

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

**IN**

**ORIGINAL APPLICATION NO. 100 of 2021**

Petitioner: Suo Moto

Versus

Respondent(s): The Chief Secretary to Govt. of TamilNadu &  
Others

**REPORT FILED BY THE SENIOR ENVIRONMENTAL ENGINEER, REGIONAL  
OFFICE, ERNAKULAM FOR AND ON BEHALF OF THE KERALA STATE  
POLLUTION CONTROL BOARD**



Adv. Rema Smrithi.

ADDITIONAL STANDING COUNSEL FOR THE RESPONDENT No.12

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SOUTHERN ZONE, CHENNAI**

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Dated this the 02<sup>nd</sup> Day Of March 2024

**Rema Smrithi**, Advocate

ADDITIONAL STANDING COUNSEL FOR THE RESPONDENT

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
(SOUTH ZONE)**

**O.A. NO. 100/2021**

**Suo Moto**

::

**Petitioner**

**Vs.**

**The Chief Secretary to Govt.  
of TamilNadu & Others**

::

**Respondents**

**REPORT FILED BY THE SECOND RESPONDENT IN THE ABOVE  
CASE**

I, Shiju M A, aged 46 years, S/o M C Ayyankutty, residing at Meenangadi, Wayanad Senior Environmental Engineer, Kerala State Pollution Control Board, Legal Cell, Ernakulam, do hereby solemnly affirm and state as follows:

1. I am the Senior Environmental Engineer, Kerala State Pollution Control Board (hereinafter referred to as Board), and duly authorized to represent the 12th respondent in the above case. I am aware of the facts affirmed by me in this report. I am swearing this report based on the best of my knowledge, information and belief and the facts revealed from the records.
2. The above Suo Motu Case is taken on records by this Hon'ble Tribunal in view of the news item published in 'The New Indian Express', E-Paper, Chennai Edition dated 09.10.2023 under the caption "Tamil Nadu village roads turn Kerala's dump yard, 10-tonne waste dropped in one night".



*Shiju M.A.*

**SHIJU M.A.**  
Senior Environmental Engineer  
Kerala State Pollution Control Board  
Regional Office  
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3. The Hon'ble NGT vide order dated 24-12-2021 directed to consider developing the possibility of a continuous online monitoring system to monitor the total input of raw materials procured, produced, how it is being used and disposed. In this connection, Kerala PCB has identified agency for developing online vehicle tracking mechanism following the tender procedure. Responsive web application for Pollution Control Board and waste generators, Android app for drivers, generators and receptors are included in the scope of work. Tamil Nadu Pollution Board has been asked vide letter no. PCB/HO/EE3/OA 100/2021(SZ) dated: 27.10.2023 to co-operate in the development of the continuous online vehicle tracking mechanism. A copy of the aforementioned letter is submitted and produced herewith as Annexure R12 (1).
4. In compliance with the order of Hon'ble NGT, Chairman level meetings were convened by CPCB on 05.01.2024 and 19.01.2024 respectively . The SOPS/Action Plan/Action points prepared by the CPCB has been approved by the Government of Kerala and submitted to CPCB vide letter No. ENVT-B2/27/2021-ENVTdated 17/02/2024. A copy of the letter with approved Action Plan For Prevention of Illegal Interstate Movement of Waste along with the Guidance Manual For Waste Generators/Transporters/Collectors & Stakeholders regarding Online Vehicle Tracking System by KSPCB are submitted and produced herewith as **Annexure R12 (2)**. It is humbly submitted that the follow up actions are being taken for the compliance of time bound actions mentioned in the action plan.

All the facts stated above are true to the best of my knowledge, information and belief.

Dated this the 2<sup>nd</sup> day of March 2024



SENIOR ENVIRONMENTAL ENGINEER  
LEGAL CELL, ERNAKULAM



**SHIJU M.A.**  
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**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
SOUTHERN ZONE, CHENNAI  
IN**

**ORIGINAL APPLICATION NO.100 of 2021**

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Dated this the 02<sup>nd</sup> Day Of March 2024

**Rema Smrithi**, Advocate  
ADDITIONAL STANDING COUNSEL FOR THE RESPONDENT



## KERALA STATE POLLUTION CONTROL BOARD

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

Patton P.O., Thiruvananthapuram – 695 004

പട്ടം പി.ഒ., തിരുവനന്തപുരം - 695 004



PCB/HO/EE3/OA 100/2021(SZ)

Date: 27.10.2023

From

Member Secretary

To

The Chairperson  
Tamil Nadu State Pollution Control Board ,  
76, Mount Salai,  
Guindy, Chennai-600 059

Subject : Allegation in Illegal Transport of Waste to Tamilnadu- OA

No.100/2021-reg.

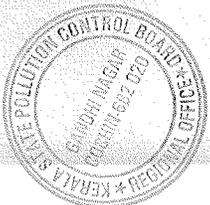
Ref :1. Lr. No.T31TNPCB/BMW/F 2057612023-1 Dated :25.09.2023.

2. This Office Letter of even no. Dated 17.10.2023

Madam,

In continuation to the letter under ref 2, it may please be noted that as per order dated 24/12/2021 of the Hon'ble National Green Tribunal in OA 100/2021, SPCBs of Kerala , Tamilnadu have to consider developing the possibility of a continuous online monitoring system to monitor the total input of raw materials procured, produced and how it is being used and disposed . In the regard , it may kindly be noted that in Kerala regarding biomedical waste , there are two Common Biomedical Waste Treatment Facilities (CBWTFs) – KEIL at Ernakulam and IMAGE at Palakkad. These facilities are having own vehicle tracking mechanism. KEIL is having 15 vehicles and IMAGE is having 74 vehicles. As these vehicles are under close monitoring, there is no chance of unauthorized biomedical waste disposal. Besides the above, the Board has entrusted NIIST (National Institute For Interdisciplinary Science & Technology) Trivandrum to conduct a gap analysis in biomedical waste generated in the State. Further regarding to

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- 2 -

solid waste, the Board is developing the web application for Pollution Control Board and waste generators to track the waste transporting vehicle through GPS device data including responsive web app and Android mobile app .It may please be noted that there are no waste to energy plant and cement plants having co-incineration in Kerala. Non recyclable plant waste is disposed in the cement plant of at Tamil Nadu. Recyclable waste are also taken to Tamilnadu for recycling. Hence it is essential to register such units in Tamilnadu in the tracking portal . Hence cooperation in this regard is solicited. Reply in this regard may kindly be given at the earliest .

Yours faithfully,

*Shwaj*

**MEMBER SECRETARY**

*Shwaj*

Copy to :

1. The Secretary to Government  
Environment Department
2. The Member Secretary  
Central Pollution Control Board  
Parivesh Bhavan,  
East Arjun Nagar,  
New Delhi-110032
3. The Regional Director  
Regional Directorate,A-Block,  
Nisarga Bhavan,Thimmaiah Road  
Shivanagar, Bengaluru

} with covering letter



*Shwaj*

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GOVERNMENT OF KERALA  
Environment (B) Department

No.ENVT-B2/27/2021-ENVT 17-02-2024, Thiruvananthapuram

From

Secretary to Government

To

The Chairman  
Central Pollution Control Board  
Parivesh Bhavan, East Arjun Nagar  
New Delhi 110032  
(email : ccb.cpcb@nic.in)

Sir,

Sub: Environment Department - OA 100/2021- Action Plan for prevention of illegal Inter State movement of wastes- forwarding off - reg

Ref: 1) Minutes of the meeting held on 24/01/2024.

2) Letter received from Kerala State Pollution Control Board No.PCB/HO/EE3/OA 100/2021(SZ) dated 08/02/2024.

I am directed to forward herewith the draft Action Plan and Standard Operating Procedure (SOP) (including guidance manual), along with the concurrence of Secretary to Government Environment department for further action.

Yours Faithfully,

L T SANTHOSH KUMAR  
ADDITIONAL SECRETARY  
For Secretary to Government.



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OA 100/2021 : ACTION PLAN for PREVENTION OF ILLEGAL INTERSTATE MOVEMENT OF WASTE

Sl. No.	Issue/ Gap	Action to be taken	Agencies involved	Proposed Measures for Implementation of Action Point	Status/ Comments
<b>1.0 Online Tracking System</b>					
1.1	Registration of waste generators	Kerala SPCB and Suchitwa Mission shall interact with all occupiers including the local bodies, institutions, informal sectors, scrap dealers etc for information regarding the waste tracking portal as well as for registration in it	<ol style="list-style-type: none"> <li>Suchitwa Mission</li> <li>Kerala SPCB</li> <li>District Administration</li> <li>Local Self-Government Department</li> </ol>	<ol style="list-style-type: none"> <li>Meeting with all occupiers and stakeholder informing them of the system and inviting them to register on it</li> <li>Communication to District Administration for cancellation of trade license of all scrap dealers who do not register in the portal</li> </ol> <p style="text-align: center;"><b>Details in SOP 1</b></p>	<ul style="list-style-type: none"> <li>Total scrap dealers list will be provided by Suchitwa Mission. The list of all scrap dealers not registered in the online tracking system shall be provided by KSPCB to Suchitwa Mission.</li> <li>Interaction with Private agencies engaged in waste collection was conducted on 22.12.2023</li> <li>Interactive meeting is scheduled on 14.02.2024 with plastic recyclers in the State</li> <li>It is planned to conduct meeting with Suchitwa Mission, Regional/District Offices of the Board, District Collectors and LSGD, ULBs, MVD, Police, Excise, GST, CKCL, Scrap Associations, Private Agencies, Kerala Plastic Manufacturing Association, Plastic Recycling Association, Industries Associations, Small Scale Industries Association, CBWTFs (IMAGE &amp; KEIL), Chamber of Commerce, Lorry booking association, Hotel, restaurants, and Catering Association in the third week of February 2024</li> </ul>



