



KERALA STATE POLLUTION CONTROL BOARD

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

Pattom P.O., Thiruvananthapuram – 695 004

പട്ടം പി.ഒ., തിരുവനന്തപുരം - 695 004

PCB/HO/MSW/AR/13/2016-2018

Date: 26 /09/2018

From

The Chairman

To

The Chairman
Central Pollution Control Board
Parivesh Bhavan
East Arjun Nagar
New Delhi - 110032

Kind attention

Dr.S.K.Nigam

Addl.Director & I/c UPC-II

Sub: Annual Report on Implementation of Solid Waste Management Rules,
2016 -Reg.

Ref: 1. CPCB Letter F.NO.B-13011/1/UPC-II/AR/2017-18 dated: 31.07.2018

Sir

As per provision 24(3) of the Solid Waste Management (SWM)
Rules,2016, the Annual Report for the year 2017-18 is submitted herewith.

Yours faithfully,

MEMBER SECRETARY (I/C)
(FOR CHAIRMAN)

Encl: As above



16	Mention briefly, if any innovative idea is implemented to tackle a problem related to solid waste, which could be replicated by other local bodies	
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Signature of CEO/Municipal Commissioner/
Executive Officer/Chief Officer

Date:

Place:

Form - V

[see rule 24(3)]

Format of annual report to be submitted by the state pollution control board or pollution control committee committees to the central pollution control board

PART A

To,

The Chairman
Central Pollution Control Board
Parivesh Bhawan, East Arjun Nagar
DELHI- 110 0032

ANNUAL REPORT '2017 - 2018'

1.	Name of the State/Union territory	:	KERALA
2.	Name & address of the State Pollution Control	:	KERALA STATE POLLUTION CONTROL BOARD PLAMOOD, PATTOM P.O. THIRUVANANTHAPURAM, KERALA- 695004.
3.	Number of local bodies responsible for management of solid waste in the State/Union territory under these rules	:	93
4.	No. of authorisation application Received	:	3
5.	A Summary Statement on progress made by local body in respect of solid waste management	:	Please attach as Annexure-I (ATTACHED)
6.	A Summary Statement on progress made by local bodies in respect of waste collection, segregation, transportation and disposal	:	Please attach as Annexure-II (ATTACHED)
7.	A summary statement on progress made by local bodies in respect of implementation of Schedule II	:	Please attach as Annexure-III (ATTACHED)

Date:	Chairman or the Member Secretary State Pollution Control Board/ Pollution Control Committee
Place:	

PART B

Towns/cities

Total number of towns/cities - 93

Total number of ULBs - 93

Number of class I & class II cities/towns - 39

Authorisation status (names/number) (Most of the facilities are decentralized facilities
Number of applications received - 3 namely aerocomposting with capacity < 5 TPD)

Number of authorisations granted - NIL

Authorisations under scrutiny - 3

SOLID WASTE Generation status

Solid waste generation in the state (TPD) - 3831.553 TPD (based on population)

collected

treated

landfilled

} 3831.553 TPD

Compliance to Schedule I of SW Rules (Number/names of towns/capacity)

Good practices in cities/towns

House-to-house collection

Segregation

Storage

Covered transportation

} Material Collection facilities, Resource Recovery Units,
Biogas plants, Aerobic composting units, Windrow
composting etc. provided. (Details attached)

Processing of SW (Number/names of towns/capacity)

Solid Waste processing facilities setup: Community level.

Sl. No.	Composting	Vermi-composting	Biogas	RDF/Pelletization
1.	768	41	79	

(Details Attached)

Processing facility operational:

Sl. No.	Composting	Vermi-composting	Biogas	RDF/Pelletization
1.	768	41	79	

Processing facility under installation/planned:

Sl. No.	Composting	Vermi-composting	Biogas	RDF/Pelletisation

**Waste-to-Energy Plants: (Number/names of towns/capacity)**

Sl. No.	Plant Location	Status of operation	Power generation (MW)	Remarks
		NIL		

Disposal of solid waste (number/names of towns/capacity):

Landfill sites identified

Landfill constructed

Landfill under construction

Landfill in operation - 1

Landfill exhausted

Landfilled capped

Solid Waste Dumpsites (number/names of towns/capacity):

Total number of existing dumpsites - 10 Nos.

Dumpsites reclaimed/capped

Dumpsites converted to sanitary landfill

Monitoring at Waste processing/Landfills sites

Sl. No.	Name of facilities	Ambient air	Groundwater	Leachate quality	Compost quality	VOCs
1.						
2.			NIL			
3.						

