

**MINUTES OF THE FIFTH MEETING OF THE STATE LEVEL
MONITORING COMMITTEE CONSTITUTED BY THE HON'BLE
NATIONAL GREEN TRIBUNAL HELD ON 14TH JUNE 2019 AT GOVT.
GUEST HOUSE, THIRUVANANTHAPURAM**

SLMC/KER/MNTS-5/2019

Present

1. Justice A.V. Ramakrishna Pillai, Chairman, SLMC
2. Smt. Sreekala. S, Member Secretary, SLMC (Member Secretary, KSPCB)
3. Sri. T. K. Jose IAS, Member, SLMC (Additional Chief Secretary, Local Self Government Department)
4. Dr. Usha Titus IAS, Member, SLMC (Principal Secretary, Environment Department)

(Additional Chief Secretary, Health and Family Welfare Department could not be present due to official exigencies)

Participation:-

1. Sri. D.K.Singh IAS, ACS& APC, holding additional charge of AHD,Dairy
2. Dr. A . Kowsigan IAS, MD, Kerala Water Authority
3. Sri. Sankaranarayanan C., Tirur Municipality,Vice Chairman Planning Committee
4. Smt. Shiny Antony ,Health Chairperson , Kalamassery Municipality
5. Dr.P.C. Sunil Kumar, Director of Animal Husbandry Department
6. Dr. Ajit Haridas, Chairman , Kerala State Pollution Control Board
7. Dr. Ummuselma.C. , Joint Director (Health)
8. Sri. Praveen.M., Deputy Director, Director of Industries and Commerce
9. Sri. P. Kesavan Nair, MD, Clean Kerala Company Limited
- 10.Sri. R. Subash, Deputy Secretary, Water Resources Department
- 11.Smt. Minimol.D., Deputy Secretary, LSGD
- 12.Smt. Saritha.D., Deputy Secretary & Nodal Officer, Health Department
- 13.Smt. L.Sindhu, Special Secretary, LSGD
- 14.Sri. Vinodkumar.S.A. ,Secretary, Ponnani Municipality
- 15.Sri. B. Anilkumar, Municipal Secretary , Kalamassery Municipality
- 16.Sri. Rahesh Kumar.R. , Additional Secretary, Kochi Corporation
- 17.Sri. Shaji Clement, Director (Operations), Suchitwa Mission
- 18.Smt. Sheeba.M.S., CEE, RO KSPCB, Kozhikode
- 19.Sri. M.A.Baiju, CEE,RO KSPCB, EKM
20. Sri. SethuKumar.S., CE (PRD&WASCON), KWA,TVPM
- 21.Smt. Sheela. A.M. , SEE, KSPCB, HO
- 22.Sri. A.G.Gopakumar, Senior Hydro Geologist, Ground Water Department
23. Smt. Anuja.P.L., Suchitwa Mission
- 24.Sri. M.P. Thirdeep Kumar, EE, KSPCB,HO

- 25.Sri. Titus.H., Executive Engineer , Cochi Corporation
- 26.Sri. Ahamed Rasheed .C.K. ,EE ,KWA, Malappuram
- 27.Sri. Thomas Issac.N., EE, Sew. Dn, KWA, TVPM
28. Smt. P.B.Sree Lakshmi, EE, KSPCB, ESC, Eloor.
- 29.Smt. Premalatha.S., EE, KSPCB, DO, Malappuram
- 30.Sri. Ajit Kumar.R., EE, Irrigation (Planning &IT)
- 31.Sri. Kiran Surya .K.T., EE, Kochi Corporation
- 32.Sri. Renju.R.Pillai, Senior Consultant(Design), Suchitwa Mission
- 33.Sri. A.M. Harees, AEE, KSPCB, DO.I, Ernakulam
- 34.Sri. Saiju J.S., AEE, KSPCB,DO, Kottayam
35. Sri. C. Thomas Joshy. H.S., Kochi Corporation
- 36.Sri. Amal.K.Sajeev, AE, Tirur Municipality
- 37.Smt. Resmi R. Russel, AE, KSPCB,HO
- 38.Smt. Soumya M. Das , AE, KSPCB,HO
- 39.Smt. Sithara.S., AE, KSPCB,HO
- 40.Sri. Anuroop.C.J., Assistant Engineer ,KSPCB, Eloor

AGENDA ITEMS DISCUSSED

1. Approval of minutes of the fourth meeting of SLMC

Read and passed the minutes of the third meeting of the SLMC held on 06/04/2019.