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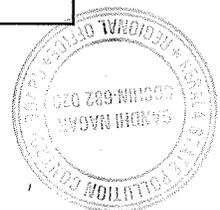
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1.2	Registration of transporters	Kerala SPCB shall interact with the occupiers and the transporters regarding registration in the online tracking portal	<ol style="list-style-type: none"> <li>Suchitwa Mission</li> <li>Kerala SPCB</li> <li>District Administration</li> </ol>	<ol style="list-style-type: none"> <li>The Suchitwa Mission shall prepare a detailed list of occupiers</li> <li>Kerala SPCB and Suchitwa Mission shall interact with all occupiers and inform them regarding the system of registration of vehicles. Further, criteria for the vehicles shall also be specified to them</li> <li>Identification of defaulters and submission of details to District Administration by Suchitwa Mission</li> <li>Revocation/ cancellation of trade licenses and other permission issued to defaulter shall be done by District Administration upon receipt of information from Suchitwa Mission</li> </ol>	<ul style="list-style-type: none"> <li>Major occupiers are LBs. List of transporters will be collected by Suchitwa Mission. (completed by 31st March 2024)</li> <li>It is planned to conduct meeting with Suchitwa Mission, Regional/District Offices of the Board, District Collectors and LSGD, ULBs, MVD, Police, Excise, GST, CKCL, Scrap Associations, Private Agencies, Kerala Plastic Manufacturing Association, Plastic Recycling Association, Industries Associations, Small Scale Industries Association, CBWTFs (IMAGE &amp; KEIL), Chamber of Commerce, Lorry booking Association, Hotel, restaurants, and Catering Association in the third week of February 2024</li> <li>Trade license is issued by Localbodies. Further action on defaulters is to be done by Localbodies</li> </ul>
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1.3	Registration of waste receivers	Kerala SPCB shall interact with the Suchitwa Mission and Tamil Nadu SPCB regarding registration in the online tracking portal	Suchitwa Mission Kerala SPCB Tamil Nadu SPCB	<p>1. The waste receivers registered in the online portal shall be the entity for declaring the closing the movement of designated movement</p> <p>2. Kerala SPCB shall be the agency responsible for registering the waste receivers in the online tracking portal</p> <p>3. Kerala SPCB shall develop criteria for registering the waste receivers in the online portal, which shall include approvals such as consents/authorizations of SPCBs</p> <p>4. The Suchitwa Mission shall prepare a list of all waste management facilities in the State of Kerala for updation in the online tracking portal</p> <p>5. Tamil Nadu SPCB shall provide details of all plastic waste management facilities in the State of Tamil Nadu to Kerala SPCB for their registration in the online tracking system</p> <p>5. Kerala SPCB, Suchitwa Mission and Tamil Nadu SPCB shall interact with all waste receivers and inform them regarding the system of registration of vehicles.</p> <ul style="list-style-type: none"> <li>• KSPCB will register waste receivers in Kerala. As the portal is meant for tracking of vehicles involved in interstate waste transportation, SPCB concerned is responsible for registering waste receivers (recyclers and cement plants) under their jurisdiction.</li> <li>• Guidance Manual is under preparation</li> <li>• List of non-biodegradable waste management facilities such as MCF/ RRF shall be provided by Suchitwa Mission</li> </ul>
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1.4	Checking of Vehicles	Development of QR Code for checking of the legality of vehicles as part of the vehicle tracking system  Mandates to agencies, such as DTO/ RTO, Police Personnel, to verify the legality of waste being transported both within and outside Kerala and to initiate actions against defaulters	<ol style="list-style-type: none"> <li>1. State Government</li> <li>2. Department of Environment</li> <li>3. LSGD</li> <li>4. Kerala SPCB</li> </ol>	<ol style="list-style-type: none"> <li>1. Incorporation of system for QR Code generation for checking of vehicles by KSPCB</li> <li>2. Meeting with State Government by Department of Environment, LSGD and Kerala SPCB regarding issuance of directions for mandatory display of QR code and for ensuring that the relevant departments conducts random checking of vehicles transporting wastes</li> </ol>	Online vehicle tracking portal by KSPCB will be operational within 2 months. Mobile application will be shared with all stakeholders like e- vahan. Details of waste transported will be available to the checking authority on entering the vehicle number. Provision for QR code can also be made. ( Will be completed by 31st March 2024).
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<b>2.0 Waste Management by Kerala SPCB</b>	
2.1	<p><b>Empanelment of Waste Management Agencies</b></p> <p>Suchitwa Mission will include relevant permissions from the Kerala SPCB prior to their empanelment. These permissions may be in the form of consents, authorization, NOCs. It must also be ensured that the waste management agencies are limited to the scope of their empanelment in their association with the local bodies.</p> <p>The existing empanelment shall be terminated and fresh empanelment shall be done as per the revised criteria</p> <p>LSGD shall ensure that all agencies engaged by the local bodies are in line with the scope of empanelment</p>
<ol style="list-style-type: none"> <li>1. Suchitwa Mission</li> <li>2. LSGD</li> </ol>	<ol style="list-style-type: none"> <li>1. Suchitwa Mission shall make relevant amendments in their criteria for empanelment to incorporate from Kerala SPCB as one of the mandatory conditions. Further it should also include forfeitable performance bank guarantees from agencies at the time of empanelment to ensure delivery of performance</li> <li>2. LSGD will issue direction to all local bodies to ensure that the engagement of the agencies are in line with their scope of empanelment</li> </ol>



  
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2.2	Inventory of Solid Waste	Kerala SPCB will work with the LSGD to ensure that all Local Bodies prepares a detailed inventory of the waste management system in their respective jurisdiction focusing on on quantifying and characterizing the waste generated, means of transportation, agencies involved, processing/ disposal mechanisms adopted, record maintenance, and gap analysis.	<ol style="list-style-type: none"> <li>1. Kerala SPCB</li> <li>2. Suchitwa Mission</li> <li>3. KSWMP</li> </ol>	<ol style="list-style-type: none"> <li>1. Kerala SPCB shall issue direction to Suchita Mission for development of detailed inventory</li> <li>2. Suchitwa Mission shall prepare the inventory and conduct gap analysis, which will be submitted with recommendation for development or augmentation of processing facilities to the Urban Development Department</li> </ol>
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<p>2.3</p>	<p>Development of facilities management non-recyclable plastics</p>	<p>of Kerala SPCB shall ensure that for local authorities and Panchayats shall provide disposal facility as per Clause 15(v)(b) of the Solid Waste Management Rules, 2016 with time frame action plan</p> <p>Co- processing of wastes in Cement Industry, Pallakad, Kerala in compliance with Rule 18 of the Solid Waste Management Rules, 2016</p>	<p>1. UDD 2. LSGD 3. KSWMP 3. Suchitwa Mission 4. District Administration 5. Kerala SPCB</p>	<p><b>Section A</b></p> <p>1. Estimation of gap in treatment/ processing of waste especially w.r.t. non-recyclable plastic by Suchitwa Mission/ KSWMP.</p> <p>2. DPR preparation and tendering by Suchitwa Mission/ KSWMP</p> <p>3. Allocation of land for setting up of the unit by UDD/ LSGD/ District Administration</p> <p>4. Commissioning/ Operation of WME by Local Bodies Technical support by Kerala SPCB</p> <p><b>Section B</b></p> <p>1. Kerala SPCB shall Issue direction to M/s Malabar Cement, Pallakad, Kerala to ensure setting up of facilities for co-processing of waste as per Rule 18 of the Solid Waste Management Rules, 2016</p>	<p>1. Waste Quantification Survey Completed in 65 ULBs. With the Gap Analysis of SWM from the survey, Draft SWM Plan Prepared for 30 ULBs and 35 under Progress. Will be Completed by 31.03.2024.</p> <p>Waste Quantification in balance 28 ULBs will be completed by 31.03.2024. And SWM Plans with the Data from gap Analysis will be completed by 30.06.2024. (Initial Gap Identification for these 25 ULBs completed by taking per capita waste generation of 400 gpcd.)</p> <p>2. Since SWM Plans are not finalized for ULBs, Year 1 Projects (2023-24) were taken under KSWMP for the Improvement of 80 No. of Existing MCF and RRF facilities without enhancing capacity of the facility. DPRs prepared and Issuing Technical Sanction in progress. Tenders will be called by 30.06.2024.</p> <p>DPR Preparation for New MCFs and RRFs will be taken as part of Year 2 Projects (2024-25) in due course with the finalization of SWM Plans.</p>
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Candhi Nagar



2.4	Registration of Local Bodies in the EPR Portal	The Kerala SPCB shall interact with the local bodies regarding registration in the Centralized Extended Responsibility Portal for Plastic Packaging	<ol style="list-style-type: none"> <li>1. LSGD</li> <li>2. Kerala SPCB</li> </ol>	<ol style="list-style-type: none"> <li>1. Meeting with local bodies regarding the provisions of the EPR Guidelines and the benefits of registration in the portal.</li> <li>2. Regular review on registration status of ULBs.</li> </ol>	User ID of Nodal officer, of Urban Directorate was received in Third week of January 2024. Action is being taken to register LBs in the portal.
2.5	Integration of Informal Sector to Formal Sector	Kerala SPCB ensure that the Secretary UDD integrates the informal sector to the formal sector through registrations in line with Rule 11(c), Rule 11(m) and Rule 15(c) of the Solid Waste Management Rules, 2016.	<ol style="list-style-type: none"> <li>1. LSGD</li> <li>2. Kerala SPCB</li> <li>3. Kerala Scrap Merchants Association</li> </ol>	<ol style="list-style-type: none"> <li>1. Kerala SPCB Shall issue directions to LSGD to ensure integration of informal sector to the formal sector in line with the provisions of Rule 11(1)(c), Rule 11(1)(m) and Rule 15(c) of the SWM Rules, 2016</li> <li>2. Meeting with LSGD and KSWMP</li> </ol>	<p>Action is being taken.</p> <p>An interactive meeting with the private agencies was conducted on 22.12.2023. Further meetings are proposed from the third week of February 2024.</p>



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<p>2.6</p>	<p>Waste Management Agency: Clean Kerala Company Ltd. (CKCL)</p>	<p>CKCL should function as a full-fledged waste management entity with all necessary authorizations and consents mandated under relevant waste management rules. Further, all infrastructures for collection, storage, segregation, transportation, processing and disposal must be available for management of non-biodegradable fractions of MSW.</p>	<p>1. Kerala SPCB 2. LSGD</p>	<p>1. Issuance of directions to CKCL by Kerala SPCB for development of necessary infrastructure with adequate capacities for the management of non-recyclable plastic waste in the state. Infrastructure shall be provided for all activities such as collection, storage, segregation, transportation, processing and disposal. The direction should also highlight that CKCL should obtain all necessary consents and authorizations</p> <p>2. Kerala SPCB to meet LSGD, KSWMP, Suchitwa Mission and CKCL regarding development of facilities by CKCL and also for obtaining the requisite permission from Kerala SPCB</p> <p>3. Field Verification by Kerala SPCB to ensure that all the infrastructure are provided</p> <p>4. Issuance of consents/ authorizations as per applications submitted by CKCL</p>
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Instruction was already issued to CKCL. Matter is being followed up. A meeting with CKCL officials was conducted on 10/01/2024 and 02.02.2024 by KSPCB.

Meeting with Stakeholders was conducted by KSPCB on 12.02.2024



*(Signature)*  
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 Kerala State Pollution Control Board  
 Regional Office  
 Gandhinagar, Kochi-682020

2.7	Action against identified violators	Kerala SPCB shall file CrPC case against all the defaulters including transport agencies involved in illegal handling, transportation & disposal of waste	1. Kerala SPCB	Kerala SPCB shall file FIR against all defaulters involved in illegal interstate transportation of solid waste including waste handlers (source) and transport agencies Kerala SPCB shall also impose penalties against the identified defaulters. Similar exercise shall also be completed in the issue of illegal waste disposal from Kozhikode to Erode (December 13, 2023), the detailed information (transport, waste handler) of which was communicated by CPCB Team to Kerala SPCB	The Kerala PCB has filed a complaint before SHO, Ferok based on the FIR by TN Police on the incident at Erode on 13.12.2023.
<b>3.0 Bio Medical Waste Management in Kerala</b>					
3.1	Membership of CBWTF	LSGD shall ensure that all local bodies & panchayat that membership of Common Biomedical Waste Management Facilities is obtained by them for the management of domestic biomedical waste	1. LSGD	Issuance of direction to all local bodies and panchayats to obtain membership of common biomedical waste treatment facilities for disposal of domestic biomedical waste	
3.2	Compliance of BMW Rules, 2016	The State Health department to ensure compliance with all provision of the BMW Rules, 2016 especially with regards to Rule 4(f)	1. Health Department, Kerala	State Health Department shall issue directions to all Health Care Facilities to ensure that no untreated biomedical wastes are disposed of to agencies other than the CBWTF. This is in compliance with Clause 4 of the Biomedical Waste Management Rules, 2019 (as amended).	