Status of Action Plan prepared by Municipalities

Total number of municipalities: 87

Number of Action Plan submitted: The action plan was submitted to the Central Government by many local bodies.

Form - VI

[see rule 25]

Accident Reporting

1.	Date and time of accident	:	NIL
2.	Sequence of events leading to accident	:	NIL
3.	The waste involved in accident	:	NA

4.	Assessment of the effects of the accidents on human health and the environment	NA
5.	Emergency measures taken	NA
6.	Steps taken to alleviate the effects of accidents	NA
7.	Steps taken to prevent the recurrence of such an accident	NA
Date:		Signature:
Place:		Designation:

[F. No. 18-3/2004-HSMD]

BISHWANATH SINHA, Jt. Secy.

INVENTORY OF SOLID WASTE MANAGEMENT IN KERALA

ANNEXURE

SI No	DISTRICTS	LOCAL BODY	TYPE	Population	Quantity of waste generated based on population (TPD)	HOUSEHOLD LEVEL SWM PLANTS	INSTITUTIONAL LEVEL SWM PLANTS	COMMUNITY LEVEL SWM PLANTS	NON BIODEGRADABLE WASTE MANAGEMENT
1	Thiruvananthapuram	TVPM	C	958000	429,184	Pipe compost - 85000 Nos Kitchen bin - 15000 Nos Biogas Plant - 1635 Nos	Biobin - 112 Nos	Biogas Plant - 40 Nos Aerobic composting (Thumboormuzhi model) - 2 tonne capacity, 290 nos. in 25 wards.	Material Collection Facility in 35 locations Resource Recovery Unit - 4 numbers Plastic Shredding Units - 2 Nos
2	Kollam	kollam	C	397000	173,092	Vermic compost 10 nos. Biogas plant - 600 nos.		Aerobic composting (Thumboor muzhi model) - 24 bins at three locations with capacity of 200	Baling Unit - 1 Number Material collection facility (200 sq ft)-one Plastic shredding machine (150 sq ft) - one number
3	Ernakulam	Ernakulam	C	677000	329,699		Windrow Composting		
4	Thrissur	Thrissur	C	316000	137,776		Plasting Shredding Unit	Organic Waste Converter Biogas plant 6 Windrow Composting plant 11 Nos	
5	Kozhikode	Kozhikode	C	550000	267,85		Leachate Treatment Facility		

6	Kannur	Kannur	C	356000	155,216	Composting-110 Biogas - 50 Pipe Compost - 972	Biomethanation Trenching	Resource Recovery Facility - SWM Plant, Chudukadu Plastic Shredding Machine - SWM Plant, Chudukadu
7	Thiruvananthapuram	Attingal	M	37648	16,339	Biogas Plant 214 Nos - 0.5 m ³	Biogas Plant(Dheenab andhu) 6 Nos with capacity of 1TPD Vermi Compost 1 No with capacity of 0.25 TPD Windrow Compost 1 number with capacity of 13 TPD	Biogas plant (Portable) 5 Nos with capacity of 107.5 kg/day
8	Thiruvananthapuram	Neyyattinkara	M	70850	36.7		Aerobins and biogas plant	
9	Thiruvananthapuram	Nedumangad	M	56138	29,079		Aerobins	MRF, Plastic Shredding unit
10	Thiruvananthapuram	Varkala	M	40048	17.38	Biogas Plant 200 Nos	Aerobic Compost (Thumboormuzhi Model) - 33 bins at 33 locations with capacity of 33 Cubicles Biogas Plant - 1 No - 100Kg Windrow Compost 1 No at 1 location with the capacity of 5TPD (not working)	Plastic Shredding Machine - 1 (under construction); Materia Collection Centre, MRF
11	Kollam	Karunagappali	M	45336	19,675		Composting	Plastic Shredding Machine (under Construction)

