



Municipal Solid Waste  
Annual Report 2013-14  
Of  
Karnataka State  
Pollution Control Board

**COME TOGETHER**  
**TO SHARE AND CARE**

# ANNUAL REPORT

(For the year 2011-12, 2012-13, 2013-14)

## Annexure – I [Schedule-I of Rule-IV(3)]

The Board has constituted State Level Municipal Solid Waste Authorization Committee to verify the site selection criteria and to issue authorizations under Municipal Solid Waste (Management and Handling) Rules, 2000 in respect of City Corporations and Bruhat Bangalore Mahanagara Palike (BBMP). The Board has delegated the power to Regional Officers to verify the site selection criteria to scrutinize the technical details and to issue authorizations to all City municipal Councils, Town Municipal Councils and Town Panchayats and notified area in the State by stipulating condition to comply with Municipal Solid Waste (Management and Handling) Rules, 2000, who have applied for authorization.

The population of Karnataka according to the 2011 census is 61,095,297 making it the 9<sup>th</sup> most populated state in India. The state is spread over an area of about 1,90,000 sq.km making it the 8<sup>th</sup> largest state in the country in terms area.

The Government of Karnataka has re-constituted the municipality according to the 74<sup>th</sup> Constitutional Amendment Act. The towns have now been classified based on the classification and other criteria as

Town Panchayath (TP) (Population with 10000 to 20000)

Town Municipal Council (TMC) (Population with 20000 to 50000)

City Municipal Council (CMC) (Population 50000 to 300000)

City Corporation (CC) (Population 3 lakhs and above)

On this basis, at present number of local bodies in the state of Karnataka are as follows:

Bruhat Bangalore Mahanagara Palike	1
City Corporations	10
City Municipal Councils	41
Town Municipal Councils	68
Town Panchayats	94
Notified Area Committees (NACs)	5
<b>Total</b>	<b>219</b>

The following Urban Local Bodies do not have their own Landfill site or processing site:

1. Devanahalli TMC
2. Vijayapura TMC
3. Anekal TMC
4. Yelandur TP
5. Bantwal TMC
6. Mudabidiri TMC
7. Ullal TMC
8. Saligrama TP

**ACTION TAKEN BY THE BOARD TO IMPLEMENT THE MSW RULES.**

As per the Municipal Solid Waste (Management and Handling) Rules, 2000 under Schedule-1, implementation schedule prescribing the time are also fixed. The Hon'ble Supreme Court has also repeatedly directed all the states to adhere to the implementation schedule.

In this regard, the Karnataka State Pollution Control Board has pursued with the concerned department viz., Secretary UDD, Govt. of Karnataka, Director of Municipal Administration and more particular to commissioner, BBMP of Bangalore. Several Show Cause Notices were also issued and meeting were held with them. In spite of this rigorous persuasion, the progress on the identification of scientific landfill sites itself were very slow and not satisfactory. The reasons quoted by the local body in identification and delay in acquiring these lands are not acceptable, as the litigation in acquiring such land have to be sort out by the deputy commission of the district.

**Under this background, the Karnataka State Pollution Control Board has invoked Section-5 of Environmental (Protection) Act, 1986 and issued the Directions to all the Deputy Commissioners in the State and also Secretary, UDD in respect of BBMP**

**(Metropolitan Area). Copies of the Directions issued to them are enclosed herewith as Annexure-D(1)(2).**

In response to the said Directions, the Deputy Commissioners and Secretary, UDD and Commissioner, BBMP have furnished **TIME BOUND ACTION PLANS.** Copies of the same is enclosed as TA-(1)(2).

The Karnataka State Pollution Control Board has closely monitored the progress made by the said local authorities through several meetings and reported the reasons for delays in the progress to the director of Municipal Administration, which is the nodal agency for release of funds to all this local bodies except BBMP.

One of the main reasons for delay in take of the project were the administrative issues like resolving and deciding on the contractor under the expression of interest called individually by the local bodies. This could have been avoided, if proper monitoring and pro-active decisions were taken at the level of the Deputy Commissioners/DMA/Secretary UDD similarly for BBMP.

As could be observed in the **Time Bound Action Plan** of the local bodies, the committed dates given by them are as follows:

- 1) BBMP - 31.03.2013
- 2) Other Local Bodies - 30.06.2011

The monitoring by the KSPCB has not yielded the complete result, however there are some progress in initiating certain projects and processing facilities.

