



Waste Management in Karnataka Status, Challenges & Initiatives

Karnataka State Pollution Control Board,
Bengaluru

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SOLID WASTE MANAGEMENT



DATA COLLECTION MECHANISM

- There are 315 local bodies in Karnataka (01 BBMP, 10 Municipal Corporations, 61 CMCs, 124 TMCs, 115 TPs, 4 notified areas.)
- Form IV - prescribed by CPCB for submission of Annual Report by ULBS(30th June)
- Form V – Prescribed for submission of Annual report by SPCB to CPCB (31st July)



CHALLENGES

- **Segregation:** segregation of wet waste & dry waste from all households/hotels/commercial establishments is major challenge.
- **Collection:** Wet and dry waste collection data not available in real time.
- **Transportation:** Not timely and spillage on roads.
- **Transfer stations:** Road side margin lands, spaces below flyovers and bridges are being used for segregation of waste and transfer stations causing odour nuisance and leachate issues.
- **Disposal in landfill site:** Lack of sanitary landfills in all Local bodies (only 165 operating) in the State, mixed waste reaches the landfill site , which again has to be segregated, many times there is burning of garbage.
- **Leachate:** collection & treatment system not in place. Hence, leachate reaches the nearby water bodies causing water pollution & ground water pollution.



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- **Black spots:** Every ward has black spots which contain mixed waste and even after it is cleared, throwing of waste in these black spots continue. Vacant sites in residential areas become black spots gradually.
- **Legacy waste:** Indiscriminate dumping of waste over the years has led to numerous dumpsites in the state which has to be cleared on priority basis.
- **Dry waste :** recyclables not sent to respective recycling units.
- **Refuse Derived Fuel (RDF)** from dry waste: Plastics to be sent to co-processing in cement kilns.
- Lake side dumping of solid waste is a regular feature.
- University campuses and colleges to have in-situ waste management facilities.
- Disposal of used clothes dispensed with in bathing Ghats in religious places.



INITIATIVES

- Centralized portal for tracking generation and processing and recycling of all types of waste to be developed by CPCB.
- Utensil bank and cloth bag vending machines to be set up in each ward to reduce plastic consumption.
- Decentralized composting facility ward wise.
- Bitumen mixed with plastic waste for road laying to be made compulsory.
- Market places to have in-situ composting facility for wet waste.
- Installation of camera and fencing in lake areas to prevent dumping .



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- Industrial areas /gated communities to have integrated waste management facilities.
- Involvement of children, NGOs and general public in the awareness programmes of govt.
- Waste management to be included in the curriculum of schools and colleges.
- AI, IOT based technologies(Drones and smart bins) to be developed to resolve the issues.



PLASTIC WASTE MANAGEMENT



DATA COLLECTION MECHANISM

- Centralized EPR portal of CPCB for plastic packaging for PIBOs PWBs and local bodies (July 2022 commenced)
- Form IV - prescribed by CPCB for submission of Annual Report by PWBs.
- Form V – prescribed by submission of Annual report prescribed by CPCB for Local Body (31st July)
- Form VI - prescribed by submission of Annual report by SPCB to CPCB.



CHALLENGES

- ULBs have not registered in the centralized EPR plastic packaging portal. Hence, information on generation of waste not available with PCB.
- Preventing use of plastic in flower, vegetable and meat market.
- Preventing use of plastic in places of worship.
- Entry of plastics from bordering states or union territory.
- Plastic carry bags (mentioned as garbage bags, compostable/ biodegradable)are sold in e-commerce sites.
- Huge gap between formal and informal sectors in management of plastic waste.
- ULBs have not registered in the portal and so no information is available.



INITIATIVES

- Industries using plastic waste to produce oil to be encouraged.
- Coastal district to have comprehensive plastic waste management plan to prevent entry of plastic into oceans thus saving marine life.
- The success of any waste management programme depends on the distribution of responsibility across all involved actors such as the consumer (responsible purchase and consumption, source segregation); policy makers (craft holistic policies with inputs from all stakeholders); local bodies (provide the required infrastructure support for setting up recycling and collection facilities); regulators (ensure strict and impartial law enforcement); waste management companies (ensure efficient collection with zero dumping/leakage); recyclers and waste processors (follow all environment and safe work conditions norms); and others. However, since the producer has maximum influence on how a product is designed, packaged, delivered, consumed and discarded, their role in preventing plastic pollution is paramount.



E-WASTE MANAGEMENT



DATA COLLECTION MECHANISM

- Centralized EPR portal of CPCB to be developed.
- Form 3 - prescribed by CPCB for submission of Annual Returns by producer/recycler (30th June)
- Form 5 – submission of Annual report prescribed by SPCB to CPCB (30th Sept.)
- Form 6- e-waste manifest (for transportation of e-waste) (triplicate)



CHALLENGES

- India is the 3rd largest generator of e-waste in 2019 with 3.2 million Tons/A. As per CPCB annual report, authorised capacity of re-processors across the nation is only 1.2 Million Tons/A. Thus, there is a huge gap which needs to be addressed.
- Data on quantum of Electrical and Electronic Equipment (EEE) put into market is not available.
- Share of formal sector is 10-15 % & informal sector is 85-90%. So, recyclers are facing shortage of raw material and are forced to close down their operations. The Rules has set EPR target between 10 % to 70% (2016-2023).
- Authorisations for Producer Responsibility Organizations (PROs) under E-Waste Rules is issued by CPCB. In reality these authorised PROs are approaching informal sectors or aggregators to collect e-waste on behalf of Producers to achieve the EPR targets.