*SHJU M.A.*

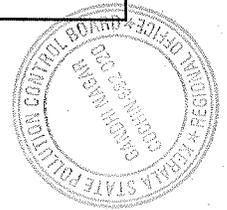
Senior Environmental Engineer  
Kerala State Pollution Control Board  
Gandhi Nagar, Kochi-682020

3.3	Collection of BMW	Kerala SPCB shall issue direction to the CBMWTFs to collect the waste on times from Healthcare facilities and dispose within the timeframe as prescribed under BMW Rules, 2016	1. Kerala SPCB	Issuance of directions to CBWTFs to ensure that all biomedical wastes are collected within the stipulated timeframe as per Rule 8(7) of the Biomedical Waste Management Rules, 2019 (as amended)	Instruction was issued to CBWTFs vide letter no. KSPCB/913/2022-EE-2 dated 06.02.2024
<b>4.0 Waste Management by Tamil Nadu SPCB</b>					
4.1	Details of coprocessors and recyclers in Tamil Nadu	The Tamil Nadu SPCB shall conduct a detailed inventory of the coprocessing and recycling units and assess the quantity of wastes that can be received from Kerala. This information shall be shared with Kerala SPCB to ensure that no excess waste is transported from Kerala for the	1. Tamil Nadu SPCB 2. Kerala SPCB	1. Tamil Nadu SPCB shall prepare a detailed inventory of the recycling and coprocessing units in Tamil Nadu capacities to estimate the quantity of waste from Kerala that can be accommodated by them 2. Tamil Nadu SPCB shall communicate the details to Kerala SPCB together with the details of the coprocessors and recyclers for incorporation in the online tracking system 3. Kerala SPCB shall update the list of receivers in the online tracking system and also ensure that no excess waste is transported to Kerala except upon receipt of official request from Tamil Nadu SPCB	



*(Signature)*  
**S.H. J. M. A.**  
 Senior Environmental Engineer  
 Regional Office  
 Kerala State Pollution Control Board  
 Gandhinagar, Cochin-682020

4.2	Conduction of IEC Programmes	Tamil Nadu SPCB shall ensure that local bodies conduct Education and Information, Communication and (IEC) Programmes for the generation of awareness of the public regarding the various provisions of the Solid Waste Management Rules, 2016 and the byelaws with emphasis on penalties.	1. SPCB Tamil Nadu	1. Issuance of direction to Directorate of Municipal Administrations (DMA) for conduction of IEC programmes through local bodies for generating awareness among the general public regarding provisions of SWM Rules, 2016, byelaws and penal provisions 2. Follow up with DMA regarding conduction of the programmes and compilation of reports
4.3	Checking at interstate check posts	Tamil Nadu SPCB shall communicate to the District Level Monitoring Committees regarding checking of the vehicles at the interstate borders to check for illegal wastes transportation. The tracking system being developed by Kerala SPCB may also be utilized for this purpose.	1. District Level Monitoring Committee 2. Tamil Nadu SPCB	District Level Monitoring Committees shall issue communication to all concerned departments regarding checking of vehicles at the interstate borders ensuring issuance of standing orders mandating the verification of legality of wastes as well as levying penalties against defaulters. Tracking system which is being developed by Kerala SPCB be also be utilized for this purpose
<b>5.0 Development of Guidelines</b>				
5.1	Development of guidelines for interstate movement of waste	A guideline for the interstate movement of waste shall be developed by CPCB in line with Rules 14(j) of the Solid Waste Management Rules, 2016	1. CPCB	1. Consultation with SPCBs/ PCCs regarding issues and best practices with interstate movement of wastes 2. Formation of Committees for drafting of guidelines of Finalization and publication of Guidelines



*[Handwritten Signature]*

SHJU M. A.  
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SOP 1.1

Measure for Registration of Occupiers

Introduction

An online tracking system is being developed by the Kerala State Pollution Control Board. The Suchitwa Mission is the technical wing of the Local Self Government Department and is responsible for providing technical support for executing projects by Local Self Government Department pertaining to solid waste management in the state of Kerala. The online tracking system is to track the movement of solid waste both within and outside the state of Kerala.

Definition of terms

Collection: In the context of the online tracking system, the term "collection" means picking up of waste from the point of origin such as households, bulk waste generators, institutions, industries, by agencies such as Haritha Karma Sena, who are the agencies identified by the local bodies, and its subsequent movement to the designated facilities such as Material Collection Facility (MCF) or Resource Recovery Facility (RRF) or any other similar collection/ processing facilities such as secondary storage points, godowns, etc.

Occupier: In the context of the online tracking system, the term "Occupier" means a person having administrative control over the facility utilized for activities such as storing, segregating or processing of solid waste which includes Material Collection Facilities (MCF), Resource Recovery Facility (RRF), composting facilities, secondary storage facilities, godowns or any other similar setups including godowns and processing facilities managed by scrap dealers, waste pickers, and other components of the informal sector. However, facilities meant for disposal of plastic waste such as recyclers, waste to energy plants (WtE) or coprocessors such as cement industries are not included in this definition.

Receivers: In the context of the online tracking system, the term "Receiver" means a person having administrative control over the facility utilized for disposal of solid waste both within or outside the state of Kerala. This will include facilities like recycling plants, waste to energy plants (WtE) and coprocessors such as cement industries, composting facilities.

Transportation: In the context of the online tracking system, the term "transportation" refers to the movement of waste from a designated site/ location to another. This, however, will not include movement as described under collection of waste

Activities and timelines



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Sl. No.	Activity	Time Frame
1.	Kerala SPCB and Suchitwa Mission will prepare a detailed list of occupiers in the state. All relevant stakeholders such as Principal Directorate (Urban and Rural), Panchayats, Municipalities, Corporations and waste management agencies empanelled by Suchitwa Mission will be informed about the portal with specific reference to registration in the system. The Scrap Merchants Associations have membership of over 3000 scrap dealers in the state. Detailed interaction and awareness programmes shall be conducted with them.	Interactions across all districts shall be completed by February 2024  Registration of all occupiers on the tracking system shall be completed within two months from the date of launching of the online tracking system
2.	The list of all scrap dealers not registered in the online tracking system shall be made available by Suchitwa Mission to the District Administration (District Magistrate/ District Collector/ Deputy Commissioner). Upon receipt of the list the District Administration shall initiate action for revocation or cancellation of trade licenses and other permission of all such scrap dealers within two weeks	List to be provided by Suchitwa Mission within three months from the launch of the online tracking system
3.	Information regarding the online tracking portal and the registration of occupiers shall be made available to the public in general through print, electronic and social media. It must also include coverage in local news (both print and televised). Information regarding the online tracking system shall also be displayed on the websites of all relevant departments such as Suchitwa Mission, Kerala Solid Waste Management Project, Local Self Government Department and Kerala State Pollution Control Board.  Kerala SPCB shall ensure the fulfillment of this activity	Advertisement shall commence in January 2024 and shall be a regular activity for at least 6 months

**SOP 1.2**

**Registration of Transporters**

**Introduction**

The online tracking system is being developed by the Kerala State Pollution Control Board for the purpose of real time tracking of movement of waste both within and outside the state of Kerala.

**Definition of Terms**

Transporters: In the context of the online tracking system "Transporters" means all agencies who deploy their vehicles for the purpose of transportation of wastes either on contractual or on regular basis within and outside the State of Kerala

**Activities and timelines**

  
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SI. No.	Activity	Time Frame
1.	To prevent registration of unauthorized vehicles in the online portal registration of transporters must be done by occupiers registered in the online tracking system only. Registration directly by transporters should not be allowed in the online tracking system. Kerala SPCB shall ensure that this feature is incorporated in the system	To be completed by February 2024
2.	Criteria for vehicles must be defined for registration in the online tracking portal. This should include valid documents (such as RRC, pollution under control certificate, permits for transportation, etc) as mandated by the transport department of the state where the vehicle is registered, Global Positioning System (GPS), valid license of the driver(s). Registration of vehicles on the online tracking system should not be permitted without fulfillment of these criteria. Kerala SPCB shall ensure that this feature is incorporated in the online tracking system.	To be completed by February 2024
3.	GPS based vehicle tracking is being implemented by Kerala Motor Vehicle Department (KMVD) and the online portal may be developed in line the Vehicle tracking & monitoring programme being implemented by KMVD Meeting/ discussion between Kerala SPCB and the Motor Vehicle Department shall be done regarding privacy issue on utilization of GPS data of public transport vehicle for waste transportation	To be completed by February 2024
4.	Kerala SPCB and Suchitwa Mission shall interact with all occupiers and inform them regarding registration of the vehicles on the online tracking system as well as the criteria for registration	To be completed by February 2024
5.	Information regarding the online tracking system and the registration of vehicles shall be made available to the public in general through print, electronic and social media. It must also include coverage in local news (both print and televised). Information regarding the online tracking system shall also be displayed on the websites of all relevant departments such as Suchitwa Mission, Kerala Solid Waste Management Project, Local Self Government Department and Kerala State Pollution Control Board. Kerala SPCB shall ensure the fulfillment of this activity	Advertisement shall commence in January 2024 and shall be a regular activity for at least 6 months

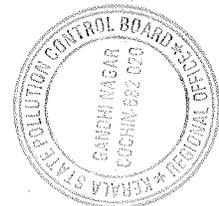
**SOP 1.3**

**Tracking of Movement of Waste**

**Introduction**

The online tracking system is being developed by the Kerala State Pollution Control Board. The system has two major components viz. the web port and the mobile application. The system allows tracking of movement of waste by Kerala SPCB centrally on a real-time basis both within and outside the State of Kerala.

The checking of vehicles at the interstate borders are being done by the DTO/ RTO, Police and Forest Departments. However, these agencies do not have any specific mandates for checking interstate movement of wastes. As such there is a need to mandate such checkings. Further, there is also a need to develop a Quick Response (QR) System for verifying the legality of the transportation of wastes especially across interstate borders.



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**Activities and Timelines**

Sl. No.	Activity	Time Frame
1.	The online tracking system allows generation of a manifest system for every authorized transportation of wastes. Kerala SPCB shall ensure that a system for generation of a Quick Response (QR) Code together with all manifest is developed in the online tracking system. The QR code shall display all details of the transportation such as details of occupier, details of receiver, type of waste, quantity of waste, date of journey and details of the transport agency. It must also be ensured that the validity of the QR Code expires upon receipt of the waste by the receiver  Kerala SPCB shall ensure that this provision shall be incorporated in the online waste tracking system	To be completed by February 2024
2.	Kerala SPCB, Department of Environment and the Local Self Government Department shall communicate with the State Government of Kerala to ensure issuance of directions mandating display of QR Codes. Further, any and all vehicles transporting waste without displaying any QR code or with expired QR code, shall be considered as illegal waste transportation. Actions against defaulters shall be initiated with immediate effect, which should include penal provision, on-spot fines and seizure of vehicle.	The issuance of directions by State Government of Kerala shall be completed by March 2024
3.	Kerala SPCB, Department of Environment and the Local Self Government Department shall communicate across all interstate borders utilizing the QR Code by all concerned agencies such as the DTO/ RTO, Police, LSGD and Forest Departments. Other agencies manning the interstate check gates shall also be provided with the same mandate  Initiation of actions against violators including imposition of fine and penalties shall be the responsibility of the agency identifying the violation. The details of such action shall be documented in the online tracking system through the mobile application.	The issuance of directions by State Government of Kerala shall be completed by March 2024

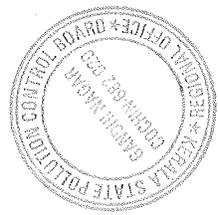
**SOP 1.4**

**Registration of Receivers in the online tracking system**

**Introduction**

An online tracking system is being developed by the Kerala State Pollution Control Board. The Suchitwa Mission is the technical wing of the Local Self Government Department and is responsible for providing technical support for executing projects by Local Self Government Department pertaining to solid waste management in the state of Kerala. The online tracking system is to track the movement of solid waste both within and outside the state of Kerala.

For successful tracking of waste, it must be ensured that no unauthorized entities are registered as receivers in the system.