Out of which, abstract of the landfill sites status as on the date are as follows: **(Other than BBMP).**

- Land being used by MSW -- 209 Local bodies
- Land acquired but not being used -- 1 Local bodies
- Land not yet taken position -- 8 Local Bodies

In respect of BBMP,

Bangalore generates around 3500 Tonnes of Municipal Solid Waste daily. The BBMP is carrying out collection, street sweeping, transportation, processing and disposal of the Municipal Solid Waste as per the Municipal Solid Waste Rules 2000. To encourage segregation at source BBMP has established 170 Dry Waste Collection Centres, which collect only dry waste from Wards. Bulk Generators of waste like Hotels, Restaurants, Kalyan Mantaps, Apartments etc., have been notified to establish a system to handle Municipal Solid Waste generated in their premises or through empanelled service providers. Seven sites have been identified for disposal of construction and demolition waste in the city. BBMP is also setting 13 decentralized Biomethenation Plants, out of which 4 have been made functional.

After taking all these measures, the quantum of waste which being received at the BBMP processing centres is around 3000 TPD. The same is being managed through the Private Processors.

Out of the above facilities, land fill without processing is being done only at Bingipura and Laxmipura facilities. To achieve 100% processing of waste, Government has sanctioned setting up of six new facilities. These new facilities are being set up at the following locations:

1) Kanahalli	-	500 TPD
2) Seegihalli	-	200 TPD
3) Doddabidarakallu	-	200 TPD
4) Lingaderenahalli	-	200 TPD
5) Subrayanpalya	-	200 TPD
6) Chikkanagamangala	-	500 TPD

7) KCDC(upgradation of existing facility) - 500 TPD

2300 TPD

It is targeted to make these facilities fully functional within next 6 months. This would ensure 100% processing of waste being generated in the city. In addition to these, approvals have been given to following waste management plants on PPP framework.

- |                             |   |          |
|-----------------------------|---|----------|
| 1) M/s. Satarem Enterprises | - | 1000 TPD |
| 2) M/s. Organic Waste India | - | 600 TPD  |
| 3) M/s. Essel Group         | - | 600 TPD  |

These plants are on PPP framework and would take minimum 2 years' time to be established. Once all the above facilities are made fully functional, the city would have facilities catering to the requirement of Waste Management for next 10 years.

The landfill sites existing so far – viz., Mavallipura, Mandur, Terra firma, Cheemasandra, Rajarajeshwarinagar (Subramanyapalya) and at Doddabidarakallu.

The KSPCB has observed serious non-compliances on the BBMP in the management of Municipal solid waste and public complaints have been made on the water pollutions, air pollution and spillage of waste during the transport etc on the Mavallipura site. Hence, Board has issued directions to stop the activities till the existing old garbage are completely processed (Annexure MD1). Due to this the entire planning process at BBMP were changed and expert committees were formed to assist the BBMP in guiding them to make way forward. The situation in the Bangalore city has aggravated and Mandur Landfill sites have also reached the alarming situation on the disposal of leachate and other buffer

zone aspects. (Annexure- MD2) The criminal proceedings are also initiated by KSPCB against concerned officers. Therefore, the Hon'ble High Court of Karnataka in its W.P.No: 24739/2012 has intervened in the management of BBMP and hence, monitoring the progress every month since two years. Many directions were issued by the Hon'ble High Court and also facilitated the BBMP in initiating the decisions to establish the new sites for both processing, landfilling, and exclusive C & D Waste disposal and recycle.

The Karnataka State Pollution Control Board has also evolved the following guidelines in cohesive with the Hon'ble High Court directions;

- (1) Notification on the Guidelines for No development Zone/Buffer zone around the MSW landfill sites in the state of Karnataka, Dt: 05.02.2014. (Enclosed as Buffer Zone)**
- (2) Notification on the Guidelines for Construction and Demolition waste in the ULB's in the state of Karnataka, Dt: 05.02.2014. (Enclosed as C & D)**
- (3) Notification on the Guidelines for Siting of Slaughter House in the state of Karnataka, Dt: 05.02.2014. (Enclosed as Slaughter House)**
- (4) Notification on the Guidelines for Management of Municipal solid waste in Big campuses/Educational Institutions, Dt: 05.02.2014. (Enclosed as Big Campus)**