12	Kollam	Paravoor(South)	M	43739	18,982	-	-	-	Aerobic Compost (Thumboormuzhi Model) - 2 bins at 2 locations with capacity of 12 Cubicles	Material Collection Facility - 233sq ft -233 locations - Small collection facilities)
13	Kollam	Punalur	M	66702	34,551	-	-	-	Windrow Compost - 1 bin at 1 location with 5 TPD capacity (Non operational)	
14	Kollam	Kottarakara	M	29788	12,927	Biogas Plant - 50 Nos with capacity 0.5m ³	Biogas Plant - 1 No - Taluk Hospital	Biogas Plant 1 No - Market, Chandamukku	Windrow Compost 1 No with capacity 6 TPD	Resource Recovery Facility - SWM Plant, Ugrankunnu
15	Alappuzha	Alappuzha	M	174000	79,866	Biogas Plant - 1964 Nos. Pipe compost- 1263 Nos.	Aerobic Compost (Thumboormuzhi Model) - 36 bins at 4 location with capacity of 216 tonne/year	Aerobic Compost (Thumboormuzhi Model) - 229 bins at 19 locations with capacity of 1374 tonne/year	Material Collection Facility (2750 sqft)- 11 locations Resource Recovery Facility(650sqft)- 1 number Plastic Shredding Machine - 1 number Baling Machine - 1 number	
16	Alappuzha	Chengannur	M	23456	10,179	-	-	-	Aerobic Compost (Thumboormuzhi Model) - 12 bins at 1 location	Plastic Shredding Machine - 1 Number

17	Alappuzha	Cherthala	M	45827	19,888	-	Aerobic Compost (Thumboormuzhi Model) - 26 bins at 2 locations	-
18	Alappuzha	Kayamkulam	M	68634	35,552	-	Biogas Plant - 1 bin- Slaughter house	Material Collection Facility - 1 location Resource Recovery Facility - 1 location
19	Alappuzha	Mavelikara	M	26421	11,466	-	Aerobic Compost (Thumboormuzhi Model) - 12 bins at 1 location with capacity of 10kg/day	Material Collection Facility - 1 location Resource Recovery Facility - 1 location Plastic Shredding Machine - 1 location Bailing Machine - 1 location
20	Alappuzha	Haripad	M	15588	5,331	-	Aerobic Compost (Thumboormuzhi Model) - 21 bins at 4 locations	Plastic Shredding Machine - 1 Number
21	Pathanamthitta	Adoor	M	31056	13,478	-	Windrow Compost Plant	
22	Pathanamthitta	Pathanamthitta	M	37538	16,291	-	Biogas Plant - 2 Nos	
23	Pathanamthitta	Thiruvalla	M	52883	27,393	-	Biogas Plant - 2 with capacity of 350 Kg Biogas Plant - 1 with capacity of 750Kg	
24	Pathanamthitta	Pandalam	M	49099	21,308	-		

31	Kottayam	Pala	M	123000	54,735	Biobin - 43 Nos Vermi Compost - 26 Nos Biogas Pot - 4 Nos Ring Compost - 59 Nos Bucket Compost - 170 Nos Pipe Compost - 3253 Nos	-	Aerobic Compost (Thumboormuzhi Model) - 6 bins at 1 location with capacity of 30kg Biogas Plant - 1 location with capacity 100 Kg	Resource Recovery Facility - 1 No Plastic Shredding Machine - 1 No
32	Kottayam	Vaikom	M	23234	10,083	-	Aerobic composting (Thumboormuzhi model) - 4 bins at 2 locations Biogas Plant - 1 bin at 1 location	Aerobic composting (Thumboormuzhi model) - 3 bins at 1 location	-
33	Ernakulam	Aluva	M	24110	10,463	-	-	-	-
34	Ernakulam	Angamaly	M	33465	14,523	Biogas - 300 nos Pipe compost - 979	-	-	-
35	Ernakulam	Eloor	M	31468	13,657	Biogas Plant - 310 Nos Biogas Pot - 350 Nos	Biogas Plant - Hospitals, Hotels, TCC Canteen	Aerobic Compost (Thumboormuzhi Model) - 4 bins at 4 locations with capacity 1TPD	MRF
36	Ernakulam	Koonthattukulam	M	17253	5.9	-	-	Biogas Plant - 1 No with capacity 150kg	-
37	Ernakulam	Kalamassery	M	70776	36,661	-	-	-	-
38	Ernakulam	Kothamangalam	M	114574	50,985	-	-	-	-

