

Develop software to monitor the collection, storage, and marketing of non-biodegradable materials - Clean Kerala

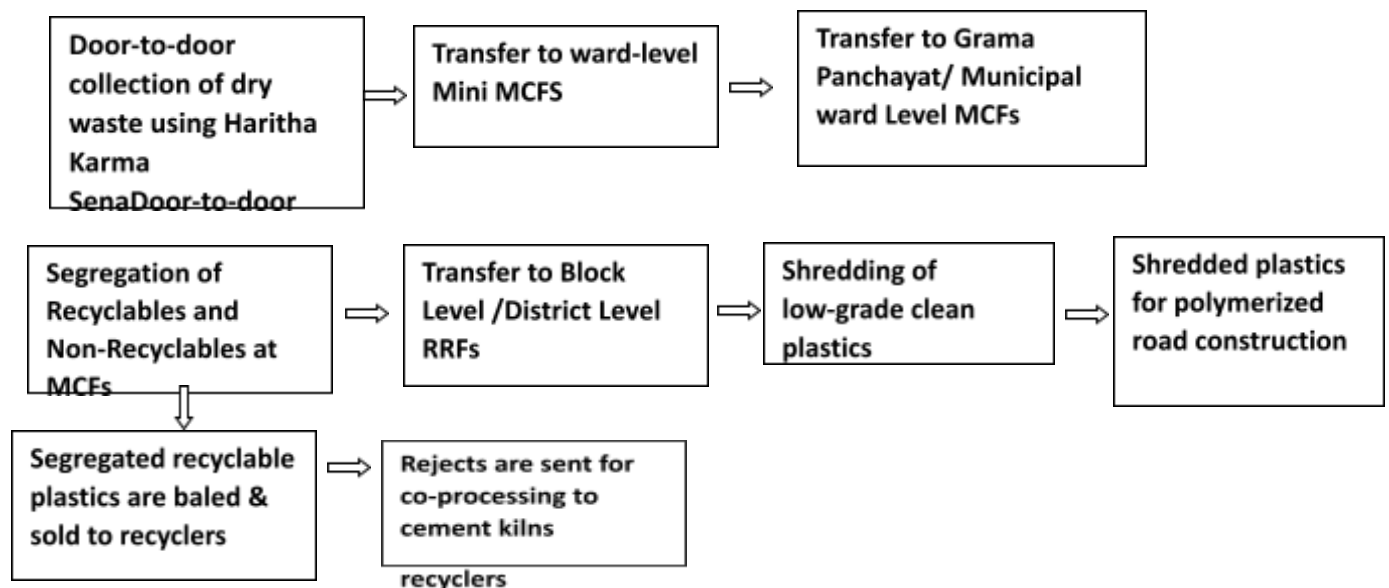
Clean Kerala Company Limited (CKCL), an organization established under the Local Self Government Department of the Government of Kerala, is dedicated to implementing innovative and scientific approaches to ensure hygiene management throughout the state. CKCL has been actively involved in the collection of non-biodegradable waste materials from various local self-government institutions across Kerala. The primary objective is to ensure comprehensive and efficient management of all non-biodegradable waste materials, ultimately contributing to the overall hygiene of the state. As part of this mission, They have been segregating the collected non-biodegradable materials, and recycling the recyclables through authorized agencies. The non-recyclable portion, which includes low-value plastics, discarded bags, footwear, and cloth waste, among others, approximately totaling 5000.00 tonnes per month, is meant to be sent for co-processing in cement kilns in compliance with government regulations.

All these activities are taking place in 14 districts. It is proposed to develop software to accurately monitor the collection, storage, and marketing of non-biodegradable materials collected in the material collection facilities of local government institutions.

Functions of (CKCL)

- The prime function is to address the management of non-biodegradable waste produced in the LSGIs of State
- Comprehensive waste management plan to collect, segregate and scientifically manage non-bio Degradable waste in Local Self Government Institutions and Government Offices
- Management of non-biodegradables including plastic rejects, Glass waste, E-waste including hazardous e-waste and other legacy waste

The Process of Dry Waste Management BY CKCL



Door to Door Collection by HKS

- Collection of non-biodegradable waste from households and commercial establishments by Haritha Karma Sena

Mini-Material Collection Facility

- Mini MCF” is a system for temporary storage at the ward level for the waste collected from households and commercial establishments by Haritha Karma Senas
- The collected materials are transported from Mini MCF to the nearest Material Collection Facility (MCF)

Material Collection Facility (MCF)

- Facility to store collected dry waste from mini-MCFs, houses, and institutions
- Established in Grama Panchayats and wards of Municipalities and Corporations
- Segregation of recyclables and non-recyclables happen at MCFs

Segregation at MCF

- Collected materials are segregated at MCF, recyclable items are sold from MCF through CKCL, and the cost of recyclable waste is paid to HKS.
- Plastics and non-recyclable rejects from MCF are forwarded to RRF for secondary segregation and shredding.

