

**Annual Report**  
**on**  
**Biomedical Waste Management**  
**as per**  
**Biomedical Waste Management Rules, 2016**  
**For the year 2019**



**Central Pollution Control Board**  
**(Ministry of Environment Forest & Climate Change)**  
**Parivesh Bhawan, East Arjun Nagar**  
**Delhi – 110032**

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## **Introduction:**

Biomedical Waste Management Rules, 2016 stipulates that every Occupier and Operator of Common Biomedical Waste Treatment Facility shall submit the Annual Report to concerned State Pollution Control Board. Further, State Pollution Control Boards and Pollution Control Committees shall compile and submit the Annual Report Information to Central pollution Control Board for the preceding year before 31<sup>st</sup> July of every year. Central Pollution Control Board shall compile, review and analyse the annual data submitted by SPCBs and PCCs and submit the same to Ministry of Environment Forests & Climate Change.

Due to COVID-19 Pandemic there has been a delay in compiling and submitting the information to State Boards and CPCB. However, every State Board has submitted the Annual Report Information on Biomedical Waste Management for the year 2019.

## **Bio-medical Waste Management Scenario**

Annual Report Information has been submitted by 35 SPCBs/PCCs and DGAFMS for the year 2019 and as per the compiled annual report information for the year 2019, there are 3, 22,425 no. of Health Care Facilities (HCFs) out of which 1, 06,796 no. of HCFs are bedded and 2, 15,780 no. of HCFs are non-bedded. 1, 53,885 no. of HCFs are granted authorization under the BMW Rules. 2, 35,571 no. of HCF utilises CBWTF and 18,015 No. of HCFs are having captive bio-medical waste treatment and disposal facilities. There are 202 no. of CBWTFs in operation (35 under construction). The total generation of bio-medical waste is about 619 tonnes per day out of which about 544 tonnes per day are treated in CBWTFs and captive treatment facilities. About 55 tonnes per day are treated by captive treatment facilities and about 489 tonnes per day are treated by CBWTF. As reported, 29,062 no. of HCFs/CBWTFs observed to be violating the provisions of the BMW Rules. State-wise detail of annual data on biomedical waste management is given at Annexure I. The brief bio-medical waste management scenario in the Country is given below:

➤ No. of HCFs	: 3,22,425
➤ No. of bedded HCFs	: 1,06,796
➤ No. of non-bedded HCFs	: 2,15,780
➤ No. of beds	: 24,86,327
➤ No. of CBWTFs	: 202* + 35**
➤ No. of HCFs granted authorization	: 1,53,885
➤ No. of HCFs having Captive Treatment Facilities	: 18,015
➤ No. of Captive Incinerators Operated by HCFs	: 136

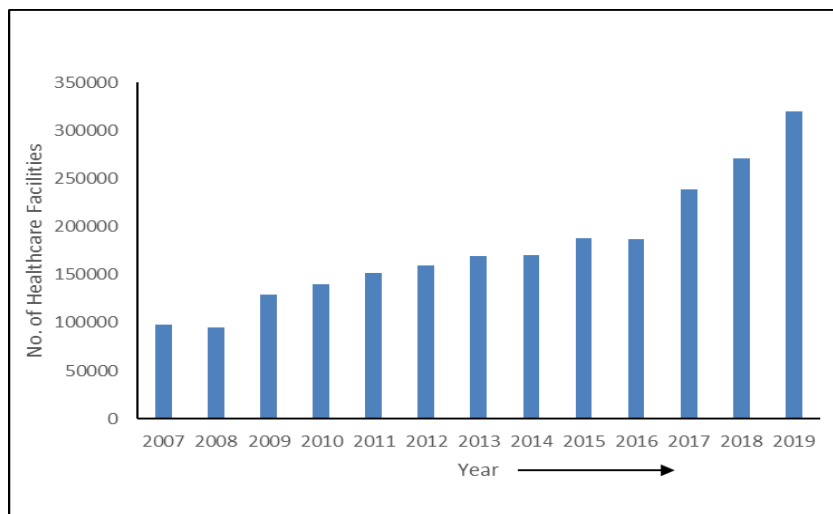
- Quantity of bio-medical waste generated in Tonnes/day : 619
- Quantity of bio-medical waste treated in Tonnes/day : 544
- No. of HCFs violated BMW Rules : 29,062
- No. of Show-cause notices/Directions issued to defaulter HCFs : 17,435