39	Ernakulam	Muvattupuzha	M	30397	13.192	-	Composting - 5 bins at 1 location (not working)	Resource Recovery Facility - 807 sq ft Segregation Place - 1935 sq ft
40	Ernakulam	North Paravur	M	31503	13.672	Biogas Plant - 25 Nos Pipe compost - 2500 Nos	Aerobic composting (Thumbooruzhi model) - 1 bin at 1 location with capacity 4 Cubic (Not Operating) Biogas Plant - 1 bin with capacity 100kg (not working) Verni Compost - 1 bin with capacity 1 TPD Windrow Compost - bin with 3 TPD Capacity	Material Collection Facility - 1 Plasting Shredding Machine at 1 location
41	Ernakulam	Maradu	M	44704	19.401	Biogas Plant - 166 Nos Biogester Pot - 215 Nos Bucket Compost - 2330 Nos	-	Material Collection Facility - 30 m2 Plastic Shredding Machine - 1 No Baling Machine - 1 No
42	Ernakulam	Perumbavoor	M	28110	12.199	Biogas Plant - 75 Nos Biogester Pot - 1500 Nos Ring Compost - 1000	-	Resource Recovery Facility - 2000 sq ft
43	Ernakulam	Pravam	M	27229	11.817	-	-	-
44	"	Thrikkakara	M	77319	40.051	-	-	-

45	Thrippunithara	M	92522	47.926	Biogas Plant - 300 Nos Biodigester Pot - 125 Nos Bucket Compost - 2400 Nos	Aerobic composting (Thumbboormuzhi model) - 2 bins at 2 locations with capacity 14 unit & 8 unit	-	Material Collection Facility - 1 No (Non Operation) Plastic Shredding Machine - 1 No Baling Machine - 1 No
46	Thrissur	M	49525	21.493	Pipe Compost - 10000	-	-	-
47	Thrissur	M	39098	16.968	Biogas Plant - 614 Nos Pot Compost - 548 Nos	-	Vermi composting 1, STPD	Material Collection Facility (1000sqft) - 1 number Plastic Shredding machine 1 number
48	Thrissur	M	20510	8.901	-	-	Bio organic management	-
49	Thrissur	M	51585	26.721	Biogas Plant - 93 Nos	-	-	Material Collection Facility (550sqft) - 1 Number Plastic Shredding Machine - 1 Number Baling Machine - 1 Number Trenching Ground - 1 location

54	Palakkad	Chittur-Tattamangalam	M	32298	14.017	Biogas Plant - 55 Nos Bucket Compost - 1168 Nos Ring Compost - 239 Nos	Biogas Plant - 5 bins at 5 locations	Aerobic Windrow Composting Plant - 1 bin with capacity 3 Tons/day Aerobic bin (Thumboormuzhi) - 8 bins at location with capacity 50kg/day/bin	Material Collection Facility - 1 number Plastic Shredding Machine - 1 number
55	Palakkad	Mannarkadu	M	39463	17.126	-	-	-	-
56	Palakkad	Ottapalam	M	53792	27.864	-	-	-	-
57	Palakkad	Palakkad	M	131000	58.295	-	-	-	-
58	Palakkad	Pattambi	M	28632	12.426	-	-	Open composting in trench	-
59	Palakkad	Shornur	M	43533	18.893	-	-	Biobin	-
60	Malappuram	Kondotty	M	28794	12.496	-	-	-	-
61	Malappuram	Kottakal	M	44382	19.261	Ring Compost - 400 Nos.	Biogas Plant - 1 number with capacity of 250kg/day (not working)	Windrow compost - 18 beds at location (not working)	Material Recovery Facility - 1 number Plastic Shredding Machine - 1 number Baling Machine - 1 number
62	Malappuram	Malappuram	M	101000	44.945	-	-	-	-
63	Malappuram	Manjeri	M	97104	50.299	Pipe Compost - 3800 Nos	-	Aerobic Compost (Thumboormuzhi model) - 8 bins at ward 33 Biogas Plant at ward 14 Vermi Compost - Trenching Ground - 500kg Windrow Compost - Trenching Ground - 1 tonne	-

