		
No. disposing to centralised system	Household	Nil	NIL	0	210	490	0	0	
	Establishment	Nil	NIL	0	60	Nil	0	0	
Percentage having disposal to centralised system	Household	Nil	NIL	0	1.20%	0	0		
	Establishment	Nil	NIL	0	0	0	0		
No. existing	MCF	1 Temperory	7 Nos	1	1	7	1	1	
	RRF	Under Constructio n	1 Nos	Under Constructi on	1	1	1	1	
No. needed	MCF	6	9 Nos	4	12	18	1	0	
	RRF	0	1 Nos	1	0	0	1	0	

Annexure 1

B.9.1. Segregation and Collection

B.9.1. Segregation and Collection							
Name of District	Palakkad						
Name of Corporation/Municipality/Panchayath	Cheruplassery	Chitttur-Thattamangalam	Mannarkadu	Ottapalam	Palakkad	Pattambi	Shornur
User fee	House hold 30establishment 50	50/100/250	Household 25 to 30pm Establishment 50/Week	40	House Hold Dry waste-100 Wet waste-150 Establishment -300	ESTABLISHMENT 10/DAY.5 /DAY	Household 50/- pm Establishment 150 to 300/- pm
Remarks		collected userfess in Rs.50 /- per house and Rs.100 / 250 per establishment				AMOUNT I	na

Annexure 1

B.9.2. Decentralised units namely pipe compost, kitchen bin, bio composter, biobin, pot bin, biogas plant

Name of District	Palakkad						
Name of Municipality	Cheruplassery	Chitttur- Thattamangalam	Mannarkadu	Ottapalam	Palakkad	Pattambi	Shornur
No of units supplied:		1537		4426	4550	1800	2902
No of units working:		998	55	4426	2650	0	2092
No of units not working:		539	Nil	0	1900	0	0
Reason for failure:		not avalabilty of inaculam and techical error	NA	NA	Foul Smell & Insects	0	na

B.3.3. Centralised System

Name of District	Palakkad						
Name of Corporation /Municipality /Panchayath	Cheruplassery	Chitttur- Thattamangalam	Mannarkadu	Ottapalam	Palakkad	Pattambi	Shornur
Quantity of Waste generated (TPD) based on population	13	14	17	23	55	12	19
Quantity of Waste generated (TPD)		9.7 Ton	2.6	1.4ton	42	3TPD	1.5
Quantity of Waste collected (TPD)		3 Ton	2	0.980ton	18	500KG	1.5
Quantity of Waste treated (TPD)		2.85 Ton	2	0.980ton	15	50KG	1.5
Quantity of Waste processed in Composting Sites (TPD)		2.85 Ton	Nil	880 ton	8	NA	NIL
Quantity of Waste processed in biomethanation (TPD)			Nil	0	15	NA	NIL

Annexure 1

Name of District	Palakkad						
Name of Municipality	Cheruplassery	Chitttur- Thattamangalam	Mannarkadu	Ottapalam	Palakkad	Pattambi	Shornur
Quantity of Waste processed in waste to energy plants (TPD)		NIL	Nil	0	nil	NA	NIL
Quantity of Waste processed in Landfill (TPD)		NIL	Nil	0	Nil	NA	NIL
Existing capacity of Waste Processing Facilities: (TPD)		4 Ton	2	1 ton	18	NA	3
Existing capacity of Waste Disposal Facilities: (TPD)		2.85 Ton	2	0	18	NA	3
Planned Capacity of Waste Processing Facilities (TPD)		2.85 Ton	2	1 ton	0.5 ton	NA	3
Planned Capacity of Waste Disposal Facilities (TPD)		2.85 Ton	2	NA	10 ton	NA	3
Timeframe for installation of planned capacity of Waste Processing Facilities: (Months)		NA	12 Months	1 MONTH	2 ton	NA	3
Timeframe for installation of planned capacity of Waste Disposal Facilities: (Months)		NA	12 Months	1 MONTH	24 Months	NA	3
Number of Legacy waste dumpsites in the State/UTs and plan for their Remediation:		NA	NA	3	24 Month	NA	NA

Annexure 1

B.10. Municipalities in Malappuram

B.10.1. Segregation and Collection

Name of District		Malappuram							
Name of Municipality		Kondotty	Kottakkal	Malappuram	Manjeri	Nilambur	Parappanangadi		
No of Wards		40	32	40	50	33	45		
No of Household		11807	11080	18889	19386	13685	18256		
No of Establishment		1700	2020	3246	4809	1800	1155		
No of Household having segregation at source		Dry	600	9600	15112	9886	5135	8358	
		Wet	8000		0	2115	0	7250	
No of Establishment having segregation at source		Dry	1000	1500	876		1750	615	
		Wet	100		0			527	
D2D Collection	Households	Number	Dry	9400	1480	15112	180 Ton	0	8358
			Wet	590		0	NIL	0	7250
		Percentage	Dry	79.7	13.4	80.1		0	45.8
			Wet	5	0	0		0	39.8
		Collection Frequency	Dry	Quarterly		Once in a month	One time in Month	monthly	
			Wet	Daily		-		Nil	
	Establishments	Number	Dry	200	520	876	2100	Nil	615
			Wet	Nil		0		21	527
		Percentage	Dry	11.8	25.8	27	43.7		53.3
			Wet		0	0	0	1.2	45.7
		Collection Frequency	Dry	quarterly		Once in a week	Daily	weekly	
			Wet			-	NIL	Nil	
No of collectors			160	15	24	16	29	90	
No of vehicles used			1 Owned and 1 Hired	1	2	2	1	1	

Annexure 1

B.10.1. Segregation and Collection

Name of District		Malappuram					
Name of Municipality		Kondotty	Kottakkal	Malappuram	Manjeri	Nilambur	Parappanangadi
No. having source level treatment of wet waste in operation	Household	8000	Nil	17735		33	
	Establishment	100	Nil	876		Nil	40
Percentage having source level treatment of wet waste in operation	Household	67%		93			70
	Establishment	1%		27			
No. disposing to centralised system	Household			Nil	1	Nil	3750
	Establishment			75	1	Nil	337
Percentage having disposal to centralised system	Household	nil	Nil	Nil			20.54
	Establishment	nil	Nil	2.3			29.17
No. existing	MCF	1	1	3	3	Temporary	1
	RRF	nil	1	1	0	Nil	1
No. needed	MCF	2	30	4	2	3	4
	RRF	1	2	1	1	1	1
User fee		Yes, Collecting	House Hold- 50, Establishment - 100	HH- 30/- per month Estmnt- 50/- per week	300/-	60	Rs 30 (House) RS 100(Shop)
Remarks			User fee based on openlyQuant ity of waste		The user free Charged in kg base		

Annexure 1

B.10.2. Decentralised units namely pipe compost, kitchen bin, bio composter, biobin, pot bin, biogas plant

Name of District	Malappuram					
Name of Municipality	Kondotty	Kottakkal	Malappuram	Manjeri	Nilambur	Parappanangadi
No of units supplied:	Pipe Composting-600 Ring Compost-183 Biogas Plant-18	NIL	31BIOGAS			biogas - 13, kitchenbin-75
No of units working:	801		1061		33	kitchen bin -73
No of units not working	nil		Nil		NA	biogas 13
Reason for failure:	NA	NA			NA	

B.10.3. Centralised System

Name of District	Malappuram					
Name of Municipality	Kondotty	Kottakkal	Malappuram	Manjeri	Nilambur	Parappanangadi
Quantity of Waste generated (TPD) based on population						
Quantity of Waste generated (TPD)	0.12 TPD(non bio degradable)		3.23		3 1/2 TPD	2
Quantity of Waste collected (TPD)	0.12 TDP(non biodegradable)		2.2		2 TPD	1

Annexure 1

Name of District	Malappuram					
Name of Municipality	Kondotty	Kottakkal	Malappuram	Manjeri	Nilambur	Parappanangadi
Quantity of Waste generated (TPD) based on population	12	18	43	41	20	15
Quantity of Waste treated (TPD)	0.12 TPD		2.2		1 1/2 TPD	1
Quantity of Waste processed in Composting Sites (TPD)	nil		Nil		1 1/2 TPD	
Quantity of Waste processed in biomethanation (TPD)	nil		Nil		Nil	
Quantity of Waste processed in waste to energy plants (TPD)	nil		Nil		Nil	
Quantity of Waste processed in Landfill (TPD)	nil		Nil		Nil	
Existing capacity of Waste Processing Facilities: (TPD)	0.12 TPD		Nil		1 TPD	1
Existing capacity of Waste Disposal Facilities: (TPD)	na		Nil		0.5 TPD	1
Planned Capacity of Waste Processing Facilities (TPD)	na		Nil		1	50
Planned Capacity of Waste Disposal Facilities (TPD)					1.5	3
Timeframe for installation of planned capacity of Waste Processing Facilities: (Months)	6 months				4	1 year
Timeframe for installation of planned capacity of Waste Disposal Facilities: (Months)	6 months				4	2 year
Number of Legacy waste dumpsites in the State/UTs and plan for their Remediation:	NA				0	Nil

Annexure 1

B.10. Municipalities in Malappuram

B.3.1. Segregation and Collection

Name of District		Malappuram							
Name of Corporation/Municipality/Panchayath		Perinthalmanna	Ponnani	Thanoor	Thiroomangadi	Tirur	Valanchery		
No of Wards		34	51	44	39	38	33		
No of Household		16242	16394	15400	13146	12769	7651		
No of Establishment		3202	2540	1500	2000	8412	1224		
No of Household having segregation at source		Dry	6242	11475	8490	5500	12769	NA	
		Wet	0	11475	0	0	12769	NA	
No of Establishment having segregation at source		Dry	1102	1778	150	500	8412	No	
		Wet	193	1778	0	0	8412	No	
D2D Collection	Households	Number	Dry	6242	11475	8490	5500	12769	
			Wet	0	0	0	0	0	
		Percentage	Dry	38.5	70	55.2	41.9	100	0
			Wet	0	0	0	0	0	0
		Collection Frequency	Dry	Monthly	monthly	once in month	once in every three months	twice in one month	Once in a month
			Wet	Nil	Nil	0	Nil	0	
	Establishments	Number	Dry	1102	1778	150	500	8412	Nil
			Wet	193	0	0	0	0	Nil
		Percentage	Dry	34.5	70	10	25	100	
			Wet	6.1	0	0	0	0	
		Collection Frequency	Dry	Daily	Twise/month	once in week	fortnightly	twice in one month	Nil
			Wet	Daily	nil	0	Nil	0	Nil
No of collectors		52	49	0	28	38	13		
No of vehicles used		6	1	1	1	2	Nil		

Annexure 1

B.3.1. Segregation and Collection

Name of District		Malappuram					
Name of Corporation/Municipality/Panchayath		Perinthalmanna	Ponnani	Thanoor	Thiroorangadi	Tirur	Valanchery
No. having source level treatment of wet waste in operation	Household	1310	13115	8000	1912	12769	20%
	Establishment	32	1905	1000	10	8412	Nil
Percentage having source level treatment of wet waste in operation	Household	0	80	52	0	100	Nil
	Establishment	0	75	67	0	100	Nil
No. disposing to centralised system	Household	Nil	Nil	0	Nil	nil	Nil
	Establishment	Nil	2	0	Nil	nil	Nil
Percentage having disposal to centralised system	Household	0	0	0	Nil	0	Nil
	Establishment	0	near to 0	0	Nil	0	Nil
No. existing	MCF	1	8	1	1	1	1
	RRF	1	1	1	0	1	Nil
No. needed	MCF	2	10	4	4	1	3
	RRF	0	0	1	1	15	1
User fee		50per House	50 per house	50 per house hold 100 per establishment	Rs 50/- per Household and Rs 100/- per establishment (for each 50kg bag)	Rs 50/- per house hold	Rs 50/- per house hold
Remarks							

Annexure 1

B.10.2. Decentralised units namely pipe compost, kitchen bin, bio composter, biobin, pot bin, biogas plant

Name of District	Malappuram					
Name of Corporation/Municipality/Panchayath	Peinthalmanna	Ponnani	Thanoor	Thiroorangadi	Tirur	Valanchery
No of units supplied:	472	1302		1912	468	230
No of units working:	0	1302	56	800	468	230
No of units not working	0	0	0	1112	.	
Reason for failure:	NA	NA	NA	improper handling	.	NA

B.10.3. Centralised System

Name of District	Malappuram					
Name of Municipality	Peinthalmanna	Ponnani	Thanoor	Thiroorangadi	Tirur	Valanchery
Quantity of Waste generated (TPD) based on population	21	38	19	24	24	15
Quantity of Waste generated (TPD)	10	6	12.38	17 TPD	8	6 ton per day
Quantity of Waste collected (TPD)	6	2	0.3	0.5	1	3
Quantity of Waste treated (TPD)	6	2	0	0	1	2.5
Quantity of Waste processed in Composting Sites (TPD)	6	2	0	0	0.75	0.3
Quantity of Waste processed in biomethanation (TPD)	Nil	0	0	0	nil	NA
Quantity of Waste processed in waste to energy plants (TPD)	Nil	0	0	0	nil	NA

Annexure 1

Quantity of Waste processed in Landfill (TPD)	Nil	0	0	0	0.25	NA
Existing capacity of Waste Processing Facilities: (TPD)	7	2	0	0	2	0.2
Existing capacity of Waste Disposal Facilities: (TPD)	Nil	2	0	0	0.25	Nil
Planned Capacity of Waste Processing Facilities (TPD)	11	6	0	0	2	Nil
Planned Capacity of Waste Disposal Facilities (TPD)	Nil	0	0	0	2	Nil
Timeframe for installation of planned capacity of Waste Processing Facilities: (Months)	3	6 months	12	12	6	On Processing
Timeframe for installation of planned capacity of Waste Disposal Facilities: (Months)	3	0	12	6	6	Nil
Number of Legacy waste dumpsites in the State/UTs and plan for their Remediation:	Nil	0	0	0	1	Nil

Annexure 1

B.11. Municipalities in Kozhikode

B.11.1. Segregation and Collection									
Name of District			Kozhikode						
Name of Corporation			Faroke	Koduvall y	Koyilandy	Mukkam	Payyoli	Ramanattukara	Vadakara
No of Wards			38	36	44	33	36	31	47
No of Household			14562	10623	17086	8134	13800	10123	18000
No of Establishment			1750	1292	2860	2022	1400	1400	5938
No of Household having segregation at source		Dry	6500	5300	10241	7315	6900	nil	16000
		Wet	6500	310	12040	Nil	10400	Nil	nil
No of Establishment having segregation at source		Dry	59	2520	1950	1836	840	Nil	4000
		Wet	12	0	2100	Nil	1220	nil	nil
D2D Collection	Households	Number	Dry	6500	-	10200	7315	Nil	16000
			Wet	6500	-	NIL	nil	Nil	nil
		Percentage	Dry	44.7	59.7	90	0	88.9	
			Wet	44.7	0	0			
		Collection Frequency	Dry	once in a month	per month	MONTHLY	monthly	nil	13500
			Wet	not collecting	-	NIL	nil	nil	nil
	Establishments	Number	Dry	59	-	225	1836	nil	5938
			Wet	12	-	225	nil	nil	nil
		Percentage	Dry	3.4	7.9	90.9	0	100	
			Wet	0.7	7.9	0	0		
		Collection Frequency	Dry	once in a week	-	DAILY	monthly	Nil	4000
			Wet	daily	-	DAILY	nil	Nil	nil
No of collectors			18	72 (Haritha Karma)	100	38	Nil	63	

Annexure 1

B.11.1. Segregation and Collection								
Name of District		Kozhikode						
Name of Corporation		Faroke	Koduvall y Sena	Koyilandy	Mukkam	Payyoli	Ramanattukara	Vadakara
		1	one (on contract)	1	1		Nil	3
No. having source level treatment of wet waste in operation	Household	6500	-	4200	237		Nil	8890
	Establishment	8	-	8	11		Nil	600
Percentage having source level treatment of wet waste in operation	Household	44.7		24.6	3	0		49.4
	Establishment	0.5		0.3	0.6	0		10.2
No. disposing to centralised system	Household	0	0	0	nil		Nil	50unit
	Establishment	0	0	1050	nil		Nil	20unit
Percentage having disposal to centralised system	Household	0	0	0		0		
	Establishment	0	0	36.8		0		
No. existing	MCF	1	1	2	1		1	13
	RRF	under construction	0	1	nil		nil	2
No. needed	MCF	2	2	3	1		mini MCF need for 31 wards	34
	RRF	1	1	1	1		nil	1
User fee		Rs 30/month/hou se, Rs 50/week/shop	Rs.50/ house Rs.100/E stablishm ent	Rs50/house- Rs.100/estab lishment and may vary as per weight	50		Rs50 for Housed and 100/- for shopes	50/month

Annexure 1

B.11.1. Segregation and Collection							
Name of District	Kozhikode						
Name of Corporation	Faroke	Koduvally	Koyilandy	Mukkam	Payyoli	Ramanattukara	Vadakara
Remarks	Only Nonbiodegradable waste is collecting by door to door collection	Only dry waste D2D collection. Wet waste at source level treatment. Daily 600 Kg wet waste collecting from Town street by 8 Sanitary workers.					