**Note:** (i) \* - CBWTFs in operation (ii) \*\* - CBWTFs under installation

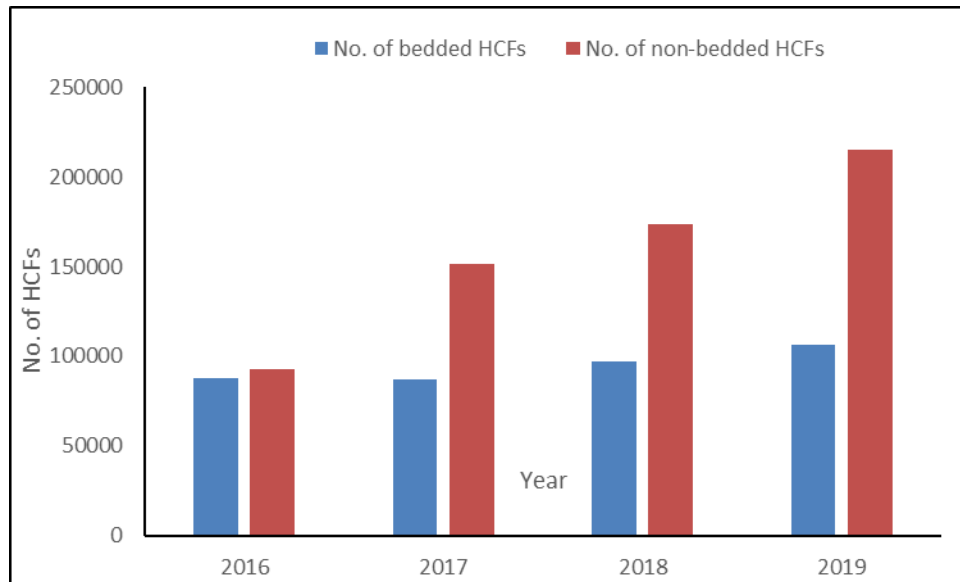
**Inventory on number of biomedical waste generating facilities:**

As per BMWM Rules, 2016, inventorization of Healthcare Facilities has been done by States/UTs and as per the compiled annual report information for the year 2019, there are 3,22,425 no. of Health Care Facilities (HCFs) out of which 1,06,796 no. of HCFs are bedded and 2,15,780 no. of HCFs are non-bedded. Since renotification of BMWM Rules, 2016, an increase in no. of HCFs has been observed which is because of inclusion of non-bedded HCFs under the purview of said Rules, as shown in **Figure 1**. As informed by State Boards, Inventorization of Healthcare Facilities is also carried out with respect to bedded and non-bedded HCFs as categorised under BMWM Rules, 2016.

**Figure 2** indicates increase in number of non-bedded HCFs identified during 2016 -2019. Based on Annual Report information, in 2018 bedded HCFs were 97,382 and non-bedded HCFs were 1, 73,831 whereas in 2019, bedded HCFs are 1,06,796 and non-bedded HCFs are 2,15,780. Further, since 2016 percentage of total no. of HCFs has been steadily increased.



**Figure 1: Development of total no. of Healthcare Facilities from 2007 to 2019**



**Figure 2: Number of bedded and non-bedded HCFs during 2016 to 2019**

### **Biomedical Waste Generation and Treatment**

As reported by State Boards, about 619 tons/day of biomedical waste was generated during the year 2018-2019 by 3,22,425 numbers of Healthcare Facilities. Out of 619 tons/day of biomedical waste only 544 tons/day of biomedical waste is treated and disposed off by 202 CBWTFs and 18,015 nos. of captive treatment facilities installed by Healthcare Facilities. Biomedical waste of about 74 tons/day might get disposed off through deep burials located at isolated places.

States namely Assam, Bihar, Chhattisgarh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Nagaland, Odisha and Rajasthan are the States where gap in generation and treatment of biomedical waste has been observed. Hence, concerned State Boards should examine this issue and ensure that biomedical waste is disposed off in line with provisions under BMWM Rules, 2016.

States having Class I cities namely Chennai, Kolkata, New Delhi and Mumbai have minimum of about 28 tons/day of biomedical waste however, States namely Bihar, Gujarat, Karnataka, Kerala, Uttar Pradesh also generates enormous quantity of biomedical waste.

### **Treatment & Disposal Facilities for bio-medical waste:**

BMWM Rules, 2016 stipulates that the biomedical waste shall be treated & disposed of by Common Biomedical Waste Treatment Facility. However, BMWM Rules, 2016 restricts occupier for establishment of on-site or captive bio-medical waste treatment and disposal facility, if a service of common bio-medical waste treatment and

disposal facility is available within a distance of seventy-five kilometres. As per Annual Report Information submitted by SPCBs/PCCs for the year 2019, currently there are 202 numbers of CBWTFs operated in the Country and 35 CBWTFs are under construction. There are 18,015 captive treatment facilities installed by HCFs.