In view of this background, it was opined that the BBMP as a metropolitan city shall have the processing and engineering landfill sites on all the directions of the city so that, the non-operation of one of the LFS will not affect the others in the city. So that, at any circumstances the collection, transportation processing and disposal would be continuous in nature on odd times. The basic concept of source segregation from the households would be on the top priority. The segregated waste are transported independently and the organic waste are

processed in the processing plant in every ward and non-organic segregated waste are collected in the dry waste collection centres established in 170 collection centres of 198 wards in BBMP. Every wards are planned to establish the collection centres and which includes e-waste disposed from the households as per schedule-II of E-waste Rules. The Biomedical Waste is handled as per Biomedical Waste Rules including the treated Biomedical waste.

It is also opined that, C & D waste shall be basically avoided to mix with the Municipal solid waste and therefore secondary segregation at the landfill sites are fully avoided and waste are processed according to its nature viz., organic/non-organic. The C & D waste shall be disposed only to the abundant quarry, so that the surface water would not be affected by the low laying area dumping. Provision is also made for re-processing of this waste and recycle in the form of sand, aggregates, concrete blocks etc., similar to ILFS plant in New-Delhi.

Under this background, the BBMP has identified landfill sites for Construction and Demolition waste, processing and scientific landfill and the authorization for which are deliberated in MSW Authorization committee cited above and accorded accordingly below:

### **New (Construction and Debris) Disposal and Processing Sites**

<b>Sl. No</b>	<b>Name</b>	<b>Extent of Land in Acres</b>
1	Sy. No.34, Kadaagrahara village, BiderahalliHobli, Bangalore East	18 Acres
2	Sy. No. 02, Mittaganahalli Village, BiderahalliHobli	10 Acres
3	Sy. No. 43, GuddadahalliGramma, HesaraghattaHobli, Bangalore North	46 Acres, 31 Guntas
4	Sy. No. 50, Kannur Village,	50 Acres



	Biderahallihobli, Bangalore East	
5	Sy. No. 39, Gollahalli village, UttarahalliHobli, Bangalore South	180.14 Acres
6	Sy. No. 90, Kalluballu, JiganiHobli, Anekal taluk	60 Acres, 30 Guntas
7	Sy. No. 33, Mallasandra Village, YeshwanthpuraHobli, Bangalore North	30 Acres

### Mixed waste Processing

Sl. No	Name	Extent of Land in Acres
1	Organic Waste India Pvt Ltd., Sy No.155 (north side) , Mandur Village, BidarahalliHobli,Bangalore East Tq.	25.10 Acres
2	Satarem Enterprises Pvt. Ltd, Sy. No. 31,32 & 33, Gorur Village, SolurHobli, Magadi Taluk, Ramanagar District	45 Acres
3	KCDC (Karnataka Compost Development Corporation Ltd.), Sy. No. 39, 40, Haralakunta village, Madiwalla post, Bangalore (350TPD)	15 Acres 10 Guntas
4	Chigaranahalli, Modalakalenahalli, BhakatarahalliGramapanchayat M/s. MSGP Infra tech Pvt. Ltd., Sy. No. 1,2,3,7,8P1,8P2,11, , DoddaBelamangalaHobli, DoddaballapuraTaluk, Bangalore Rural	100 Acres
5	Noble exchange Environment solutions Bangalore Pvt Limited., Sy. No. 85, Kannahalli village, Seegehalli cross, magadi main road, Bangalore	5 Acres
6	BBMP, Sy. No. 16A/21/1, Lingadheeranahalli, kengerihobli, Bangalore south taluk	9 Acres 16 Guntas
7	Integrated Solid Waste Management Plant , Near Cheemasandra Village, BidarhalliHobli, Bangalore East Taluk	4.67 Acres
8	BBMP, Sy. No. 75, Doddabidarakallu, Bangalore North Taluk, Yeshwanthapurahobli	11 Acres
9	Sy. No. 102, 103 & 104, MadureHobli, Byresandra Village, Doddaballapura Taluk	102.07 Acres

10	Sy. No. 77, Shettihally, YeshwanthpuraHobli, Bangalore	
11	BBMP, Sy. No: 8, Mavallipura village, HesaraghattaHobli, Bangalore North Taluk, Bangalore Urban District	100 Acres