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Sl. No.	Activity	Time Frame
1.	<ol style="list-style-type: none"> <li>1. The waste receivers registered in the online portal shall be the entity for declaring the closing the movement of designated movement</li> <li>2. Kerala SPCB shall be the agency responsible for registering the waste receivers in the online tracking portal</li> <li>3. Kerala SPCB shall develop criteria for registering the waste receivers in the online portal, which shall include approvals such as consents/ authorizations of SPCBs</li> <li>4. The Suchitwa Mission shall prepare a list of all waste management facilities in the State of Kerala for updation in the online tracking portal</li> <li>6. Tamil Nadu SPCB shall provide details of all plastic waste management facilities in the State of Tamil Nadu to Kerala SPCB for their registration in the online tracking system</li> <li>6. Kerala SPCB and Suchitwa Mission and Tamil Nadu SPCB shall interact with all waste receivers and inform them regarding the system of registration of vehicles</li> <li>7. Kerala SPCB shall ensure incorporation of these features in the online tracking system</li> </ol>	To be completed within one month from the launch of the online tracking system

**SOP 2.1**

**Empanelment of Waste Management Agencies**

**Introduction**

The Suchitwa Mission is the technical support under the Local Self Government Department, Kerala. The Suchitwa Mission is the body responsible for empanelment for agencies for management of solid as well as plastic wastes. The agencies are providing their services for management of various types of wastes to the local bodies. However, the empanelled agencies are functioning without any form of approval, such as consents and authorization from the Kerala SPCB.

Approvals by Kerala SPCB are granted in the form of consents/ authorizations/ No Objection Certificates, etc. These approvals are granted only after ensuring the existence of requisite physical infrastructures.

As such there is a need to develop systems for procurement of approvals prior to their empanelment by Suchitwa Mission. By incorporating approvals from Kerala SPCB it will also be ensured that the empanelled agencies has the requisite infrastructure

Further, it is also seen that agencies are also functioning beyond the scope of their empanelment in their association with local bodies; agencies empanelled for management of wet wastes are found managing plastic wastes. Verification regarding the scope of the empanelment needs to be done by the local bodies.

**Activities and Timelines**



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Sl. No.	Activity	Time Frame
1.	Suchitwa Mission shall make relevant amendments in their criteria for empanelment to incorporate approval from Kerala SPCB as one of the mandatory conditions. Further it should also include forfeitable performance bank guarantees from agencies at the time of empanelment to ensure delivery of performance	To be completed by February 2024
2.	Suchitwa Mission shall verify the approval of all existing empanelment and agencies without such approval shall be removed from the empanelled list	To be completed by April 2024
3.	LSGD shall issue directions to all local bodies to verify the validity of the empanelment scope of their empanelment of all the agencies engaged by them.	To be completed by March 2024

### SOP 2.2

#### Development of Inventory of Solid Waste

There is a need to develop a detailed inventory of solid waste management in the State of Kerala. The inventory will allow quantification of gaps in the system for management of solid waste especially with respect to management of non-recyclable plastics. The information shall be utilized to assess the need for augmentation or development of facilities for treatment and processing of wastes in the state.

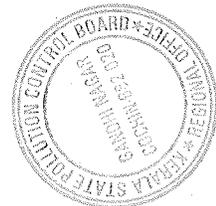
Recyclable solid wastes are being collected directly from the point of generation by scrap dealers, waste pickers and other informal agencies. These entities are also involved in the management of the recyclable plastic waste which, apart from collection, also includes storage, pre-processing, processing and transportation of wastes including transportation to facilities outside of Kerala. All such entities shall be included in the detailed inventory.

Relevant information collected during this inventorization shall also be incorporated in the database of online vehicle tracking system being developed by Kerala State Pollution Control Board.

As per Rule 16(a) of the Solid Waste Management Rules, 2016 the responsibility of enforcement of the Rules lies with the State Pollution Control Boards or the Pollution Control Committees. As such, the agencies responsible for enforcement of the Solid Waste Management in the State of Kerala lies with the Kerala State Pollution Control Board.

#### Activities and Timelines

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Sl. No.	Activity	Time Frame
1.	<p>Kerala SPCB shall issue directions to the Suchitwa Mission for preparation of a detailed inventory of solid waste management in the State. The inventory must include all components such as detailed quantification of waste generated, physical composition, system of collection, system of transportation at various levels, details of all agencies involved including the capacities of these facilities and details of wastes disposal including those sent out of state.</p> <p>Suchitwa Mission shall also analyze the gaps in solid waste management and submit the same to the Secretary UDD for development/ augmentation of facilities by the Local Self Government Department.</p> <p>Kerala SPCB shall ensure that the entire exercise shall be as per the stipulated time frame</p> <p>Kerala SPCB shall also populate/ update the database on the online vehicle tracking system for waste transportation with relevant information from this inventory</p>	<p>The direction shall be issued within February 2024</p> <p>Development of inventory, gap analysis and submission of recommendations to Principal Directorate shall be completed by June 2024</p>

**SOP 2.3**

**Development of Facilities for disposal of Non-recyclable plastics**

**Introduction**

It is seen that the wastes transported illegally are generally plastic wastes that cannot be recycled. One of the major causes for this is the lack of facilities for disposal of such wastes in the State of Kerala. The setting up of facilities for the management of non-recyclable plastic in Kerala especially a waste to energy (WTE) plant is therefore, extremely necessary.

A cement plant, Malabar Cement, is already in operation in Palakkad, Kerala. The plant was established in 1978 and has a capacity of 2000 TPD. Replacement of percentage of fuel with Refuse derived fuel by industries has been mandated in Rule 18 of the Solid Waste Management Rule, 2016, which is reproduced below:

*Rule 18 All industrial units using fuel and located within one hundred km from a solid waste based refused derived fuel plant shall make arrangements within six months from the date of notification of these rules to replace at least five percent of their fuel requirement by refused derived fuel so produced*

It is to be mentioned here that unit is not coprocessing any waste at present

Bioming of legacy waste is at various levels of implementation in 36 dumpsites in the state. The RDF generated during the bioming of these sites can be disposed of through these WtE and the cement industry.

The responsibilities for development of facilities for the management of wastes lies with the local bodies, and is mentioned in Rule 15(v) of the Solid Waste Management Rules, 2016, which is reproduced below:

*The local authorities and Panchayats shall facilitate construction, operation and maintenance of solid waste processing facilities and associated infrastructure on their own or with private sector participation or through any agency for optimum utilization of various components of solid waste adopting suitable technology including the following technologies and adhering to the guidelines issued by the Ministry of Urban Development from time to time and standards prescribed by the Central Pollution Control Board. Preference shall be given to decentralized processing to minimize transportation cost and environmental impacts such as-*

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a) bio-methanation, microbial composting, vermi-composting, anaerobic digestion or any other appropriate processing for bio-stabilisation of biodegradable wastes;

b) waste to energy processes including refused derived fuel for combustible fraction of waste or supply as feedstock to solid waste based power plants or cement kilns;

Further, as per Rule 11(1)(f) and Rules 12(a) of the Solid Waste Management Rules, 2016 it is the duty of the Secretary, Urban Development Department and the District Administration for identification and allocation of suitable land to the local bodies for setting up of processing and disposal facilities. These two Rules are reproduced below:

*Rule 11(1)(f) The Secretary, Urban Development Department in the State or Union territory through the Commissioner or Director of Municipal Administration or Director of local bodies shall ensure identification and allocation of suitable land to the local bodies within one year for setting up of processing and disposal facilities for solid wastes and incorporate them in the master plans (land use plan) of the State or as the case may be, cities through metropolitan and district planning committees or town and country planning department;*

*Rule 12(a) The District Magistrate or District Collector or as the case may be, the Deputy Commissioner shall facilitate identification and allocation of suitable land as per clause (f) of rules 11 for setting up solid waste processing and disposal facilities to local authorities in his district in close coordination with the Secretary-in-charge of State Urban Development Department within one year from the date of notification of these rules*

**Activities and Timelines**

Sl. No.	Activity	Time Frame
1.	Suchita Mission will conduct a rapid study to assess the gap in the management of non-recyclable plastic wastes which will include study of current waste management in the State, collection of information from local bodies and collection of information from scrap dealers and other informal agencies. The information shall be submitted to the Local Self Government Department with recommendation for development of Waste to Energy Plant(s).	To be completed by March 2024
2.	The Suchitwa Mission and KSWMP shall prepare a detailed project report (DPR) and shall submit the same to the Local Self Government Department/ Urban Development Department and to the District Administration for allocation of land and fund for the project	To be completed by August 2024
3.	The Local Self Government Department/ Urban Development Department and the district administration shall ensure identification and allocation of land for the projects(s)	To be completed by December 2024
4.	Local Self Government Department shall complete all relevant procedures for the setting up of the Waste to Energy Plant(s) such as calling for EoI, tendering and issue of work order	To be completed by June 2025
5.	LSGD shall monitor the execution of the project and ensure that the stipulated timelines are adhered to for commission of the Waste to Energy plant by December 2026	Commission of Waste to Energy Plants(s) shall be achieved by December 2026
6.	Kerala SPCB shall issue direction to M/s Malabar Cement Industry to ensure coprocessing of RDF in compliance with Rule 18 of the Solid Waste Management Rules, 2016	Direction shall be issued within February 2024

The monitoring agency for the completion of these activities shall be Kerala State Pollution Control Board

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SOP 2.4

Registration of Local Bodies in the EPR Portal

Introduction

Central Pollution Control Board (CPCB) has issued a detailed SOP regarding registration of PIBOs under Plastic Waste Management (PWM) Rules, 2016 in March, 2021. As per the guideline, the State shall nominate a State level Nodal Agency/ Department preferably the Department at State level which administers the affairs of Urban Local Bodies in the State. In Kerala LSGD is the nodal department and there exists a vast gap in registration of ULBs in Kerala. Depending on the functional requirement, LSGD may identify more agencies as nodal organizations at district levels to coordinate and expedite registration of ULBs in the EPR portal. In this action point, Kerala SPCB has to don a pivotal role with the State nodal department (LSGD) to run an active campaign to bring all ULBs in the ambit of EPR regime. Awareness campaigns shall be organized by LSGD with the technical support of Kerala SPCB and Suchitwa Mission to expedite the registration of ULBs in EPR portal on a time bound manner. Kerala SPCB to provide technical assistance in this activity along with technical agencies of LSGD.

Activities and Timelines

S.No.	Activity	Time frame
1	LSGD and Kerala SPCB to chalk out a campaign to address the bottlenecks in registering ULBs in EPR portal at State level.	To be completed by February 2024
2	Conducting campaign meetings at State and regional levels for expediting registration of ULBs in EPR regime.	To be completed by March 2024
3	Review of progress in registering and further actions by LSGD and Kerala SPCB.	To be completed by April 2024

SOP 2.5

Integration of Informal Sector to Formal System

Introduction

It has been observed and documented that the scrap dealers, waste pickers and other informal agencies are involved in the collection of recyclable plastic wastes from the point of generation. It is also observed and documented that most of these entities are also handling and managing the waste including storage, pre-processing, processing and disposal within and outside Kerala. Further, most of these entities are operating without proper registration from the Local Bodies or permissions from the Kerala SPCB. The entities do not maintain records of waste managed or handled. This is one of the prime reasons for the illegal transportation of wastes. As such, there is an urgent need to integrate them into the formal sector.

The need to integrate the informal sector into the formal system and the mechanism for achieving this has been listed in the Solid Waste Management Rules, 2016. Relevant clauses of the Solid Waste Management Rules, 2016 are reproduced below:



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Rule 11(1) The Secretary, Urban Development Department in the State or Union territory through the Commissioner or Director of Municipal Administration or Director of local bodies shall

Rule 11(1)(c) state policies and strategies should acknowledge the primary role played by the informal sector of waste pickers, waste collectors and recycling industry in reducing waste and provide broad guidelines regarding integration of waste picker or informal waste collectors in the waste management system

Rule 11(1)(m) start a scheme on registration of waste pickers and waste dealers

Rule 15(c) The local authorities and Panchayats shall establish a system to recognise organisations of waste pickers or informal waste collectors and promote and establish a system for integration of these authorised waste-pickers and waste collectors to facilitate their participation in solid waste management including door to door collection of waste

The existence of two Scrap Merchants Association is mentioned here. These associations have coverage all across the State and have a membership of over 3000 members.