Annexure 1

B.11.2. Decentralised units namely pipe compost, kitchen bin, bio composter, biobin, pot bin, biogas plant

Name of District	Kozhikode						
Name of Corporation/Municipality/Panchayath	Faroke	Koduvally	Koyilandy	Mukkam	Payyoli	Ramanattukara	Vadakara
No of units supplied:	4550		4100		0		8840
No of units working:	1550	-	4055			nil	5000
No of units not working:	3000 pipe compost	-				nil	3840
Reason for failure:	lack of awairness	-	improper maintainance			nil	improper maintainance

B.11.3. Centralised System

Name of District	Kozhikode						
Name of Municipality	Faroke	Koduvally	Koyilandy	Mukkam	Payyoli	Ramanattukara	Vadakara
Quantity of Waste generated (TPD) based on population	14	21	30	17	10	15	32
Quantity of Waste generated (TPD)	4	4.8	10			nil	19.93
Quantity of Waste collected (TPD)	0.5	0.6	2.5			nil	11.95
Quantity of Waste treated (TPD)	0.5	0.6	2.5			nil	11.95
Quantity of Waste processed in Composting Sites (TPD)	0.05	0.6	2			nil	Nil
Quantity of Waste processed in biomethanation (TPD)	0	-	0		nil	nil	Nil

Annexure 1

Name of District	Kozhikode						
Name of Corporation/Municipality/Panchayath	Faroke	Koduvally	Koyilandy	Mukkam	Payyoli	Ramanattukara	Vadakara
Quantity of Waste processed in waste to energy plants (TPD)	0	-	0		nil	nil	Nil
Quantity of Waste processed in Landfill (TPD)	nill	-	0		nil	nil	0.95
Existing capacity of Waste Processing Facilities: (TPD)	0	-	2		nil	nil	nil
Existing capacity of Waste Disposal Facilities: (TPD)	0	- (2 Acre land)	2.5		nil	nil	2
Planned Capacity of Waste Processing Facilities (TPD)	0	-	3		nil	nil	5
Planned Capacity of Waste Disposal Facilities (TPD)	0	-	nil		nil	nil	5
Timeframe for installation of planned capacity of Waste Processing Facilities: (Months)	2020March	-	2020March		nil	nil	NIL
Timeframe for installation of planned capacity of Waste Disposal Facilities: (Months)	2020 March	-	na		nil	nil	NIL
Number of Legacy waste dumpsites in the State/UTs and plan for their Remediation:	Nill	Nil	nil		nil	nil	NIL

Annexure 1

B.12. Municipalities in Wayanad

B.12.1. Segregation and Collection						
Name of District			Wayanad			
Name of Municipality			Kalpetta	Mananthavady	Sulthanbathery	
No of Wards			28	36	35	
No of Household			7519	12538	15889	
No of Establishment			2100	1724	2200	
No of Household having segregation at source			Dry	1998	4970	
			Wet	0	0	
No of Establishment having segregation at source			Dry	1710	812	
			Wet	0	0	
D2D Collection	Households	Number	Dry	1998	4970	waste to energy SWM plant under construction
			Wet	0	0	waste to energy SWM plant under construction
		Percentage	Dry	26.6	39.7	
			Wet	0	0	
		Collection Frequency	Dry	weekly	Once in a Month	waste to energy SWM plant under construction
			Wet	0	0	Not still started
	Establishments	Number	Dry	1710	812	Not still started
			Wet	0	0	Not still started
		Percentage	Dry	81.5	47.1	
			Wet	0	0	
		Collection Frequency	Dry	daily	Once in a Month	Not still started
			Wet	0		Not still started

Annexure 1

B.12.1. Segregation and Collection				
Name of District		Wayanad		
Name of Municipality		Kalpetta	Mananthavady	Sulthanbathery
	No of collectors	32	26	23
	No of vehicles used	4	1	1
No. having source level treatment of wet waste in operation	Household	nil	Nil	Nil
	Establishment	7	22	Nil
Percentage having source level treatment of wet waste in operation	Household			
	Establishment	0.4	1.3	
No. disposing to centralised system	Household	nil	nil	Nil
	Establishment	nil	nil	Nil
Percentage having disposal to centralised system	Household			
	Establishment			
No. existing	MCF	1	1	1
	RRF	1	0	0
No. needed	MCF	1	15	1
	RRF	1	1	1
User fee		Rs 50 per month from household and Rs 100 to 2000 from establishments according to the quantity of waste	RS 50 to 250 FOR SHOPES Rs. 30 for houses	waste to energy plant under construction
Remarks				

Annexure 1

B.12.2. Decentralised units namely pipe compost, kitchen bin, bio composter, biobin, pot bin, biogas plant

Name of District	Wayanad		
Name of Municipality	Kalpetta	Mananthavady	Sulthanbathery
No of units supplied:		1061	Nil
No of units working:		0	Nil
No of units not working:		0	Nil
Reason for failure:		Implementing Stage	Waste to energy plant under construction

B.12.3. Centralised System

Name of District	Wayanad		
Name of Municipality	Kalpetta	Mananthavady	Sulthanbathery
Quantity of Waste generated (TPD) based on population	14	15	10
Quantity of Waste generated (TPD)	8tpd	0.5 ton	13.66
Quantity of Waste collected (TPD)	6tpd	0.5 ton	2.74
Quantity of Waste treated (TPD)	4tpd	0.5 ton	10.92
Quantity of Waste processed in Composting Sites (TPD)	0	NA	10.92
Quantity of Waste processed in biomethanation (TPD)	0		Nil

Annexure 1

Name of District	Wayanad		
Name of Municipality	Kalpetta	Mananthavady	Sulthanbathery
Quantity of Waste processed in waste to energy plants (TPD)	0	NA	Nil . Plant under construction
Quantity of Waste processed in Landfill (TPD)	4tpd	NA	Nil
Existing capacity of Waste Processing Facilities: (TPD)	na	NA	
Existing capacity of Waste Disposal Facilities: (TPD)	3tpd	NA	
Planned Capacity of Waste Processing Facilities (TPD)	na	NA	5
Planned Capacity of Waste Disposal Facilities (TPD)	3tpd	NA	5
Timeframe for installation of planned capacity of Waste Processing Facilities: (Months)	NA	NA	6
Timeframe for installation of planned capacity of Waste Disposal Facilities: (Months)	NA		6
Percentage of Urban Local Bodies (ULBs)/ Village Panchayats (VPs) Covered	80		20
Timeframe for covering all the ULBs/VPs (Months)	12 MONTHS		6
Number of Legacy waste dumpsites in the State/UTs and plan for their Remediation:	NIL		Nil

Annexure 1

B.13. Municipalities in Kannur

B.13.1. Segregation and Collection

Name of District		Kannur										
Name of Municipality		Anthoor	Panoor	Koothuparambu	Iritty	Mattanur	Payyanur	Sreekantapuram	Thalassery	Thaliparambu		
No of Wards		28	40	28	33	35	44	30	52	34		
No of Household		8460	14148	9015	8484	9796	17061	8627	24317	10300		
No of Establishment		944	1948	2200	1856	1783	3345	795	8256	4100		
No of Household having segregation at source	Dry	8460	7285	9015	8323		13600	8627	24317	9000		
	Wet	NIL	Nil	nil	NIL		0	795	0	Nil		
No of Establishment having segregation at source	Dry	ONCE A MONTH	1900	1980	1214		2300		6000	450		
	Wet	NIL	Nil	167	227				800	400		
D2D Collection	Households	Number	Dry	944	7285	9015	8323	8100	13600	8627	18000	9000
			Wet	NIL	Nil	nil	NIL	NIL	0	Nil	0	Nil
		Percentage	Dry	11.2	51.5	100	98.2	82.7	79.8	100	74.1	87.4
			Wet						0		0	
		Collection Frequency	Dry	ONCE A MONTH	once in month	once in month	monthly	MONTHLY	Monthly	Monthly	weekly	Monthly
			Wet	NIL	nil	nil	NA	NA	0	Nil	na	
	Establishments	Number	Dry		500	1980	1214	1650	2300	700	0	450
			Wet		nil	167	227	1400	0	Nil Source Reducion	0	400
		Percentage	Dry	0	25.7	90	65.5	92.6	68.8	88.1	0	11

Annexure 1

B.13.1. Segregation and Collection

Name of District		Kannur											
Name of Municipality		Anthoor	Panoor	Koothuparambu	Iritty	Mattanur	Payyanur	Sreekantapuram	Thalassery	Thaliparambu			
	Wet	0		7.6	12.3	78.6	0		0	9.8			
	Collection Frequency	Dry		weekly	daily	Weekly	DAILY	Weekly	100%	not collecting	Monthly		
		Wet		nil	daily	DAILY	DAILY	0	Nil	not collecting	Daily, Weekly		
	No of collectors		28	40	64	39	52	44	30	97	34		
	No of vehicles used		1	1	2	1	1	4	1	1	4		
No. having source level treatment of wet waste in operation	Household	8460	Nil	3334	8484	5420	4835 unit	8627	18000	4800			
	Establishment	944	Nil	72	147	560	1600	795	800	60			
Percentage having source level treatment of wet waste in operation	Household	100		37	100	55.4		100	74.1	46.7			
	Establishment	100		3.3	8	31.5	47.9	100	9.7	1.5			
No. disposing to centralised system	Household	8460	nil	5000	NIL	NIL	Nil	Nil	nil	Nil			
	Establishment	944	nil	2052	227	1100	1745	Nil	nil	Nil			
Percentage having disposal to centralised system	Household	100		55.5									
	Establishment	100		93.3	12.3	61.7	52.2						
No. existing	MCF	1	nil	1	1	1	1	1	1	1	1		
	RRF	1	nil	nil	NIL	2	1	0	nil	1			
No. needed	MCF	NIL	40	7(one for	33	NIL	5	1	3	1			

Annexure 1

B.13.1. Segregation and Collection

Name of District		Kannur								
Name of Municipality		Anthoor	Panoor	Koothuparambu	Iritty	Mattanur	Payyanur	Sreekantapuram	Thalassery	Thaliparambu
				every four ward)						
	RRF	NIL	3	1	1	NIL	20	1	3	1
User fee		RS. 30 FOR HOUSES RS 50 FOR SHOPE S	Rs.30 for House Rs.50 for Shope	Rs 40 for every household per month	HOUSE 30 Establishment (Quantity based)	30 FOR PLASTIC FROM HOUSE		30 Rs from each registration house/Month	Rs 30 for each house	50Rs from Households 100 to 750 from Establishments
Remarks				Municipality has fixed a collection fee of Rs 40 per month for a household and Rs 100 from an establishment for plastic collection but people are reluctant to pay the amount regularly.				MCF the Kavumbai recycling unit temporarily close due to strike	existing MCF is insufficient to store plastic waste collected by Haritha karmasena	

Annexure 1

B.13.2. Decentralised units namely pipe compost, kitchen bin, bio composter, biobin, pot bin, biogas plant

Name of District	Kannur								
Name of /Municipality	Anthoor	Panoor	Koothuparambu	Iritty	Mattanur	Payyanur	Sreekantapuram	Thalassery	Thaliparambu
No of units supplied:	33	1200 (Ring compost, KichenBin)		341 (Ring Compost)	5236			6661	4800
No of units working:	3471	1200	3014	341	5236	4835	NA	6661	4800
No of units not working:	NIL	0	320	0	NIL	Nil	NA	0	Nil
Reason for failure:	NIL	NA	Mismanagement of units and lack of awareness among the people.	NA	NA	NA	Lack of sufficient fund	na	NA

B.13.3. Centralised System

Name of District	Kannur								
Name of Municipality	Anthoor	Panoor	Koothuparambu	Iritty	Mattanur	Payyanur	Sreekantapuram	Thalassery	Thaliparambu
Quantity of Waste generated (TPD) based on population	16	8	13	17	20	30	8	39	31
Quantity of Waste generated (TPD)			3.5	10		15 MT	3 MT	5T/D	15
Quantity of Waste collected (TPD)			2	2.5		6MT	1.5 MT	1T/D	5
Quantity of Waste treated (TPD)			1.5	2.25		6MT	1.5 MT	1T/D	5
Quantity of Waste processed in Composting Sites (TPD)			1	2		6 MT		1T/D	2

Annexure 1

Name of District	Kannur								
Name of /Municipality	Anthoor	Panoor	Koothuparam bu	Iritty	Mattanur	Payyanur	Sreekantapuram	Thalassery	Thaliparambu
Quantity of Waste processed in biomethanation (TPD)			Nil	0			Nil	0	Nil
Quantity of Waste processed in waste to energy plants (TPD)			Nil	0			Nil	0	Nil
Quantity of Waste processed in Landfill (TPD)			Nil	0			Nil	0	Nil
Existing capacity of Waste Processing Facilities: (TPD)			1.5	4			0.5 MT	1T/D	5
Existing capacity of Waste Disposal Facilities: (TPD)			1.5	4				1T/D	5
Planned Capacity of Waste Processing Facilities (TPD)			2	5		2 years	Collected waste by Harithakarmase na	1T/D	10
Planned Capacity of Waste Disposal Facilities (TPD)			2	5			From Houses and dispose to MCF Unit	10	
Timeframe for installation of planned capacity of Waste Processing Facilities: (Months)			24 months	12				As per DPR	
Timeframe for installation of planned capacity of Waste Disposal Facilities: (Months)			24 months	15				As per DPR	
Number of Legacy waste dumpsites in the State/UTs and plan for their Remediation:			Nil	NA		''		NA	NA

Annexure 1

B.14. Municipalities in Kasargod

B.14.1. Segregation and Collection						
Name of District			Kasaragod			
Name of Municipality			Kanhangad	Kasaragod	Nileshwaram	
No of Wards			43	38	32	
No of Household			21000	14835	11921	
No of Establishment			3260	9930	1502	
No of Household having segregation at source			Dry	18000	12685	9517
			Wet		12685	
No of Establishment having segregation at source			Dry	18000	6218	1502
			Wet		6218	
D2D Collection	Households	Number	Dry	18000	12685	9517
			Wet		0	
		Percentage	Dry	85.8	85.6	79.9
			Wet	0	0	0
		Collection Frequency	Dry	Monthly	monthly	daily
			Wet		0	
	Establishments	Number	Dry	800	3150	901
			Wet	600	0	
		Percentage	Dry	24.6	31.8	60
			Wet	18.5	0	0
		Collection Frequency	Dry	Daily	weekly	daily
			Wet	Daily	0	

Annexure 1

B.14.1. Segregation and Collection				
Name of District		Kasaragod		
Name of Municipality		Kanhgad	Kasaragod	Nileshwaram
	No of collectors	43	17	30
	No of vehicles used	3	3	2
No. having source level treatment of wet waste in operation	Household	18000	9654	193
	Establishment	300	368	38
Percentage having source level treatment of wet waste in operation	Household	85.8	65.1	1.7
	Establishment	9.3	3.8	2.6
No. disposing to centralised system	Household	NIL	nil	nil
	Establishment	3	8	nil
Percentage having disposal to centralised system	Household			
	Establishment	0.1	0.1	
No. existing	MCF	2	4	1
	RRF	1	1	1
No. needed	MCF	0	38	3
	RRF	0	2	Nil
User fee		Rs.50 from household Rs 200-10,000 from establishments	house hold 50, establishments 100	Approximately- 75000

Annexure 1

B.14.1. Segregation and Collection			
Name of District	Kasaragod		
Name of Municipality	Kanhangad	Kasaragod	Nileshwaram
Remarks			Household- Rs.30/m, Shops -small-50/m, Big- 100/m

B.14.2. Decentralised units namely pipe compost, kitchen bin, bio composter, biobin, pot bin, biogas plant

Name of District	Kasaragod		
Name of Municipality	Kanhangad	Kasaragod	Nileshwaram
No of units supplied:	1300	768	2942
No of units working:	1300	768	2942
No of units not working:	NIL	0	nil
Reason for failure:	NA	na	na