64	Malappuram	Nilambur	M	46366	20.122	Biogas Plant - 70 Nos.	-	-	-
65	Malappuram	Parappanangadi	M	35243	15.295	Biogas Plant - 200 Nos Biodigester Pot - 300 Nos	-	-	-
66	Malappuram	Perinthalmanna	M	49723	21.579	Bio bin - 1000 Nos Biogas Plant - 420 Nos Biodigester Pot - 926 Nos	Windrow Compost - 1 No	Material Recovery Facility - 1 No Plastic Shredding Machine - 1 No Baling Machine - 1 No	
67	Malappuram	Ponnani	M	90491	46.874	Pipe Compost - 360 Nos	-	-	
68	Malappuram	Thanoor	M	44973	19.518	Pipe Compost - 200 Nos Biogas Plant in 4 locations	-	-	
69	Malappuram	Thirooragadi	M	56632	29.335	ODF Latrine - 400 Nos Pipe Compost - 1912 Nos	-	-	
70	Malappuram	Tirur	M	56058	29.038	-	-	-	
71	Malappuram	Valancherry	M	35795	15.535	-	Windrow composting	-	
72	Kozhikode	Faroke	M	32122	13.94	Pipe compost 1000	-	-	
73	Kozhikode	Koduvally	M	48678	21.126	-	Composting 1	-	
74	Kozhikode	Kovilandy	M	71873	37.23	-	Windrow Composting	Material Collection Facility	
75	Kozhikode	Mukkam	M	40670	17.65	-	-	-	
76	Kozhikode	Payyoli	M	23576	10.231	-	-	-	
77	Kozhikode	Ramanattukara	M	35937	15.596	Ring Compost - 320 Nos	-	-	
78	Kozhikode	Vadakara	M	75295	39.002	Pipe Compost - 3728 Nos	Biogas - 1 No with capacity of 250 kg/day	Material Recovery Facility	
79	Wayanad	Kalpetta	M	31580	13.705	-	-	-	

80	Wayanad	Mananthavady	M	34663	15,043	Vermi composting 317 Biogas 217 Pipe compost 4100	-	-	-	-	-
81	Wayanad	Sulthan Bathery	M	23333	10,126	-	-	-	-	-	-
	Kannur	Anthoor	M	36290	15,749	Biogas Plant - 55 Nos Ring Compost - 3033 Nos	Aerobic Compost (Thumbboornuz hi Model) - 6 units at 3 locations with capacity of 2000 kg/bin	-	-	-	Material Collection Facility - (40m2) - 1 No Plastic Shredding Machine - 1 No
82							Biogas Plant - 1 unit with capacity	-	-	-	Baling Machine - 1 No Reuse strategy(SWAP Shop, Repair shop etc.)- Swap shop -10 m2
83	Kannur	Kannur	M	356000	155,226	-	-	-	-	-	-
	Kannur	Koonthuparambu	M	29619	12,854	-	Compost (Thumbboornuz hi Model) - 5 Bins	Vermi composting and trenching	-	-	Material Collection Facility - 310 sqft
84							Aerobic Compost (Thumbboornuzhi Model) - 21 Bins	-	-	-	Material Recovery Facility - 4000 sqft
85	Kannur	Iritty	M	185591	82,587	Biogas plant 5 Pipe compost 110	-	windrow Compost - 1 bin with capacity of STPD (Not working)	-	-	Material Collection Facility - 1 No (under construction)
	Kannur	Mattannur	M	47078	20,431	Ring compost - 2500 Nos.	-	Biogas Plant - 1 bin with capacity 250kg/day	-	-	Resource Recovery Facility - 1 number
86							Pipe Compost - 1500 Nos.	Vermi Compost - 1 bin with capacity STPD	-	-	Plastic Shredding Machine - 1 number
87	Kannur	Payyanur	M	72111	37,353	-	-	Windrow composting	-	-	Plastic shredding and windrow composting

88	Kannur	Sreekantapuram	M	17630	6.029	Ring Compost - 125 Nos	-	Vermi Compost - bin with capacity - 1 TPD (Not working since 2007)	Road side locked bins for collecting non biodegradable waste - 20 locations
89	Kannur	Thalassery	M	92558	47.945	Biogas Plant - 1021 Nos Pipe Compost - 5200 Nos	-	Biogas Plant - 3 bins at 3 locations with capacity of 1 Ton	Plastic Shredding Machine - 1 Number Baling Machine - 1 number
90	Kannur	Thailiparambu	M	72465	37.536	-	Windrow Composting	MRF/Trenching Ground	
91	Kasargod	Kanhangad	M	73342	37.991	Pipe compost - 855 Nos	Aerobic Compost (Thumbboormuzhi Model) - 20 bins at 3 locations with capacity of 1000 kg/bin	Material Collection Facility - (1000sqft) - 1 No Resource Recovery Facility - 1000sqft - 1 No Plastic Shredding Machine - 1 No Baling Machine - 1 No	
92	Kasargod	Kasargod	M	131000	58.295	-	-	-	-
93	Kasargod	Nileswaram	M	54787	28.379	Ring Compost - 500 Nos Pipe Compost - 200 Nos	-	-	Reuse strategy/Swap Shop, Repair shop etc.) - 2 Nos
				8304881	3831.553				