As per BMWM Rules, 2016, CBWTFs operators shall take all necessary steps to ensure that the bio-medical waste collected from the occupier is transported, handled, stored, treated and disposed of, without any adverse effect to the human health and the environment, in accordance with these Rules and guidelines, inform the prescribed authority immediately regarding the occupiers which are not handing over the segregated bio-medical waste in accordance with Rules, establish bar coding and global positioning system for handling of bio- medical waste, comply with emission/discharge standards etc.

The CBWTFs in the country are operating at cumulative treatment and disposal capacity of 1200 MT/day, of which incineration capacity is 814 MT/day. The present generation of 619 MT/day may look adequate at national perspective, however, at individual State's level availability of CBWTFs may vary.

It is evident from the fact that States namely Andaman & Nicobar, Assam, Chhattisgarh, Goa, Himachal Pradesh, Jharkhand, J & K, Karnataka, Kerala, Lakshadweep, Madhya Pradesh, Maharashtra, Meghalaya, Mizoram, Nagaland, Odisha, Puducherry, Rajasthan, Sikkim, Tamil Nadu, Tripura and Uttarakhand use deep burial pits for disposal of BMW, however as per BMWM Rules, 2016 use of deep burials is allowed only in remote or rural areas where there is no access of CBWTF. These States/UTs required to ensure that deep burial pits are authorized by respective SPCB/PCC and as per the standard prescribed under said Rules. SPCBs/PCCs should also strive to facilitate installation of CBTFs wherever possible to cover as many Healthcare facilities so that the burden of landfilling infectious (Yellow category) biomedical waste can be reduced.

Capacity utilization of CBWTFs vary among States/UTs depending on available infrastructure in a specific coverage area of 75Km, number of CBWTFs, geographical distribution in the State, population density in particular coverage area as well as connectivity of HCFs with CBWTFs. Therefore, SPCBs/PCCs should relook at the available infrastructure considering above factors.

In States namely Assam, Jammu Kashmir, Kerala, Odisha, Pondicherry and Tamil Nadu, the capacity utilization of existing common infrastructure has exceeded 75%, therefore these States may examine the need for additional facilities by conducting gap analysis

in each coverage area. While States namely A&N, Arunachal, Goa, Lakshadweep, Mizoram, Nagaland and Sikkim does not have common facilities for treatment & disposal of biomedical waste, should facilitate setting up of new facilities of appropriate capacities.

SPCBs/PCCs namely Assam, Bihar, Chhatisgarh, Delhi, Himachal Pradesh, Haryana, Jammu & Kashmir, Lakshadweep, Madhya Pradesh, Manipur, Mizoram, Pondicherry, , Punjab, Tamil Nadu, Telangana, Tripura, Uttar Pradesh, Uttarakhand and West Bengal have already conducted gap analysis to assess requirement of additional CBWTFs and accordingly they are under process of setting up of additional CBWTFs. All the remaining SPCBs/PCCs are required to require conducting gap analysis for entire State to ensure coverage of common facilities in entire population and State's geographical area so as to minimize usage of deep burial pits for disposal of biomedical waste.

Mizoram SPCB has submitted proposal seeking financial assistance from Ministry of Environment Forest & Climate Change.

#### State-wise details on Common Infrastructure and capacity utilization

S.No	Name of State	BMW Generation (Tons/day)	No of CBWTFs	BMW Treatment (Tons/day)	Authorized Capacity	CBWTF capacity utilized
1	Andaman and Nicobar Islands	0.7	0	0.7	No CBWTF	NA
2	Andhra Pradesh	15.1	12	15.1	44.4	34%
3	Arunachal Pradesh	0.4	0	0.4	No CBWTF	NA
4	Assam	8.8	1	6.2	7.2	86%
5	Bihar	34.8	4	10.8	45.3	24%
6	Chandigarh	3.9	1	3.9	6.5	60%
7	Chhattisgarh	7.07	4	7.03	22.8	19%
8	Dadar Nagar Haveli	0.3	Sent to Surat CBWTF	0.3	Sent to Surat CBWTF	NA
9	Delhi	28.8	2	28.8	62.8	46%
10	Goa	1.5	0	1.5	No CBWTF	NA
11	Gujarat	36.4	20	36.4	103.9	35%
12	Haryana	14.8	11	14.8	83.4	18%
13	Himachal	3.4	2	3.4	9.2	37%