Annexure 1

B.14.3. Centralised System

Name of District	Kasaragod		
Name of Municipality	Kanhangad	Kasaragod	Nileshwaram
Quantity of Waste generated (TPD) based on population	31	55	17
Quantity of Waste generated (TPD)	45	11 mt	
Quantity of Waste collected (TPD)	0.7	3mt	
Quantity of Waste treated (TPD)	0.5	3 mt	
Quantity of Waste processed in Composting Sites (TPD)	0.5	2.5	
Quantity of Waste processed in biomethanation (TPD)	NIL.	2.5	
Quantity of Waste processed in waste to energy plants (TPD)	NIL.	0	
Quantity of Waste processed in Landfill (TPD)	NIL.	0	
Existing capacity of Waste Processing Facilities: (TPD)	5	3	
Existing capacity of Waste Disposal Facilities: (TPD)		3	
Planned Capacity of Waste Processing Facilities (TPD)		5	
Planned Capacity of Waste Disposal Facilities (TPD)		5	
Timeframe for installation of planned capacity of Waste Processing Facilities: (Months)			
Timeframe for installation of planned capacity of Waste Disposal Facilities: (Months)			
Number of Legacy waste dumpsites in the State/UTs and plan for their Remediation:	NA		

Annexure 2



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

KERALASTATE POLLUTION CONTROL BOARD

കേരളസംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

Pattom P.O., Thiruvananthapuram - 695 004

പട്ടം പി.ഒ., തിരുവനന്തപുരം - 695 004

PCB/HO/RULES/SWM-TVM-CORPN /2018

Date: 25/09/2019

Regd. with A/D

NOTICE UNDER SECTION 5 OF THE ENVIRONMENTAL PROTECTION ACT, 1986

Sub: Levying of Environmental Compensation for non compliance of SWM Rule 2016

Ref: 1.The Hon'ble NGT order OA no. 606/2018 dated 16/01/2019 & 25/04/2019

2.This office notice no.PCB/HO/EE4/NGT/SWM DIRECTIONS TO LB/2019 dated 17/04/2019

3.Letter no. H15/64522/13 dated 06/06/2019

4.Annual Report dated 14/06/2019

5.Letter no.PCB/TVM-DO/TMC-1245/2019 dated 21/08/2019

6.Letter no.PCB/TVM-DO/TMC-1245/2019 dated 23/09/2019

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 (herein after referred as SWM Rules) vide notification S.O. 1357(E) dated 8-4-2016;

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

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;

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 (7) of the SWM Rules, solid waste processing facilities for the complete quantity of waste generated from the local body @ 0.4 to 0.5 kg/person/day, shall be set up by 8-4-2018;

WHEREAS facilities with the technologies specified in CPHEEO manual and SWM Rules are to be in place for the effective treatment and disposal of the solid waste generated in the local body;

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

Annexure 2

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 vide the communications read above, for the compliance of the SWM Rules;

WHEREAS the following information was submitted by you vide the Annual Report read 4th above;

No. of Households							
No. of non-residential premises	2,72,820						
Quantity of Solid waste generated	383 TPD						
Quantity of Solid waste collected as per Annual Report	175 TPD						
Quantity of Solid waste processed as per Annual Report	175 TPD						
Quantity of Solid waste processed in Household level. (Report on performance of the processing facilities is not submitted)	<table style="border: none;"> <tr> <td style="padding-right: 10px;">Biogas plant- 1749</td> <td rowspan="4" style="font-size: 3em; vertical-align: middle;">}</td> <td rowspan="4" style="vertical-align: middle;">≈ 20.2 TPD</td> </tr> <tr> <td>Kitchen bin – 7000</td> </tr> <tr> <td>Pipe compost- 87000</td> </tr> <tr> <td>Biocomposter-15833</td> </tr> </table>	Biogas plant- 1749	}	≈ 20.2 TPD	Kitchen bin – 7000	Pipe compost- 87000	Biocomposter-15833
Biogas plant- 1749	}	≈ 20.2 TPD					
Kitchen bin – 7000							
Pipe compost- 87000							
Biocomposter-15833							

WHEREAS it is noted that you are not processing 187.8 TPD of waste generated;

WHEREAS it is noted that you have not identified the land for the solid waste processing facility and sanitary landfill;

WHEREAS the Hon'ble National Green Tribunal, Principal Bench, New Delhi in the order dated 22/11/2018 in O.A. No. 353/2016 clarified that apart from prosecution, the statutory authorities under the Environment (Protection) Act, 1986, the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974, must, in exercise of their incidental powers, prescribed scale of compensation to be collected from the polluters on the "Polluter Pay's Principle". Such scale which may be laid down at various levels, having regard to the local condition or as per direction in the hierarchy of the authorities. In various other application also, the Hon'ble NGT passed similar orders, for instance, in the Order dated 20/11/2018 in O.A No. 117/2014, 499/2014 and 102/2014 the Hon'ble NGT noted as; "Needless to say that statutory authorities under the Environment (Protection) Act, 1986, Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974 are entitled to assess and recover damages as "Pollution Pays Principle" in exercise of incidental powers to protect environment".

WHEREAS notice was issued to you vide the notice read Ref 2nd above as you have not complied with above provision;

WHEREAS you have failed to establish alternate modern treatment plant upon closure of the solid waste treatment facility at Vilappilsala in 2012

WHEREAS you have stopped door-to-door collection of biodegradable organic waste, on closure of the solid waste treatment facility at Vilapilsala;

WHEREAS you provided in some households in the Corporation, various devices for composting of organic waste known as 'pipe compost', 'kitchen bin', 'pot compost' and '3-pot compost';

Annexure 2

WHEREAS you have used promotion of various source level treatment schemes as convenient method of denying households, slums and informal settlements, commercial and other non-residential premises, door-to-door collection of organic waste in violation of Rule 15(b);

WHEREAS the KSPCB District office has found that a number of composting devices have malfunctioned causing unhygienic conditions because of worm, fly and rodent nuisance in violation of Rule 15(t), leaving the waste generators to depend on private services to remove the waste from their premises;

WHEREAS you have not published ward-wise list of concessionaires providing waste service;

WHEREAS you have failed to provide public information on door-to-door waste collection on the official web site of Corporation of Thiruvananthapuram and on the 'Smart Trivandrum' mobile application with waste management services;

WHEREAS the private services operating in the city have not obtained registration from the Board for treatment facilities for the disposal of wastes collected;

WHEREAS you have failed to implement mandatory GPS in collection and transportation vehicles in cities with population above 5 lakh along with the publication of route map, as directed by Hon'ble NGT order dated 17-5-2019 in OA 606-2018(PB-I);

WHEREAS in violation of Rule 15(c), you have failed to establish a system for integration of informal waste pickers into the system of waste management;

WHEREAS in violation of Rule 15(n), you have not provided satisfactory sweeping of streets causing build-up of litter in numerous locations;

WHEREAS in violation of Rule 15(w), you have failed to establish sanitary landfill facility;

WHEREAS in violation of Rule 15(x), you have allocated funds to discretionary welfare schemes without meeting the requirement of funds for obligatory functions under Solid Waste Management rules such as procurement of land for solid waste treatment plant and sanitary landfill, setting up solid waste treatment plant, procurement of vehicles for solid waste collection and making provision for daily door-to-door collection and sweeping of roads in public and commercial areas twice daily and residential roads daily;

WHEREAS you have failed to submit to the Board, Annual Report before 31 May 2019, in violation of Rule 15(zb);

WHEREAS the KSPCB District office has found that pipe compost system has been supplied to most of the people with no technical guidance on how to use this system. The defects namely lack of technical knowledge, unpleasant odour generation from the pipe the compost pipe, nuisance from rodents, fly and worms, difficulty of disposal of greasy and oily foods pointed out by beneficiaries has resulted in widespread failure;

WHEREAS for kitchen bin it was reported that out of 116 beneficiaries contacted of which 46 are using kitchen bins, 53 are not using the system and 17 people are not even supplied with the system. The defects pointed out by beneficiaries are lack of technical knowledge, unpleasant odour generation, fly and worm nuisance;

WHEREAS for biogas the KSPCB District office has reported that 9 beneficiaries informed that the facility is working properly and one informed that the facility is not working properly after monsoon season;

Annexure 2

WHEREAS KSPCB District office reported in community level decentralized systems, highly skilled operators are to be engaged for the proper maintenance and operation of the facility;

WHEREAS the Corporation has not provided details regarding quantity of municipal solid waste treated from non residential sources;

WHEREAS you have continued to promote failed household treatment schemes such as pipe compost and kitchen bin as a cover to avoid obligatory functions in SWM 2016 that incur political costs, such as procuring land and establishing a modern solid waste treatment plant and sanitary landfill;

WHEREAS the rank of 365 out of 425 cities in 2019 Swachh Survekshan conducted by Ministry of Housing and Urban Affairs, Government of India is indicative of the poor quality of waste management service you have provided in the city and failure to implement a modern waste treatment facility;

WHEREAS the KSPCB District office reported that the facilities provided by the Corporation do not seem to cater the quantity of waste expected to be generated from Corporation;

WHEREAS the Board is constrained to assess the Environmental Compensation from 22/11/2018 to 31/07/2019 (Days = 252) as follows;

City	Thiruvananthapuram
Population (2011)	958,000
Class	Million –plus City
Waste Generation (kg. per person per day)	0.4
Waste Generation (TPD)	383.00
Waste Disposal as per Rules (TPD) as per Annual Report	195.2
Waste Management Capacity Gap (TPD)	187.8
Calculated EC (capital cost component) in Lakhs. Rs.	450.72
Minimum and Maximum values of EC (Capital Cost Component) recommended by the Committee (Lakhs Rs.)	Min. 500 Max. 5000
Final EC (capital cost component) in Lakhs. Rs.	500
Calculated EC (O&M Component) in Lakhs. Rs./Day	3.756
Minimum and Maximum values of EC (O&M Cost Component) recommended by the Committee (Lakhs Rs./Day)	Min. 0.5 Max. 5.0
Final EC (O&M Component) in Lakhs. Rs./Day	3.756
Final EC (O&M Component) in Lakhs	946.512
Calculated Environmental Externality (Lakhs Rs. Per Day)	0.009
Minimum and Maximum value of Environmental Externality recommended by the Committee (LakhsRs.per day)	Min. 0.05 Max. 0.10
Final Environmental Externality (LakhsRs. per day)	0.05
Final Environmental Externality in Lakhs	12.6

WHEREAS an amount of Rs.1459.112 Lakhs (Rupees Fourteen Crore Fifty Nine Lakh Eleven Thousand Two Hundred) is assessed as environmental compensation from 22/11/2018 to 31/07/2019 (Capital cost component (Rs.500 Lakhs) + O&M Component (Rs. 946.512 Lakhs) + Environmental Externality (Rs.12.6 Lakhs));

Annexure 2

WHEREAS continued failure to comply with SWM 2016 shall incur Environmental Compensation at rates that are multiples of the rates assessed above;

Now therefore, in exercise of the powers vested under Section 5 of the Environment Protection Act, 1986, you are directed to show cause within 15 days why the Board shall not recover Environmental Compensation of Rs 1459.112 Lakhs (Rupees Fourteen Crore Fifty Nine Lakh Eleven Thousand Two Hundred) from 22/11/2018 to 31/07/2019 against you for the non compliance of Rule 22(1), 22(3)22(5), 22(6), 22(7) and 22(11) of the SWM Rules, 2016.

Ajit Kandas
CHAIRMAN

To

The Secretary,
Thiruvananthapuram Corporation

Copy to:

The Chairman
State Level Monitoring Committee

The Additional Chief Secretary
Local Self Government Department

The District Collector, Thiruvananthapuram

The Director, Urban Directorate

The Chief Environmental Engineer, Regional Office, Thiruvananthapuram

The Environmental Engineer, District Office, Thiruvananthapuram

Annexure 2

1784
15/10/19

~~344~~
~~14/10/19~~



THIRUVANANTHAPURAM MUNICIPAL CORPORATION

Date : 14-10-2019

No. C7/183/19

From,

Secretary

To,

The Chairman
Kerala State Pollution Control Board
Thiruvananthapuram

Sir,

Sub : Reply to the show cause notice reg:

Ref : PCB/HO/RULES/SWM-TVMCORPN/2018 Dt. 25-09-2019, published in
your website

I am hereby furnishing the reply to the show cause referred above for further
necessary action.

Yours faithfully,

Secretary 14/10/19
SECRETARY
Thiruvananthapuram Municipal Corporation



SEE 2/
EE

MS/CE/
SEE 2/EE 1

M. discuss
At
14/10/2019

CHAIRMAN

Discussed

[Handwritten signature]
14/10/19

5/19/2020 ABULL 2

Response to the Notice under Section 5 of the Environmental Protection Act, 1986

Ref: PCB/HO/RULES/SWM-TVM CORPN/2018 Dt. 25/09/2019 Published in the PCB website

Summary:

The reply to the notice dated 25th September published in your website, furnished by Thiruvananthapuram Municipal Corporation. TMC made a presentation of status of SWM on 26th September 2019 before the committee constituted by NGT and submitted updated report. Kerala State Pollution Control Board didn't consider the report or heard TMC and published the notice which was already prepared.

Out of 40 paragraphs in the notice including charges against Thiruvananthapuram Municipal Corporation only 5 are valid though they are very minor in nature. They are Para 8, 21, 22, 23 and 29. Para 8 is on setting up of construction and demolition waste management yard, 21, 22 and 23 regarding publishing the information in the official website and 29 is about non filing of annual report on time. Out of 38 charges on noncompliance 3 items repeats 4 times each and one item get repeated 3 times and 3 items repeat twice. The rest are not valid arguments and do not fall under noncompliance of Solid Waste Management Rules 2016.

The responses to each charges are given below;

Para 3. Whereas as per Rule 22(1) of the SWM Rules, suitable sites for setting up solid waste processing facilities are to be identified;

Para 4. 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.

Para 13 Whereas it is noted that you have not identified the land for the solid waste processing facility and sanitary landfill

Para 27 Whereas in violation of Rule 15(w) you have failed to establish sanitary landfill facility

Response: It is not practical to find land for centralized solid waste management in the city. Hence Thiruvananthapuram Municipal Corporation have set up decentralized solid waste management systems at 44 locations and set up resource recovery centre. The DPR approved by the State Government TMC is setting up additional 154 decentralized solid waste management systems. TMC have already requested to District Collector to identify land for landfill. TMC have already identified land for Construction and Demolition Waste and the paper work is in progress.

Please refer Rule 11(j) under Duty of the Secretary-in-charge, Urban Development. "Facilitate establishment of common regional sanitary landfill for a group of cities and towns falling within a distance of 50 km (or more) from the regional facility on a cost sharing basis and ensure professional management of such sanitary landfills

Annexure 3

Para 5. 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.

Response: Please refer Rule 4(6) "All resident welfare and market associations shall, within one year from the date of notification of these rules and in partnership with the local body ensure segregation of waste at source by the generators as prescribed in these rules, facilitate collection of segregated waste in separate streams, handover recyclable material to either the authorised waste pickers or the authorised recyclers. The bio degradable waste shall be processed, treated and disposed off through composting or bio-methanation within the premises as far as possible. The residual waste shall be given to the waste collectors or agency as directed by the local body." And

Please refer Rule 15 (q) "transport segregated bio-degradable waste to the processing facilities like compost plant, bio-methanation plant or any such facility. Preference shall be given for on site processing of such waste;" And

Please refer Rule 15 (t) "Involve communities in waste management and promotion of home composting, biogas generation, decentralized processing of waste at community level subject to control of odour and maintenance of hygienic conditions around the facility." And

Please refer Rule 15 (v) "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 adoption 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 decentralized 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;" And

Please refer Rule 15 (ZG) (v) "Practice home composting, vermi-composting, biogas generation or community level composting;"

TMC adheres to the above rules and follows door to door collection of segregated non bio degradable discards only for household sector and segregated door to door

Annexure 3

collection of wet and dry waste for commercial sector through engaging accredited service providers.

Para 6 Whereas as per Rule 22(7) of the SWM Rules, solid waste processing facilities for the complete quantity of waste generated from the local body @0.4 to 0.5 kg/person/day shall be set up by 8-4-2018

Para 37 Whereas the KPSCB District office reported that the facilities provided by the Corporation do not seem to cater the quantity of waste expected to be generated from Corporation.

Response: TMC as a local self Government reserves the right to prioritize on course of actions, strategies, selection of technologies, processes etc, while agreeing to the time frame provided by Solid Waste Management Rules 2016. Total quantity of waste generated in TMC is 353TPD. Of which 152.31 TPD of bio degradable waste and 54.2 TPD non bio degradable waste are managed with the assistance and facilitation of TMC. 52.79 TPD of bio degradable waste is managed by the producers with the supervision of TMC. 39.23TPD of bio degradables are managed at homestead in the rural and semi urban zones of the City which do not comes to the streets. About 39.51TPD of recyclable discards such as paper, metals and high value plastics are skimmed by the scrap dealers. Altogether about 338.04 TPD is managed. Sanitary waste which forms about 14.96 TPD is left un managed. For which TMC is establishing 25 cluster facilities across the city. TMC is expanding its facilities to 154 sites to increase to access to scientific solid waste management.