As per Kerala SPCB consents have been issued to about 150 such entities till date.

**Activities and Timelines**

Sl. No.	Activity	Time Frame
1.	Kerala SPCB shall issue directions to the Local Self Government Depart to acknowledge the relevance of the informal sector in the management of solid waste. The Local Self Government Department shall initiate schemes for integration of the informal sector to the formal system through registration of such entities in line with Rule 11(1)(m) of the Solid Waste Management Rules, 2016	The issuance of directions shall be completed by February 2024
2.	Kerala SPCB shall issue directions to all local bodies to ensure establishment system to recognize the informal sector with the objective of integrating them into the formal sector in line with Rule 15(c) of the Solid Waste Management Rules, 2016	June 2024
	IEC and interactions to ensure integration of informal sector to the formal system	

**SOP 2.6**

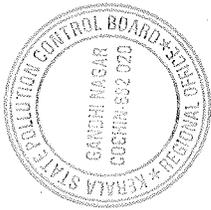
**Reconstitute Waste Management Agency: Clean Kerala Company Ltd. (CKCL)**

**Introduction**

As per the mandates of LSGD, CKCL is bestowed with crucial responsibility of managing non-biodegradable waste/ rejects from SWM. However, CKCL is not functioning as per the provisions of relevant waste management rules. CKCL should function as a full-fledged waste management entity with all necessary authorizations and consents mandated under relevant waste management rules. Further, all infrastructures for collection, storage, segregation, transportation, processing and disposal must be available for management of non-biodegradable fractions of municipal refuse. The role of CKCL is now limited as a middleman and opens up the involvement of multiple agencies in the waste trail.

**Activities and Timelines**

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S.No.	Activity	Time frame
1	Issuance of directions to CKCL by Kerala SPCB for development of necessary infrastructure with adequate capacities for the management of non-recyclable plastic waste in the state. The direction should also highlight that CKCL should obtain all necessary consents and authorizations	To be completed by February 2024
2	Kerala SPCB to meet LSGD, KSWMP, Suchitwa Mission and CKCL regarding development of facilities by CKCL and also for obtaining the requisite permission from Kerala SPCB.	To be completed by March 2024
3	Field Verification by Kerala SPCB to ensure that all the infrastructure are provided and issue of consent to establish/ authorization.	To be completed by August 2024
4	Infrastructure to be provided for all activities such as collection, storage, segregation, transportation, processing and disposal. Issuance of consents/ authorizations as per applications submitted by CKCL	To be completed by December 2024

### SOP 2.6

**Actions against defaulters/ violators identified.**

#### Introduction

Kerala SPCB shall file CrPC case against all the defaulters including transport agencies involved in illegal handling, transportation & disposal of waste. Transporters are an important facilitators in the illegal waste transportation and are the contact point for the agents in Tamil Nadu. Transporters should be penalized for such activities as a deterrent.

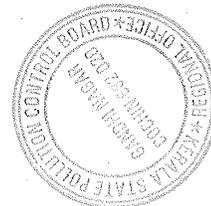
#### Activities and Timelines

S.No.	Activity	Time frame
1	Kerala SPCB shall file FIR against all defaulters involved in illegal interstate transportation of solid waste including waste handlers (source) and transport agencies	To be completed by February 2024
2	Kerala SPCB shall impose penalties against the identified defaulters. Transporters and trucks involved shall be blacklisted and penalized. Cancellation of trade license and registration of trucks shall be made in consultation with stakeholders involved.	To be completed by March 2024
3	Similar exercise shall also be completed in the issue of illegal waste disposal from Kozhikode to Erode (December 13, 2023), the detailed information (transport, waste handler) of which was communicated by CPCB Team to Kerala SPCB.	To be completed by February 2024

### SOP 3.1

**Management of Bio Medical Waste from Households**

#### Introduction



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The bio-medical waste from households are being collected together with solid waste in the State of Kerala. As per Schedule I (Part-2 Clause 12) of the Bio-medical Waste Management Rules, 2019 (as amended) all local bodies should have tie up with Common Bio Medical Waste Treatment Facilities for management of such wastes. The said clause of the Bio Medical Waste Management Rules, 2019 (as amended) is reproduced below

*Bio-medical waste generated in households during healthcare activities shall be segregated as per these rules and handed over in separate bags or containers to municipal waste collectors. Urban Local Bodies shall have tie up with the common bio-medical waste treatment and disposal facility to pickup this waste from the Material Recovery Facility (MRF) or from the house hold directly, for final disposal in the manner as prescribed in this Schedule.*

#### Activities and Timelines

Sl. No.	Activity	Time Frame
1.	The Local Self Government Department shall issue directions to all local bodies to ensure that membership of Common Biomedical Waste Treatment Facility is obtained for the management of biomedical waste from households. Further, it shall also be ensured that all additional infrastructures for the handling of biomedical waste is incorporated in the system by the local bodies	To be completed by March 2024

#### SOP 3.2

#### Management of Recyclable Plastic Biomedical Wastes

#### Introduction

Handing and management of plastic components of the biomedical waste by scrap dealers and informal agencies in the State of Kerala has been documented. Owing to the non-availability of data with these scrap dealers and informal agencies the exact source of these wastes could not be verified. As such, compliance of the provision of Rule 4(f) of the Bio Medical Waste Management Rules, 2019 (as amended) cannot be verified. Rule 4(f) of the Bio Medical Waste Management Rules, 2019 (as amended) is reproduced below:

*Rule 4(f) not to give treated bio-medical waste with municipal solid waste;*

#### Activities and Timelines

Sl. No.	Activity	Time Frame
1.	The department of Health, Kerala shall issue directions to all Health Care Facilities to ensure that no untreated waste is disposed directly through recyclers in accordance to the Rule 4(f) of the Bio Medical Waste Management Rules, 2019 (as amended)	To be completed by February 2024

#### SOP 3.3

  
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## Adherence to Timelines for collection of Bio Medical Wastes

### Introduction

It has been observed that the Common Bio Medical Waste Treatment Facilities are not collecting wastes from many Health Care Facilities in accordance with the timelines stipulated in the Bio Medical Waste Management Rules, 2019 (as amended). Rule 8(7) of the Bio Medical Waste Management Rules, 2019 (as amended), which mandates the collection of biomedical wastes within 48 hours is reproduced below:

*Rule 8(7) Untreated human anatomical waste, animal anatomical waste, soiled waste and, biotechnology waste shall not be stored beyond a period of forty –eight hours:*

### Activities and Timelines

Sl. No.	Activity	Time Frame
1.	Kerala State Pollution Control Board shall issue directions to all the Common Bio Medical Waste Treatment Facilities in the state to ensure collection of biomedical waste from health care facilities with the stipulated timeline of 48 hours. In case of non compliance by the Common Biomedical Waste Treatment Facilities the consent and authorizations issued to them shall be revoked. Further, Environment Compensations shall be levied from the defaulting agencies	To be completed by March 2024

### SOP 4.1

### Details of Coprocessing and Recycling in Tamil Nadu

There are a total of 12 coprocessing Cement Industries in the State of Tamil Nadu who are registered as coprocessors in the Centralized Extended Producers Responsibility Portal for Plastic Packaging. Further, there are a total of 75 units in Tami Nadu registered in the said portal. These units are corporcessing and recycling plastic waste wastes from Tamil Nadu as well as from the State of Kerala. The total capacities of these units are given below

Category	Coprocessing Capacity in TPA	Recycling Capacity in TPA
Category I	41,760	127308
Category II	3,49,460	55948
Category III	5,00,160	4654
Category IV	3,960	Nil

Since the units are utilizing wastes from two states, the amount of waste from Kerala that can be consumed by them is limited. There is a need to identify the ceiling quantity so that excess wastes are not transported from Kerala to Tamil Nadu.

### Activities and Timelines

  
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Sl. No.	Activity	Time Frame
1.	Tamil Nadu SPCB shall conduct a detailed inventorization of the coprocessors and the recyclers in Tamil with the objective of identifying the quantity of wastes from Kerala that can be consumed by them. Information regarding the same shall be communicated to Kerala SPCB with the details of the units	To be completed by March 2024
2.	Upon receipt of the information from Tamil Nadu SPCB, Kerala SPCB shall update the list of Receivers i.e units that can manage waste, in the online tracking portal. Furthermore, it shall also be ensured that the online tracking system shall not permit transfer of waste in excess of the identified maximum quantity unless there is an official communication from Tamil Nadu SPCB in this regard	To be incorporated with 15 days from the receipt of the information or from the date of launching of the portal, whichever is later

#### SOP 4.2

#### Conduction of IEC Programmes

#### Introduction

Wastes transported illegally from Kerala are being received by individuals in Tamil Nadu. These wastes are disposed through burial in private properties or are utilized as fuel in jaggery production by local farmers. The local populations needs to be made aware of the various provisions of the Solid Waste Management Rules, 2016 the provision of the byelaws and penal provisions in these. Further, they also need to be made aware regarding the impacts of improper waste management specifically with respect to burning of plastics. The conducting of such activity will discourage individuals for acting as contact points/ receivers in Tamil Nadu

#### Activities and Timelines

Sl. No.	Activity	Time Frame
1.	<p>Tamil Nadu SPCB shall issue directions to all local bodies to conduct IEC Programmes through direct interactions as well as through various mass media such as print, electronic and social media. These activities should highlight the impacts of waste improper waste management as well as the penal provision in the existing byelaws.</p> <p>To ensure that these activities are conducted the local bodies shall submit reports with documented evidence of the same to Tamil Nadu SPCB. Further, non-submission of reports shall be considered as violation and EC shall be levied against such local bodies.</p>	The activity shall commence in February 2024 and shall be a regular activity for at least 6 months.



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**SOP 4.3**

**Checking at Interstate Entry Points to Tamil Nadu**

**Introduction**

Tamil Nadu has District Level Monitoring Committees for checking of vehicles at the interstate borders to check for illegal wastes transportation into Tamil Nadu. This Committee has representation from various state departments such as Police, Excise, transporta, State Pollution Control Boards etc. It is necessary to provide standing instructions to the departments at the border entry points for checking illegal movements of waste into Kerala. It is also seen that some of the departments do not have technical knowledge to check for the legality of waste being transported.

Kerala SPCB is developing an online vehicle tracking system which also incorporates a mobile app. Further as part of the online tracking system it is mandatory to display a QR code for all vehicles transporting wastes. The QR codes can be scanned using the mobile app and will provide all details of the transportation such as point of origin, quantity and type of waste, details of transporters, and details of receiver.