2. Action plan for Plastic waste management in the light of the order of the Hon'ble National Green Tribunal in EA 13/2019 in OA 247/2019

The matter was discussed in detail. The Chairman SLMC insisted for the finalization of action plan without delay, as the time limit fixed by the Hon'ble National Green Tribunal as per order dated 12.3.2019 in E.A.No.13/2019 expired.

The Environment Secretary informed that a National Seminar on Extended Producer Responsibility was organized on 12th June 2019. The Chairman, KSPCB explained that Extended Producer Responsibility has been introduced as per the Solid Waste Management Rules, 2016, Plastic Waste Management Rules, 2016 and E-waste Management Rules, 2016, and the producer has the responsibility for the management of the waste caused due to their products. Though, presently local bodies and Producer Responsibility Organizations are collecting waste, their performance is not up to the mark. Therefore, it was suggested that the producers have to provide service to the local bodies. The Additional Chief Secretary, Local Self Government department informed that segregated non-biodegradable wastes

are to be stored in godowns and are to be channelized to registered recyclers, and to cement kiln for co-processing and the final rejects be taken for sanitary landfills. It was also suggested that, at least five places are to be identified for sanitary landfills. The Environment Secretary suggested that land has to be set apart in industrial areas and godowns can be hired for the collection of segregated wastes.

The following resolutions were taken in the meeting:

1. The State shall submit action plan for Plastic waste management in the light of the order of the NGT in EA 13/2019 in OA 247/2019 without delay.
2. KSPCB shall submit its recommendations for EPR implementation of plastics wastes to Government and the EPR action plan shall be finalized within two weeks.

3. Consideration of the list of local bodies identified as per the orders of the Hon'ble National Green Tribunal.

The Committee approved the following Corporations, Municipalities and Villages identified by the State as model local bodies in compliance of the order dated 25.04.2019 in O.A.No.606/2018 pending before the Hon'ble National Green Tribunal.

A. Corporations

1. Thiruvananthapuram.
2. Thrissur
3. Kozhikode.

B. Municipalities

1. Attingal in Thiruvananthapuram District.
2. Punalur in Kollam District.
3. Kunnankulam in Thrissur District.

C. Villages

1. Thiruvananthapuram District
 - a. Karakulam
 - b. Poovachal
 - c. Parassala

2. Kollam District

- a. Kadakkal
- b. Chavara
- c. Perinad

3. Pathanamthitta District

- a. Kulanada
- b. Aranmula
- c. Thumpamon

4. Alappuzha District

- a. Aaryad
- b. Mararikkulam North
- c. Thamarakkulam

5. Kottayam District

- a. Moonnilavu
- b. Kadaplamattom
- c. Poonjar

6. Idukki District

- a. Adimali
- b. Nedumkandam
- c. Kumaly

7. Ernakulam District

- a. Pampakuda
- b. Chottanikara
- c. Kalady

8. Thrissur District

- a. Manalur
- b. Parappukkara
- c. Peringanam

9. Palakkad District

- a. Muthuthala
- b. Sreekrishnapuram
- c. Vellinezhi

10. Malappuram District

- a. Maranchery

- b. Chaliyar
- c. Thuvvur

11. Kozhikode District

- a. Kunnummel
- b. Kuttiyadi
- c. Meppayur

12. Wayanad District

- a. Meenangadi
- b. Muttill
- c. Vythiri

13. Kannur District

- a. Pariyaram
- b. Padiyur
- c. Udayagiri

14. Kasaragod District

- a. Kinanoor
- b. ~~Bedadukka~~ b. Bedadukka *E.V.L.*
- c. ~~Madikkai~~ c. Madikkai *E.V.L.*

4. Progress of preparation of action plan relating to Tirur-Ponnai river stretches

The matter was considered in detail by the SLMC in the light of directions of the Hon'ble National Green Tribunal in O.A.Nos.582/2018 and 673/2018. The Assistant Engineer, Tirur Municipality informed that earlier there was a 20KLD ETP in the Tirur fish market. Now there is proposal for upgradation of the same to 50KLD capacity. The Secretary, Local Self Government suggested that economic viability has to be considered while setting up an ETP plant. It was pointed out that 100KLD plant would be more economically viable than a 50KLD plant. It was further suggested that while planning for effluent treatment, aspects like ensuring the quantity of effluent generated are to be taken into account.

The complaint regarding the discharge of filtrate from the water treatment plant of the Kerala Water Authority was also taken note off. It was brought to the notice of the SLMC that another source of pollution of the Tirur – Ponnani river stretches is on account of the filter back wash from KWA water treatment plant. However, the Managing Director, KWA pointed out that the filter back wash does

not contain BOD as it is pre-treated by settling and only clear overflow is let out. It was opined that the pollution is from other sources joining the channel to which the filter back wash outlet pipe is provided.