Para 7 Whereas Facilities with the technologies specified in CPHEEO manual and SWM Rules are to be in place for the effective treatment and disposal of the solid waste generated in the local body

Response: TMC follows the technical guidelines and standards approved by Kerala Suchitwa Mission, who in turn abide by the CPHEEO manual.

Para 8 Whereas As per Rule 22(6) pf the SWM Rules, separate storage, collection and transportation of construction and demolition waste shall be provided by 8-4-2018.

Response: TMC as a local self Government reserves the right to prioritize on course of actions, strategies, selection of technologies, processes etc, while agreeing to the time frame provided by Solid Waste Management Rules 2016. TMC has identified land for managing C&D Waste and is setting up a window in Smart Trivandrum mobile Application for sale of C&D waste.

Annexure 3

Para 9 Whereas as per Rule 22(11) of the SWM Rules, Bio remediation or capping of old and abandoned dump site shall be ensured.

Response: Please refer Rule 22(11). "Bio remediation or capping of old and abandoned dump sites – 5 years." Which means TMC have time upto 7th March 2021 to complete this component.

Para 10 Whereas Repeated instructions were issued vide the communications read above for the compliance of SWM Rules

Response: TMC was selected as one of the model cities under NGT vide order issued (SWM Rules 2016 vide GO(Rt)No.45/2019/ENVt dt. 31. May 2019) and the target date fixed in 24th October.

TMC was under the impression that the time limit to ensure compliance to law is 31st March 2021 and Local Self Governments have the right to re schedule the components based on local challenges and scenarios. It is unfortunate and unfair to demand compliance in the middle of the timeline holding responsible for past schedules.

TMC have filed responses to all the communications by the KSPCB.

Para 11 Whereas the following information was submitted by you vide the annual report read 4th above

Para 12 Whereas it is noted that you are not processing 187.8 TPD of waste generated.

Response: The figures in the annual report are now updated. Total quantity of waste generated in TMC is 353TPD. Of which 152.31 TPD of bio degradable waste and 54.2 TPD non bio degradable waste are managed with the assistance and facilitation of TMC. 52.79 TPD of bio degradable waste is managed by the producers with the supervision of TMC. 39.23TPD of bio degradables are managed at homestead in the rural and semi urban zones of the City which do not comes to the streets. About 39.51TPD of recyclable discards such as paper, metals and high value plastics are skimmed by the scrap dealers. Altogether about 338.04 TPD is managed. Sanitary waste which forms about **14.96 TPD** is left un managed. For which TMC is establishing 25 cluster facilities across the city. TMC is expanding its facilities to 154 sites to increase to access to scientific solid waste management.

The untreated waste at this point of time is 14.96 TPD only.

Annexure 3

Para 15 Whereas notice was issued to you vide the notice read Ref 2nd above as you have not complied with above provisions

Para 16 Whereas you have Failed to establish alternate modern treatment plant upon closure of the solid waste treatment facility at Vilappilsala in 2012

Para 17 Whereas You have stopped door to door collection of bio degradable organic waste on closure of the solid waste treatment facility at Vilappilsala

Para 18 Whereas You provided in some households in the Corporation, various devices for composting of organic waste known as pipe compost, kitchen bin, pot compost and 3 pot compost

Response: TMC as a local self Government reserves the right to prioritize on course of actions, strategies, selection of technologies, processes etc, while agreeing to the time frame provided by Solid Waste Management Rules 2016. Total quantity of waste generated in TMC is 353TPD. Of which 152.31 TPD of bio degradable waste and 54.2 TPD non bio degradable waste are managed with the assistance and facilitation of TMC. 52.79 TPD of bio degradable waste is managed by the producers with the supervision of TMC. 39.23TPD of bio degradables are managed at homestead in the rural and semi urban zones of the City which do not comes to the streets. About 39.51TPD of recyclable discards such as paper, metals and high value plastics are skimmed by the scrap dealers. Altogether about 338.04 TPD is managed. The existing capacity of infrastructure and systems created by TMC is more than that of Vilappilsala where only 100TPD of bio degradable waste was managed and there was no provision to manage non bio degradable waste. The methods and technologies used by TMC under its current decentralized solid waste management programme is more scientific and safer than that of Vilappilsala project and is approved by the State Government. Sanitary waste which forms about 14.96 TPD is left un managed. For which TMC is establishing 25 cluster facilities across the city. TMC is expanding its facilities to 154 sites to increase to access to scientific solid waste management.

TMC stopped door to door collection of bio degradable waste from households as part of a strategy to promote home composting and source level treatment methods such as pipe compost, kitchen bin and 3 pot composting with the technical sanction of Kerala Suchitwa Mission which is in compliance with the Rules.

Please refer Rule 15 (t) "Involve communities in waste management and promotion of home composting, biogas generation, decentralized processing of waste at community level subject to control of odour and maintenance of hygienic conditions around the facility." And

Please refer Rule 15 (v) "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

Annexure 3

components of solid waste adoption 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 decentralized processing to minimize transportation cost and environmental impacts such as

B) Bio-methanation, microbial composting, vermi composting, anaerobic digestion or any other appropriate processing for bio-stabilisation of biodegradable wastes;" And

Please refer Rule 15 (ZG (v) "Practice home composting, vermi-composting, biogas generation or community level composting;"

TMC adheres to the above rules and follows door to door collection of segregated non bio degradable discards only for household sector and segregated door to door collection of wet and dry waste for commercial sector through engaging accredited service providers.

Para 19 Whereas You have used promotion of various source level treatment schemes as convenient method of denying households, slums and informal settlements, commercial and other non-residential premises, door to door collection of organic waste in violation of Rule 15(b)

Response: Rule 15(b) reads as " arrange for door to door collection of segregated solid waste from all households including slums and informal settlements, commercial, institutional and other non residential premises. From multi-storage buildings, large commercial complexes, malls, housing complexes, etc., this may be collected from the entry gate or any other designated location"

TMC have implemented user fee as provided by Rule 15(f) which reads as "prescribe from time to time user fee as deemed appropriate and collect the fee from the waste generators on its own or through authorised agency;"

TMC provides for door to door collection of segregated solid waste on a daily basis commercial, institutional, large commercial complexes, malls and other non residential premises. TMC provides for door to door collection of non bio degradable discards for households, including slums and informal settlements and housing complexes.

TMC also provides free drop off facilities for bio degradable waste as well as non bio degradable waste for slums, informal settlements, households etc., who cannot afford paying user fee for door to door collection.

Please refer Rule 4(6) "All resident welfare and market associations shall, within one year from the date of notification of these rules and in partnership with the local

Annexure 3

body ensure segregation of waste at source by the generators as prescribed in these rules, facilitate collection of segregated waste in separate streams, handover recyclable material to either the authorised waste pickers or the authorised recyclers. The bio degradable waste shall be processed, treated and disposed off through composting or bio-methanation within the premises as far as possible. The residual waste shall be given to the waste collectors or agency as directed by the local body."

Please refer Rule 15 (q) "transport segregated bio-degradable waste to the processing facilities like compost plant, bio-methanation plant or any such facility. Preference shall be given for on site processing of such waste;" And

Please refer Rule 15 (t) "Involve communities in waste management and promotion of home composting, biogas generation, decentralized processing of waste at community level subject to control of odour and maintenance of hygienic conditions around the facility." And

Please refer Rule 15 (v) "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 adoption 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 decentralized processing to minimize transportation cost and environmental impacts such as

C) Bio-methanation, microbial composting, vermi composting, anaerobic digestion or any other appropriate processing for bio-stabilisation of biodegradable wastes;" And

Please refer Rule 15 (ZG) (v) "Practice home composting, vermi-composting, biogas generation or community level composting;"

The Rules quoted above reiterates the options of decentralized and source level solid waste management in cities. Hence it is in compliance with the MSW Rules

Annexure 3

Para 20 Whereas the KSPCB District office has found that a number of composting devices have malfunctioned causing unhygienic conditions because of worm, fly and rodent nuisance in violation of Rule 15(t), leaving the waste generators to depend on private services to remove the waste from their premises;

Para 30 Whereas The KSPCB district office has found that pipe compost system has been supplied to most of the people with no technical guidance on how to use this system. The defects namely, lack of technical knowledge, unpleasant odour generation from the pipe the compost pipe, nuisance from rodents, fly and works difficulty of disposal of greasy and oily foods pointed out by beneficiaries has resulted in widespread failure

Para 31 Whereas for Kitchen bin it was reported that out of 116 beneficiaries contacted for which 46 are using kitchen bins, 53 are not using the system and 17 people are not even supplied with the system. The defects pointed out by beneficiaries are lack of technical knowledge, unpleasant odour generation, fly and work nuisance.

Response: Composting is a biological process to decompose bio degradable discards and larvae of black soldier flies, earth worms are part of the process. No composting process in the world is free from an odour and decomposing creatures except in lab experiments. Hence the observation is baseless. Malfunctioning is an evidence of people trying to operate composting at home. It is just a management issue and not non compliance. TMC has provided door to door technical training and distributed printed manuals to households. TMC distributed Aerobic bio composters (Kitchen bins) for those who signed up for paid technical support to approved service providers. It is not clear whether the KSPCB district office gathered this information through telephone call or site visits. It seems there is a communication gap between the interviewer and interviewee. TMC is already taking initiatives to troubleshoot such issues through providing door to door technical support.

Annexure 3

Para 21 Whereas you have not published ward-wise list of concessionaires providing waste service.

Para 22 Whereas You have failed to provide public information on door to door waste collection on the official website of Corporation of Thiruvannathpauram and on the Smart Trivandrum Mobile application with waste management services.

Response: TMC identifies and empanels service providers and get it approved through the City Council. The service providers are allocated to each zone based on their capacity and the information is directly passed on to the beneficiaries through door to door campaign. For the time being TMC haven't given option for residents to choose their service provider, but TMC assigns a service provider for them. The information is passed on to people through resident welfare associations, health inspector offices and door to door campaigns. TMC will be publishing the list of service providers for better clarity, within 15 days from October 1st 2019.

TMC is working on additional mobile application and portal as part of expanding the door to door services in the city. Please visit <http://greentrivandrum.in/> which will integrated to SmartTrivandrum mobile application and official website of the City within 15 days from October 1st 2019.

Para 23 Whereas the private services operating in the city have not obtained registration from the Board for treatment facilities for the disposal of wastes collected

Response: There are two kinds of approved service providers operating in the city. One set is exclusively for households and another set is exclusively for bulk waste generators. The service providers for households do not collect bio degradable waste. They collect non bio degradable waste and hands it over to MRFs/MCFs owned and operated by TMC. The service providers for bulk waste generators are collecting segregated bio degradable waste and non bio degradable waste. The bio degradable waste are used as feed for piggeries which have valid consent to operate from KSPCB and TNPCB and licence from the Local Self Government. These piggeries comes under animal husbandry and not under waste disposal. Moreover the daily intake of waste is well below 5TPD for each service provider hence they do not fall under the category of facilities for waste disposal to get registration from KSPCB. A part of the bio degradable waste is used as input for farm composting in rubber plantations by the farmers. Composting for agriculture activity in less than 5 TPD in a given point do not require consent of operate from KSPCB.

We invite KSPCB district office to verify the documents submitted by these service providers which is available with TMC.

Annexure 3

Para 24 Whereas you have failed to implement mandatory GPS in collection and transportation vehicles in cities with population above 5 lakh along with the publication of route map, as directed by Hon'ble NGT

Response: TMC have already completed the process of GPS enabling for septage transportation vehicles – 19 trucks - and created a system for online monitoring. TMC already ordered to all service providers who transport waste from TMC to set up GPS and the process is going on. TMC will complete the process within 30 days from 1st October 2019.

Para 25 Whereas in violation of Rule 15(c), you have failed to establish a system for integration of informal waste pickers into the system of waste management

Response: The Rule 15(c) is not a mandatory but optional since presence of waste pickers change from place to place. TMC follows the guidelines by Haritha Kerala Mission under Department of Local Self Government who have laid down the priorities for selecting service providers for waste collection and management. The order of priority provided by HKM is waste pickers, Kudumbasree units, NGOs, social enterprises and Private agencies. Waste pickers are very hard to find in TMC area since the informal network of scrap cum recycling traders are very strong. They operate independently to skim through high value materials from residential and non residential sources and is paying for materials they collect. Only low value materials are left which is managed by MRFs and MCFs of TMC. But TMC have engaged large scale recyclers to haul segregated non bio degradable discards for recycling. We invite KSPCB district office to verify the contract documents available with TMC.

Para 26 Whereas in violation of Rule 15(n) you have not provided satisfactory sweeping of streets causing build up of litter in numerous locations.

Response: On the basis of human activities TMC has prioritized areas for sweeping. Across 25 health circles in the city, all Markets are cleaned twice a day, major roads and bylanes in the heart of the city is swept on a daily basis, in some places twice and some places it is once. The Rural zones are cleaned up monthly. But at times of heavy people traffic due to mega events in the city, TMC provides for additional sweeping and clean up. TMC ensures clean streets and is expanding the area under daily sweeping.

Annexure 3

Para 28 Whereas In violation of Rule 15(x) you have allocated funds to discretionary welfare schemes without meeting the requirement of funds for obligatory functions under SWM Rules such as procurement of land for solid waste treatment plant and sanitary landfill, procurement of vehicles for solid waste collection and making provision for daily door to door collection and sweeping of roads in public and commercial areas twice daily and residential roads daily.

Response: TMC maintains the ratio of fund allocation for solid and liquid waste management as mandated by State Government. TMC already approved and allocated Rs.5 Crore to procure land for setting up sanitary landfill. A Detailed Project Report for expansion of solid waste management services worth Rs.51.3792 Crores of which about Rs.16 Crore is the share of TMC awaits approval of State Government. TMC budgetd 4.5 Crore for year 2019-20. We invite KSPCB district office to verify the approved budgets of TMC. The list of vehicles used for Solid and Liquid Waste Management is given below.

#	Type of Vehicle	Total Number	Remarks
1	Covered Tipper Lorry (5 Ton)	35	Used for transportation of Dry waste from MRFs to RRCs
2	Open Tipper Lorry (5 Ton)	6	
3	Mini Lorry and Pick up Van	4	
	Pick up Autorickshaw	25	
4	Tractor	2	In use
5	JCB Excavators	7	
6	Compactor	2	Not in use since no centralized solid waste management systems
7	Tanker – Sucking vehicles	9	
8	Road Sweeping Machine	1	Not in use
9	Sheep foot compactor	1	

Para 29 Whereas you have failed to submit to the Board Annual Report before 31 May 2019

Response: TMC submitted the Annual report on 14th June 2019. TMC will ensure timely filing of annual report in the future.

Annexure 3

Para 32 Whereas For biogas the KSPCB district office has reported that 9 beneficiaries informed that the facility is working properly and one informed that the facility is not working properly after monsoon season

Response: Out of 10 biogas plants 9 are working shows the success of source level management of organic waste and TMC is happy about it.

Para 33 Whereas District office reported in community level decentralized systems, highly skilled operators are to be engaged for the proper maintenance and operation of the facility

Response: Neither the MSW Rules 2016, nor the CPHEEO manual provides for any specific criterion for operator of a composting facility. Kerala Suchitwa Mission too hasn't given any standard regarding the qualification of the operator. TMC is appointing operators after training them with the help of resource persons accredited by Kerala Suchitwa Mission. Health Inspectors and Junior Health Inspectors along with Green Army volunteers have been trained on operation of different types of composting equipments. So far TMC have not met with any issue of malfunctioning of compost units. TMC is taking efforts to improvise the process and programmes are on to update and upgrade the capacity of workers.

Annexure 3

Para 34 Whereas the Corporation has not provided details regarding quantity of municipal solid waste treated from non residential sources

Response: Please find sector wise data on waste generation in TMC in the table below.

