

**JUSTICE A V RAMAKRISHNA PILLAI**  
(Former Judge, High Court of Kerala)  
**CHAIRMAN**

**State Level Monitoring Committee, Kerala**

(An authority constituted by the  
National Green Tribunal)  
**'AMPAZHAVELIL'**  
Rajeev Nagar, Elamakkara  
Kochi - 682026  
Home Office 0484-2408388  
Mob: 9447090130  
8139878758  
email:avrpillai@gmail.com

04.07.2022

Sir,

Kindly see the appended status Report in  
O.A.No.606/2018 regarding the Solid State  
Management in the State of Kerala.

The same may kindly be placed before the  
Hon'ble Tribunal for consideration.

The case stands posted to 07.07.2022.

Yours Sincerely,

JUSTICE A.V.RAMAKRISHNA PILLAI,  
(Chairman, SLMC, KERALA)

To  
The Registrar,  
National Green Tribunal,  
Principal Bench, Faridkot House,  
Copernicus Marg, New Delhi-110001.

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,  
PRINCIPAL BENCH, NEW DELHI**

**O.A.No.606/2018**

**SUPPLEMENTARY REPORT - III**

**PRESENTED BY JUSTICE A.V.RAMAKRISHNA PILLAI  
(FORMER JUDGE, HIGH COURT OF KERALA)  
CHAIRMAN, STATE LEVEL MONITORING COMMITTEE, KERALA  
(FOR AND ON BEHALF OF THE AFORESAID COMMITTEE)  
REGARDING THE STATUS OF SOLID WASTE MANAGEMENT  
IN THE STATE**

**(THIS REPORT IS IN CONTINUATION OF REPORTS DATED 30.07.2019, 28.08.2019 &  
16.03.2020)**

**PRESENTED ON 04.07.2022**

**DATE OF POSTING: 07.07.2022**

**INDEX**

	Pages
Supplementary Report-III :	01 - 07

====\*\*\*====



### **SUPPLEMENTARY REPORT - III**

This report is in continuation of the earlier status reports dated 30.07.2019, 28.08.2019 & 16.03.2020 and is prepared on the basis of the data collected from various local bodies in the State, through Kerala State Pollution Control Board.

What is stated below is a brief picture of the status relating to the management of solid waste in the local bodies in the State of Kerala.

Reportedly, in the urban local bodies in the State, 3472 TPD (Tones per day) of solid waste is generated (Presumably, the actual production would be more than this). It is claimed that out of the aforesaid quantity, 2557 TPD of solid waste is processed. That means there is a gap of 915 TPD of solid waste which is presumed to reach the proposed waste to energy plants. The further claim is that out of the 2557 TPD of solid waste processed, 1263 TPD of solid waste collected is transported to centralised units for processing and the balance is processed at the de-centralized level.

#### **A. PROPOSED WASTE TO ENERGY PLANTS**

The following are the details of eight waste to energy plants proposed to be set up in the State.

- a) Kozhikode: The site proposed is the dump yard at Njaliyan Parambu. The work was awarded to Zona Infratech Private Limited. Malabar Waste Management Private Limited was given consent to establish the plant, on 12.08.2020 with validity up to 30.06.2023 for the generation of 6 Megha Watt electricity and 20 tones of compost. The bio-mining of the legacy waste dumped at the site has registered the achievement of 50%; it is reported.
- b) Palakkad: Blue Planet Palakkad Waste Solution Private Limited was formed to take up the development of the project. Consent to establish was issued on 21.12.2021 to the project with validity up to 30.11.2023. It is estimated that 200 TPD of Municipal solid wastes would be processed once the project is completed. The products expected are compressed bio-gas weighing 4018 Kg per day, 60 TPD of RDF, 6 TPD of recyclables, 12 TPD of waste for sanitary landfills and 35.75 TPD of dry organic compost.
- c) Kollam: The SPV (Special Purpose Vehicle) namely, Venad Waste Management Private Limited has been constituted for setting up of the waste to energy plant at the dumping site, Kureepuzha. Consent was issued on 21.12.2021 with validity up to 09.01.2025. The production of 8.165 TPD of compressed biogas from 200 TPD of Municipal waste is expected. The process of bio-mining of the



legacy waste at the dumping site is completed by 80%. This is the highest in the State.