### **Mixed waste Processing with Landfill**

Sl. No	Name	Extent of Land in Acres
1	Terra Firma Biotechnologies Ltd, Sy. No.40/1, 60/P4 of Gundlahalli Village, Doddaballapur Taluk, Bangalore Rural District	93 Acres
2	ELCIA, Sy. No. 99P, Doddathogur village, BegurHobli, Bangalore South Taluk	0.21 Acres
3	(R.R. Nagar) BBMP-200T/D., Sy. No. 143, Subramanya playa, Kumbalgodu village, kengerihobli, Bangalore	11 Acres
4	ChikkanagamangalaVillage, M/s. Bruhat Bangalore MahanagaraPalike(BBMP), Sy.No.31,SarjapurHobli, AnekalTaluk, Bangalore Rural District	94.35 Acres
5	S-Bingipura-I, BBMP, Sy. No. 179,	20 Acres 6 Guntas
6	Seegehalli, Sy.No: 48, YeshwanthpurHobli, Bangalore North Taluk	7 Acres
7	BBMP, 85 of Kannahalli Village, Seegehalli cross, Magadi Main Road, Bangalore	24 Acres

### **III) Biomethanization of Waste:-**

1	BBMP Biomethanization plant, ward No. 139, S.K.R. Market, Bangalore	No.139	City west
2	BBMP Ward No. 67, Nagapura near Mahalakshmi layout, Bnagalore	No.67	City west
3	Biomethanization plant, ward No. 112, Domlur east zone, Bang east	No. 112	Bang east
4	BBMP Biomethanization plant, ward No. 168, Jayanagara, next to organic waste converter, south zone	No. 168	South

5	BBMP, No. 12, PID No. 012 IN 0003-60-3, GIS 5518, Abbigere Village, YeshwanthpuraHobli, Bangalore North	No. 12	North
6	BBMP, Ward No. 149, Vartur, Mahadevpura Zone, Bang East	No. 149	Bang east
7	BBMP, Ward No. 151, Koramangala south zone, Bangalore	No.151	south
8	BBMP, Ward No. 167, Jayanagara, Near ACP office, south zone	No. 167	South
9	BBMP, No. 11, Kuvempunagara, singapura, near burial ground, Byatrayanagara division, yelahanka zone	Sy. No.11	Yelahanka
10	BBMP, No. 192, Begur, Gudutopu, Bommanahalli zone, Bangalore	No.192/191	aneal
11	BBMP, Ward No. 70, Beside dry waste collection centre, Rajagopalanagara, YeshwanthapuraHobli, Bangalore North	No. 70	North
12	BBMP, MTPD in ward No. 35, Mattikere, MSRIT Road, West zone	No. 35	City west
13	BBMP, MTPD in ward-94, Gandhi nagar, near freedom park, Bangalore	No. 94	City west
14	BBMP, Sy. No. 39, 40, Haralakunte, Bommanahalli Zone, Bangalore	No. 39, 40	Bommanahalli
15	Ward No. 198, Lingadeeranahalli, R.R. Nagar Zone, Bangalore	No. 198	Dasarahalli

**MEMBER SECRETARY**

## ANNEXURE-II [Schedule-II of Rule 6 (1)(3) & 7(2)]

As per the Municipal Solid Waste (Management and Handling) Rules, 2000 under Schedule-II, each of the local bodies need to adhere to the parameters prescribed in the Schedule-II of the said Rules viz., collection, segregation, storage, transportation, processing and disposal of Municipal Solid Waste. The KSPCB has obtained the action plan from the each of the local bodies through the Deputy Commissioner of the district and also from BBMP. In the said action plan each of the parameters prescribed are specified in the action plan. The said action plan was duly approved by the KSPCB on 25.02.2011 for implementation with the time schedule agreed by them.

Accordingly, the time stipulated by the BBMP and the other local bodies are 31.03.2013 and 31.12.2011 respectively. This is being regularly monitored by the KSPCB through the meetings and show cause notices issued therein. In spite of this they are unable to progress to the satisfaction and standards stipulated in MSW Rules, 2000.

