

**SUCHITWA MISSION**  
**LOCAL SELF GOVERNMENT DEPARTMENT**

**Integrated Solid and Liquid Waste Management: Policies and Strategies - proposed State level approach**

Considering the evolving national level approach and strategies of Integrated Solid and Liquid Waste Management, the experience in this sector for the past three years and the existing Socio-economic-environment scenario it becomes important now to emphasise on the State level approach, policies and strategies to be adopted for streamlining the various Solid and Liquid Waste Management activities carried out through Local Self Government Institutions with Government support. The same are given hereunder for perusal, discussion and decision.

1. Segregation of Waste at Source is the responsibility of waste generator. It should be segregated into three categories to start with namely wet waste (food waste, garden waste and other biological origin waste), dry waste (paper, plastic, glass, metals and e waste all of which have a high recycle value and have a very good recycling market) and sanitary waste (sanitary napkins and diapers) as a first step towards an Integrated Waste Management System.
2. Maximum efforts may be taken by local bodies to achieve source level treatment of biodegradable waste in individual Households, group of households and residential colonies so that domestic biodegradable waste entering the streets or a common facility is minimised to the maximum extent. As per Kerala Panchayat Raj amendment Act 2012 and Kerala Municipality Amendment act 2014 Commercial establishments like hotels, hospitals, marriage halls should mandatorily segregate waste generated by themselves at source and to make own arrangement for treating the organic waste. It is the responsibility of the local body to implement this provision. The local body can cancel or refuse to issue or renew licenses if these provisions are not complied with by the commercial entities.
3. For a State like Kerala, most environment friendly, cost effective and practical solution for organic solid waste management is biological processing methods including composting and bio-methanation. Hence various biological methods shall be given top priority for the purpose.

4. ULBs and Grama Panchayats may collect biodegradable waste only from points where source level treatment is impossible like houses (BPL), hostels, housing colonies, public places, markets. Local Self Government Institutions should minimise the inflow of biodegradable waste to common plants and try to reduce the quantity of waste treatment at common plants centres by encouraging and enforcing methods of decentralised source level waste treatment.
5. At household level simple composting methods shall be encouraged and given prime focus (pit, ring, pot, flower pot, tripot composing etc.).
6. Biogas plants shall be recommended at household level wherever slurry management is possible. Biogas Plant up to 1 m<sup>3</sup> can also be provided to households on demand. Government share of subsidy (50% of unit cost) shall be limited to Rs.5000/-. Local Self Government Institutions shall provide 50% of Government share of subsidy. The remaining amount has to be met by beneficiary. LSGIs shall limit the number of Bio Gas Plants in their Source Level Solid Waste Management Project (ULBs – Max. 20%, Grama Panchayats – Max. 10% of total project cost)
7. Biogas plants at institutional and common place levels shall only be promoted, if facilities for slurry management and biogas (methane) usage are ensured.
8. Management of compost/biogas plants at individual household level can be entrusted to Kudumbashree entrepreneurs or any other agents as is convenient to the local body, if the household is unable to manage them on their own. They can also promote and maintain Kitchen gardening in each household utilising the compost/slurry so that the households can have the added advantage of getting pesticide free, healthy, free vegetables for their everyday consumption. For these activities user charges can be collected by the Kudumbashree entrepreneurs as per the willingness of households to pay or as arrived at by the Kudumbashree entrepreneurs so that the system becomes a self-sustaining business model. In case some other agents are involved for the same activity the local body is advised to go through required procedures. User charges can be levied on the households on the polluter pays principle as mentioned in the draft MSW manual (expected to be finalised in the very near future.)

9. After ensuring source level segregation of waste, door to door to collection of dry waste through whichever agents employed for the purpose must be ensured by the local bodies so that no household is outside the collection system. Local Self Government Institutions shall give top priority for management of non-biodegradable waste like paper, plastic, glass pieces, metals, tetra pack, hard board, e-waste etc. All ULBs & GPs in the State shall identify sufficient land/space and to set up a Resource Recovery Centre (RRC)/ Material Recovery Facility Centre (MRFC) within a year (at big Corporations – 10 each, other Corporation – 3 each, Big Municipalities – 3 each, other Municipalities – 2 each, Grama Panchayats – 1 each MRFC). ULBs can find funds for the purpose from their own/plan fund. Suchitwa Mission shall also supplement assistance for setting up the same. In Grama Panchayats, funds for the purpose shall be tapped from own/plan funds, Suchitwa Mission funds and SBM (SLWM) component fund. Block Panchayats and District Panchayats shall also contribute for setting up RRCs/MRFs in rural areas. As most of the above items have a good recycle value maximum efforts should be made to deliver recyclable materials to recyclers. Funds can also be tapped from the special budget allocation for Waste management projects through State Planning Board.
10. There are many business models for the ensuring recycling of recyclable components of non-biodegradable waste like the following and suitable model can be adopted by Local Self Government Institutions
- i. Collection agents collect non-biodegradable from Households and commercial establishments and keeps at selected destinations (RRCs/MRFs) sort it and store it so that Scrap dealers can make his own arrangements and take the material and transfer to respective recyclers. The above activity can be undertaken either by entering into an MoU with the local scrap dealers association or by tendering it out to any private party. the revenue generated from the sale of recyclables can be an additional source of income for the collection agents.
  - ii. ULBs/GPs enter into MOU with Local scrap dealers association/enter in to a tender as per the specific requirement of local body and make arrangements for the entire chain of collection and transportation of recyclables.

LSGIs can also decide upon any other business model ensuring maximum recycling of recyclable non-biodegradable waste as decided by the local body based on local conditions.

Local Self Government Institutions shall take up a high voltage IEC campaign to achieve the above objectives and also to promote the concept of reduce – reuse – recycle

11. ULBs shall set up hygienic and scientific slaughter house in compliance to provision under related Acts and Rules. In the case of Grama Panchayats the same shall be set up at Grama Panchayat level (for a single Grama Panchayat/Group of Grama Panchayats) using State Plan Funds.
12. Gas Crematoriums shall be established in ULBs and at GP level (for a single Grama Panchayat/Group of Grama Panchayats) using State Plan Funds.
13. It is the responsibility of Local Self Government Institutions to provide facility for the management of septage sucked out from septic tank. There shall be at least one septage treatment unit in each District. Ideally there should be 3 such units. Hence ULBs shall identify the required land and set up such treatment units. Group of Grama Panchayats shall take up the same as a joint venture project. ULBs can use State Plan/ULB Plan/Own funds for the purpose. In the case of Grama Panchayats they can use State Plan Fund, Grama Panchayats Plan & own funds and SBM Fund for the purpose.
14. All ULBs and Grama Panchayats shall promote scientific septic tanks for new Houses. to be constructed This shall be ensured at the instances of plan sanction and numbering of houses. They shall arrange inspection to households for ensuring that the septic tanks constructed (old & new ) are as per BIS standards/Kerala Building Rules.
15. ULBs and Grama Panchayats shall pass bye laws with reference to the following subjects, for ensuring.
  - Source level segregation of waste
  - Source level treatment of organic waste
  - Pricing of plastic kits and carry bags (Above 50 micron)
  - Shutting down and fining of manufactures and distributor who produce/sell plastic kits less than 50 micron

- Fining for open dumping and mass burning (The collected fine can be used for Waste Management activities).

In order to implement the above legal provisions a proper co-ordination of district administration and police may be established under the chairmanship of District Collector.