**Activities and Timelines**

Sl. No.	Activity	Time Frame
1.	Tamil Nadu SPCB shall issue communication to all the District Level Monitoring Committees for ensuring that all the concerned departments are issued standing instructions for checking interstate movement of waste. These departments shall also utilize the QR code scanner for checking the legality of the wastes being transported	To be completed within February 2024



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# GUIDANCE MANUAL

FOR WASTE GENERATORS/  
TRANSPORTERS/  
COLLECTORS & STAKEHOLDERS

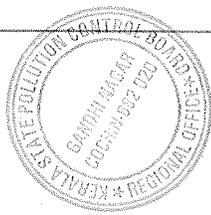
ONLINE VEHICLE TRACKING SYSTEM



**KERALA STATE POLLUTION CONTROL BOARD**

1

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As per Rule 16 (6) of Solid Waste Management Rules, 2016, State PCB shall regulate Inter-State movement of waste. The Hon'ble NGT vide order dated 24-12-2021 in OA 100/2021 directed to consider developing the possibility of a continuous online monitoring system to monitor the total input of raw materials procured, produced, and how it is being used and disposed. In this connection, agency has been identified by the Kerala PCB for developing an online vehicle tracking mechanism following the tender procedure. Responsive web application for Pollution Control Board and waste generators, Android app for drivers, generators and receptors are included in the scope of work. The purpose of this system is to provide KSPCB, the provision to monitor the entire waste management processes starting from occupier (waste generator) to transporter and to the receiver (disposal end) with real-time vehicle tracking with help of GPS system installed in the transporting vehicle with violation detection and alerts.

The functionalities included in this system are:

#### 1.1 Web application:

- Registration and login provisions for occupier (waste generator) List the Trip sheets allocated that are created by the occupier to a transporter
- Start the trip at the occupier end and close the trip at the recipient end by capturing required data
- Trip sheet creation by the occupier to transport the waste
- Allocation of the Trip sheet to the transporter and the receiver by the occupier.
- Vehicle tracking (live vehicle tracking for Kerala State Pollution Control Board with violation detection and alerts)
- Accept the waste by the receiver and closure of the Trip sheet
- Reports

#### 1.2 Android application:

- List the allocated Trip sheets that are created by the occupier to a transporter
- Start the trip at the occupier end and close the trip at the recipient end by capturing required data

  
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**Collection:** In the context of the online tracking system, the term “collection” means picking up of waste from the point of origin such as bulk waste generators, institutions, industries, by agencies such as Haritha Karma Sena, who are the agencies identified by the local bodies, and its subsequent movement to the designated facilities such as Material Collection Facility (MCF) or Resource Recovery Facility (RRF) or any other similar collection/ processing facilities such as secondary storage points, godowns, etc.

**Occupier:** In the context of the online tracking system, the term “Occupier” means a person having administrative control over the facility utilized for activities such as storing, segregating or processing of solid waste which includes Material Collection Facilities (MCF), Resource Recovery Facility (RRF), composting facilities, secondary storage facilities, godowns or any other similar setups including godowns and processing facilities managed by scrap dealers, waste pickers, and other components of the informal sector. However, facilities meant for disposal of plastic waste such as recyclers, waste to energy plants (WtE) or coprocessors such as cement industries are not included in this definition.

**Receivers:** In the context of the online tracking system, the term “Receiver” means a person having administrative control over the facility utilized for disposal of solid waste both within and outside the state of Kerala. This will include facilities like recycling plants, waste to energy plants (WtE) and coprocessors such as cement industries, composting facilities.

**Transportation:** In the context of the online tracking system, the term “transportation’ refers to the movement of waste from a designated site/ location to another. This, however, will not include movement as described under collection of waste



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## 2. THE MAJOR FUNCTIONALITIES OF OCCUPIER, TRANSPORTER & RECEIVER

The occupier, transporter and receiver will be provided with a URL where they can register with the necessary information.

### 2.1 OCCUPIER

**2.1.1 Registration:** The occupier will have a designated email and mobile number

- A. Occupier information such as unit name, unit category, contact number, email shall be entered by the occupier to get it registered as described below (Table1). Registration shall be confirmed with a password.

Table 1: Registration- Occupier

Field Name	Description
Unit Name	Name of the waste generating unit
Waste type	Select the type of waste
Email	Email of the unit or a person
Contact Mobile	Mobile number of the contact person
Enter password	Capturing of the password to login
Confirm password	Re-type the password
Register	For successful creation of the occupier

[Note: On registration, a success message will be presented to the user asking him to verify the action by clicking on the link received in the email provided.]

#### 2.1.2 Occupier: Login

The occupiers can login to the application using the link provided

*Input:* Occupier username and password

*Output:* Occupier is successfully logged into the application

  
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## 2.1.3 Occupier: Profile update **34**

- a) The occupiers can login to the application using the link provided by *inputting* Occupier username and password
- b) Occupier is successfully logged in to the application and is navigated to the section where the profile can be completed.
- c) Following details are to be provided for updating profile. **All fields are mandatory**

Table 2: Occupier Profile update

Field Name	Description
Address	The address of the unit
State	State where unit is based
District	District where unit is based
Pin code	Pin code of the location of the unit
Contact person	Contact person at the unit
Designation	Designation of the contact person
Waste Type	Waste type generated by the unit
License number	License details provided by concerned Departments such as local body etc
License validity	Validity date if any
Add license	Option to upload the details of the license
Consent/ Authorization issued by SPCB	Details of the consent / authorization issued by SPCB
Consent/ Authorization Validity	Validity date
Add consent/ Authorization	Option to upload the details of the consent/ Authorization
Is it a receiver?	To mark if the waste generator is also a receiver
Receiving waste type	The waste types that will be received by the unit
Submit	For successful creation of the occupier

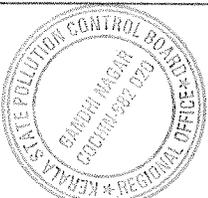
  
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In order to create a new transporter, following details are to be entered

Field Name	Description
Vehicle Number	Registration number of the vehicle
Owner Contact number	Contact number of the owner
Email address	Email of the driver who will be using the app
Owner Name	Owner Name
Owner Address	Owner Address
Vehicle capacity	The capacity of the vehicle carrying this waste
Waste type	Input the different waste that vehicles can carry
Authorized Vehicle	Mark if it is an authorized vehicle
Authorizing authority	The authorizing authority
GPS connected	Mark if GPS is connected
GPS provider	The vendor who has provided the GPS device
Vehicle Type	Type of the vehicle
Status	Active or inactive
Discard	To undo the creation
Save	To save the entry

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## 2.1.5 View/edit a transporter 36

The occupiers can view/ edit the details of the transporter already available in the system.

*Pre requisites:* The transporters are already added

*Input:* Details to be updated will be available

*Output:* Details of the selected transporter will be updated

Field Name	Description
Add Vehicle	To add a new vehicle/transporter
Search	Search based on Vehicle number, Driver name, Driver contact number
Filter	Filter based on Vehicle number, Driver name, Driver contact number
View	To view the details of the transporter
Edit	To edit the details of the transporter

## 2.1.6 View Receiver

The occupiers can view the details of the receiver already available in the system.

*Pre requisites:* The receiver is already added and available in the system

*Input:* NA

*Output:* Details of the selected receiver can be viewed

Field Name	Description
Create New	To add a new receiver
Search	Search based on receiver name, location, type of industry, local body state, contact number and email
Filter	Filter based on receiver name, location, type of industry contact number and email
View	To view the details of the receiver
Edit	To edit the details of the receiver



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### 2.1.7 Occupier: Edit receiver

The occupiers can edit the details of the receiver already available in the system.

*Pre requisites:* The receivers are already added

*Input:* Details to be updated will be available

*Output:* Details of the selected receiver will be updated

Field Name	Description
Receiver ID	System generated ID
Name	Name of the receiver / disposal unit
Contact Person	Name of the contact person
Contact number	Contact number of the contact person
Email address	Email of the unit/contact person
Unit Address	Unit address
State	State where unit is based
District	District where unit is based
Pin code	Pin code of the location of the unit
Waste type	Input the different waste that unit can accept
Status	Active or inactive
Discard	To undo the creation
Save	To save the entry

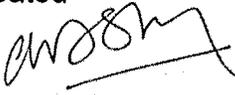
### 2.1.8 Occupier: Create receiver

The occupiers can create a new receiver and add it into the system.

*Pre requisites:* The details of the receivers to be added is available

*Input:* Details of the receiver

*Output:* The new receiver will be created

  
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Field Name	38 Description
Name	Name of the receiver /disposal unit
Contact person	Name of the contact person
Contact number	Contact number of the contact person
Email address	Email of the unit/contact person
Unit Address	Unit address
State	State where unit is based
District	District where unit is based
Pin code	Pin code of the unit
Type of Industry	Recycling/ Cement Plant/ Waste to Energy Plant/Waste to Oil Plant
Waste type	Input the different waste type that unit can accept
Status	Active or inactive
Discard	To undo the creation
Save	To save the entry

### 2.1.9 Occupier: View Trip sheets

The occupiers can view the lists of Trip sheets created with most recent ones at the top

*Pre requisites:* The Trip sheets are created and available in the system

*Input:* NA

*Output:* The details of the Trip sheet can be viewed.

Field Name	Description
Create New	To add a new Trip sheet
Search	Search based on ticket number, date, transporter, receiver, local body, State
Filter	Filter based on ticket number, date, transporter, receiver
View	To view the details of the Trip sheet
Edit	To edit the details of the Trip sheet

### 2.1.10 Occupier: Create Trip sheet

The occupiers can create Trip sheet to have the waste carried from their site to different receivers / disposal units



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**Pre requisites:** The transporter, receiver, waste type are configured in the system

**Input:** Details of the waste to be transported, receiver, transporter

**Output:** The Trip sheet gets created and is available for the transporter for further action. A system generated number will be assigned for the Trip sheet.

Field Name	Description
Date	Date when Trip sheet is created
Waste category	List of waste category
Waste type	List of waste type
Waste Form	Form of the waste (solid, liquid, oily etc)
Quantity	Quantity of the waste to be disposed
UOM	Unit of the quantity of the waste
Transporter	The transporter whom the Trip sheet will be assigned
Receiver	The destination of the waste. Consent or authorization of the Board
Approx KM	Distance between source and destination
Approx time	Duration between source and destination (in hours)
Emergency Contact Details	Contact Number
Waste Handling Instructions	Handling Instructions based on Waste Type
TREM Card	Upload TREM Card
Hazardous Waste Manifest	Upload Hazardous Waste Manifest
Save	To save the data as a draft
Discard	To undo the entered data
Submit	Tickets gets submitted

**Note:** On submit, the user will be presented with the Trip sheet number and a success message. The Trip sheet will be available for both the transporter and receiver.



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### 2.1.11 Occupier: Reports

The occupiers can view the report of the Trip sheets based on certain search criteria.

Field Name	Description
From date	If reports are required within a date range
To date	If reports are required within a date range
Waste Type	Waste type
Transporter	Name of the transporter
Receiver	Name of the receiver
Search	To fetch the data on screen based on search criteria
Download PDF	To download the report in PDF
Download xls	To download the report in xls
Local body of occupier place	Name of Corporation/ Municipality/Pachayat of Occupier
Local body of receiver place	Name of Corporation/ Municipality/Pachayat of receiver

*Note: If the trip start date or end date is within the input search criteria of start and end date (both inclusive) data should be presented.*

### 2.1.12 Occupier: My profile (View & Edit)

The occupiers can edit their details if required.

Field Name	Description
Edit	To edit any data
Change password	To update the password
Occupier ID	Occupier ID generated by the system
Unit Name	Name of the waste generating unit
Unit category	Select the type of the unit
Address	The address of the unit
State	State where unit is based
District	District where unit pertains



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Pin code	Pin code of the unit
Email	Email of the unit or a person
Contact person	Contact person at the unit
Designation	Designation of the contact person
Contact Mobile	Mobile number of the contact person
Waste Type	Waste type generated by the unit (Solid, BMW, Hazardous)
License number	License details provided by concerned department
License validity	Validity date, if any
Consent / Authorization issued by SPCB	Details of the consent / authorization issued by SPCB
Consent/ Authorization Validity	Validity date, specify the Board
Is receiver?	To mark if the waster generator is also a receiver
Receiving waste type	The waste types that will be received by the unit
Add attachment	Option to upload the details of the license /consent/ Authorization
Save	To save the changes
Discard	To discard the changes made

### 2.2.1 Occupier: Change password

The occupiers can update the login password here.