S.No	Name of State	BMW Generation (Tons/day)	No of CBWTFs	BMW Treatment (Tons/day)	Authorized Capacity	CBWTF capacity utilized
	Pradesh					
14	Jammu and Kashmir	5.9	3	5.9	9.8	79%
15	Jharkhand	7.6	4	7.6	13.1	45%
16	Karnataka	77.5	27	36.3	108.4	33%
17	Kerala	42.9	1	40.3	48.0	84%
18	Lakshadweep	0.1	0	0.1	No CBWTF	NA
19	Madhya Pradesh	17.8	12	17.3	46.5	37%
20	Maharashtra	62.3	31	62.3	130.9	48%
21	Manipur	1.0	1	0.9	2.6	35%
22	Meghalaya	1.2	1	1.2	0.8	Inadequate capacity
23	Mizoram	0.9	0	0.9	No CBWTF	NA
24	Nagaland	0.6	Nil	0.5	No CBWTF	NA
25	Odisha	18.0	5	17.4	14.9	Inadequate capacity
26	Puducherry	5.9	1	5.9	5.9	No additional capacity
27	Punjab	16.05	5	16.05	29.1	55%
28	Rajasthan	20.7	8	18.5	35.3	52%
29	Sikkim	0.48	0	0.48	No CBWTF	NA
30	Tamil Nadu	58.3	8	58.3	72.9	80%
31	Telangana	20.5	11	20.5	118.7	17%
32	Tripura	1.4	1	1.4	0.8	Inadequate capacity
33	Uttarakhand	3.8	2	3.8	7.5	51%
34	Uttar Pradesh	52.5	18	52.5	91.3	58%
35	West Bengal	41.6	6	41.6	79.9	52%
	TOTAL	613	202	539.06	1200	45%

Note: (i) In States where there is no CBWTFs, the biomedical waste is disposed off through captive treatment facilities (incineration or deep burial) installed by HCFs.

*(ii) Disposal by incineration is considered as 60% waste generated.*

*(iii) The capacity of autoclave has been calculated considering 6 batches per day.*

**Key Performance indicators for assessing implementation of BMWM Rules, 2016:**

The issue of non-compliance of the provisions of BMWM Rules, 2016 by the States and UTs has also been reviewed by Hon'ble National Green Tribunal (NGT) in Original Application No. 710 of 2017. Hon'ble NGT observed that unscientific disposal of biomedical waste had potential of serious diseases such as Gastrointestinal infection, Respiratory infection, Eye infection, Genital infection, Skin etc. and such unscientific disposal also causes environmental pollution may lead to the transmission of diseases like typhoid, cholera, hepatitis and AIDS through injuries from syringes and needles contaminated with various communicable diseases.

Hon'ble NGT in its order stated that States/UTs should ensure compliance to BMWM Rules, 2016 and action should be taken by States/UTs as per the action plans made for compliance to BMWM Rules, 2016.

CPCB identified 12 Key Performance Indicators (KPIs) to assess States with respect to effectiveness in monitoring, ensuring compliance and implementation of BMWM Rules, 2016. Following 12 indicators in different in States/UTs, have been monitored and gaps / discrepancies observed for improvement were communicated to State Pollution Control Boards and Pollution Control Committees:

1. Inventory of all Healthcare Facilities and biomedical waste generation
2. Authorization to all Healthcare Facilities including non-bedded HCFs
3. Facilitate setting-up adequate number of Common Biomedical Waste Treatment Facilities (CBWTFs) to cover entire State or all HCFs
4. Constitution of State Advisory Monitoring Committee and District Level Monitoring Committee
5. Implementation status of Barcode system
6. Monitoring of Healthcare Facilities other than hospitals/clinics such as Veterinary Hospitals, Animal Houses, AYUSH Hospitals etc.
7. Monitoring infrastructure of SPCBs/PCCs
8. Training and Capacity Building of officials of SPCBs/PCCs and Healthcare Facilities



9. Installation of OCEMS by CBMWTs as a self-monitoring tool and transmission of data with servers of SPCBs/ CPCB
10. Preparation of Annual Compliance Status Reports
11. Compliance by Common Facilities (emission/discharge standards, barcoding, proper operation, etc.)
12. Compliance by Healthcare Facilities (Segregation, pre-treatment, on-site storage, barcoding and other provisions etc.)

**6.1 Inventory of all Healthcare Facilities and biomedical waste generation and their authorisation:** Inventory of biomedical waste generating units is an essential requirement to manage biomedical waste. It will help in planning and implementation, through authorization process, thereby waste generated from facilities can be accounted for proper collection and disposal.

As per the information received from States, 32 SPCBs/PCCs have completed the inventory as on 30.11.2020. It is reported that inventory in in process in Maharashtra and Rajasthan.

## **6.2 Implementation of Barcode System**

Rules envisage implementation of barcode system by CBWTFs and HCF to track movement of biomedical waste between points of generation till its disposal at common facilities. As per status reports, only 04 States/UTs namely Bihar, Kerala, Punjab and West Bengal have adopted barcode system for tracking of biomedical waste.