As per the annual report submitted by the local bodies including the BBMP for the year upto 2013/2014, the **Karnataka State generates about 8784 Tonnes/Day**. Of which

**(1) BBMP generates 3500 T/D and collects 3000T/D (85%)**

**(2) Other 218 local bodies generates 5284 T/D and collects 4602T/D (87%)**

All the local bodies have partially started house to house collection and some of them have provided 2-bins for each house to collect organic and non-organic waste from the households. However, the segregated waste is mixed while transporting through auto tippers/dumper placer to landfill sites.

Collection from the slums have also been started

In the BBMP area, Hotel associations have formed a system so that all organic wastes are collected by one single agency M/s Nobel Xchange of capacity 250 T/D. This waste is proposed to be used for Biogas generation of quantity 20904Nm<sup>3</sup>/d by using Bio-methanization technique.

In case of all big educational institutions/campuses, guidelines were notified for the overall in-house management in the area to avoid disposal to general dustbins of the local body.

Illegal Slaughter houses have been identified according to the direction of CPCB and the Director of Municipal Administration has initiated the action and facilitating all the major cities to establish at least one slaughter house.

The DPRs for construction of Modern Abattoirs in Mysore, Hospet, Chitradurga and Chamarajanagar cities were submitted to MoEF, New Delhi and approval for all the 4 Projects is obtained from GoI. The first instalment of grant-in-aid for the 3 projects have been already disbursed from GoI to the concerned ULBs. Steps are taken to prepare DPRs for construction of Modern Abattoirs in 8 City Corporations and 37 City Municipal Councils through KIPDC, out of which, draft DPRs for Haveri, Davangere, Hubli-Dharwad, Bellary, Koppala, Ranebennuru, Madikeri, Gadaga-Betageri and Udupi cities have been already prepared.

BBMP and Mysore City Corporation have taken initiative to establish one modern abattoir at Harohalli, Bangalore and Kesare, Mysore respectively.

In respect of Biomedical waste, Board has identified 29 CBMWTF throughout the state and all the health care establishments, Govt and private including Clinics of less than 1000 patients are handling over the Biomedical waste to the authorized CBMWTF. Hence, totally avoiding the littering of the treated /untreated Biomedical waste in the garbage.

However, the Biomedical waste generated from the households like syringe, sanitary napkins, expired medicine, bandages etc., need to be handled separately. Hence, the local bodies were asked to provide a separate collection system from the households so that CBMWTFs can directly lift and transport for its treatment.

In Bangalore about 80 T/d of sanitary napkins are produced. There are 3 CBMWTFs in the city viz., Maridi Eco Industry, Ramanagara, Sembramky Environmental Management Pvt. Ltd., Bangalore and Anu Autoclave Pvt. Ltd, Bangalore. An MOU between the BBMP & the CBMWTFs are being made to lift the same and dispose in the incinerator. The system is started and requires further monitoring.

Auto tippers and hand driven push carts are provided by the local bodies to collect the waste from households into the transfer points.

The Construction and Demolition Waste from the old and the new building are to be regulated and hence, as separate system have been evolved by the BBMP and the guidelines have been framed by the KSPCB and notified on 05.02.2014.

#### Segregation:

Even though source segregation has been recommended from the households, the same is not being followed throughout the state except in core area of BBMP. However, the segregated waste are also mixed with the other waste and hence, this requires a proper force from the local body to initiate the same.

**Karnataka Urban Infrastructure Development has framed Karnataka State Policy on Integrated Solid Waste Management and Normative Standards and procedure for Collection, Storage and Transportation of MSW.**

#### Storage:

**Presently the local bodies have not established the intermediate storage points. Wherefore, they are using the major roads and vacant sites for intermediate storage and transfer of waste from one vehicle to another causing public nuisance. This is a challenge for all metropolitan and urban areas and requires immediate attention**

#### Transportation:

Even though the waste are collected from the different areas by the vehicles of the local body or by the outsourced agencies, the spillage of waste are still common and all the vehicles are not closed.

The Department of Ecology and Environment has issued orders vide dt: Jan 2004 restricting the common vehicles used for transportation. The order insist the **registration of** all such vehicles in the State Pollution Control Board, so that only the specific purpose vehicle having the Hydraulic Compacters to avoid spillage and also carry maximum waste in a closed container.