Sources of Waste	TPD	%
Waste from Households (TPD)	173.19	49.0
Commercial Establishments	30.18	8.5
Community Halls	1.8	0.5
Hotels	8.08	2.3
Lodgings	0.78	0.2
Restaurants	12.04	3.4
Markets	19.62	5.5
Slaughterhouses	2.5	0.7
Schools and Institutions	3.5	1.0
Street Sweeping	71.1	20.1
Religious institutions	0.6	0.2
Museum and Zoo	3	0.8
Domestic Bulk Waste Generators	9.72	2.7
Construction and Demolition Waste	2.5	0.7
Sanitary Waste	14.97	4.2
Total Waste Generated in TMC	353.58	100.0

Para 35 Whereas You have continued to promote failed household treatment schemes such as pipe compost and kitchen bin as a cover to avoid obligatory functions in SWM 2016 that incur political costs such as procuring land and establishing a modern solid waste treatment plant and sanitary landfill

Response: Kerala Suchitwa Mission is the competent agency authorized by State Government of Kerala to list technologies, set standards and operating parameters. KSM haven't reported that pipe compost and kitchen bins are failed technology. No Government agency in Kerala or in India have reported so far.

Annexure 3

Para 36 Whereas The rank of 365 out of 425 cities in 2019 Swachh Survekshan conducted by Ministry of Housing and Urban Affairs, Government of India is indicative of the poor quality of waste management service you have provided in the city and failure to implement a modern waste treatment facility

Response: The ranking of cities by Swachh Survekshan with a standard questionnaire is already being challenged at National level by cities and competent environmental organizations such as Centre for Science and Environment. The ranking process have no flexibility to record decentralized solid waste management systems, institutional mechanisms and hence it cannot compare cities following different methods for solid waste management. At the same time Thiruvananthapuram have been qualified to be in the list of Zero Waste Cities at the international level and the forum of Cities that Segregates by Centre for Science and Environment. Thiruvananthapuram has been a model for many cities including metro city like Chennai to opt for decentralized solid waste management.

Para 14 Whereas the Hon'ble National Green Tribunal, Principal Bench, New Delhi in the order dated 22/11/2018 in O.A. No. 353/2016 clarified that apart from prosecution, the statutory authorities under the Environment (Protection) Act, 1986, the Air(Prevention and control of pollution) Act 1974, must in exercise of their incidental powers, prescribed scale of compensation to be collected from the polluters on the "Polluter Pay's Principle" Such scale which may be laid down at various levels, having regard to the local condition or as per direction in the hierarchy of the authorities. In various other application also, the Hon'ble NGT passed similar orders, for instance, in the order dated 20/11/2018 in O.A.No. 117/2014, 499/2014 and 102/2014 the Hon'ble NGT noted as; "Needless to say that statutory authorities under the Environment (Protection) Act 1986, Air (Prevention and Control of Pollution) Act 1974 are entitled to assess and recover damage as "Pollution Pays Principle" in exercise of incidental powers to protect environment".

Para 38 Whereas The Board is constrained to assess the Environmental Compensation from 22/11/2018 to 31/07/2019 (Days = 252) as follows

Para 39 Whereas An amount of Rs.1459.112 lakhs (Rupees Fourteen Crore Fifty Nine Lakh Eleven Thousand Two hundred) is assessed as environmental compensation from 22/11/2018 to 31/07/2019 (Capital cost component (Rs.500 Lakhs)+O&M Component (Rs 946.512 Lakhs)+Environmental Externality (Rs. 12.6 Lakhs))

Para 40 Whereas continued failure to comply with SWM 2016 shall incur Environmental Compensation at rates that are multiples of the rates assessed above.

Annexure 3

Response: The existing infrastructure and its capacity is given below which proves that the allegations raised in this notice is untrue.

Infrastructure	Units	Capacity (TPD)
Kitchen Bins	19000	19.00
Bio Bins	109	2.72
Biogas Plants	3982	3.98
Pipe Compost units	87000	87.00
Organic Waste Converters	2	0.50
Aerobic Bins	383	11.49
Mobile Composting Units	154	4.62
Community Biogas Plants	23	23.00
Dry Waste Collection Bins	2	0.20
Dry leaves Collection bins	3	0.30
Material Recovery Facilities	44	44.00
Resource Recovery Centre	2	10.00
Facilities in Private Sector (Rendering Plants, Farms, Piggeries)	19	150.00
Total		356.8

The calculation is unrealistic and flawed. Primarily the figures used for calculation of waste management is not updated, despite of providing updated information to KSPCB. Environmental compensation is levied for environmental damage or pollution. As per the calculation of KSPCB, there should be about 97,000 Metric Tonnes of waste lying in the city unmanaged to create environmental damage. We request to provide physical proof of 97,000 metric tonnes of untreated waste in the city damaging the environment.

Please refer Environment Protection Act 1986 Sec 15. "Penalty for contravention of the provisions of the act and the rules, orders and directions - (1) Whoever fails to comply with or contravenes any of the provisions of this Act, or the rules made or orders or directions issued thereunder, shall, in respect of each such failure or contravention, be punishable with imprisonment for a term which may extend to five years with fine which may extend to one lakh rupees, or with both, and in case the failure or contravention continues, with additional fine which may extend to five thousand rupees for every day during which such failure or contravention continues after the conviction for the first such failure or contravention. (2) If the failure or contravention referred to in sub-section (1) continues beyond a period of one year after the date of conviction, the offender shall be punishable with imprisonment for a term which may extend to seven years."

It is unfortunate to see such a notice from KSPCB an agency supposed to be a technical and scientific organization to assess environmental impact.

Annexure 3

We request to the Government of Kerala to consider the following facts to avoid such unrealistic and impractical monitoring of implementation of Solid Waste Management Rules 2016 in the future.

- 8 Apr 2016 Solid Waste Management Rules 2016 came into force and provided a timetable for compliance which is 5 years (7 March 2021) from date of notification.
- June 2018: TMC has prepared a Detailed Project Report for improving and expanding the solid waste management system with the support of Central Government in the month of June 2018.
- 29 June 2018: It was submitted for approval before the State Level Empowerment Committee on 29th June 2018. Which was discarded by the SLEC on the ground of State Government's proposal for a Waste 2 Energy project for TMC and adjoining municipalities.
- 30 Oct 2018: TMC appealed to the SLEC to get permission to continue decentralized solid waste management since the Waste2Energy project may take time and the city do not have space to store waste for 2-3 years needed for the W2E project.
- 30 Oct 2018: The DPR was approved in the meeting of SLEC on 30th October 2018 without any alterations.
- 14 Dec 2018: The DPR was formally approved and signed by Chief Secretary and Principal Secretary.
- 6 Months: It took 6 months to get a DPR approved. But neither the FUND nor the G.O. to activate the DPR reached TMC till date.
- 31 May 2019: Thiruvananthapuram Municipal Corporation (TMC) was listed in the model cities from Kerala to complete compliance of SWM Rules 2016 vide GO(Rt)No.45/2019/ENVT dt. 31. May 2019
- 24 Oct 2019: The last date for compliance was set as 24th October 2019. This left TMC with just 5 months time frame. This is un realistic time frame since TMC have already lost 4 months to two floods, (Being only Municipal Corporation not affected by floods, had to engage in relief support and clean ups in impacted area as per the directions from the Government) 1 month to election code of conduct and 6 months for DPR approval. Together TMC is 1 year behind the schedule.

Annexure 3

Hence we request the Government of Kerala to extend the time for completion of compliance of MSW Rules to 31 October 2020 which is well within the prescribed time in the MSW Rules compensate for the lost period.

Based on the above mentioned facts and circumstances it is requested to accept the reply and drop further proceedings,

14/10/19
Secretary

Thiruvananthapuram Municipal Corporation

SECRETARY
Thiruvananthapuram Municipal Corporation



WP(C) No.32870/2019(G)

PETITIONER

CORPORATION OF THIRUVANANTHAPURAM
REPRESENTED BY ITS SECRETARY, CORPORATION BUILDINGS, PALAYAM,
VIKAS BHAVAN, M.G.ROAD, THIRUVANANTHAPURAM-695033.

RESPONDENTS

1. THE KERALA STATE POLLUTION CONTROL BOARD,
REPRESENTED BY ITS CHAIRMAN, THIRUVANANTHAPURAM-695001.
2. THE CHAIRMAN,
KERALA STATE POLLUTION CONTROL BOARD, THIRUVANANTHAPURAM-695001.

Writ Petition (civil) praying inter alia that in the circumstances stated in the affidavit filed along with the WP(C) the High Court be pleased to stay the operation and implementation of Exhibits-P1 and P3 notices including all coercive steps, issued by the second respondent pending disposal of the above Writ Petition.

This petition coming on for admission upon perusing the petition and the affidavit filed in support of WP(C) and upon hearing the arguments of SRI. N.NANDAKUMARA MENON (SENIOR ADVOCATE) along with M/S. P.K.MANOJKUMAR (STANDING COUNSEL), ALICE THOMAS & SMITHA S.PILLAI, Advocates for the petitioner, the court passed the following:-

O R D E R

The learned Standing Counsel for the respondents will obtain instructions in this matter and file counter pleadings, if so advised within a period of one month.

List this case for further consideration on 20-01-2020 until which time all further action pursuant to Ext.P3 will stand deferred.

04-12-2019

Sd/- DEVAN RAMACHANDRAN, JUDGE

/true copy/


ASSISTANT REGISTRAR

EXHIBIT P1 - THE PHOTOSTAT COPY OF THE NOTICE NO.PCB/HO/EE4/NGT/SWM DIRECTIONS TO LB/2019 DATED 17.4.2019 ISSUED BY THE CHAIRMAN, KERALA STATE POLLUTION CONTROL BOARD, TVM-4.

EXHIBIT P3 - THE PHOTOSTAT COPY OF THE NOTICE NO.PCB/HO/RULES/SWM-TVM CORPN/2018 DATED 25.9.2019 ISSUED BY THE CHAIRMAN, KERALA STATE POLLUTION CONTROL BOARD, TVM-4.

mls

Annexure 5



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

KERALASTATE POLLUTION CONTROL BOARD

കേരളസംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

Pattom P.O., Thiruvananthapuram – 695 004

പട്ടം പി.ഒ., തിരുവനന്തപുരം - 695 004

PCB/HO/RULES/SWM - Thrissur/2018

Date: 21 /10/2019

Regd. with A/D

DIRECTION UNDER SECTION 5 OF THE ENVIRONMENTAL PROTECTION ACT, 1986

Sub: Issue of notice for the noncompliance of the Solid Waste Management Rules, 2016

- Ref:
1. The Hon'ble NGT order OA no. 606/2018 dated 16/01/2019 and 25/04/2019
 2. Letter no. PCB/HO/SEE2/RMC- Meeting/2018 dated 09/10/2018, 22/10/2018 and 24/10/2018
 3. This office notice of even no. PCB/HO/EE4/NGT/SWM DIRECTIONS TO LB/2019 dated 17/04/2019
 4. This office notice of even no. PCB/HO/EE4/AG/2019 dated 09/05/2019
 5. Letter no. PH4/5475/09 dated 24/06/2019
 6. Letter no. PH4/5475/09 dated 31/05/2019
 7. Annual Report send by email dated 02/07/2019
 8. Email on 14/08/2019
 9. This office notice of even no. PCB/HO/RULES/SWM - Thrissur/2018 dated 14/08/2019
 10. Letter no. PH4/28606/16 dated 27/08/2019
 11. Letter no PCB/TSR/MSW/3/2002 dated 14/10/2019

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 (herein after referred as SWM Rules) vide notification S.O. 1357(E) dated 8-4-2016;

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

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;

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;

Annexure 5

WHEREAS as per Rule 22 (7) of the SWM Rules, solid waste processing facilities for the complete quantity of waste generated from the local body @ 0.4 to 0.5 kg/person/day, shall be set up by 8-4-2018;

WHEREAS facilities with the technologies specified in CPHEEO manual and SWM Rules are to be in place for the effective treatment and disposal of the solid waste generated in the local body;

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

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 vide the communications read above, for the compliance of the SWM Rules;

WHEREAS the following information was submitted by you vide the Annual Report read 7th above;

No. of Households	86604
No. of non-residential premises	15250
Quantity of Solid waste generated	177 TPD
Quantity of Solid waste collected	37 TPD
Quantity of Solid waste processed (Community level)	37 TPD
Quantity of Solid waste processed in Household level	Biogas plant- 632 Compost pits- 20,118 } \approx 60 TPD

WHEREAS it is noted that you are not processing 80 TPD of waste generated;

WHEREAS it is noted that you have not identified the land for the solid waste processing facility and sanitary landfill;

WHEREAS the Hon'ble National Green Tribunal, Principal Bench, New Delhi in the order dated 22/11/2018 in O.A. No. 353/2016 clarified that apart from prosecution, the statutory authorities under the Environment (Protection) Act, 1986, the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974, must, in exercise of their incidental powers, prescribed scale of compensation to be collected from the polluters on the "Polluter Pay's Principle". Such scale which may be laid down at various levels, having regard to the local condition or as per direction in the hierarchy of the authorities. In various other application also, the Hon'ble NGT passed similar orders, for instance, in the Order dated 20/11/2018 in O.A No. 117/2014, 499/2014 and 102/2014 the Hon'ble NGT noted as; "Needless to say that statutory authorities under the Environment (Protection) Act, 1986, Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974 are entitled to assess and recover damages as "Polluter Pay's Principle" in exercise of incidental powers to protect environment".

Annexure 5

WHEREAS notice was issued to you as you have not complied with above provision;

WHEREAS Environmental Engineer, District Office, reported that the solid waste management measures reported by you are inadequate to cater to the quantity of waste expected from Thrissur Corporation.

WHEREAS the Board is constrained to assess the Environmental Compensation from 22/11/2018 to 31/07/2019 (Days = 252) as follows;

City	Thrissur
Population (2011)	317,526
Class	Class-I Town
Waste Generation (kg. per person per day) as per Annual Report	0.55
Waste Generation (TPD) as per Annual Report	177.00
Waste Disposal as per Rules (TPD) as per Annual Report	97.00
Waste Management Capacity Gap (TPD)	80.00
Calculated EC (capital cost component) in Lakhs. Rs.	192.00
Minimum and Maximum values of EC (Capital Cost Component) recommended by the Committee (Lakhs Rs.)	Min. 100 Max. 1000
Final EC (capital cost component) in Lakhs. Rs.	192.00
Calculated EC (O&M Component) in Lakhs. Rs./Day	1.60
Minimum and Maximum values of EC (O&M Cost Component) recommended by the Committee (Lakhs Rs./Day)	Min. 0.1 Max. 1.0
Final EC (O&M Component) in Lakhs. Rs./Day	1.00
Final EC (O&M Component) in Lakhs	252
Calculated Environmental Externality (Lakhs Rs. Per Day)	0.00
Minimum and Maximum value of Environmental Externality recommended by the Committee (Lakhs Rs.per day)	Min. 0.05 Max. 0.10
Final Environmental Externality (Lakhs Rs. per day)	0.05
Final Environmental Externality in Lakhs	12.6

WHEREAS an amount of Rs.456.6 Lakhs (Four Crore Fifty Six Lakh Sixty Thousand) is assessed as environmental compensation from 22/11/2018 to 31/07/2019 (Capital cost component (Rs.192 Lakhs) + O&M Component (Rs.252 Lakhs) + Environmental Externality (Rs.12.6 Lakhs));

WHEREAS continued failure to comply with SWM 2016 shall incur Environmental Compensation at rates that are multiples of the rates assessed above;

WHEREAS notice was issued to you vide this office notice cited 9th above to show cause why the Environmental Compensation of Rs 456.6 Lakhs (Four Crore Fifty Six Lakh Sixty Thousand) shall not be recovered from you for the non compliance of Rule 22(1), 22(3) 22(5), 22(6), 22(7) and 22(11) of the SWM Rules, 2016;

WHEREAS as per order dated 25/04/2019 in OA.No 606/2018, the time line for compliance of environmental statutes will be elapsed on 24/10/2019;

Annexure 5

WHEREAS in the said letter, while quantifying the waste generated, the quantity of non bio-degradable waste from market is not included in 1(b) in page 4;

WHEREAS you have vide reply no. PH4/28606/16 dated 27/08/2019 reported that the present dumpsite of Corporation is converted to stadium and steps are taken to identify the new space for solid waste processing plant as per Rule 22(1);

WHEREAS it is noted that you are converting the land acquired for waste management to stadium which is against Rule 22(1) and 22(3);

WHEREAS you have yet to comply with 22(5), 22(6) and 22(7) of the Solid Waste Management Rules, 2016;

WHEREAS NGT order dated 17/07/2019 in OA. No. 519/2019 directed to ensure allocation of funds for processing of legacy waste dumpsites and the remediation work is to be commenced from 01/11/2019 and preferably within 6 month to be completed;

WHEREAS you have yet to report the action taken for the compliance of above matter;

WHEREAS the Environmental Engineer, District Office, Thrissur, based on their inspection on 17/07/2019, reported that the procedure adopted for closure of the dump yard is not in compliance with the Rule 15(zj) and Schedule 1(j) of the SWM Rules, 2016;

WHEREAS the reply submitted by you is not satisfactory;

WHEREAS the KSPCB District office, Thrissur has found that the Corporation has provided facilities to 14 T of biodegradable waste against the 99.12 T of biodegradable waste generated as mentioned in your reply under ref.11;

WHEREAS though you have claimed to have waste treatment facility for treating 63.87T at source and this is far from reality and the disposal method through piggery farm and agricultural activities cannot be taken in account, as the same is not authorized;

WHEREAS the KSPCB, District Office inspected 10 houses each from 31 wards and found that non-biodegradable waste is collected from 107 houses and biodegradable wastes from 10 houses from a total of 310 houses;

WHEREAS the Corporation has not reported the mode of treatment and disposal of non-biodegradable wastes;

WHEREAS the wastes generated in flats, educational institutions, industrial establishments are disposed in incinerator without having satisfactory air pollution control system and disposal measures for burnt residues;

WHEREAS the Corporation has not submitted a detailed plan for the treatment and disposal of remaining wastes;

WHEREAS though the instruction was given to Corporation authorities for doing bio mining as per statutory rules in Laloor dumping sites, you are continuing the construction activities for the stadium in the said area against the Board's directions and you are not complying with the Board's direction and has not given reply to the Board's directions on bio mining;

ANDWHEREAS it is noted that you have not complied with the Solid Waste Management Rules, 2016;

Annexure 5

NOW THEREFORE, in exercise of the powers vested under Section 5 of the Environment Protection Act, 1986, you are directed to remit the Environmental Compensation of Rs 456.6 Lakhs (Four Crore Fifty Six Lakh Sixty Thousand) from 22/11/2018 to 31/07/2019 against you for the non compliance of Rule 22(1), 22(3) 22(5), 22(6), 22(7) and 22(11) of the SWM Rules, 2016 within 15 days of receipt of this direction failing which further legal action shall be initiated against you.