22 States/UTs namely Andaman & Nicobar, Andhra Pradesh, Assam, Chandigarh, Chhattisgarh, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Lakshadweep, Madhya Pradesh, Maharashtra, Manipur, Odisha, Puducherry, Rajasthan, Meghalaya, Tamilnadu, Telangana, Uttar Pradesh and Uttarakhand have reported that they are under process of adoption of Barcode system.

02 States/UTs namely Mizoram, and Sikkim submitted that there is no CBWTFs in operation and hence barcode system is not adopted yet. However, as per CPCB guidelines, in case the areas not covered by CBWTFs, concerned SPCB will be responsible for implementation of barcode system.

Hon'ble Supreme Court while hearing a matter of improper disposal of BMW in WP(C) 13029 of 1985, directed Ministry of Environment Forest & Climate Change and Central Pollution Control Board to implement the Barcode system through Centralized system. Accordingly, CPCB has already submitted technical proposal to MoEF&CC envisaging integration of all barcode systems into a central portal operated by CPCB. Further, as suggested by MoEF&CC, CPCB has constituted a Technical Committee to advise on planning and implementation of Barcode System at Central Level.

### **6.3 Monitoring of Healthcare Facilities other than Hospitals / Clinics**

Healthcare Facilities like Veterinary Hospitals, AYUSH hospitals, Animal Houses etc. also come under the purview of BMW Rules, 2016 and are responsible for ensuring scientific disposal of biomedical waste. CPCB has advised SPCB/PCCs for carrying out monitoring of such HCFs and also to ensure their authorization.

As per the compliance reports, all SPCBs/PCCs have reported that they have included facilities other than clinics and hospitals in their inventory, except Assam, Kerala and Lakshadweep.

### **6.4 Monitoring Infrastructure of SPCBs/PCCs and organizing training programs**

Andaman & Nicobar, Chhattisgarh, Haryana, Lakshadweep, Manipur, Tripura and Rajasthan have informed that they are under process of upgradation of their laboratories for conducting emission monitoring and effluent analysis. Remaining SPCBs/ and PCCs have adequate infrastructure to conduct monitoring to very compliance to standards / norms prescribed under BMW Rules, 2016.

Training program is ongoing activity of State Boards and as informed every SPCB and PCC conducts training program regularly for Healthcare workers and State Board officials.

### **6.5 Installation of Online Continuous Emission Monitoring System**

As per rules, every CBWTF with incinerator facility is required install online continuous emission monitoring system (OCEMS) and report the real time emission data to SPCB and CPCB servers. As per status report, 75% of CBWTFs have installed OCEMS systems. States namely Andhra Pradesh, Assam, Chandigarh, Delhi, Haryana, Himachal Pradesh, Puducherry, Punjab, and Telangana, have ensured data transfer from all CBWTFs in respective States.

One or more CBWTFs in the States namely Bihar, Chhattisgarh, Gujarat, Jharkhand, Jammu & Kashmir, Karanataka, Madhya Pradesh, Maharashtra, Rajasthan, Tamilnadu,

Uttarakhand, Uttar Pradesh and West Bengal have yet connected with CPCB server. None of the CWBTFs in Odisha and Manipur have installed OCEMS.

As per information available at CPCB OCEMS server, about 153 out of 202 CBWTFs have installed OCEMS analyzers and transmitting data to CPCB server.

#### **6.6 Submission of Annual Report of Biomedical Waste Management**

Every State Board has submitted annual compliance Report on Biomedical Waste Management for the year 2019. Gaps identified in compliance reports have been communicated to concerned SPCB/PCC for clarification.

#### **6.7 Compliance by CBWTFs and HCFs**

As per status reports, SPCBs/PCCs have been conducting monitoring of CBWTFs and HCFs for verification of compliance. As per Annual report, SPCBs/PCCs have observed 29062 violations against which 17435 directions / Notices were issued against defaulting HCFs and CBWTFs.

### **7. Guidelines for COVID-19 Biomedical Waste Management:**

**In view of pandemic situation, CPCB has prepared separate guidelines for “Handling, Treatment and Disposal of Waste Generated during Treatment/Diagnosis/ Quarantine of COVID-19 Patients” which gives guidance on segregation, handling, management, storage, collection, treatment and disposal of COVID-19 biomedical waste generated during treatment, diagnosis, or quarantine of COVID-19 patients.**

**Central; Pollution Control Board has also develop mobile tracking application to be used by COVID-29 waste generator and CBWTF operator to feed daily data on biomedical waste generation.**

**CPCB has created separate page on its website public awareness related to COVID-19 waste management mentioning about guidelines, posters, Dos and Don'ts, videos and monthly status of waste management**

### **8. Over-all observations and Recommendations**

- (i) It is noticed that, consequent to directions issued by Hon’ble NGT, there has been 20% increase in number of HCFs identified and 40% increase in number of HCFs brought under the process authorization under BMWM Rules, 2016. This would result in improvement in management of biomedical waste. However, there is no information on about 20% of the identified HCFs since those facilities are yet to be brought under

authorization process. SPCBs/PCCs should therefore, complete the remaining task expeditiously.

