ODISHA'S SOLID WASTE MANAGEMENT JOURNEY **ON THE ROAD BUILT WITH INNOVATIONS**





How the wet waste turns into Compost in Micro-Composting Centre (MCC)?



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Process followed at Material Recovery Facility (MRF)





3. Compressing



4. Packaging for sale to authorized recyclers

BEHAVIOURAL CHANGES & CAPACITY BUILDING

- **Door-to-door awareness and sensitization campaigns** in all 114 ULBs **by 28,606** Swachh Sathis and Sanitation workers
- Swachha Gruha stickers to recognize houses adopting segregation
- Segregation at source encouraged by adopting **3E** principles (Expose-Embarrass-Educate)
- Women-driven battery operated vehicles (BOV) to transport waste to MCC / MRF
- **Transgender SHGs** also co-opted to run MCC and MRF
- **State-level Expo** for all ULBs to witness live demo of all MCC equipment and BoVs
- A new practice called Bada Khana (feast) introduced where all the sanitation workers and officials would meet every month and discuss sanitation related issues over food & recognize best performing sanitation workers & Swachh Sathis – attended by senior officers including DM & SP
- **Revenue from sale of recyclables** distributed to sanitation workers as incentives















Move from Centralized to Decentralised

MOVING FROM...

- Contractor-led
- Ghost Garbage issues
- No processing capacity-only
 - Dumping- statewide
- High cost with no sanitation

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- Community-led
- No ghost garbage
- State-wide
 425TPD so far
 @ 5 TPD per
 MCC
- Low cost BUT effective sanitation





HIGHLIGHTS OF DECENTRALIZED MODEL



Household-level segregation of waste (segregation at source) Setup of MCC & MRF at the level of a ward or for cluster of wards Full involvement of households, Swachh Sathis and sanitation workers

Resource recovery of all biodegradables as compost and recycling of all nonbiodegradable waste Complete scientific and safe processing and disposal of wet and dry waste leading to no landfill

COMPARATIVE ANALYSIS

	Centralised processing	Decentralised processing
Cost to ULB (4Lakh Population)	25 acres of land required + Rs.42 Cr. for CAPEX 160 TPD processing plant + OPEX (tipping fee) of Rs.9 Cr. Per annum	5TPD plant caters to 33000 popln 12 no.of 5 TPD to cater to 4 Lakh popln total capex =Rs13.2 Cr OPEX= Rs 9.48Cr (85% of OPEX is salary/incentives paid to community) For each 5TPD-(500 sq.m. of land required + Cost of setting up a MCC and MRF (wealth centre) at Rs.1.1 Cr. + Operational expense of Rs.79 Lakh per annum)
Revenue / Income to ULB	Nil Net Loss (minus) Rs 9 Cr	Revenue from 5 TPD plant = Rs.100 lakh per annum From 12 plants= Rs 12 CR Net Gain : +Rs2 Cr
Social - Environmental Impact	Indiscriminate dumping, leachate polluting the groundwater and soil, frequent fires and methane release, foul smell and air pollution	Processing of segregated waste and handling by authorized recyclers, shift from chemical fertilizer to manure, no landfilling and no water pollution, no long- distance transfer of waste saves fuel
Beneficiary	Private contractor	Community & ULB

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EASY TO REPLICATE

ENVIRONMENTAL IMPACT

FINANCIAL IMPACT

Rs 100 Cr cash flow circulation in hands of SHGs and Sanitation Workers

Rs 102 Cr of

annual

savings -

reduction of

ghost

garbage

Total annual savings > Rs 400 Cr

Significantly lesser capex compared to centralized model

No dumping – protection of water resources, upstream and downstream, no eutrophication

Substituting chemical fertilizer with organic manure in households and farms

Use of **BoV** and **no chemical inputs** in the entire process

Lowtechnology and less space per site making the model doable

Self-reliant – no dependency on external sources, including work force Source segregation & locally produced EM solution based simple model, enhancing scalability

Modular concept – scalable to towns of any size