CHAIRMAN

To

The Secretary,
Thrissur Corporation

Copy to:

The Chairman
State Level Monitoring Committee

The Additional Chief Secretary
Local Self Government Department

The District Collector, Thrissur

The Director, Urban Directorate

The Chief Environmental Engineer, Regional Office, Ernakulam

The Environmental Engineer, District Office, Thrissur

Annexure 6

IN THE HIGH COURT OF KERALA AT ERNAKULAM

PRESENT

THE HONOURABLE MR. JUSTICE DEVAN RAMACHANDRAN

TUESDAY, THE 26TH DAY OF NOVEMBER 2019 / 5TH AGRAHAYANA, 1941

WP(C).No.30789 OF 2019(W)

PETITIONER/S:

THRISSUR CORPORATION,
REP. BY ITS SECRETARY, THRISSUR.

BY ADV. SRI.SANTHOSH P.PODUVAL

RESPONDENT/S:

- 1 KERALA STATE POLLUTION CONTROL BOARD,
PATTOM P.O., THIRUVANANTHAPURAM-695004,
REP. BY ITS MEMBER SECRETARY.
- 2 THE CHAIRMAN, KERALA STATE POLLUTION
CONTROL BOARD, PATTOM P.O.,
THIRUVANANTHAPURAM- 695004.
- 3 THE ENVIRONMENTAL ENGINEER,
KERALA STATE POLLUTION CONTROL BOARD,
DISTRICT OFFICE, THRISSUR- 680001.
- 4 DIRECTORATE OF URBAN AFFAIRS,
OFFICE OF THE DIRECTORATE OF URBAN AFFAIRS,
SWARAJ BHAVAN, 1ST FLOOR, NANTHANCODE,
THIRUVANANTHAPURAM- 695033.
- 5 EXECUTIVE DIRECTOR, SUCHITHWA MISSION,
LOCAL SELF GOVERNMENT DEPARTMENT,
GOVERNMENT OF KERALA, THIRUVANANTHAPURAM- 695001.
- 6 STATE OF KERALA, REP. BY CHIEF SECRETARY TO
LOCAL SELF GOVERNMENT DEPARTMENT,
THIRUVANANTHAPURAM- 695001.

BY ADVS.
GP K.J.MANURAJ;
SC FOR PCB T.NAVEEN

THIS WRIT PETITION (CIVIL) HAVING COME UP FOR ADMISSION ON
26.11.2019, THE COURT ON THE SAME DAY DELIVERED THE FOLLOWING:



WPC 30789/19

JUDGMENT

The Thrissur Corporation, represented through its Secretary, has filed this Writ Petition impugning Ext.P1 directions issued by the Kerala State Pollution Control Board under Section 5 of the Environmental Protection Act (herein after referred to as 'the Act' for short), as per which, they have been directed to pay an amount of Rs.456.6 lakhs, allegedly for non-compliance of various provisions of the Solid Waste Management Rules, 2016, within a period of 15 days from the receipt of the said order.

2. The petitioner has challenged the afore Order on various grounds, but primarily on the ground that they were not heard before the same was issued nor even given an opportunity of placing their objections before the Pollution Control Board. They thus pray that Ext.P1 be set aside.

WPC 30789/19

3. In response, Sri.T.Naveen, learned Standing Counsel for the Pollution Control Board, submits that, as is evidenced from Ext.P1, the said order has been issued under Section 5 of the Act, against which the petitioner-Corporation has a statutory right of appeal to the National Green Tribunal under Section 5A of the said Act. He says that going by the National Green Tribunal Act (NGT Act for short), such an appellate remedy is expressly provided under Section 16(g) thereof and that the Corporation must do so within a period not later than 90 days from the date on which they receive the order. He adds that going by the said Section of the NGT Act, the period for appeal is 30 days, but that the Tribunal may, if it is satisfied that an appellant was prevented by sufficient cause in filing an appeal within the said period, allow it to be filed within a further period of 60 days. He,

Annexure 6

WPC 30789/19

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therefore, prays that this Writ Petition be dismissed finding it to be not maintainable, since the petitioner has an efficacious statutory remedy and that they may be asked to approach the NGT as per the afore provisions without any delay. He then submits that the original application, namely O.A.No.606/2018, under the aegis of which the Pollution Control Board has issued Ext.P1, is still pending before the NGT and that the Corporation can also, if they are so advised, implead themselves therein and seek apposite orders. He thus prays that this Writ Petition be dismissed.

4. When I hear Sri.T.Naveen on the afore lines, I find substantial force in his contentions since, it is obvious from a combined reading of the Environmental Protection Act and the NGT Act, that the petitioner-Corporation certainly has an


Annexure 6

WPC 30789/19

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efficacious alternative statutory remedy against Ext.P1, which can be invoked based on factual circumstances and germane materials and documents. It is needless to say that while this Court acts under Article 226 of the Constitution of India, I am proscribed from entering into these areas on account of the well-recognised inhibitions of jurisdiction of this Court in dealing with factual circumstances.

5. That said, I am persuaded to accept the contentions of Sri.T.Naveen also for the reason that the further pendency of this Writ Petition on the files of this Court will finally rob the petitioner of their statutory right to approach the NGT within the prescribed time frames; and I am, therefore, certain that it will be justified and prudent for this Court to repel this Writ Petition at this stage so as to enable the petitioner to approach the NGT



WPC 30789/19

-6

appropriately.

Resultantly, I close this Writ Petition without granting any of the reliefs sought for, but leaving liberty to the petitioner to approach the NGT appropriately, either by filing a statutory appeal or by impleading themselves in the Original Application or by doing both.

Needless to say, until such time as the statutory period for filing an appeal, as fixed under Section 16 of the NGT Act expires, (the interim order granted by this Court will continue to be in operation; and consequentially, all further action being pursued by the Pollution Control Board, based on Ext.P1, shall stand interdicted) so as to enable the Corporation to approach the NGT without the threat of imminent action.

Sd/-

DEVAN RAMACHANDRAN

JUDGE

RR

WPC 30789/19

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APPENDIX

PETITIONER'S/S EXHIBITS:

- EXHIBIT P1 TRUE COPY OF DIRECTION ISSUED BY THE 2ND RESPONDENT DATED 21.10.2019.
- EXHIBIT P2 TRUE COPY OF ORDER DATED 22.11.2018 IN O.A.353/16 OF NATIONAL GREEN TRIBUNAL OF PRINCIPAL BENCH, NEW DELHI.
- EXHIBIT P3 TRUE COPY OF NOTICE DATED 14.08.2019 ISSUED BY THE 2ND RESPONDENT.
- EXHIBIT P4 TRUE COPY OF REPLY DATED 27.08.2019 ISSUED BY THE PETITIONER TO THE 2ND RESPONDENT.
- EXHIBIT P5 TRUE COPY OF ORDER DATED 08.04.2019 IN O.A.606/18 OF THE NATIONAL GREEN TRIBUNAL OF PRINCIPAL BENCH, NEW DELHI.
- EXHIBIT P6 TRUE COPY OF LETTER DATED 26.08.2019 ISSUED BY THE 2ND RESPONDENT.
- EXHIBIT P7 TRUE COPY OF LETTER DATED 24.07.2019 ISSUED BY THE 2ND RESPONDENT TO THE PETITIONER ALONG WITH THE EXTRACT OF THE REPORT SUBMITTED BEFORE THE NATIONAL GREEN TRIBUNAL.
- EXHIBIT P8 TRUE COPY OF MINUTES OF THE MEETING HELD ON 27.06.2018 AT THE BEHEST OF THE MINISTER FOR SPORTS AND YOUTH AFFAIRS.
- EXHIBIT P9 TRUE COPY OF LETTER DATED 12.11.19 ISSUED BY THE 2ND RESPONDENT.

TRUE COPY
Meafay
Secretary



**HIGH COURT OF KERALA
AT ERNAKULAM**

**Year and Number of Suit or
other Proceedings** : WP(C) 30789 / 2019

Name of Applicant/Advocate : T.NAVEEN

Application Number : A 3047/2020

Application Date : 15-01-2020

Date of Calling for Stamp : 16-01-2020

Date of Production of Stamp : 16-01-2020

Date When copy was Ready : 16-01-2020

**Date Notified for appearance to
receive the copy** : 24-01-2020

Date when copy was delivered : 17.1.2020

K. S. S. S.
Examiner

Annexure 7

IN THE HIGH COURT OF KERALA AT ERNAKULAM

Present:

THE HONOURABLE MR. JUSTICE SHAJI P. CHALY

&

THE HONOURABLE MR. JUSTICE T.V. ANILKUMAR

Tuesday, the 24th day of December 2019/3rd Pousha, 1941

WA No.2572/2019

Against Judgment dated 26-11-2019 in WP(C) No.30789/2019 of this Court.

APPELLANT/PETITIONER

THRISSUR CORPORATION
REP BY ITS SECRETARY, THRISSUR

BY ADV.SANTHOSH P.PODUVAL

RESPONDENTS/RESPONDENTS

KERALA STATE POLLUTION CONTROL BOARD,
PATTOM P.O., THIRUVANANTHAPURAM-695 004, REP BY ITS MEMBER SECRETARY
THE CHAIRMAN,
KERALA STATE POLLUTION CONTROL BOARD, PATTOM P.O., THIRUVANANTHAPURAM-
695 004
THE ENVIRONMENTAL ENGINEER,
KERALA STATE POLLUTION CONTROL BOARD, DISTRICT OFFICE, THRISSUR-680 001
DIRECTORATE OF URBAN AFFAIRS,
OFFICE OF THE DIRECTORATE OF URBAN AFFAIRS, SWARAJ BHAVAN, 1ST FLOOR,
NANTHANCODE, THIRUVANANTHAPURAM-695 033
EXECUTIVE DIRECTOR,
SUCHITHWA MISSION, LOCAL SELF GOVERNMENT DEPARTMENT, GOVERNMENT OF
KERALA, THIRUVANANTHAPURAM-695 001
STATE OF KERALA,
REP BY CHIEF SECRETARY TO LOCAL SELF GOVERNMENT DEPARTMENT,
THIRUVANANTHAPURAM-695 001

ADV.T.NAVEEN, STANDING COUNSEL, POLLUTION CONTROL BOARD FOR R1-R3.
GOVERNMENT PLEADER FOR R4-R6

Prayer for interim relief in the Writ Appeal stating that in the
circumstances stated in the appeal memorandum the High Court be pleased to
suspend all actions on the basis of Exhibit P1 direction issued by the 2nd
respondent until disposal of the writ Appeal.

This writ Appeal coming on for admission on 24.12.2019 upon perusing
the appeal memorandum, the court on the same day passed the following:-

(P.10)

Annexure 7

SHAJI P.CHALY, J.
&
T.V.ANILKUMAR, J.

W.A. No.2572 of 2019

Dated this the 24th day of December, 2019

ORDER

Shaji P.Chaly, J.

Learned standing counsel as well as the learned Government Pleader takes notice for the respective respondents and seeks time to file counter affidavit.

In the meanwhile, the operation of Ext.P1 order passed by the Kerala State Pollution Control Board dated 21.10.2019 will stand stayed on condition that the appellant corporation executes a bond in favour of the Kerala State Pollution Control Board and that in the event of dismissal of the writ appeal, the amount as sought for in Ext.P1 would be paid to the Kerala State Pollution Control Board. This order will be operative for a period of three weeks.

Post the writ appeal after vacation.

Sd/- SHAJI P.CHALY, JUDGE

Sd/- T.V.ANILKUMAR, JUDGE

vps

/true copy/

K81/-----
ASSISTANT REGISTRAR

W.A.No.2572/2019

EXHIBIT P1 - TRUE COPY OF DIRECTION ISSUED BY THE 2ND RESPONDENT DATED
21.10.2019.

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



KERALASTATE POLLUTION CONTROL BOARD

കേരളസംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

Pattom P.O., Thiruvananthapuram – 695 004

പട്ടം പി.ഒ., തിരുവനന്തപുരം - 695 004

PCB/HO/SEE2/KOCHI CORPN/2019

Date: 11/12/2019

Regd. with A/D

NOTICE UNDER SECTION 5 OF THE ENVIRONMENTAL PROTECTION ACT, 1986

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

- Ref:
1. The Hon'ble NGT order dated 16/01/2019 in OA no. 606/2018.
 2. The Hon'ble NGT order dated 22/11/2018 in O.A. No. 353/2016.
 3. The Hon'ble NGT order dated 20/11/2018 in O.A No. 117/2014, 499/2014 and 102/2014.
 4. Letter No. PCB/HO/SEE2/RMC- Meeting/2018 dated 09/10/2018, 22/10/2018 and 24/10/2018.
 5. This office notice of even No.PCB/HO/EE4/NGT/SWM DIRECTIONS TO LB/2019 dated 17/04/2019.
 6. Minutes of the 4th meeting of the State Level Monitoring Committee.
 7. This office notice of even No.PCB/HO/EE4/AG/2019 dated 09/05/2019.
 8. Letter No. MOE2/10948/2017 dated 27/05/2019.
 9. Letter No. MOE2/10948/2017 NGT/Vol.II dated 19-07-2019.
 10. Annual Report No.PCB/HO/SWM/AR/18/2019 dated 23/07/2019.
 11. This office letter No. PCB/HO/RULES/SWM-ERNAKULAM/2018 dated 13-02-2019.
 12. This office letter No. PCB/HO/RULES/SWM-ERNAKULAM/2018 dated 04-04-2019.
 13. Minutes of the second and fifth meeting of the State Level Monitoring Committee constituted by the Hon'ble NGT on 15-3-2019 and 14-6-2019.
 14. Inspection conducted on 16/10/2019 by SLMC Chairman
 15. Letter no. PCB/RO/EKM/GEN-221/19 dated 18/10/2019
 16. This office notice No. PCB/HO/RULES/SWM-ERNAKULAM/2018 dated 12-10-2019
 17. Your office letter No. MOE2/10948/2017 dated 25/07/2019 received on 06-11-2019

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 (herein after referred as SWM Rules) vide notification S.O. 1357(E) dated 8-4-2016;

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

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;

Annexure 8

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 8-4-2019;

WHEREAS as per Rule 22 (7) 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 facilities with the technologies specified in CPHEEO manual and SWM Rules are to be in place for the effective treatment and disposal of the solid waste generated in the local body;

WHEREAS as per Rule 22 (6) of the SWM Rules, separate storage, collection and transportation of construction and demolition waste shall be provided;

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 vide the communications read above, for the compliance of the SWM Rules;

WHEREAS during the second meeting of the State Level Monitoring Committee constituted by the Hon'ble NGT on 15/03/2019, the resolutions were made to conduct bio mining of legacy waste part by part; keep ESCROW amount for handling emergency situation; provide adequate cover, leachate collection tank and log book for waste transporting vehicles and allow waste transportation only by those vehicles by Health Supervisor; engage Ex-service armed security at the segregation in the dump yard; to make the roads, NH Bypass, Sahodaran Ayyappan Road and Banerjee Road as Zero Waste road; to insist door to door collection and prohibit the deposition of waste on roads and other public places and insist for segregation of waste before disposal; ban the plastic carry bags below the prescribed limit and to proceed against violators under the law of penalization; to give adequate protective equipment namely gumboots, gloves, masks etc., proceed against the violators disposing sewage, septage and chicken waste in the water resources; apartments, hospitals, hospitals which are not operating their sewage treatment plants and to evolve methods for the effective disposal of plastics and not to dispose plastic by burning;

WHEREAS Chairman SLMC during their 4th meeting on 08/05/19 directed to submit specific and detailed time bound action plan to the Kerala State Pollution Control Board, to adopt mechanized system for the disposal of legacy waste, to implement heavy fining/ surveillance cameras/ strict squad to prevent waste dumping on roads, to insist on segregation of wastes at source, to transport vehicles with adequate cover, leachate collection tank and logbook, to provide adequate personal protective equipments to workers and they should be compelled to wear the same, to prohibit deposit of wastes on roads and other public places, to deploy haritha karma sena for door to door collection, to report on the action taken shall be submitted to the SLMC.