- (ii) It is observed that out of 3,22,425 no. of HCFs, about 73% of them utilising services of CBWTFs, while 18,015 No. of HCFs, that is 5.5 % of HCFs are having captive bio-medical waste treatment and disposal facilities. Since most of the captive facilities utilize deep burial method of disposal, the objective of the States should be to extent possible minimize disposal of biomedical waste through captive facilities and facilitate availability of CBWTFs for final disposal.
- (iii) The data indicates that only 10 States/UTs namely Chhattisgarh, Haryana, Lakshadweep, Manipur, Nagaland, Puducherry, Tamil Nadu, Telangana, Uttar Pradesh and West Bengal have achieved more than 80% authorization of inventoried HCFs. The overall efficiency of authorizations in the country is far from satisfactory at 48%. Therefore all SPCBs/PCCs should expedite the process of authorizing healthcare facilities, so that waste generated from facilities can be verified for proper collection and disposal.
- (iv) The present generation of 619 MT/day of biomedical waste may look adequate at national perspective; however, at individual State's level availability of CBWTFs may vary. It is evident from the fact that despite having CBWTFs, States namely Assam, Himachal Pradesh, Jharkhand, J & K, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Puducherry, Rajasthan, Tamil Nadu and Uttarakhand still use deep burial pits for disposal of BMW as the existing CBWTFs fail to cover entire State.
- (v) Capacity utilization of CBWTFs vary among States/UTs depending on available infrastructure in a specific coverage area of 75Km, number of CBWTFs, geographical distribution in the State, population density in particular coverage area as well as connectivity of HCFs with CBWTFs. Therefore, SPCBs/PCCs should relook at the available infrastructure and facilitate new CBWTFs to cover entire population and State's geographical area so as to minimize usage of deep burial pits to the extent possible.
- (vi) In States namely Assam, Jammu Kashmir, Kerala, Odisha, Pondicherry and Tamil Nadu, where the capacity utilization of existing common

infrastructure has exceeded 75%, these States may examine the need for additional facilities by conducting gap analysis in each coverage area.

- (vii) States namely A&N, Arunachal, Goa, Lakshadweep, Mizoram, Nagaland and Sikkim do not have common facilities for treatment & disposal of biomedical waste should facilitate setting up of new facilities of appropriate capacities in consultation with State Governments.
- (viii) Having 4 years completed since re-notification of Rules, SPCBs/PCCs may now act strictly against non-complying HCFs. They may consider imposition of ECC as per the guidelines issued by CPCB in compliance with Orders of Hon'ble NGT.
- (ix) Incidents of illegal dumping of biomedical waste are reported from time to time, and such incidents were also reported during COVID19 pandemic period. CPCB has prepared separate guidelines for "Monitoring Compliance of Common Biomedical Waste Treatment Facilities by State Pollution Control Boards / Pollution Control Committees" which provide check-lists for monitoring CBWTFs specially to monitor illegal handling of biomedical waste. Said guidelines gives guidance to State Boards to verify Operational Compliance, Adequacy of Infrastructure, Reporting of data and Inspections & Monitoring. SPCBs/PCCs should periodically verify operations of CBWTFs as per said check list.
- (x) Compliance of CBWTF is an important factor since CBWTFs release combustion gases and handles highly infectious wastes from multiple hospitals. SPCBs should therefore consider closing down or restrict operation of non-complying CBWTFs till they time it demonstrates compliance, and mean while arrangement should be made to transport waste collected from member HCFs of such non-compliant facilities to another CBWTF nearby. SPCBs should also treat non-complying facilities as inadequate and allow new compliant facilities in same coverage area.
- (xi) As per Rules, implementation of barcode system is mandatory to track movement of BMW, this system would also help in daily accounting of BMW. Despite the lapse of 3 years given for implementation of the system, only 04 States/UTs namely Bihar, Kerala, Punjab and West Bengal have adopted barcode system and 22 States/UTs are under process of adoption of the same. While there is some improvement

implementing barcoding system, it is reported that HCFs are not joining the system. This indicates that SPCBs have failed to implement this provision effectively.

- (xii) There has been improvement in submission of Annual compliance status reports by SPCBs. SPCBs/PCCS shall continue the same and they may prepare State specific Annual reports and upload the same in respective websites.
- (xiii) About 75% of CBWTF have installed online continuous emission monitoring system (OCEMS) and real time emission data transmitted to SPCB and CPCB servers. States namely Bihar, Chhattisgarh, Gujarat, Jharkhand, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Rajasthan, Tamilnadu, Uttarakhand, Uttar Pradesh and West Bengal should ensure that all CBWTFs in their State install OCEMS systems and connected to CPCB and SPCB server. Odisha, Meghalaya, Tripura and Manipur should ensure installation of OCEMS in their States in time bound manner.