### **Processing of Waste:**

Even though the Karnataka State has identified and established the landfill sites in most of the local bodies and the same are also fenced with basic infrastructures like Roads, weigh bridge and borewells are provided, the waste are not processed . Therefore wastes are dumped in the said landfill sites. This needs to be regulated seriously by the all concerned agencies

But there are some initiatives by certain local bodies in processing the waste as detailed below

For all small local bodies like TMC, TP, the waste generation is from 2 to 40 Tonnes per day. This can be easily be processed if they are segregated as organic/non organic waste

KSPCB has encouraged the processing of such waste in a simple and normal way, so that waste are partially shredded and segregated and pre segregated with glass, textile, metal, leather, with plastic in all the organic waste received at the Town Panchayat Level.

As a case study and a pilot plant the KSPCB has provided a shredder machine at a cost of Rs. 2,00,000 for composting which is called as **Koppal Method of Composting** at Koppal. The photograph of the said system is also enclosed which is a revolutionary and simple technique to encourage in all the small local bodies.

The shredded waste are directly handed over to farmers for further composting using Bangalore Method of Composting viz., the waste mixed with mud.

BBMP has set up 13 Bio methanization plant in which 4 are operational in the city limits

It is been decided in the BBMP area that processing plant shall be set up in each of the wards/ joint wards, so that the waste are not transported outside unnecessarily. For this purpose at least 2 acres of land within the core area/in extension is sufficient to establish the processing plant of 300 T/D of composting using mixed municipal solid waste. This processing plant shall be carried out totally in a closed shed with concrete platform and leachate collection system with recycling facility. The inert from the composting process shall have to taken out of the plant for landfilling. At any circumstances landfilling are not allowed since the human habitants are also allowed around the processing plant but with minimum buffer zone to maintain to avoid nuisance from smell etc.

#### Disposal of waste

So far all the municipal solid waste are dumped in the landfill sites and therefore the life of the LFS are becoming short. The lands are very scare and also the problems encountered in respect of Mavallipura and Mandur in the BBMP area has made the situation to propose only the inert waste to reach the landfill sites. Under this background all the local bodies and the BBMP are directed to come up with such proposals, so that 80 % of the waste are re used/ recycled/ re-processed. Only 15-20 % of the inert wastes which cannot be either used / recycled are to be disposed into the LFS.

Now the BBMP have identified 7 Nos. of landfill sites exclusively for dumping using engineering method of landfilling operation.

**MEMBER SECRETARY**



### **ANNEXURE III [Schedule –III, Rule 6(1)(3) and 7(2)]**

The details of MSW sites and its possession are mentioned in Annexure I. However, the KSPCB is insisting all the local bodies to identify the land fill site which shall be large enough to be used for 20-25 years. For this purpose Board is encouraging local bodies to adopt organic converter, composting facilities, Biomethnization, plastic recovery and reuse, power generation wherever suitable to reduce waste on the land fill sites. These conditions have also been stipulated to incorporate the above facilities at the land fill sites itself in the authorization.

#### **Site selection**

The land required for ultimate disposal of inert waste is an inevitable parameter and common for all the local bodies. The site selection criteria for identifying the land according to the quantity of waste, it's processing and ultimate disposal into a common area is an important matter in the MSW management. However the major problem is in the site selection and the availability of land. The specification for landfill sites mentioned in the MSW rules 2000 can only be implemented partly due to various practical issues. However some of the important parameters to be considered taking into public grievance are as follows.

#### **Area of the land and its location**

#### **A buffer zone around the landfill site**

## **Watchdog committee are formed to monitor the proper implementation at the site**

The KSPCB has taken the following action in the state which needs to be highlighted at the national level for its successful facilitation in the local bodies.

First time in India, KSPCB has notified the guidelines for establishing no development zone / buffer zone around the landfill sites vide notification Dt: 05.02.2014. This can be taken as landmark for all other state to consider to implementation of these guidelines and C and D waste are proposed to be dumped separately than this LFS.

Public Complaint Redressal Committee is formed for all the landfill sites in Bangalore city, so that all public complaints can be redressed by the local people joining with BBMP officers and regional officers of KSPCB. Copy of the notification is enclosed as ANNEXURE PC.

### **Facilities at the site**

**Most of the local bodies outside BBMP have already fenced the lands,** borewell are dug, way bridge, internal roads are made. But the processing of waste and scientific land filling facilities is yet to be started.

### **Specification for landfilling/pollution prevention**

This is insisted for all local bodies but the same are not installed so far.