WHEREAS during the fifth meeting of the State Level Monitoring Committee on 14/06/2019, noticed with distress that a good number of directions issued are yet to be complied with and therefore expressed displeasure over the same and it was again directed to issue directions by the Corporation to the bulk generators to take steps to channelize their own wastes as the same is

Annexure 8

homogenous and clean, channelization can be done easily; to submit the details of wards, in which segregation is complete; segregated plastic waste for shredding is to be stored in areas attached to the zonal office of the Corporation; and to submit action plan in each ward for solid waste management, projects to be implemented and to improve the existing water management facility, existing material collection facility and resource recovery facility; to publish the information on waste management in the website; to take legal action against open burning of non-biodegradable waste and dumping of waste in water bodies; to take steps to establish MCFs in all wards and RRF at least in six wards; issue identity card to all workers engaged in waste management and to prepare action plan for developing a business model for effective treatment of waste;

WHEREAS the Hon'ble National Green Tribunal, Principal Bench, New Delhi in the order dated 22/11/2018 in O.A. No. 353/2016 clarified that apart from prosecution, the statutory authorities under the Environment (Protection) Act, 1986, the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974, must, in exercise of their incidental powers, prescribed scale of compensation to be collected from the polluters on the "Polluter Pay's Principle". Such scale which may be laid down at various levels, having regard to the local condition or as per direction in the hierarchy of the authorities. In various other application also, the Hon'ble NGT passed similar orders, for instance, in the Order dated 20/11/2018 in O.A No. 117/2014, 499/2014 and 102/2014 the Hon'ble NGT noted as; "Needless to say that statutory authorities under the Environment (Protection) Act, 1986, Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974 are entitled to assess and recover damages as "Polluter Pay's Principle" in exercise of incidental powers to protect environment".

WHEREAS it is noted that you have not fully complied with the above directions of Hon'ble SLMC, Solid Waste Management Rules and also not obtained authorization under SWM Rules, 2016;

WHEREAS the SLMC Chairman along with the Chief Environmental Engineer, Regional Office, Ernakulam inspected solid waste dumping yard of Kochi Corporation at Brahmapuram on 16/10/2019 for verifying the updated status on SWM facilities provided by the Kochi Corporation and to report to the Hon'ble NGT before the hearing proposed to be conducted on O.A 514 of 2019 and O.A 533-535 of 2018;

WHEREAS it was reported by the Chief Environmental Engineer, Regional office Ernakulam vide letter No. PCB/RO-EKM/GEN-221/19 dated 18/10/2019 that no action was taken to install proper Effluent Treatment facilities at the site and the ETP installed just before the Regional Monitoring Committee (NGT) visit and is now in a dilapidated condition, all the windrow sheds also are in a dilapidated condition and the drain provided are found to be blocked with thick slurry flowing from these windrow compost yard and the primary bio degradable dumping area, it was noticed during inspection that the quantity of manure called "City compost" seems to be marginal compared to the daily waste collected at the plant, manure was analysed for its fertilizer

Annexure 8

value and found that the same is not meeting the standard stipulated in Solid Waste Management Rules, 2016;

WHEREAS Chief Environmental Engineer reported that the windrow composting plant at Brahmapuram is not working properly and the food wastes taken to the plant are not treated properly;

WHEREAS it is noted that you have not reported the action plan for providing biomethanation plant so far;

WHEREAS it is noted that you have not identified the land for managing Construction and Demolition waste and sanitary landfill;

WHEREAS you have not provided effluent treatment plant for the leachate generated so far and thereby carrying it into the Kadambrayar which is a polluted stretches identified by Hon'ble NGT;

WHEREAS notice was issued to you to take steps to provide biomethanation plant for the food wastes generated within Kochi Corporation and to report compliance of all above directions;

WHEREAS the reply vide letter no. MOE2/10948/2017 dated 25/07/2019, the action to be taken in providing of biomethanation plant was not reported;

WHEREAS the Kochi Corporation has commenced with a project for establishment of a waste to energy plant for disposal of solid waste and Corporation has in place a collection system of waste and provided vehicles, but the leachate treatment facility is not provided;

WHEREAS as per Hon'ble NGT order O.A 585/2018 dated 23/09/2019, if the rules are violated, the Pollution Control Board can independently proceed against local bodies who are not complying with the rules including institution of prosecution of those person who are not complying with the same and assessment of damage caused to the Environment;

WHEREAS any delay in implementation of Waste-to-Energy plant, legacy waste biomining, biomethanation plant shall be viewed as failure to comply with SWM -2016 and directions of Hon'ble SLMC and the Board and shall incur Environmental Compensation assessed as per formula developed for municipal bodies.

WHEREAS in pursuant to Hon'ble National Green Tribunal, in the CPCB matter of O.A.593 of 2017, CPCB has developed a Methodology for Assessing Environmental compensation;

WHEREAS the Board is constrained to assess the Environmental Compensation from 22/11/2018 to 30/11/2019 (Days = 374) for not providing leachate treatment plant for the treatment of leachate generated;

$$\begin{aligned} EC &= PI \times N \times R \times S \times LF \\ &= 80 \times 374 \times 250 \times 1.5 \times 1 \\ &= \text{Rs. } 1,12,20,000 \end{aligned}$$

PI is pollution index of industrial sector and R is factor in Rupees and suggested to consider as 250 in case on violation, S is the factor of scale of operation, LF is the location factor based on population of city/town;

Annexure 8

WHEREAS an amount of Rs. 112.2 Lakhs (Rupees One Crore Twelve Lakh Twenty Thousand) is assessed as environmental compensation from 22/11/2018 to 30/11/2019,

AND WHEREAS continued failure to comply with SWM Rules shall incur Environmental Compensation at rates that are multiples of the rates assessed above;

NOW THEREFORE, in exercise of the powers vested under Section 5 of the Environment Protection Act, 1986, you are directed to show cause within 15 days why the Board shall not recover Environmental Compensation of Rs 1,12,20,000 (Rupees One Crore Twelve Lakh Twenty Thousand) from 22/11/2018 to 30/11/2019 against you for not taking steps to provide leachate treatment plant and biomethanation plant and the non-compliance of Rule 22 of the SWM Rules, 2016.

Ajit Handas

CHAIRMAN

To

The Secretary,
Kochi Corporation

Copy to:

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

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



KERALASTATE POLLUTION CONTROL BOARD

കേരളസംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

Pattom P.O., Thiruvananthapuram – 695 004

പട്ടം പി.ഒ., തിരുവനന്തപുരം - 695 004

PCB/HO/SEE2/SLMC - KALAMASSERY/2019

Date: 04 /12/2019

Regd. with A/D

NOTICE UNDER SECTION 5 OF THE ENVIRONMENTAL PROTECTION ACT, 1986

Sub: Noncompliance of Solid Waste Management Rules, 2016.

- Ref:
1. The Hon'ble NGT order dated 16/01/2019 in OA No. 606/2018.
 2. The Hon'ble NGT order dated 22/11/2018 in O.A. No. 353/2016.
 3. The Hon'ble NGT order dated 20/11/2018 in O.A No. 117/2014, 499/2014 and 102/2014.
 4. This office letter No. PCB/HO/RULES/SWM-ERNAKULAM/2018 dated 13-02-2019.
 5. This office letter No. PCB/HO/RULES/SWM-ERNAKULAM/2018 dated 04-04-2019.
 6. Your office letter No. H-17192/18 dated 09-04-2019.-
 7. Letter No. PCB/HO/SEE2/RMC- Meeting/2018 dated 09/10/2018, 22/10/2018 and 24/10/2018.
 8. Annual Report No.PCB/HO/SWM/AR/18/2019 dated 23/07/2019.
 9. Minutes of the 4th meeting of the State Level Monitoring Committee on 08-05-2019.
 10. Report on Environmental Compensation in case of failure of preventing the pollutants being discharged in water bodies and failure to implement waste management rules.
 11. This office letter No.PCB/RO-EKM/GEN-227/19 dated 01-08-2019.
 12. This office letter No. PCB/HO/SEE 2/SLMC- KALAMASSERY/2019
 13. Your office letter No. H-18267/15 dated 31-10-2019.

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 (herein after referred as SWM Rules) vide notification S.O. 1357(E) dated 8-4-2016;

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

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;

Annexure 9

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 8-4-2019;

WHEREAS as per Rule 22 (7) 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 facilities with the technologies specified in CPHEEO manual and SWM Rules are to be in place for the effective treatment and disposal of the solid waste generated in the local body;

WHEREAS as per Rule 22 (6) of the SWM Rules, separate storage, collection and transportation of construction and demolition waste shall be provided;

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 vide the communications read above, for the compliance of the SWM Rules;

WHEREAS the Chairman, State Level Monitoring Committee during their 4th meeting on 08-05-19 observed that even after repeated directions regarding waste management from the Kerala State Pollution Control Board, the Kalamassery Municipality has not taken any earnest step to implement those directions, not provided adequate leachate treatment facility, no proper segregation of waste is being carried out and the waste water from the Kalamassery Market, sewage from Kalamassery Township, leachate from the waste dumping yard etc., reaches Periyar causing severe pollution in Periyar.

WHEREAS Chairman SLMC directed to submit specific and detailed time bound action plan to the Kerala State Pollution Control Board, to adopt mechanized system for the disposal of legacy waste, to implement heavy fining/ surveillance cameras/ strict squad to prevent waste dumping on roads, to insist on segregation of wastes at source, to transport vehicles with adequate cover, leachate collection tank and logbook, to provide adequate personal protective equipments to workers and they should be compelled to wear the same, to prohibit deposit of wastes on roads and other public places, to deploy Haritha karma sena for door to door collection, to report on the action taken shall be submitted to the SLMC.

WHEREAS the Chief Environmental Engineer, Regional Office, Ernakulam vide letter dated 05/07/2019, reported that the dumping yard is exclusively used for dry waste collected from Kalamassery Municipal limit, enclosures are not provided to store plastic waste and there is every chance of heavy leachate flow due to rain to Thoombunkal thodu which inturn reach Periyar river, they have provided a shredder, but they neither have sufficient capacity to shred entire plastic waste collected nor transferring to safer places, due to the open dumping of plastic and other waste materials in an about 2.5 acres there are chance of leachate flow to Thoombunkal thodu ultimately reach river Periyar which is already identified by the CPCB as a polluted river stretch;

WHEREAS the Hon'ble National Green Tribunal, Principal Bench, New Delhi in the order dated 22/11/2018 in O.A. No. 353/2016 clarified that apart from prosecution, the statutory

authorities under the Environment (Protection) Act, 1986, the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974, must, in exercise of their incidental powers, prescribe scale of compensation to be collected from the polluters on the "Polluter Pay's Principle". Such scale which may be laid down at various levels, having regard to the local condition or as per direction in the hierarchy of the authorities. In various other application also, the Hon'ble NGT passed similar orders, for instance, in the Order dated 20/11/2018 in O.A No. 117/2014, 499/2014 and 102/2014 the Hon'ble NGT noted as; "Needless to say that statutory authorities under the Environment (Protection) Act, 1986, Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974 are entitled to assess and recover damages as "Polluter Pay's Principle" in exercise of incidental powers to protect environment".

WHEREAS the Chief Environmental Engineer, Regional office Ernakulam vide letter No. PCB/RO-EKM/GEN-227/19 dated 01-08-2019 informed that on receiving a complaint on 23-07-2019 from local public and media personnel against a fire outbreak occurred in the Kalamassery plastic dumpsite and during inspection it was noted that the temporary office shed provided was destroyed due to fire and recommended strict actions against the municipality for noncompliance;

WHEREAS it is noted that you have not fully complied with the above directions and not obtained authorization under SWM Rules, 2016.

WHEREAS it is noted that no treatment facility has been provided for the treatment of biodegradable waste generated in your jurisdiction and wastes were still seen accumulated on the road sides and on land and you have not fully complied with SWM Rules;

WHEREAS notice was issued to you to take steps to provide biomethanation plant for the food wastes generated within Kalamassery Municipality and to report compliance of all above directions;

WHEREAS you have vide in your reply dated 31-10-2019, the action to be taken in providing of biomethanation plant was not reported and you are still transporting waste to Brahmapuram plant which is already working in violation of the solid waste Management Rules, 2016;

WHEREAS you are still considering the dumping yard as Solid Waste processing plant which is in violation of the solid waste Management Rules, 2016;

WHEREAS you are dumping Construction and Demolition waste in the dumping yard which is in violation of Construction and Demolition Waste Rules, 2016 and 22(6) of SWM Rules 2016;

WHEREAS you are not having proper facility for storing plastic waste, which is in violation of Plastic Waste Management Rules, 2016;

WHEREAS the Chief Environmental Engineer, Regional Office, Ernakulam vide letter dated 23/09/2019 informed that there is no change in the status of dumping yard so far;

WHEREAS it is observed that you are not complying with the solid waste Management Rules, Plastic Waste Management Rules, Construction and Demolition Waste Rule, 2016;

Annexure 9

WHEREAS as per Hon'ble NGT order O.A. 585/2018 dated 23-09-2019, if the rules are violated, Pollution Control Board can independently proceed against the local bodies who are not complying with the rules including institution of prosecution of those persons who are not complying with the same and assessment of damage caused to the Environment;

WHEREAS based on the methodology for assessing Environmental Compensation as per Hon'ble NGT O.A. 593/2017 dated 19-02-2019 and 28-08-2019 an amount of Rs. 247.92 Lakhs (Rupees Two crore fourty seven lakhs ninety two thousand) is calculated for a period from 22-11-2018 to 31-10-2019 (344 days);

Town	Kalamassery
Population (2011)	70,776
Class	Class II
Waste Generation (Kg. Per person per day)	0.3
Waste Generation (TPD)	21.23
Waste disposal as per Rules (TPD) (assumed as 10% of waste generation for calculation)	2.12
Waste Management capacity Gap (TPD)	19.11
Calculated EC (capital cost component) in Lakhs Rs.	45.86
Minimum and Maximum values of EC (Capital cost component) recommended by the committee (lakhs Rs.)	Min. 100 Max 1000
Final EC (capital cost component) in lakhs Rs.	100
Calculated EC (O&M component) in lakhs Rs. /Day	0.38
Minimum and Maximum values of EC (O&M cost component) recommended by the committee (lakhs Rs./Day)	Min. 0.1 Max. 1.0
Final EC (O&M component) in lakhs Rs./Day	0.38
Final EC (O&M Component) in Lakhs	130.72
Calculated Environmental Externality (lakhs Rs. / Day)	0
Minimum and Maximum values of Environmental Externality recommended by the committee (lakhs Rs./Day)	Min. 0.05 Max. 0.10
Period of Violation	22/11/2018 to 31/10/2019
Number of Days of Violation	344

Annexure 9

Final Environmental Externality (Rs. Lakh Per day)	0.05
Final Environmental Externality in Lakhs	17.2
EC to be collected (from 22-11-2018 to 31-10-2019 [344 days])	247.92

WHEREAS an amount of Rs. 247.92 Lakhs (Rupees Two crore fourty seven lakhs ninety two thousand) is assessed as environmental compensation from 22/11/2018 to 31/10/2019 (Capital cost component (Rs.100 Lakhs) + O&M Component (Rs. 130.72 Lakhs) + Environmental Externality (Rs. 17.2 Lakhs));

AND WHEREAS continued failure to comply with SWM 2016 shall incur Environmental compensation at rates that are multiples of the rates assessed above.