Field Name	Description	Remarks / Validation
New password	Provide a password that meets the criteria	should contain alphabets, numbers and special character and at least have 8 characters
Confirm password	Re-enter the password	Confirm password should be same as new password
Save		Password is updated



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**2.2.2 Occupier: Logout**

To logout of the current application

*Pre requisites:* User is logged in

*Output:* Occupier gets logged out of the application



A handwritten signature in black ink, appearing to read "Shiju M.A.", written over a horizontal line.

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## 2.2 Transporter

The transporter will be accessing the application through the mobile app.

### 2.3.1 Transporter: Registration

After downloading the mobile app from the play store, the transporters can register to the app. If the vehicle number was already created by the occupier the details will be pre-fetched in the mobile app.

Field Name	Description
Vehicle Number	Registration number of the vehicle
Owner Contact number	Contact number of the owner
Email address	Email of the vehicle owner
Set password	Capturing of the password to login
Confirm password	Re-type the password
Register	To register to the PCB app
Login	To login to the PCB app

*On register, the vehicle number if already exists, user will be displayed with a message 'User already exists, please login with the vehicle number'.*

### 2.3.2 Transporter: Login

The transporter can login to the application using the installed mobile application

*Pre requisites:* The transporter is registered through the mobile app

*Input:* Transporter username and password

*Output:* Transporter is logged into the mobile app successfully

**Note:** If the user was created by the occupier, the vehicle number will be the username and the password will be the default password which needs to be shared by the occupier to the transporter.



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Field Name	Description
Username	Email id used while registration
Password	The password set during registration
Login	Logs into the mobile app
Reset Password	To reset the password
New user? Register here	To register as a new user

### 2.3.3 Transporter: First Time Login

The transporter can login to the application using the installed mobile application. On first login, the user will be prompted to enter more details to complete the profile if not already available.

*Pre requisites:* The mobile app is installed on the device

*Input:* Transporter information

*Output:* Transporter details will be updated successfully

Note: If occupier created the user, and complete details was provided, on login, home page will be presented)

Field Name	Description
Owner Name	Name of the owner
Owner Address	Owner Address
Vehicle capacity	The capacity of the vehicle
Waste type	Input the different waste that vehicles can carry
Authorized Vehicle	Mark if it is an authorized vehicle
Authorizing authority	The authorizing authority
GPS connected	Mark if GPS is connected
GPS provider	The vendor who has provided the GPS device
Vehicle Type	Type of the vehicle
Submit	To save the entered details to the vehicle profile

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### 2.3.4 Transporter: Home screen **45**

The transporter will be presented with following different options is available in their home screen , on login to the mobile app.

Field Name	Description
Trip sheets	To view the list of Trip sheets assigned to the vehicle
Reports	View reports
My Profile	View & update profile

### 2.3.5 Transporter: Trip sheets

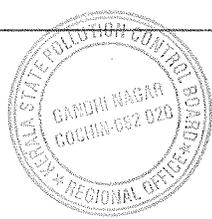
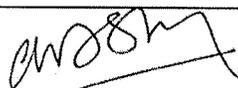
The transporter can view the list of Trip sheets based on the status.

Field Name	Description
Pending	Trip sheets created but not acted upon and the count for a day
Assigned	Trip sheets accepted by transporter with the count for each day
In progress	The trips started with the count for each day
Completed	Closed trips and the count for each day

### 2.3.6 Transporter: Pending Trip sheets

The transporter can view the trips which are created and assigned to their vehicle number.

Field Name	Description
Accept	To accept the Trip sheet
View	View details of the Trip sheet
Select Driver	Existing driver captured in the system
Register new driver	To add a new driver
Driver	Name of the driver
Mobile Number	Mobile number of the driver
Email ID	Email id of the driver
Driver License Number	License Number of the driver
Register	Assigns the driver to the trip
Back	To go back to previous page



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### 2.3.7 Transporter: Assigned Trip sheets

The Trip sheets that are accepted by the transporter will be listed.

Field Name	Description
Start	To start the trip
View	View details of the Trip sheet
Back	To go back to the previous page

*Note: A transporter can start more than one trip in parallel. Once the trip is started, the status of the Trip sheet will be updated as 'In progress' for both occupier and receiver. On starting the trip, the current location details must be captured.*

### 2.3.8 Transporter: In progress Trip sheets

The trips that are started by the transporter are listed here.

Field Name	Description
Close Trip	To stop the trip
View	View details of the Trip sheet
Back	To go back to previous page

Note: Close trip will be available only on the receiver accepting the Trip sheet. On closing the trip. The status will be updated as 'closed for both receiver and occupier. The location during the stop trip has to be captured

### 2.3.9 Transporter: Closed Trip sheets

The trips which are closed by the transporter will be listed.

Field Name	Description
View	View details of the Trip sheet
Back	To go back to the previous page



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### 2.3.10 Transporter: View Trip sheet details <sup>47</sup>

The transporter can select the view icon on all the four pages of the Trip sheet to view the details of the Trip sheet.

Field Name	Description
Back	To go back to the previous page

### 2.3.11 Transporter: Reports

The transporter can view the report of the Trip sheets based on certain search criteria.

Field Name	Description
From date	If reports are required within a date range
To date	If reports are required within a date range
Waste Type	Waste type
Transporter	Name of the transporter
Receiver	Name of the receiver
Search	To fetch the data on screen based on search criteria
Download	To download the report in PDF

### 2.3.12 Transporter: My profile

The transporter can edit their details if required.

Field Name	Description
Edit	To edit any data
Change password	To update the password
Vehicle Number	Registration number of the vehicle
Owner Name	Name of the owner
Contact number	Contact number of the owner
Email address	Email of the driver who will be using the app
Driver license number	License number of the driver



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Vehicle Number	Number of the <sup>48</sup> vehicle
Owner Address	Owner Address
Vehicle capacity	The capacity of the vehicle
Waste type	Input the different waste that vehicles can carry
Authorized Vehicle	Mark if it is an authorized vehicle
Authorizing authority	The authorizing authority
GPS connected	Mark if GPS is connected
GPS provider	The vendor who has provided the GPS device
Vehicle Type	Type of the vehicle
Save	To save the entry

Note: If waste type selected is biomedical or septage, authorizing authority is mandatory.

### 2.3.13 Transporter: Change Password

The occupiers can update the login password here.

Field Name	Description
New password	Provide a password that meets the criteria
Confirm password	Re-enter the password
Save	

### 2.3.14 Transporter: Logout

To logout of the current application, please *click* log out of the account



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## 2.3 Receiver

### 2.3.1 Receiver: Login

The receiver can login to the application using the link provided and the default password. The username will be the email id used during registration.

*Pre requisites:* The receiver is created and the URL is shared to the receiver

*Input:* Receiver username and default password

*Output:* Receiver is successfully logged into the application

Note: On login, the user should be redirected to change password section to change the password as a mandate.

Field Name	Description
Username	Email id used while registration
Password	The password set during registration
Login	
Reset Password	To reset the password

### 2.3.2 Receiver: View Trip sheets

The receiver can view the list of Trip sheets that are assigned to their unit.

*Pre requisites:* The Trip sheet is created with the selected receiver

*Input:* NA

*Output:* The Trip sheet details are viewed

Field Name	Description
Search	Search based on ticket number, date, transporter, occupier
Filter	Filter based on ticket number, date, transporter, occupier
View	To view the details of the Trip sheet
Receive	To mark the entry of the waste at the unit

### 2.3.3 Receiver: Receive waste

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The receiver can view the list of Trip sheets that are assigned to their unit.

*Pre requisites:* The Trip sheet is created and transporter has reached the destination

*Input:* Received waste quantity

*Output:* The Trip sheet is received and trip is available for closure for the transporter

Field Name	Description
Start Date	Creation date of the Trip sheet
Occupier Name	Occupier Name
Contact number	Occupier contact number
Waste type	Type of waste (Solid, Biomedical, Hazardous)
Waste form	Form of the waste (solid, liquid)
Waste quantity	Quantity of the waste at the source
UOM	Unit of the quantity
Vehicle number	Details of the transporter PUC RC permit License number of driver
Emergency Contact Details	Contact Details
Waste Handling Instructions	Handling Instructions based on waste Types
TREM Card	TREM Card Details
Hazardous Waste Manifest	Hazardous Waste Manifest details
Receiving Date	Date when the transporter reached the disposal facility
Receiving quantity	Quantity when weighed at destination
Remarks	
Submit	Submission or updating of the Trip sheet on receipt
Discard	The action is canceled



  
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### 2.3.4 Receiver: Reports

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The receiver can access basic reports here

*Pre requisites:* There is data captured in the system

*Input:* NA

*Output:* The required reports are generated and viewed on screen with the option to download.

Field Name	Description
From date	If reports are required within a date range
To date	If reports are required within a date range
Waste Type	Waste type
Transporter	Name of the transporter
Occupier	Name of the occupier
Search	To fetch the data on screen based on search criteria
Download PDF	To download the report in PDF
Download in excel file format	To download the report in xls

### 2.3.5 Receiver: My Profile (View & Edit)

The receivers can edit their details if required.

Field Name	Description
Edit	To edit any data
Change password	To update the password
Receiver ID	System generated ID
Name	Name of the receiver / disposal unit
Contact Person	Name of the contact person
Contact number	Contact number of the concerned person
Email address	Email of the unit/contact person
Unit Address	Unit address



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State	State where unit is based
District	District where unit is based
Pin code	Pin code of the unit
Waste type	Input the different waste that unit can accept
Save	To save the changes
Discard	To discard the changes made

### 2.3.6 Receiver: Change password

The receivers can update the login password here.

Field Name	Description
New password	Provide a password that meets the criteria
Confirm password	Re-enter the password
Save	To save the entry

### 2.3.7 Receiver: Logout

To logout of the current application, please click on log out button



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## 2.4 Admin

### 2.4.1 Admin: Login

The admin can login to the application using the link provided and the default password.

Note: The admin user will be created through the backend. On login, the user should be redirected to change password section to change the password as a mandate.

Field Name	Description
Username	Email id used while registration
Password	The password set during registration
Login	Log in to the app
Reset Password	To reset the password

### 2.4.2 Admin: Dashboard

The admin dashboard will be presented on login and will have the map view and the details of the violations.

Field Name	Description
Open Trip sheets	Trip sheet created and not accepted by transporter
Trips assigned	Trips accepted by transporter
Trips in progress	Trips started by transporter
Closed trips	Trips closed by transporter
Alerts	The trips which cross the state border
Violations	Refers to the trips which are not reached the destination on the time set
Violation count	To list the count of violations based on waste type
Date filter	Default value is the last 30 days



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**Cumulative Violations**

In last 30 days

Type of Violations.

- 1) Not closed trips
- 2) Un registered
- 3) Delayed

**2.4.3 Admin: Alerts & violations**

By clicking on the violations tile or violations list in the dashboard the below screen will be listed. The user will be able to see the details of the trips corresponding to each waste type. (this page will be under the reports in a new tab)

Field Name	Description
Waste type	Filter the list based on waste type
Search	Serach the list based on the waste type
View	To view the trip details

**2.4.4 min: Set violation time (Configurations)**

This is to configure the time after which the trip will be marked under violations. If the trip crosses end time in the Trip sheet + the value set here, the trip will be marked under violations. (This can be a new tab under settings menu)

Field Name	Description
Edit	To edit the time
Time	Time should be set in minutes
Inside/Outside	Inside state/outside state
Save	Saves the changes



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## 2.4.5 Admin: Add / View waste category <sup>55</sup>(Configurations)

Here the different waste category can be added and viewed

Note: The list of waste category will be available in a grid view (waste category, status) with edit button

Field Name	Description
Create (+)	To create a new category
Edit	To edit the existing category
Category name	Name of the waste category
Status	Can choose active/inactive
Submit	The category gets saved

## 2.4.6 Admin: Add / View waste type (Configurations)

Here the different waste type can be created, or existing details can be viewed

*Output:* The details can be viewed or created

Note: The list of waste types will be available in a grid view (waste type, waste category, status) with an edit button.