The following resolution were taken in the meeting:

1. Augmentation of effluent treatment plant in fish market has to be done within one month.
2. Sewage treatment plants for bus stand and lodges are to be completed within three months.
3. Plastic has to be collected without mixing with soil and the same be stored in godowns for keeping in dry condition. Clean Kerala Company shall monitor this activity.
4. The economic viability of the effluent treatment plant has to be checked while designing.
5. While planning for effluent treatment, the aspects like ensuring the quantity of effluent generated are to be taken into account.
6. The concerned department in CUSAT, Municipal Engineer of Kozhikode Corporation and the Environmental Engineer of District Pollution Control Board can be consulted for technical support while implementing the project.
7. Pipe line for a length of 250m for the diversion of filtrate generated from the plant of Kerala Water Authority be laid without delay. Action has to be taken to reduce the turbidity in the filtrate.

5. Bio-medical Waste Management Rules, 2016

(I) Discussion regarding Veterinary hospitals:

As Veterinary hospitals are also covered by the Bio-medical Waste Management Rules, 2016, the Chairman, SLMC enquired about the activities taken by the Department of Animal Husbandry in the matter of waste management in veterinary hospitals.

The Additional Chief Secretary holding charge of Animal Husbandry Department informed that all veterinary hospitals are administered by local bodies and there are only a few hospitals in private sector. The Additional Chief

Secretary also explained the activities of so far undertaken by the animal husbandry department in the matter.

The following resolution were taken in the meeting:

1. The list of all veterinary hospitals in the State has to be submitted by the department to the SLMC within a month.
2. A brief report on the methods so far adopted for the waste management in veterinary hospitals has to be submitted within a month.
3. A nodal officer has to be nominated by the department to the SLMC for being present in the meetings of the SLMC and also for conveying the decisions between SLMC and the Animal Husbandry Department.

(II) Discussion in the matter of O.A No.710 / 2017 regarding Bio- Medical Waste Management

Action plan with respect to Bio Medical Waste Rule shall be submitted by the State, in the light of the order of the NGT in O.A No.710 / 2017 without delay.

(III) Problems at IMAGE Palakkad noted by Chairman, KSPCB during local inspection

The report submitted by the Chairman, KSPCB after inspecting IMAGE Palakkad which is appended as **Annexure-A** to these minutes was considered by the SLMC in detail.

The Chairman, Pollution Control Board informed that, as per rules, body parts are to be collected in yellow bags for incineration and recyclables like plastic are to be collected in red bags for autoclaving. After autoclaving, there is manual segregation of waste in the red bags. It was pointed out that entry of blood containing parts in the red bags happen quite often if the segregation of biomedical waste is not proper and thus there is chance of biohazards. Therefore it was suggested that this process be made automatic.

On a specific query by the ACS, Local Self Government Department regarding the handing over of three acres of land at Brahmapuram by the Corporation of Kochi to the Health Department for setting up of CBMWTF, the

Chairman KSPCB expressed doubt regarding the viability and feasibility of such a plant as another CBMWTF is ready for installation at KEIL, which is very near to Brahmapuram.

The following resolution were taken in the meeting:

1. Training has to be given for proper segregation of bio-medical wastes by the Health departments.
 2. Inspection for ensuring proper segregation has to be done by PCB officials in all districts.
 3. Proper ventilation has to be provided in the shed and exhaust has to be treated before disposal.
 4. Directions in this regard shall be issued to IMAGE by the Pollution Control Board.
 5. Common bio-medical facility at IMAGE has to be inspected by the Environmental Engineer, District Office, Palakkad.
 6. Land has to be earmarked by Kochi Corporation for the bio-medical waste plant. Three acres of dry land which is clear as per revenue records with road access be identified by the engineering wing of the Corporation and its map shall be forwarded to the Secretary, Kochi Corporation without delay and the same shall be placed before the Council by the Secretary as a direction of the SLMC.
- 6. Report regarding alleged deposit of concrete waste in the back waters near the proposed Metro Station under KMRL at Elamkulam**

The Committee discussed the matter in detail.

The following resolution were taken in the meeting:

1. The site has to be inspected by the Chairman, SLMC along with the Chairman, KSPCB during the next week.
2. Notice has to be issued by the Pollution Control Board to KMRL if it is found that concrete waste is deposited in the water body.
3. KMRL shall be directed to follow Construction and Demolition Waste Management Rules, 2016 without fail.