- d) Kannur: The SPV was constituted. The work of the plant has not been started as bio-mining has not been completed. However, the tendering has been completed and the DPR (Detailed Project Report) was prepared by Blue Planet.
- e) Ernakulam: The proposed site is at the existing dumping yard at Brahmapuram. The Bio-mining of the legacy waste has been started by the first week of February 2022 by M/s.Zonta Infratech Ltd., and they have completed bio-mining of four sectors out of seven sectors. For the construction of waste to energy plant work order was issued to the aforesaid company.
- f) Thiruvananthapuram: No concrete step has been taken till date. It is reported that the matter was taken up with District Administration for exploring the suitability of the land allotted to Technocity.
- g) Thrissur: No concrete step has been taken so far. Here also, it is reported that the matter was taken up with the District Administration for exploring the suitability of various land parcels in the District for the proposed project.
- h) Malappuram: Here also there is no considerable progress in the matter. It is reported that on the basis of a report submitted by Tahsildar, Tirur, the District Collector, Malappuram vide letter 9.11.2021 has requested the Land Revenue Commissioner for necessary sanction to lease out 8 Acres of land at Neduvattom to KSIDC with the permission for sub-leasing. As per the proposal, the yearly rent for the land is Rs.92,80,580/-. It is further reported that on the basis on the discussion in the meeting held on 16.12.2021 chaired by the Chief Minister, the Department of Revenue has taken steps to place the matter before the Council to assign the land to KSIDC, to lease out the land.

**B. OTHER CENTRALIZED AND DE-CENTRALIZED METHODS DEPLOYED.**

It is reported that more than 70% door to door collection of dry waste is achieved for households in 84 urban local bodies and for establishments in 70 urban local bodies as in May, 2022. Haritha Karma Sena is working in 92 urban local bodies and 923 Grama Panchayaths for collection of dry waste. For wet waste disposal, decentralized treatment methods such as aero bins, pipe compost, compost pits, kitchen bins, biogas plants etc. are followed.

There are two centralized windrow composting plants in the State ie., at Ernakulam and Kozhikode. The total capacity is approximately 100 TPD.

The following are the details of decentralised methods of Solid Waste Management in the State.





a) Windrow composting plants (Small)

There are twelve such plants in the State, which are detailed below:

Attingal (13TPD)  
North Paravur (3TPD)  
Chalakkudy (2TPD)  
Kodungallur (4TPD)  
Kothamangalam  
Kunnamkulam  
Guruvayoor (2TPD)  
Chittur-  
Thathamangalam (4TPD)  
Ottappalam (5TPD)  
Palakkad (4TPD)  
Taliparambu  
Payyannur.

b) Community Level Vermi Composting Plants (Small)

They are seven in number.

Attingal (0.25 TPD)  
Thodupuzha  
North Paravur (1 TPD)  
Chavakkad (1.5 TPD)  
Manjeri (0.5 TPD)  
Koothuparambu  
Mattannur (5 PTD)

It is reported that, in addition to the above, there are 369 Aerobins, 287 bio-gas plants, 500+ Biobins in flats, 685 MCF (Material Collection Facility) and 77 RRF (Resource Recovery Facility) in the State at the community level.

c) Household level decentralized methods.

Pipe compost	1,31,559
Kitchenbin	79,146
Biogas plant	21,550
Bio composter, Biobins, Potbin	1,09,441
Ring compost	40,036
Bucket compost	6,903
Compost pit	<u>43,924</u>
Total	4,32,559

=====





### C. NON-DEGRADABLE WASTE MANAGEMENT

Plastic Waste generation is around 1,31,400 tonnes in 2021-22 in the State (Annual Report 2021-22). This includes both soft and hard plastic. Hard plastic and some quantities of soft plastic are recyclable and are taken by scrap merchants through their field workers.

Dry wastes are collected, segregated and disposed through recyclers. In Kerala there are 147 plastic recycling units, 21 Steel mills, and 7 kraft paper units. Non-recyclable plastic waste is shredded in the RRFs and is used for the tarring of PWD and LSGD roads. During the period 2016-2021, Clean Kerala Company Limited (CKCL) has produced 2399.13 T of shredded plastics and given to various agencies (NHAI-12-18 T, PWD-947.76 T, LSGI-1151.2 T). The total length of polymerized road constructed during this period using shredded plastic is 838.04 km. 1039 MCFs and 183 Resource recovery facilities have been provided in LSGIs (Status as on April 2022).

Haritha Karma Sena (HKS), an enterprise group formed through the State Poverty Eradication Mission (Kudumbasree) has been engaged for the Door-to-Door collection. The enterprise group is designed to have two persons for each ward for door-to-door collection of non-biodegradable waste on a regular basis and to help in managing the household institutional community system for composting biodegradable waste. The user fee is fixed by the respective local government depending on the services rendered and based on the guidelines issued vide G.O(Rt) No.2420/2017/LSGD dated 15.07.2017. In order to sustain the operation of the door-to-door collection system, Government provided a Viability Gap Fund (VGF) support initially so as to make up the shortage of user fee collection in the initial stages such that each member of the group get at least minimum wage decided by the government.

However, the aforesaid procedure is not followed by many local bodies.

The details regarding the Material Collection Facility (MCF) and the Resource Recovery Facility (RRF) in the State are as follows:

Thiruvananthapuram – 72 MCF, RRF – 4

Kollam – MCF-72, RRF-4

Pathanamthitta – 7 MCF, RRF-4

Alappuzha – MCF – 37 , RRF – 6

There is an additional requirement of 23MCF and 11 RRF in the District.