Field Name	Description
Create (+)	To create a new waste type
Edit	To edit the existing waste type
Type Name	Name of the waste type
Category	The waste category under which waste type will be mapped
Status	Can choose active/inactive
Submit	The category gets saved



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## 2.4.7 Admin: Add / View Unit category (Configurations)

This is to view the list of unit category available in the system

Field Name	Description
Create (+)	To create a new unit category
Edit	To edit the existing unit category
Unit category	Name of the unit category
Status	Inactive or active
Submit	Saves the changes

Note: The list of unit category will be available in a grid view (unit category, status) with an edit button.

## 2.4.8 Admin: View & Edit PCB User

In this the admin users can view the existing PCB users.

Note: A grid view is presented with SNO, Username, Name and status.

Field Name	Description
Create	To add a new PCB user
View	To view the user details
Edit	To edit the user details
Name	Name of the PCB user
Designation	Designation of the PCB user
Email	Email of the PCB user
Mobile Number	Mobile of the PCB user
Waste Type	The waste type user will be accountable for
District	The region the user will be accountable for
Save	Will save the changes made to the status
Discard	Will discard the changes



### 2.4.9 Admin: Create PCB user

In this the admin users can create the PCB users.

Note: A grid view is presented with SNO, Username, Name and status.

Field Name	Description
Name	Name of the PCB user
Designation	
Email	Email of the PCB user
Mobile Number	Mobile of the PCB user
Waste Type	The waste type user will be accountable for
District	The district the user will be accountable for
Save	Will save the changes made to the status
Discard	Will discard the changes

### 2.4.10 Admin: View Trip sheets

This lists all the Trip sheets created in the system

Field Name	Description
Search	Search based on ticket number, date, receiver, transporter, occupier
Filter	Filter based on ticket number, date, receiver, transporter, occupier
View & track	To view the details of the Trip sheet



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### 2.4.11 Admin: Trip sheets – detailed view

This displays the details of the selected Trip sheet

*Pre requisites:* Trip sheets are available in the system

*Input:* NA

*Output:* The details can be viewed

Field Name	Description
Date	Creation date
Trip sheet Number	System generated Trip sheet number
Occupier	Created by
Transporter	Transporter
Waste Type	Type of waste
Waste Form	Form of the waste
Quantity	Quantity with unit
Receiver	
Emergency Contact Details	Contact Details
Waste Handling Instructions	Handling Instructions based on waste type
TREM Card	TREM Card Details
Hazardous Waste Manifest	Hazardous Waste Manifest Details
Received date	
Received Quantity	Quantity with UOM
Status	



**2.4.12 Admin: View occupier**

All occupiers registered under PCB should be listed here

Field Name	Description
Create	To add a new occupier
Search	Search based on occupier, contact number and email
Filter	Filter based on occupier, contact number and email
View	To view the details of the occupier
Edit	To edit the details of the occupier

**2.4.13 Admin: Edit occupier**

All occupiers registered under PCB should be listed here

Field Name	Description
Edit	To edit any data
Unit Name	Name of the waste generating unit
Unit category	Select the type of the unit
Address	The address of the unit
State	State where unit is based
District	District where unit is based
Pin code	Pin code of the unit
Email	Email of the unit or a person
Contact person	Contact person at the unit
Designation	Designation of the contact person
Contact Mobile	Mobile number of the contact person
Waste Type	Waste type generated by the unit
License number	License details provided by concerned department



License validity	Validity date if any
Consent/ Authorization issued by SPCB	Details of the consent/ Authorization issued by SPCB
Consent/ Authorization Validity	Validity date, if any
Is receiver?	To mark if the waster generator is also a receiver
Receiving waste type	The waste types that will be received by the unit
Add attachment	Option to upload the details of the license /consent/ Authorization
Save	To save the changes
Discard	To discard the changes made

#### 2.4.14 Admin: Create occupier

Admin can create a new occupier here.

Note: Occupier will login with their email id as their username and the default password.

Field Name	Description
Unit Name	Name of the waste generating unit
Unit category	Select the type of the unit
Address	The address of the unit
State	State where unit is based
District	District where unit is based
Pin code	Pin code of the unit
Email	Email of the unit or a person
Contact person	Contact person at the unit
Designation	Designation of the contact person



Contact Mobile	Mobile number of the contact person
Waste Type	Waste type generated by the unit
License number	License details provided by concerned department
License validity	Validity date, if any
Add license	Option to upload the details of the license
Consent / Authorization	Details of the consent / Authorization issued by SPCB
issued by SPCB	Please specify name of SPCB
Consent/ Authorization Validity	Validity date if any
Add consent/ Authorization	Option to upload the details of the consent/ Authorization
Is receiver?	To mark if the waster generator is also a receiver
Receiving waste type	The waste types that will be received by the unit
Register	For successful creation of the occupier

#### 2.4.15 Admin: View transporter

All transporters registered under PCB should be listed here

Field Name	Description
Search	Search based on vehicle number, contact number and email
Filter	Filter based on vehicle number, contact number and email
View	To view the details of the transporter
Edit	To edit the details of the transporter



**2.4.16 Admin: Edit transporter**

All transporters registered under PCB should be listed here

Note: The changes made by the admin will be updated in the profile on the mobile app as well as for occupier

Field Name	Description
Vehicle Number	Registration number of the vehicle
Owner Name	Name of the owner
Owner Contact number	Contact number of the owner
Email address	Email of the owner who will be using the app
Owner Address	The Address of the owner
Vehicle capacity	The capacity of the vehicle
Waste type	Input the different waste that vehicles can carry
Authorized Vehicle	Mark if it is an authorized vehicle
Authorizing authority	The authorizing authority
GPS connected	Mark if GPS is connected
GPS provider	The vendor who has provided the GPS device
Vehicle Type	Type of the vehicle
Status	Active or inactive
Discard	To undo the creation
Save	To save the entry



Note: If waste type selected has biomedical or septage, authorizing authority is mandatory.

#### 2.4.17 Admin: View receiver

All receivers registered under PCB should be listed here

Field Name	Description
Search	Search based on receiver, contact number and email
Filter	Filter based on receiver, local body, district, place, contact number and email
View	To view the details of the receiver
Edit	To edit the details of the receiver

#### 2.4.18 Admin: Edit receiver

All receivers registered under PCB is listed here

Field Name	Description
Name	Name of the receiver / disposal unit
Contact Person	Name of the contact person
Contact number	Contact number of the contact person
Email address	Email of the unit/contact person
Unit Address	Address of the unit
State	State where unit is based
District	District where unit is based
Pin code	Pin code of the unit
Waste type	Input the different waste that unit can accept
Status	Active or inactive
Discard	To undo the creation
Save	To save the entry



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## 2.4.19 Admin: Reports

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The admin can access the reports here

Field Name	Description
From date	If reports are required within a date range
To date	If reports are required within a date range
Waste Type	Waste type
Transporter	Name of the transporter
Occupier	Name of the occupier
Receiver	Name of the receiver
District	District wise report
Violations	Value can be YES, NO & ALL
Search	To fetch the data on screen based on search criteria
Download PDF	To download the report in PDF
Download xls	To download the report in xls

## 2.4.20 Admin: Change password

The admin user can update the login password from my profile.

Field Name	Description
New password	Provide a password that meets the criteria
Confirm password	Re-enter the password
Save	Will save the password

## 2.4.21 Admin: Logout

To logout of the current application, please click log out button



**2.5.1 PCB user: Login**

The PCB user can login to the application using the link provided and the default password. The email id of the user will be the username.

**2.5.2 PCB user: dashboard**

The user dashboard will be the home page on login and will have the map view and the details of the violations corresponding to the waste type and district allocated.

Field Name	Description
Open Trip sheets	Trip sheet created and not accepted by transporter
Trips assigned	Trips accepted by transporter
Trips in progress	Trips started by transporter
Closed trips	Trips closed by transporter
Alerts	The trips which cross the state border
Violations	Refers to the trips which are not reached the destination on the time set
Violation count	To list the count of violations based on waste type
Date filter	Default value is the last 30 days

**2.5.3 PCB user: Alerts & violations**

By clicking on the violations tile or violations list in the dashboard the below screen will be listed. The user will be able to see the details of the trips corresponding to each waste type. (this page will be under the reports in a new tab)

Field Name	Description
Waste type	Filter the list based on waste type
Search	Serach the list based on the waste type
View	To view the trip details



### 2.5.4 PCB user: Reports

The PCB user can access the reports. Customized reports here

Field Name	Description
From date	If reports are required within a date range
To date	If reports are required within a date range
Waste Type	Waste type
Transporter	Name of the transporter
Occupier	Name of the occupier
Receiver	Name of the receiver
District	District wise report
Violations	Value can be YES, NO & ALL
Search	To fetch data on the screen based on search criteria
Download PDF	To download the report in PDF
Download xls	To download the report in xls

### 2.5.5 PCB user: View Trip sheets

This lists all the Trip sheets created in the system

Field Name	Description
Search	Search based on ticket number, date, receiver, transporter, occupier
Filter	Filter based on ticket number, date, receiver, transporter, occupier
View & track	To view the details of the Trip sheet



## 2.5.6 PCB user: Trip sheets <sup>67</sup> - detailed view

This displays the details of the selected Trip sheet

Field Name	Description
Date	Creation date
Trip sheet Number	System generated Trip sheet number
Occupier	Created by
Transporter	
Waste Type	
Waste Form	Form of the waste
Quantity	Quantity with UOM
Receiver	
Emergency Contact Details	Contact Details
Waste Handling Instructions	Handling Instructions Based on waste type
TREM Card	TREM Card Details
Hazardous Waste Manifest	Hazardous Waste Manifest Details
Received date	
Received Quantity	Quantity with UOM
Status	

## 2.5.7 PCB user: View occupier

All occupiers registered under PCB should be listed here

Field Name	Description
Search	Search based on occupier, contact number and email
Filter	Filter based on occupier, contact number and email
View	To view the details of the occupier



  
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**2.5.8 PCB user: View Transporters**

All transporters registered under PCB should be listed here

Field Name	Description
Search	Search based on vehicle number, contact number and email
Filter	Filter based on vehicle number, contact number and email
View	To view the details of the transporter

**2.5.9 PCB user: View receivers**

All receivers registered under PCB should be listed here

Field Name	Description
Search	Search based on receiver, contact number and email
Filter	Filter based on receiver, contact number and email
View	To view the details of the receiver

**2.5.10 PCB user: My Profile**

The user can edit their details if required.

Field Name	Description
Edit	To edit any data
Change password	To update the password
Name	Name of the PCB user
Contact number	Contact number of the contact person



Email address	Email of the unit/contact person
District	The different district
Waste type	the different waste that unit can accept
Save	To save the changes
Discard	To discard the changes made

### 2.5.11 PCB user: Change Password

The PCB user can update the login password here.

Field Name	Description
New password	Provide a password that meets the criteria
Confirm password	Re-enter the password
Save	

### 2.5.12 PCB user: Logout

To logout of the current application, please click log out button

#### NOTE

- Attachment for Transporter and Receiver to capture License and Central Pollution Control Board consent/Authorization data while registration
- In case of a breakdown or accident, a trip can be stopped midway, and a new vehicle can be assigned to the trip.



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