

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

**O.A. No. 439 OF 2013 (SZ)
(THC) (W.P.(C) No.3637/2012)**

With

**O.A.No.456 OF 2013(SZ)
(THC) (W.P.(C)No.1367/2011)**

REPORT

**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
KOLLAM MUNICIPAL CORPORATION, KERALA**

PRESENTED ON : 08.10.2020

COMPLIANCE: ORDER DATED 13.07.2020

DATE OF POSTING: 14.10.2020

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REPORT

The Solid Waste Management System, particularly, the management of legacy waste in Kollam Municipal Corporation is the core issue in these original applications.

As per order dated 13th July, 2020 the State Level Monitoring Committee, Kerala was asked to submit the status report regarding the implementation of Solid Waste Management Rules, 2016 as far as the Kollam Municipal Corporation is concerned.

For the purpose of submitting the status report of the Solid Waste Management by the local bodies in the State in O.A.606/2018 now pending before the National Green Tribunal, Principal Bench, New Delhi, details were collected from the Kollam Corporation also, through the Kerala State Pollution Control Board. The same is appended as **Annexure-I** to this report. Annexure I reflects the status as on the last week of February, 2020.

As per the directions of this Hon'ble Tribunal in the order dated 13.7.2020 in the present applications, data regarding the present status of solid waste management in Kollam Municipal Corporation was called for and the same is appended as **Annexure-II** to this report. Annexure-II reflects the status during the months of May and October, 2020.

A comparative evaluation of the data reveals that there is no considerable improvement in the door to door collection of waste from households as well as commercial establishments. The achievement in the case of households in door to door collection is only 59.9% and in the case of commercial establishments it is only 48.9%.

However, progress has been registered during the month of October, 2020 in increasing the number of MCFs and source level waste treatment systems through pipe composting, bio-gas plants, vermi composting, etc.

It is learnt that the Chairman, Kerala State Pollution Control Board through letter dated 24.9.2009 had informed the Corporation that a sum of Rs.889.25 lakhs was assessed as Environmental Compensation from the Corporation for a period of

665 days ranging from 22.11.2018 to 17.9.2020. It is also learnt that this was replied against by the Corporation and the matter was discussed in a Video Conference on 29.9.2020.

Here, I would like to suggest the following methodology (these suggestions were placed before the Principal Bench of National Green Tribunal, New Delhi in my supplementary dated 16.3.2020) to rectify and regulate the Solid Waste Management System throughout the State.

1. *The stake holders should consider the reduction of waste as the primary object of waste management. Therefore, the first step is to reduce 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).*
2. *All the local bodies should strictly implement, on a war footing under the disaster management protocol, the standard waste management protocols prescribed by HKM which are;*
 - a) *Appointing harithasahaya sthapanam and recruiting harithakarma sena.*
 - b) *Installation of Material collection facilities in every ward (for municipalities and corporation) and for every panchayat.*
 - c) *Compulsory segregation by all doors.*
 - d) *Door to door collection of segregated waste, secondary segregation of NBD in MRF and forward linkage.*
 - e) *Source level composting, partially centralized composting facilities in market and similar bulk generator premises.*
 - f) *Implementation of reduction, alternatives and reuse systems.*

Note: 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.

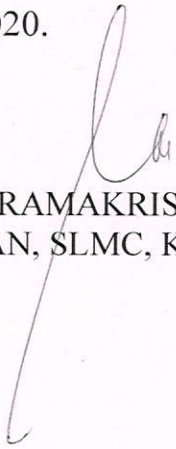
- 3. All the bulk generators including industries, apartment complexes, gated communities, commercial establishments, etc. should establish compulsory in-house biodegradable waste management systems with technical assistance of agencies like Haritha Kerala Mission, Suchithwa Mission etc. and under the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

Note: 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 treating waste at source shall not happen under any eventuality.

- 4. Once the aforesaid three steps are completed, expression of interest (EOI) can be invited for establishing innovative legacy waste management systems in the various treatment plants including the proposed WTE plants in the State.***

Note: Plastic pyrolysis to fuel, RDF to cement factory Keln 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 8th day of October, 2020.