4. The proposal for Construction and Demolition waste shall to be submitted by Suchitwa Mission.

7. Progress regarding the implementation of the directions of SLMC on Brahmapuram issue

It was noticed with distress by the SLMC that a good number of directions issued to the Corporation in the matter are yet to be complied with and therefore expressed displeasure over the same.

The Chairman, SLMC as well as the Additional Chief Secretary, Local Self Government opined that significant progress in waste management has to be made by the Kochi Corporation. It was noticed that wastes are being dumped on the side of the Bypass Road, Subash Chandrabose Road, K B Jacob Road, BOT Bridge to Alexander Parambithara Road, Sahodaran Ayyappan Road & Banerjee Road even if Kochi Corporation declared these roads as Zero Waste Road.

The following resolutions were taken in the meeting:

1. The proposal for bio-mining is to be vetted by PCB.
2. Suchitwa Mission shall prepare proposal for bio-mining at Kozhikode, Njaliyan Parambu also.
3. The list of bulk generators has to be submitted by Kochi Corporation within 15 days.
4. Directions shall be issued by the Corporation to the bulk generators to take steps to channelize their own wastes. As the same is homogenous and clean, channelization can easily be done.
5. The details of wards, in which segregation is complete are to be submitted.
6. Segregated plastic waste for shredding has to be stored in areas attached to the zonal offices of the Corporation.
7. Training for commercial establishments, hotel and restaurant associations and residents associations be given by Suchitwa Mission. (Action: Suchitwa Mission)
8. The Corporations shall submit action plan containing the following details;
 - a. Action taken by Kochi Corporation in each ward for waste management as per SWM Rules, 2016.
 - b. Details regarding Projects which will be implemented urgently.
 - c. Details for improving the existing waste management facility.

- d. Details of existing material collection facilities (MCFs)
 - e. Details of wards in which MCFs have to be established.
 - f. Details of places where Resource Recovery Facilities (RRFs) are functioning.
 - g. Details of the locations in which RRFs have to be newly established.
9. The Corporation shall publish the following pieces of information in the website for the public.
- a. Details of locations at which bio-degradable waste treatment bins are functioning.
 - b. Details regarding when and where the non bio-degradable wastes will be collected.
 - c. Details regarding locations where bio bins for bio-degradable wastes collection have been established.
 - d. Locations where MCFs are functioning.
 - e. Locations where RRFs are functioning.
 - f. Details regarding agencies entrusted for waste collection on ward basis.
 - g. Details regarding where the waste collected by the above agencies are treated.
 - h. Details regarding collection of non biodegradable waste.
 - i. Details regarding the treatment of how and where non biodegradable wastes are treated.
 - j. Source collection shall be extended in all wards as per NULM project.
10. The Corporation should examine how the service of Clean Kerala Company be made use of for treatment of non-biodegradable waste & e-waste.
11. Kochi Corporation should take legal action against open burning non-biodegradable waste including plastic and dumping of waste in water bodies.
12. Corporation shall take steps to establish MCFs in all wards and RRF at least in six wards.
13. Corporation shall prepare an action plan for developing a business model for effective treatment of waste.
14. Identity card should be issued to all workers engaged in waste collection. Necessary training should be imparted to workers.

15.If possible, non degradable waste other than plastics should be collected one or two days during every month.

The aforesaid directions as well as the previous directions which were not hither to complied with shall be implemented in letter and spirit within 30 days from today. The failure will be taken note of seriously.

16.Progress regarding the implementation of the directions of SLMC to Kalamassery Municipality

The Committee discussed the matter in detail.

The following resolution were taken in the meeting:

1. A detailed action plan in consultation with the Kerala State Pollution Control Board shall be submitted by the Municipality.
2. Log books of vehicles carrying waste shall be maintained properly.
3. In the event of refusal by the waste generators to pay user fee, the same can be realized along with property tax in accordance with law.
4. Training for commercial establishments, hotel and restaurant associations and residents associations shall be given by Suchitwa Mission.

The Member Secretary assured all technical support of the KSPCB for the works to be undertaken by various Departments.

The Chairman, SLMC thanked all the participants and the meeting concluded at 5.45pm.



CHAIRMAN

REPORT OF INSPECTION OF IMAGE, PALAKKAD (CBWTFD) ON 18-5-2019

IMAGE, the common biomedical facility operated by Indian Medical Association, located at Manthuruthi in Pudussery village of Palakkad district was visited by Dr. Ajit Haridas, Chairman, KSPCB accompanied by officials of the Board's Palakkad district office in 18-5-19. The unit has five incinerators, 5 autoclaves and various other machinery for washing, bailing, shredding and segregating solid waste. The capacity of treatment as per Consent to operate is 37 tons of BMW per day.