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 10-4-2001 you are directed to show cause within 15 days as to why the Board shall not recover Environmental compensation of Rs. 247.92 Lakhs (Rupees Two crore fourty seven lakhs ninety two thousand) calculated for a period from 22/11/2018 to 31/10/2019 against you for not taking steps to provide biomethanation plant and the non-compliance of Rule 22 of the SWM Rules, 2016.


CHAIRMAN

To

The Secretary,
Kalamassery Municipality

Copy to:

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



GOVERNMENT OF KERALA

Abstract

Environment Department- Non natural fibre alternatives to banned Single use plastic items- Entrusting State Pollution Control Board for testing and notifying alternative materials - Orders issued

ENVIRONMENT (B) DEPARTMENT

G.O.(Rt)No.128/2019/ENVT Dated,Thiruvananthapuram, 31/12/2019

Read 1 G.O(Ms)7/2019/Envt dt 17.12.2019

2 G.O(Ms) 6/2019/Envt dt 27.11.2019

ORDER

As per Government Order read as 2nd paper above, State Government have imposed a complete ban on the manufacture, storage, transport and sale of single -use plastic items in the State w.e.f 1.1.2020 , further modified and clarified the matter as per the Government Order read as 1st paper above. In furtherance to the decision of Government to ban single-use plastic items, there have been huge demand for alternative materials that can replace single use plastic. Many parties have also approached State Government with the claim to have discovered alternatives for the banned plastic, that are compostable as well as bio-degradable.

2. Government have examined the matter in detail. The veracity of the alternative materials have to be lab tested and verified before the material is brought to the market. Hence Government are pleased to entrust Kerala State Pollution Control Board for testing and notifying alternative materials that can substitute the banned single-use plastic items. Testing the suitability of the alternatives for single-use plastic items shall be done with the assistance of CSIR- National Institute for Interdisciplinary Science & Technology, Thiruvananthapuram.

(By order of the Governor)
VALSA.V
ADDITIONAL SECRETARY

To:

The Director, National Institute for Interdisciplinary Science and
Technology , Council of Scientific and Industrial Research,
Thiruvananthapuram
The Chairman, Kerala State Pollution Control Board
The Director, Department of Environment & Climate Change
The Director, Department of Urban affairs
The Director, Panchayath Department
All District Collectors
The Executive Director, Suchitwa Mission
The Managing Director, Clean Kerala Company ltd

Copy to :

ACS, Local Self Government Department
PA to Principal Secretary, Environment Department

Forwarded /By order

Section Officer

2433
 7/2/20



GOVERNMENT OF KERALA

Abstract

Environment Department- Ban of the use of Compostable carry bags-Alternative materials that can be used as a substitute for the banned single use plastic items - - Orders issued

ENVIRONMENT(B) DEPARTMENT

G.O.(Ms)No.2/2020/ENVT Dated,Thiruvananthapuram, 27/01/2020

Read 1 Press release dt 6.1.2020 of the Director, Department of Environment & Climate change

2 G.O(MS) No 7/2019/Env dt 17.12.2019

3 G.O (MS) No.6/2019/Env dt 27.11.2019

ORDER

Vide orders read as 2., 3. above, Govt have imposed a ban on the manufacture, storage, transport and sale of single use plastic items in the State of Kerala w.e.f 1.1.2020 and anyone found to be violating the Government Order will be fined up to Rs 50000/- and cancellation of license.

After the issuance of the above Orders, State Government received numerous representations about the use of carry bags and requesting to provide/list out alternative materials that can be used as a substitute for the banned single use plastic items. State Government had in GO cited 3. above, ordered that compostable materials having the specified standard can be used as a substitute for the banned plastic items. However it is noticed that fake compostable products resembling the original in texture and tint, and difficult to distinguish at first look, are flooding the markets negating the impact of the plastic ban and defeating the very intention of Government of ridding the State and water bodies of single use plastic.

State Government have examined the whole matter in detail. Cloth and paper carry bags had been used till recently in the State to buy goods and groceries. These serve as reasonable substitutes for the banned plastic carry bags. A number of micro and small scale units have now started production and supply of such plastic free carry bags. The public response to the ban has been overwhelming and they have started carrying their own bags to the market. Government therefore issued clarification vide reference 1. cited.

Government hereby issue the order further clarifying the banned items. It is recommended to use the following alternative non-plastic /eco-friendly materials as a substitute for the banned single use plastic items.

Annexure 10

A	Both branded and Non branded compostable alternatives/substitutes also banned	Recommended non-plastic substitutes
	1. Carry bags irrespective of thickness, made of plastic	Cloth, paper bags
	2. Sheets made of plastic, for single-use spread on tables in function venues, spread on plates while serving food.	Paper spread
	3. Plates, cups and decorative materials made of styrofoam or Thermocol	Glass, ceramic, steel, cups, plates, paper and plant-based decorations
	4. Single-use utensils like cups, plates, dishes, spoons, forks, straw, stirrer, made of plastic	Glass, ceramic, steel, wooden cups, plates, dishes, spoons, forks, straw, stirrer
	5. Non-woven bags, plastic flags, plastic bunting	Cloth , paper bags, flags, bunting
	6. Plastic packets for packing fruits and vegetables	Paper and cloth bags
	7. Plastic drinking water pouches	Banned, no substitute
	8. PET/PETE drinking water bottles less than 500 ml	Banned, no substitute
B	Banned items for which compostable substitutes can be used	Recommended Compostable substitute
	1. Plastic-coated paper cups, plastic-coated paper plates, plastic-coated paper bowls, plastic-coated paper bags	Paper cups with PLA-coating, certified by CPCB and IS: 17088 compliant.
	2. Garbage Bags, including for hospital use, made of plastic	Compostable plastic garbage bags, certified by CPCB and IS: 17088 compliant

Annexure 10

Compostable materials should also adhere to the following guidelines -

1. The compostable plastic products shall have approval from Central Pollution Control Board (CPCB) and the certificate issued by CPCB shall be valid at the time of manufacture/sale/stocking/marketing of the product/s.
2. The compostable plastic materials shall bear details of the company that manufacture, agency that market, the material specification, date of manufacture, batch number, CPCB approval details with license number and validity etc, in the form of QR code.
3. The product shall bear the title 'this is a purely compostable plastic product' written in both English and Malayalam.
4. The product shall dissolve in Dichloromethane (Methylene dichloride) and this shall be indicated in the packaging bag/cover/sheet material, as a preliminary test for identification. This shall be printed on the product as ' This product dissolve in Dichloromethane (Methylene dichloride).

(By order of the Governor)
DR. USHA TITUS
PRINCIPAL SECRETARY

To:

1. The Secretary, Ministry of Environment and Climate Change, Govt of India
2. All the District Collectors
3. All the Department Heads
4. All Heads of Public Sector Units /Autonomous bodies

Annexure 10

5. The Secretary to Governor, Raj Bhavan, Thiruvananthapuram
6. The Secretary, Legislative Assembly, Thiruvananthapuram
(By order of the Governor)
7. The Secretary, Kerala Public Service Commission
8. The Registrar, Kerala Administrative Tribunal (including covering letter)
9. The Registrar, Kerala High Court, Ernakulam
10. The Registrar, Kerala Lokayuktha, Thiruvananthapuram
11. The Member Secretary, State Planning Board, Pattom, Thiruvananthapuram
12. The Secretary, State Information Commission, Thiruvananthapuram
13. The Registrar, Kerala/Calicut/CUSAT/Kannur/Mahatma Gandhi Universities
14. The Registrar, Kerala Agriculture University, Mannuthy, Thrissur
15. The Registrar, Sree Sankaracharya Sanskrit University, Kalady P.O, Ernakulam
16. The Registrar, Kerala University of Health and Allied Science, Thrissur
680596
17. The Registrar, Kerala Veterinary & Animal Husbandry Science University,

Pookode, Wayanad

18. The Registrar, Kerala University of Fisheries and Ocean Studies, Panangadi, Kochi
19. The Member Secretary, Central Pollution Control Board
20. The Member Secretary, State Pollution Control Board
21. The Managing Director, Clean Kerala Company
22. Executive Director, Suchitwa Mission
23. CIPET (Institute of Plastic Technology), Kochi
24. Kerala Plastic Manufacturers Association
25. All Depts in Government Secretariat (to give direction to all institutions under their control)
26. General Administration (SC) Department
27. Stock File/Office Copy (Envt.B2/198/2018-Envt)

Copy to:-

1. Private Secretary to Chief Minister
2. Private Secretary to Chief Secretary
3. PA to Principal Secretary

Forwarded /By order


Section Officer

Annexure 12
**PROPOSAL FOR IMPLEMENTATION OF RULE 17(1) OF THE SOLID WASTE
MANAGEMENT RULES, 2016 BY PRODUCERS, BRAND OWNERS,
MANUFACTURERS AND IMPORTERS**

Background

Solid Wastes Management Rules, 2016 in Rule 17(1) states that all manufacturers of disposable products such as tin, glass, plastics packaging etc or brand owners who introduce such products in the market shall provide necessary financial assistance to local authorities for establishment of waste management system. Rule 17(2) states that all such brand owners who sell or market their product in such packaging material which are non-biodegradable shall put in place a system to collect back packaging waste generated due to their production. Though four years was over, there is no compliance of these rules by the brand owners, producers, manufacturers and importers. Majority brand owners are not taking back waste packaging from Kerala and some brand owners have made some arrangements through PROs, the information on quantity of packaging taken back have not been furnished to Kerala State Pollution Control Board. Hence the Kerala State Pollution Control Board is unable to furnish the said details to Hon'ble National Green Tribunal and to Central Pollution Control Board through statutory annual reports under Solid Waste Management Rules, 2016 and Plastic Waste Management rules, 2016

As per Solid Waste Management Rules, 2016, scientific collection, transport, treatment and disposal of solid waste is to be implemented in the State. But there is failure in the implementation especially of door- to-door collection mechanism due to paucity of funds for giving wages to waste collectors. Door-to- door collection can be implemented by local authorities and village panchayaths census towns and urban agglomeration effectively by giving wages to waste collectors through user fee as well as EPR fund.

Objectives

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.

Annexure 12

4) Estimation of quantity of disposable product / packaging manufactured in or introduced into Kerala

Product name	Product HSN code	Prod. packaging Size		Number of units	Disposable product or packaging materials per unit					
					Metal	Plastic	Compo stable Plastic	Glass	Paper	Large box
					g	g	g	g	g	litre
Shampoo	33051090	250	ml	200,000	0	15	0	0	0	0
		100	ml	500,000	0	11	0	0	0	0
Detergent	34029011	1	kg	1,000,000	0	3	0	0	20	0
		2	kg	150,000	0	4	0	0	30	0
Toothpaste	33061020	100	g	1,200,000	10	2	0	0	10	0
		250	g	150,000	15	2	0	0	15	0
Split air-conditioner	84151010	1	TR	28,000	0	100	0	0	0	100
				Total (kg or m3)	14250	12100	0	0	38750	2800

Payment to Local Bodies carrying out Household Door-to-door collection (Rule 15.b)

	Freq	Reimbursement of costs
Wet & Dry waste	6 d/week	₹ 60 per house per month
Wet & Dry waste	4 d/week	₹ 40 per house per month
Dry waste only	1 d/week	₹ 16 per house per month
Dry waste only	2 d/month	₹ 8 per house per month
Dry waste only	1 d/month	₹ 4 per house per month

Expected income and expenditure from EPR Fund

EPR covered waste	200 g/house/d
	6 kg/house/month
EPR rate	10 /kg
EPR amount collected	60 /house/month

Annexure 12

- 5) The amount to be remitted is based on the quantity of packaging proposed to be introduced in the State of Kerala in a year. A self-affidavit is to be given in advance regarding the quantity of products, and packaging. The deviation exceeding the declared quantity in the affidavit by 25% shall be reported by the applicant by the end of that financial year. If any deviation observed thereafter from the self-declaration given is observed, the registration stands cancelled.
- 6) At least 1% of the application will be counter checked with GST department for ensuring the correctness of information provided through self-affidavit by the manufacturer/producer/brand owner/importer.
- 7) For branded items, brand owners are to remit fee based on the quantity of packaging entered into the State. For non-branded items, manufacturer/importer/producer are to remit the fee.
- 8) The responsibility of the manufacturer/producer/brandowner/importer will be over by remitting fee in the EPR fund. With regard to disposable/plastic products and packaging also, the responsibility of the manufacturer/producer/brand owner/importer as per the Plastic Waste Management Rules is discharged by payment of EPR fee. The responsibility of collection, treatment and disposal shall entirely lie with the local body.
- 9) The EPR fee will be collected through online application. The format of online application and EPR registration form are attached as Format 1 and 2. The fund will be maintained by the Pollution Control Board.
- 10) The sharing of EPR fund is based on the successful providing of door- to- door collection by the local authority. The success is examined based on the statutory annual reports submitted by the local bodies under the Solid Waste Management Rules, 2016 and Plastic Waste Management Rules, 2016 and also based on the field verification by the Kerala State Pollution Control Board.

Annexure 12

- 11) The list of unsuccessful local bodies will be transferred to the Director, Urban Affairs Directorate and to the Director, Panchaayth Directorate for not giving theEPR share to them.
- 12) The amount will be transferred to the Director, Urban Affairs Directorate and to the Director, Panchayath Directorate for transferring fund to the successful local bodies.
- 13) 5% of the fund will be set apart as operation charges of Kerala State Pollution Control Board namely creation and maintenance of online application for EPR fund, auditing, and salary for staff deployed for implementation, monitoring and enforcement of SWM and PWM 2016.
- 14)The details regarding the applications received, EPR registration given, amount collected, amount transferred to local bodies, status of door-to door collection, status of waste management by local bodies etc., will be displayed on EPR online portal.

Annexure -13

Details of Sewage Treatment Plants which is planned to set up in 14 districts under the AMRUT Scheme

Sl. No.	Districts	Capacity	Cost (Rs. in Crores)
Decentralized Plants in various Hospitals:-			
1	Alappuzha	240	3.45
2	Thrissur	360	3.52
3	Palakkad	270	2.88
4	Kozhikkode	3000	14.12
Stand Alone Septage Treatment Plants:-			
5	Kollam	3000	12.66
6	Thrissur	100	3.50
7	Palakkad	100	3.41
8	Kannur	100	3.41
9	Guruvayur	150	4.50
Decentralized STPs in various districts:-			
10	Kochi, Ernakulam	--	44.56
11	Kannur	--	46.81
12	Palakkad	--	26.05
13	Thrissur	--	53.40
14	Sewerage System Zone A, Kozhikkode		106.69
	TOTAL (for 14 Projects)		328.96

AMRIT PROJECTS IN KERALA

Sl. No.	Plant	Place	Capacity (MLD)	Status of the project
1.	STP	General Hospital, Alappuzha	0.240	Obtained technical sanction for DPR, Tendering stage
2.	STP	District Hospital, Palakkad	0.270	Obtained technical sanction for DPR, Tendering stage
3.	STP	General Hospital, Trissur	0.350	Obtained technical sanction for DPR, Tendering stage
4.	STP	Medical College, Calicut	1	Obtained technical sanction for DPR, Tendering stage
5.	STP	Medical College, Calicut	2	Obtained technical sanction for DPR, Tendering stage
6.	STP	Kannur Corporation	Yet to be finalised	DPR preparation stage
7.	STP	Palakkad Municipality	0.8	DPR preparation stage
8.	STP	Trissur Corporation	5	DPR preparation stage
9.	STP	Kozhikode Corporation	13	DPR preparation stage
10.	STP	Kochi Corporation Ward 15	1.4	DPR submitted for technical sanction
11.	STP	Kochi Corporation Ward 16	1.1	DPR submitted for technical sanction
12.	STP	Kochi Corporation Ward 17	1.4	DPR submitted for technical sanction
13.	FSTP	Andamukkam, Kollam Corporation	0.1	Obtained technical sanction for DPR, Tendering stage
14.	FSTP	Vasoorichira, Kollam Corporation	0.1	Obtained technical sanction for DPR, Tendering stage
15.	FSTP	KarikkuzhiEla, Kollam Corporation	0.1	Obtained technical sanction for DPR, Tendering stage
16.	FSTP	Ramavaram, Trissur Corporation	0.1	Obtained technical sanction for DPR, Tendering stage
17.	FSTP	Yakkara, Palakkad Municipality	0.1	Obtained technical sanction for DPR, Tendering stage
18.	FSTP	Chelora, Kannur Corporation	0.1	Obtained technical sanction for DPR, Tendering stage
19.	FSTP	GuruvayurMunicipality	0.1	Obtained technical sanction for DPR, Tendering stage