Idukki – 2 MRF

Kottayam – MCF-6, RRF-5





Ernakulam – MCF 73, RRF-8

Thrissur – MCF-52, RRF – 11, MRF-1

There is an additional requirement of 613MCF and 3 RRF in the District.

Palakkad – MCF -100, RRF-2, MRF - 2

There is an additional requirement of 54 MCF and 4 RRF in the District.

Malappuram – MCF-122, RRF-20

Kozhikod – MCF-55, MRF-5

There is an additional requirement of 16 MCF in the District.

Wayanad – MCF-3, RRF-1

Kannur-MCF-13, RRF-8

Kasaragod – 3 MCF, 2 RRF

The welcome step taken by the Government of Kerala is the G.O.(MS) No.6/2019/Env. Dated 27.11.2019 imposing complete ban on single use plastic including plastic carry bags irrespective of thickness in the State. A comprehensive action plan in the matter is awaited.

#### CONCLUSION AND SUGGESTIONS

In spite of the efforts taken so far the Solid Waste Management in the State has not achieved the level of standard expected by the Environmental Laws.

Segregation and door-to-door collection of solid waste is not effectively done in many of the local bodies. The achievement by the District of Pathanamthitta, Idukki and Kottayam is far below average. The available statistics would reveal that a sizable percentage of waste generated in the households and commercial establishments are left unattended and therefore are disposed of in unscientific manner.

Though bio-mining of legacy waste dumped at 41 sites out of which 10 are large is going on various stages, the same has not attained the pace which is expected. The bio-mining at the major dump sites are inversely proportional to the inflow of solid waste to those dumping yards.

On an inspection of the dumping yard at Brahmapuram in Ernakulam District on 03.03.2021, it was found that the waste materials at the yard was not in the segregated form. Waste materials now being brought from the local limits of different local bodies were seen dumped over the existing legacy waste. The non-acceleration of the speed of the bio-mining process coupled with the delay in establishing the





proposed waste to energy plant would make the legacy waste clearing an unending process.

I would like re-iterate the following course of action which I have specified in my earlier report, for an effective Solid Waste Management System.

The stake holders should consider the reduction of waste as the primary object of waste management. Therefore, the first step to be followed is the reduction of the waste inflow into the waste management system. Aware programs for the benefit of waste generators can be undertaken by the local bodies under the supervision of District Magistrate and with the assistance of District Legal Services Authority, Suchithwa Mission (SM) as well as Haritha Kerala Mission (HKM).

All the local bodies should strictly implement, on a war footing under the disaster management protocol, the standard waste management protocols prescribed by HKM. Installation of Material collection facilities in every ward (for municipalities and corporation) and for every Panchayath shall be insisted upon. There should be compulsory segregation of waste by all doors. Door to door collection of segregated waste and secondary segregation of NBD in MRF and forward linkage shall be promoted. Source level composting as well as partially centralized composting facilities in market and similar bulk generator premises shall be adhered to.

There shall be a consistent effort for implementation of reduction of waste generation adopting alternative methods for waste management like re-use system.

Segregation of bio-degradable waste and non-biodegradable waste at source is inevitable because bio-degradable waste which contains 80% moisture is unviable for being used in Waste to Energy (WTE) Plants due to the huge expenditure involved to dehydrate the same. There should be secondary segregation of Non-degradable Waste (NBD) at MRF as Solid Waste Management Rule prescribe for recycling of valuable and reusable NBD waste. Only those NBD waste having no recyclable value need be processed in WTE plants.

All the bulk generators including industries, apartment complexes, gated communities, commercial establishments, etc. should establish compulsory in-house biodegradable waste management systems with technical assistance of agencies like Haritha Kerala Mission, Suchithwa Mission etc. and under the supervision of State Pollution

While promoting bio-degradable waste at source, proper records regarding the quantity of waste treated at source and its final disposal should be insisted upon.



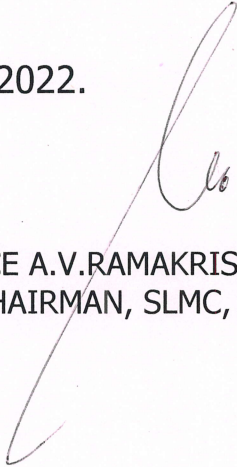


Unauthorized disposal methods under the pretext of treating waste at source shall not happen under any eventuality.

Once the aforesaid steps are completed, expression of interest (EOI) can be invited for establishing innovative legacy waste management systems in the various treatment plants including the Brahmapuram plant at Ernakulam and also in the other proposed WTE plants in the State.

Plastic to fuel, RDF to cement factory Kiln co-processing, plastic brick manufacturing, modular WTE plant, compost to garden, compressed burial etc. are already established processes. These can be developed with the help of enterprises, CSR funds, Department of Science and Technology etc.

Dated this the 4<sup>th</sup> day of July, 2022.



JUSTICE A.V.RAMAKRISHNA PILLAI,  
CHAIRMAN, SLMC, KERALA