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## Annual Report Information on Bio-medical Waste Management Scenario in the Country for the Year 2019 (As submitted by SPCBs/PCCs and DGAFMS)

As on 12-03-2021

S.No.	Name of the State/UT	Total no. of Bedded Health Care Facilities (HCFs)	Total no. of Non-bedded Health Care Facilities (HCFs)	Total no. Health Care Facilities (HCFs)	Total no. of Beds	Authorization Status			No. of HCFs utilization CBWTFs	Total Quantity of BMW generated (kg/day)	Total Quantity of BMW Treated and Disposed (kg/day)	Captive BMW Treatment Facilities Operated by the (HCFs)		Common Bio-medical Waste Treatment Facilities (CBWTFs)		Deep burial installed by HCF & CBWTFs		Total BMW treated by captive treatment facilities (kg/day)	Total BMW treated by CBWTFs (kg/day)	Total no. of violation by HCFs & CBWTFs	Total No. of show cause notices/Directions issued to defaulter HCFs/CBWTFs	No. of CBWTFs that have installed OCEMS
						Total no. of HCFs applied for authorization	Total no. of HCFs granted authorization	Total no. of HCFs in operation without				No. of HCFs having Captive Treatment Facilities	No of Captive Incinerators Operated by HCFs	CBWTFs Operational	CBWTFs under Construction	HCFs	CBWTFs					
I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XV.	XVI.	XVII.	XVIII.	XIX.	XX.	XXI.	XXII.	XXIII.	XXIV.	XXV.
1	Andaman Nicobar	48	134	182	1466	183	62	104	0	684.62	684.62	1	7	0	0	45	0	546	0	0	0	0
2	Andhra Pradesh	5525	4098	9531	131071	7129	7092	485	9095	15051.22	15051.22	0	0	12	2	0	0	0	15051.22	466	640	12
3	Arunachal Pradesh	190	127	308	2239	261	90	76	0	395	395	308	11	0	0	147	0	395	0	76	76	0
4	Assam	675	905	1579	26069	446	276	1100	204	8819.91	6234.08	362	27	1	0	8	1	4574.08	1660	414	409	1
5	Bihar	4821	20174	24996	70563	5160	2809	17836	7853	34812.9	10777.1	3	1	4	1	0	0	268.1	10509	809	809	4
6	Chandigarh	49	841	890	4442	589	571	1	890	3869	3869	2	0	1	0	0	0	1126	2743	232	412	1
7	Chhattisgarh	1186	1286	2472	23772	2576	2105	12	2446	7071.904	7037.4	1202	3	4	4	INP	8	998.508	6038.9	33	1	2
8	Daman &Diu and Dadra & Nagar Haveli	40	106	146	840	98	93	INP	146	300	300	0	0	waste handover to Gujarat facility	0	0	0	0	300	Nil	92	1
9	Delhi	1225	9052	10227	57653	6033	5444	0	10227	28785.15	28785.15	1	1	2	0	0	0	302.15	28483	3597	1004	2
10	Goa	148	631	779	5051	407	163	582	0	1488.95	1488.95	165	1	0	0	190	0	1488.95	0	0	0	0
11	Gujarat	11440	19846	31286	212105	6665	6286	3613	31286	36421	36421	0	0	20	2	0	0	0	36421	3068	3068	20
12	Haryana	2837	2689	5526	54773	5333	5316	193	5526	14810	14810	0	0	11	0	0	0	0	14810	128	83	11
13	Himachal Pradesh	544	8439	8983	16020	4923	1900	4060	1973	3406.6	3406.6	6141	1	2	1	6140	0	371.23	3035.36	55	55	2
14	Jharkhand	1163	683	1846	28443	601	297	57	8818	7671.45	7671.45	INP	17	4	1	347	0	5819.45	1852	3231	325	2
15	J & K	1541	5065	6606	16972	946	604	5660	1046	5902.62	5896.25	1	0	3	0	INP	0	889.75	5006.05	5693	120	1