The incinerators are (1) Enslys 250 kg/hour, (2) Alphatherm 250 kg/hour, (3) Rotary 500 kg/hour, (4) Thermax 300 kg/hour and (5) New Alpha 300 kg/hour. All the five are in operation. Out of the five running incinerators, only Rotary and New Alpha are connected to OCEMS. The others are not connected to OCEMS because they propose to scrap the first two (Enslys and Alphatherm), and, to retain the Thermax as standby only, once the proposed augmentations take place. The installation of a new incinerator (sixth) was seen in advanced stage. The sixth one is envisaged to meet the new emission norms as per the BMW Rules. All the waste to be incinerated, as per the Rules, brought in Yellow bags are being incinerated.

The waste brought in Red bags, as per the Rules, are being Autoclaved. The autoclaved solid waste consisting of plastic are then sent for manual segregation into various fractions, based on size and potential for recycling. Among the waste coming for segregation, there are many blood-contaminated materials like ampoules, blood bags, etc. These are hand-segregated and put into special vessels for washing followed by shredding. The wastewater from washing of blood-contaminated waste is taken to ETP.

The plastic and glass after segregation and shredding / mutilation goes for recycling through scrap dealers. The sharps, after autoclaving, are disposed in sharp-pits.

All the wastewater from incinerator-scrubbers, blood-washing, vehicle washing, etc. are treated in ETP. The results of analyses of treated water from ETP for the last several months showed that the parameters are exceeding the irrigation / soakpit standards. Still, the treated wastewater is being used for scrubbing in

incinerators and other utilities, and rest is used for gardening / irrigation. There is no discharge of wastewater outside the premises of the facility.

Drawbacks observed

1. The unloading, storage of yellow bags and loading into incinerators take place in facilities that have poor hygiene and intense smell. Some of the yellow bags leak or break. There is inadequate ventilation.

Recommendations: Proper ventilation with artificial means (exhaust and fresh air blowers) should be provided in these sheds. The exhaust air must be treated through gas biofilters.

2. Washing of blood, contaminated bags and ampoules, glucose IV bottles and tubing etc. contributes to the high BOD in the wastewater. It is one of the reason for poor performance of the ETP. Manual segregation and recovery of contaminated materials is unhygienic and unhealthy for workers. The economic benefit of salvaging the plastic materials, after washing blood and other contaminants is doubtful.

A new ETP is under construction. ETP treated water is used to quench and scrub incineration gases. This operation evaporates part of the water and concentrates the dissolved minerals, that must be removed from the system to avoid TDS build up. Hence, zero discharge is not feasible.

Recommendations:

- Blood-contaminated plastic waste shall also be incinerated. Blood bags and blood sample vials must be put in yellow bag and incinerated as per Rule. There is inadequate separation at Health Care Facilities. Health Department must organize training programmes for Hospitals and other facilities to ensure proper segregation.
- The new ETP may be augmented with anaerobic reactor for pretreatment of high strength wash water.

- Feasibility of indirect cooling of hot incinerator gases with heat exchanger and cooling tower may be examined so as to achieve zero discharge.
 - The BWM Rules 2016 permit contaminated wastes such as urine bags and gloves in Red Bags, that are autoclaved and manually sorted to recover plastic. It is preferable to incinerate such materials with minimal handling. The economic benefit of recovering plastic from such items should be secondary to public objective of safe disposal. *We recommend a relook at the rules at national level regarding urine bags, gloves, catheters, tubings, medicine contaminated bottles.*
3. The operation of scanning of bar-codes in all the bags and weighing them, has also resulted in excessive manual handling of waste. It has allowed proper tracking and inventory management, but it results in exposure of workers.

Recommendation: National level review of the processes is required to reduce manual handling operations of biomedical waste by proper streamlining processes, tracking technologies, and avoiding unnecessary operations.

4. The Palakkad facility, being the only one in the state, is overloaded. The transportation distance is excessive. Waste is transferred from small collection vehicles to large vehicles to cover the long distance. This creates more manual handling, possibility of bag breakage and spills.

Recommendation: Immediate action for establishing more CBWTDFs in the state. The BWM Rules 2016 is silent on the Authority responsible for establishing adequate numbers of CBWTDF. CPCB has been addressed on this regard.

Chairman, KSPCB

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