### **Water quality monitoring / ambient air quality monitoring**

The KSPCB is monitoring the water quality of leachate and ambient air quality from the regional officers as per MSW Rules, 2000.

The compilation of the analysis report indicates that water quality in the adjacent bore wells are contaminated around certain landfill sites like Mandur, Mavallipura, Bingipura etc. The actions are taken already by the Board by initiating Criminal action against BBMP.

The ambient air quality monitoring conducted by the Board indicates that, there is no significant change in the air quality except for odour/smell.

However, Birds and animal nuisance are continued to be the common problems in all the local bodies in the state.

Now, the KSPCB has proposed priority action to insist all the local bodies to start the processing activity and scientific disposal in all the places.

The integrated facility with landfilling are the major concern for these monitoring in future.

There are some public protest against the establishment of sites in their areas, which may be due to the political reason or maybe due to the experience of maintenance of existing landfill sites by the BBMP/local bodies.

**MEMBER SECRETARY**

**ANNEXURE IV [Schedule –IV, Rule 6(1)(3) and 7(2)]**

As per the provisions of Rule 6 of the Municipal Solid Waste (Management & Handling) Rules, 2000, the State Board or Committee shall have to monitor the compliance of standards of ground water, ambient air, leachate and compost quality as specified under Schedule II, III & IV.

In view of non-commissioning of landfill sites in most of the local bodies so far, monitoring part has now been commenced. The BBMP land fill facilities available presently have been monitored.

Proper action would be taken wherever necessary to ensure the compliance under Municipal Solid Waste (Management & Handling) Rules, 2000.

The KSPCB has directed all the regional Officers to conduct the monitoring as per statutory requirement stipulated in Rule 25 & 29 for all the

parameters and to submit the analysis report to the Board for further action.

The KSPCB has issued authorisation to all MSW landfill proposed sites after verification of the compliance made by the local bodies. The ROs of KSPCB have been directed to issue authorisations to all local bodies in their jurisdiction for one/ two years depending upon the compliance, except for 10 City Municipal Corporations and BBMP.

The Karnataka State Pollution Control Board has constituted Public Complaint Redressal Committee involving the officers of the local body, local NGO, local Panchayat member and the regional officer of KSPCB for the all the landfill sites in the BBMP area. This would be extended for the towns and ULBs in the subsequent year. The copy of the notification is also enclosed as Annexure-PC.

**MEMBER SECRETARY**

**Note:** The Annual Report is prepared based on the reports submitted by the local bodies in Form-II duly signed by concerned Chief Officer/ Commissioners, but without compilation and review by DMA/ Secretary UDD.

In respect of BBMP jurisdiction the Annual Report has been prepared based on the e-mail received from BBMP only.

## **Action Plan to be insisted for BBMP/ Secretary UDD and DMA to adopt the following issues while preparing the same.**

### **TECHNICAL ISSUES**

- (1) As per the directions of the Hon'ble High Court, the action plan shall give a top priority to house to house collection in all the ULBs of the state.
- (2) The house to house collection shall be made daily in core area & preferably announcing the timing to the households to increase the efficiency of the collection.
- (3) The source segregation shall be made mandatory and separate two bins shall be insisted for collecting organic and non-organic waste. However,

the 3<sup>rd</sup> bin/bag shall be insisted for collecting other than organic/non-organic waste viz., E-waste under schedule-II, Battery waste, Metal waste, tube lights/bulbs, toys etc.

- (4) All local bodies shall separately established the dry waste collection centres for utilizing the segregated waste for re-use or re-cycle.
- (5) Dry waste collection centre shall also contain separate collection system for E-waste and also waste categorized under EPR (extended producer responsibility) like biscuits packets, other covers and harmful products and household hazardous waste.
- (6) Public awareness programme shall be conducted atleast once in a year covering the entire public in the jurisdiction of the local bodies. The time frame as to be published.
- (7) The local bodies shall immediately designate a separate land for establishing the slaughter house as per the cruelty to animal Act, 2001 and also as per the guidelines of CPCB and KSPCB. Time frame shall be given for establishing the centres and separate budgets shall be enmarked in this regard.
- (8) All old dump sites (legacy waste) shall be given a priority to utilize the old waste processed for bio mining etc.