Resource Recovery Facility (RRF)

- Fully mechanized facility for processing the collected non-biodegradable materials from MCF (Shredding machine, Baling machines, dust remover and conveyor belts are available)
- Established in Block/ Municipalities and District Level
- Operation and Maintenance by the CKCL
- Further segregates waste into recyclables and non-recyclables
- Recyclable waste sold to the recycling industry
- Low-grade plastics shredded and supplied for road tarring
- Rejects or non-recyclable waste sent to cement factories for co-processing/ safe disposal.

Services provided by CKCL to LSGIs

- As per the government circular, contracts are entered into with local bodies for the collection of non-organic waste.
- Promote sorting to get better prices for the recyclable materials collected and segregated by the HKS.
- Provides machinery for sorting processes and baling waste materials.
- Arrangements have been made for the timely collection of waste materials by dividing the local government bodies into sectors in the districts.
- Production and distribution of shredded plastics required for road construction work by local bodies
- The cost of recyclable waste is paid into the bank accounts of HKS.

Waste removal from MCF/RRF

- The waste materials collected and stored in the MCF and RRF are collected on a sector-wise basis on time.

- Godowns are operated with the approval of the Pollution Control Board in each district for the timely collection of waste.
- Inert waste collection and disposal is done following the provisions of the National Green Tribunal in the Government Order.
- Private agencies have been empanelled for collection.
- Only GPS-equipped vehicles are used.
- The collection is done using one manifest (as per GO) per vehicle.
- Entering into contracts with cement factories
- Ensuring that the waste materials reach the cement factories.

ROLE OF CKCL in E-waste Management

- Establishment of e-waste collection centers.
- Collection of e-waste from all government organizations/schools/colleges in Kerala
- Ensuring scientific recycling
- Collect CFLs and tube lights
- Create awareness

Need of software

- All activities described above should be monitored.
- Data collection of non-biodegradable waste material arriving at each material collection center
- Details of segregation of material collected in the material collection center (weight, category)
- Details of material stocked at each material collection center (weight, category)
- Sale details (weight, category, price) from each material collection center
- Details of the amount given to Harita Karma Sena for each category of material sold
- Details of Inert Waste Collection (Panchayat/Municipality, Weight)
- Operation and maintenance of the Resource Recovery Centre
- Data collection of e-waste and e-hazardous waste collected from offices and institutions
- Processing fees and payments of E-waste collected
- District office staff attendance and travel claims

The EOI process

Kerala Startup Mission is approached by various Government Departments for the development of mobile and web applications. These requests are met through a facilitation device by KSUM. Kerala Startup Mission facilitates the entire process by helping departments to finalise technical specifications, circulating the same among startups, initial technical assessment and short listing for the committee to take final decision.

Following are the steps involved:

1. Call for Expression of Interest among startups incubated/registered with KSUM
2. Submission of EOI (in the link provided by KSUM)
3. KSUM to organize interaction with the Department for clarifying doubts and queries of interested startups.
4. Technical Proposals are then obtained from startups who have submitted the interest.
5. Technical proposals are then evaluated.
6. Startups who qualify the technical evaluation are then asked to submit the financial proposal.
7. L1 among the startups is identified by the method of Quality and Cost Based Selection (QCBS) wherein 70% marks for the technical proposal and 30% for the financial proposal.
8. The L1 startup is then recommended to the Department.
9. KSUM ensures that the startup delivers the product to the Department and the Department is satisfied with the work.
10. The payment is made directly by the department to the startup after signing an Agreement.
11. The Department is also expected to do the Security auditing of the application developed by the startup through CERT-K and also to host the application in the State Data Center

Eligibility for Startup to participate in the EOI

The startup has to be registered with Kerala Startup Mission and Startup India