S.No.	Name of the State/UT	Total no. of Bedded Health Care Facilities (HCFs)	Total no. of Non-bedded Health Care Facilities (HCFs)	Total no. Health Care Facilities (HCFs)	Total no. of Beds	Authorization Status			No. of HCFs utilization CBWTFs	Total Quantity of BMW generated (kg/day)	Total Quantity of BMW Treated and Disposed (kg/day)	Captive BMW Treatment Facilities Operated by the (HCFs)		Common Bio-medical Waste Treatment Facilities (CBWTFs)		Deep burial installed by HCF & CBWTFs		Total BMW treated by captive treatment facilities (kg/day)	Total BMW treated by CBWTFs (kg/day)	Total no. of violation by HCFs & CBWTFs	Total No. of show cause notices/Directions issued to defaulter HCFs/CBWTFs	No. of CBWTFs that have installed OCEMS
						Total no. of HCFs applied for authorization	Total no. of HCFs granted authorization	Total no. of HCFs in operation without				No. of HCFs having Captive Treatment Facilities	No of Captive Incinerators Operated by HCFs	CBWTFs Operational	CBWTFs under Construction	HCFs	CBWTFs					
I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XV.	XVI.	XVII.	XVIII.	XIX.	XX.	XXI.	XXII.	XXIII.	XXIV.	XXV.
16	Karnataka	8013	29968	37981	324293	16744	16071	6895	18304	77545.6	36299.81	2976	1	27	2	2976	3	2373.81	33926	3926	905	27
17	Kerala	2126	11743	13869	97794	6986	6735	7108	15310	42932	40270	52	20	1	0	18	1	3417	36853	844	936	1
18	Lakshadweep	10	36	46	140	46	39	0	0	100.5	100.5	0	0	0	0	3	0	45.46	54.94	0	0	0
19	Madhya Pradesh	3817	3860	7677	100401	5629	5616	2048	5701	17846.68	17289	2	2	12	1	27	0	281.92	17007.08	907	907	12
20	Maharashtra	20231	43411	63642	283042	20090	21697	4008	58928	62254.62	62253.18	176	2	31	1	362	1	568	61685.18	273	225	30
21	Manipur	96	641	737	4854	737	737	0	0	953.1	864.8	545	3	1	0	0	0	247.1	617.7	1	0	0
22	Meghalaya	187	687	874	6979	554	533	320	40	1276.24	1276.24	187	0	1	0	187	0	962.32	313.9	0	0	0
23	Mizoram	68	76	144	2593	59	44	18	0	936.37	936.37	144	4	0	0	112	0	936.37	0	0	2	0
24	Nagaland	205	521	726	3486	480	480	Nil	Nil	891.8	652.5	5	5	0	0	245	0	652.5	Nil	246	246	0
25	Odisha	1426	2083	3509	45116	1771	1729	63	694	17993.14	17405.94	2705	0	5	2	2705	13	13546.64	3859.3	47	47	1
26	Puducherry	98	157	255	11635	228	206	27	462	5900	5900	1	1	1	0	1	0	19	5900	50	50	1
27	Punjab	4025	5570	9595	73817	5091	4323	3324	9595	16050.88	16050.88	0	0	5	1	0	0	0	16050.88	3139	3139	5
28	Rajasthan	5667	2433	8100	134090	3702	3154	888	6669	20685.65	18508.527	847	0	8	7	847	3	2187.65	16320.877	364	2573	8
29	Sikkim	34	253	287	2682	244	229	43	0	482.65	482.65	98	8	0	0	90	0	482.65	0	0	0	0
30	Tamil Nadu	6652	16625	23277	179190	21342	21071	1935	23277	58272	58272	0	0	8	2	0	1	0	58272	355	347	8
31	Telangana	3742	2800	6542	118699	5893	5552	649	6538	20472	20472	0	0	11	0	0	0	0	20472	826	826	11
32	Tripura	158	1585	1743	4701	536	536	0	0	1401.5	1401.5	158	4	1	1	141	0	1169.76	231.74	0	0	0
33	Uttarakhand	1121	2064	3185	22807	2252	1849	933	2034	3814.236	3814.24	1734	2	2	0	1154	2	942.05	2872.19	48	48	2
34	Uttar Pradesh	14454	11148	25602	253927	21881	20927	4675	INP	52500	52500	10	10	18	0	INP	INP	6105	46395	171	27	18
35	West Bengal	3008	5501	8509	126143	8509	8488	0	8509	41571.4	41571.4	1	0	6	7	0	0	125	41571.4	63	63	6
36	DGAFMS	226	542	768	38459	768	761	0	0	5748.79	5748.79	188	5	0	0	INP	0	4217.69	1531.104	0	0	0
	<b>Total</b>	<b>106796</b>	<b>215780</b>	<b>322425</b>	<b>2486327</b>	<b>164892</b>	<b>153885</b>	<b>66713</b>	<b>235571</b>	<b>619119.48</b>	<b>544898.15</b>	<b>18015</b>	<b>136</b>	<b>202</b>	<b>35</b>	<b>15745</b>	<b>33</b>	<b>55059.138</b>	<b>489843.821</b>	<b>29062</b>	<b>17435</b>	<b>189</b>