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

**STATUS OF SOLID WASTE MANAGEMENT IN KOLLAM MUNICIPAL CORPORATION
(AS ON THE LAST WEEK OF FEBRUARY, 2020)**

No of Wards			55
No of Household			88332
No of Establishment			9825
No of Household having segregation at source	Dry		52899
	Wet		52899
No of Establishments having segregation at source	Dry		4800
	Wet		4800
D2D Collection	House holds	Number	Dry 52899
			Wet NIL
		Percentage	Dry 60 Wet NIL
		Collection Frequency	Dry WEEKLY ONCE Wet NIL
	Establishments	Number	Dry 4800 Wet NIL
			Dry 48.85 Wet NIL
		Collection Frequency	Dry WEEKLY ONCE Wet NIL
	No of collectors		124 (HKS)
	No of vehicles		2
No. having source level treatment of wet waste in operation	Household		2206
	Establishment		68
Percentage having source level treatment of wet waste in operation	Household		2.5
	Establishment		0.69
No. disposing to centralised system	Household		NIL
	Establishment		NIL
Percentage having disposal to centralised system	Household		0
	Establishment		0
No. existing	MCF		7
	RRF		1
No. needed	MCF		275
	RRF		2
User fee			60 - 750

STATUS OF SOLID WASTE MANAGEMENT IN KOLLAM CORPORATION (As per the report of Kollam Corporation)			
No.	Item	May, 2020	October, 2020
1.	Name of Corporation	Kollam	Kollam
2.	Population(2011)	3,97,000	3,97,000
3.	Number of wards	55	55
4.	Number of households	88,332	88,332
5.	Number of establishments	9,825	9,825
HOUSEHOLDS			
6.	Number of households having segregation at source	52,899 (59.9%)	
7.	No of HHs having Door to door collection for dry waste	52,899 (59.9%)	Initiated cluster form with 18 HKs in one zonal area ensure 100% door to door collection
8.	No. of HHs having Door to door collection for wet waste	Nil	
ESTABLISHMENTS			
9.	Number of establishments are having segregation at source	4800 (48.9%)	
10.	Number of establishments are having door to door collection	4800 (48.9%)	
NON-BIODEGRADABLE COLLECTION FACILITY			
11.	Number of Haritha Karmasena	124	182
12.	Material collection facility	7	250
13.	Resource recovery facility	1	2

14.	No of vehicles	2													
15.	Non-biodegradable wastes		<table border="1"> <tr> <td>Glass</td> <td>7T</td> </tr> <tr> <td>Tubelight</td> <td>5T</td> </tr> <tr> <td>Bailed plastic</td> <td>14T</td> </tr> <tr> <td>Shredded plastic</td> <td>15T</td> </tr> <tr> <td>Rejects and leather waste</td> <td>27T</td> </tr> <tr> <td>Dumped legacy waste</td> <td>263T</td> </tr> </table> <p>331T of waste handed over to Clean Kerala Company for recycling</p>	Glass	7T	Tubelight	5T	Bailed plastic	14T	Shredded plastic	15T	Rejects and leather waste	27T	Dumped legacy waste	263T
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BIODEGRADABLE WASTE

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QUANTIFICATION OF WASTE AS REPORTED BY KOLLAM CORPORATION

	2206 houses and 68 establishments are having source level treatment	Quantity of waste processed	20.07TPD
	14.5 TPD is treated through decentralized units	Quantity of waste that can be processed(including ongoing projects)-	71.92TPD
	10.5 TPD is collected and treated	Quantity of waste collected by informal waste collectors i.e chicken waste-10TPD Hotel waste-15TPD	25TPD
		Total	96.91TPD

BIODEGRADABLE WASTE MANAGEMENT (including on ongoing projects)

Treatment Facilities	No:s	Quantity
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Biogas Plants(HH)	1591	7.955tpd
Pipe Compost(HH)	750	1.5tpd
Biocomposter(HH)	27500	55tpd
Vermicompost(HH)	35	0.07tpd
Aerobic Composting Unit	27	1.4tpd
Biogas Plants(Community Level)	13	6tpd
Quantity of waste processed = 20.07 Tpd Quantity of waste that can be processed(including ongoing projects) = 71.92Tpd Quantity of waste collected by informal waste collectors ie; Chicken Waste = 10tpd and Hotel Waste = 15 tpd) Total Quantity of waste processed =71.91+10+15 =96.91 Tpd		

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Quantity of Non- Degradable Waste sold to Clean Kerala Company	
Glass Waste	7T
TubeLight	5T
Balled Plastic	14T
Shredded Plastic	15T(given to different panjayaths and municipalities for road tarring works)
Rejects and Leather Waste	27T

Dumbed Legacy Waste	263T
TOTAL	331 Tonne handed over to clean Kerala company for recycling