### **ADMINISTRATIVE ISSUES**

- (1) Environmental Engineers/Scientists shall be compulsorily posted to all the local bodies in the state and four in each of the BBMP zoneto understand and comply with the provisions of water act and air act for environmental protection act and rules amended from time to time.**
- (2) They shall be given duties and responsibility and act as nodal officers for all Environmental issues araised from each the zones/local bodies. They shall also monitor on Water Quality/Air Quality/Noise etc., as per Environmental law at landfill sites/ water bodies etc.**

- (3) Local bodies shall immediately procure high volume sample and water quality testing kits to monitor as per the conditions specified by the KSPCB.
- (4) The DMA shall delegate more power to the deputy commissioner of the district to finalize the expression of interest called by the local bodies of the district and only city corporations and metropolitan area tenders may be decided at the state secretariat within a time frame of within two to three months time (maximum).
- (5) A performance audit committee shall be constituted at the state level consisting of representative from both technical and financial institutions and regulatory authorities like KSPCB to cross verify and report on the Good Performance/Bad Decisions/Revenue Losses etc and the penalties shall be enforced on all the earning officers to fix up the accountability in all the stages.
- (6) DMA shall verify the annual report submitted by each local bodies and prepare the action plan for the shortfalls observed in complying to the Municipal Solid Waste Rules, 2000
- (7) Public Complaint Redressal committee shall be established for all the Landfill Sites/Water Bodies consisting of local Panchayath members, NGO, officers of the local body and the KSPCB representative to involve the local residence in the monitoring and operations of such processing plants.
- (8) All Environmental engineers/scientist and chief officers shall attend he training programmes atleast twice in a year conducted by central/state regulatory authorities and administrative authorities to upgrade the knowledge on the technical and legal aspects.

**MEMBER SECRETARY**

**Photos attached to Annual Report for the period 2013-14**



**MCC Compost Plant at Vidyaranyapuram operated by IL&FS**



**Koppal Model of Composting Machine installed at CMC, Koppal**





**Waste vermicomposted at Sira, TMC**



**One of the Dry waste collection centre in Bengaluru**



**One of the Apartment collecting the segregated waste and installed Organic convertor and sorting facility**



**Vermicomposting and Dry Waste collection Center at Koramangala Ward at BBMP, Bengaluru**



Roof top manufactured from Tetrapack waste covers-Koramangala Ward at BBMP, Bengaluru

MSGP Unit, Bengaluru



Mavallipura Unit, Bengaluru (New proposal to compost the organic waste, all inert waste taken away to Landfill site)



Nobel Xchange, Kannahalli Unit in Begaluru (Bulk generation of organic waste are collected exclusively and produced biogas – waste from hotel, choultry, Market waste)



Processing Sites in Bengaluru being developed within the core area



*Lingadheeranahalli on 7.1.2015*



*Lingadheeranahalli on 7.1.2015 A*



*Doddabidrakallu on 7.1.2015*



*Doddabidrakallu on 7.1.2015*

Processing sites being developed in Bengaluru at KCDC, Subbarayanapalya and Kannahalli

COLUMN ERECTION IS IN PROGRESS FOR PEB SHED



500 TPD ISWM PLANT KCDC

EAST SIDE 7 m WIDE CONCRETE ROAD CONSTRUCTION COMPLETED FOR 410 m



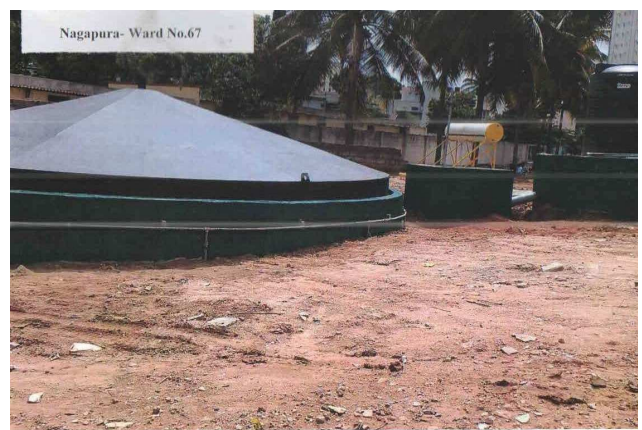
500 TPD ISWM PLANT KCDC



Khannahalli on 7.1.2015 A

Subbarayanapalya

Biomethanisation Plant being developed in Ward level in core areas (13 nos already provided)





Organic Waste India, Mandur, Bengaluru