INITIATIVES

- Centralized portal for tracking and monitoring all EEE, to be developed which will help in knowing the compliance by producers of EEE to EPR targets.
- Infrastructure facilities and technical know-how to be provided and incentivised by the Govt.
- Producers to come on common platform to establish/ support the e-waste recyclers, as a part of their CSR initiative so as to shift from Linear to Circular Economy.



CONSTRUCTION AND DEMOLITION WASTE



DATA COLLECTION MECHANISM

- Form III- prescribed by CPCB for submission of Annual Report by local authority to SPCB
- Form IV – prescribed by CPCB for submission of Annual Report from SPCB to CPCB (July end)



CHALLENGES

- Segregation of concrete, soil, steel, wood and plastics, bricks and mortar.
- Disposal of unwanted C&D waste of no value in lake beds.
- Generation of only 20Tons /day or more or 300Tons/ Project/month is covered under the Rules.
- Transportation of C&D waste in trucks without proper cover causes air pollution
- PWD, CPWD, Railways, Telecom, Airport, Port and Harbour and defense establishments carryout lot of construction activities and are major generators of C&D waste and they should keep the local body informed of the quantity and method of disposal and send the wastes to authorized processing facility.
- C&D waste policy is still in the draft stage.
- Except for Bengaluru where two C&D waste processing facilities are established, other local bodies are yet to identify and commission place for C&D waste processing facility in other Districts .



INITIATIVES

- Centralized portal for tracking generation and processing and recycling of C&D waste to be developed by CPCB.
- C&D waste management plan by local authorities to be made compulsory for obtaining building plan approval and consent for establishment from SPCB.
- Incentives to be given to those who use the material made out of C&D waste in construction activity.
- C&D waste Collection centres to be established by the local bodies.



HAZARDOUS AND OTHER WASTE MANAGEMENT



- SPCB has authorised about 3850 Hazardous and Other Waste handling facilities which includes, generators, recyclers, Common Hazardous Waste Treatment and Disposal Facilities.
- As per Rule 20 of the Hazardous and Other Waste (Management and Handling) Rules, 2016, Occupier, handing Hazardous /Other Waste shall maintain records of operation in Form No. 3 and shall submit Annual report in Form No. 4.
- Also, as per Rule, 19 of the H & OW(M & TM) Rules, , the Occupier disposing the Hazardous /Other Waste (Other than Schedule-III, part D) are required to generate manifest in Form No. 10 while handing over the waste to recycler/TSDF/ Co-processing unit etc.,



CHALLENGES

- Reconciliation of total quantity of Hazardous/Other Waste handled is a major challenge as Certain category of hazardous/Other Waste go out of State for recycling and certain category of Hazardous Waste/other Waste enter the State for recycling /TSDf.
- Lack of uniform interpretation of the Rules.: The Waste considered as Hazardous Waste in one State is categories as non-hazardous waste in neighbouring state.
- Proximity of authorised recycling /TSDf facilities: In case generators generating small quantity of Hazardous Waste, the recyclers/TSDf are not willing to collect the waste, resulting in violation of Rule, 8 of the said Rules.
- Mass balance in SOP as per Rule 9 .
- Hazardous waste generated by unorganised sector is not at all accounted/ disposed scientifically e.g., Road/Highway side automobile service stations.



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- Poor initiatives for waste minimisation e.g., de-contamination of chemical containers in house.
- Lack of Standard: For certain category of H W, the quality to be achieved after processing has not been stipulated.
- Poor market for recycled Waste: There is no mechanism for free marketing of certain category of waste after de-contamination.
- Mechanism for uniform unit of measurement for specific hazardous waste for easy analysis of the data.



INITIATIVES

- SPCB initiatives has developed e-manifest portal which enable to dispose the waste either to recyclers /TSDF to ensure cradle to grave approach and for proper accounting.
- Insisting generator to adopt waste minimisation technique.
- Promoting disposal of Hazardous/Other Waste through Co-processing or to handover to Alternate Fuel and Raw material processing unit.
- Ensuring the recyclers to adopt SOP approved by recyclers.
- There is a need for having Portal at national level facilitating movement of Hazardous waste across the states for recycling/utilization/co-processing . Board is upgrading the e-manifest portal to accommodate the movement of HW inside and out of state.



BIO MEDICAL WASTE MANAGEMENT



- There are about 44,685 No. Health Care establishment/ Hospital/ Clinics operating in the state out of which Board has authorised 39,357 No. of HCE's (including 25 No. of Common Bio-Medical Waste Disposal Facilities) under the Bio-medical Waste Management Rules, 2016.
- HCE/Common Bio-Medical Waste Treatment Facilities are required to submit information regarding quantity of Bio-medical Waste generated, quantity of disposed to CBWTDF , quantity of recyclable sold after treatment, quantity disposed in Form No. IV.
- Since majority of the HCEs care clinics, the Occupier i.e., generator is not submitting the quantity of waste generated and handed over to CBWTDF.
- A mechanism is need to provide information of the consumables used by Hospitals HCE's such as Cotton rolls, IV fluid bottles etc which constitute major component of Bio-Medical Waste, exact quantification can be done by considering the additional quantity of BWM generated within hospital such as placenta/ amputated body parts.

Thank you

