

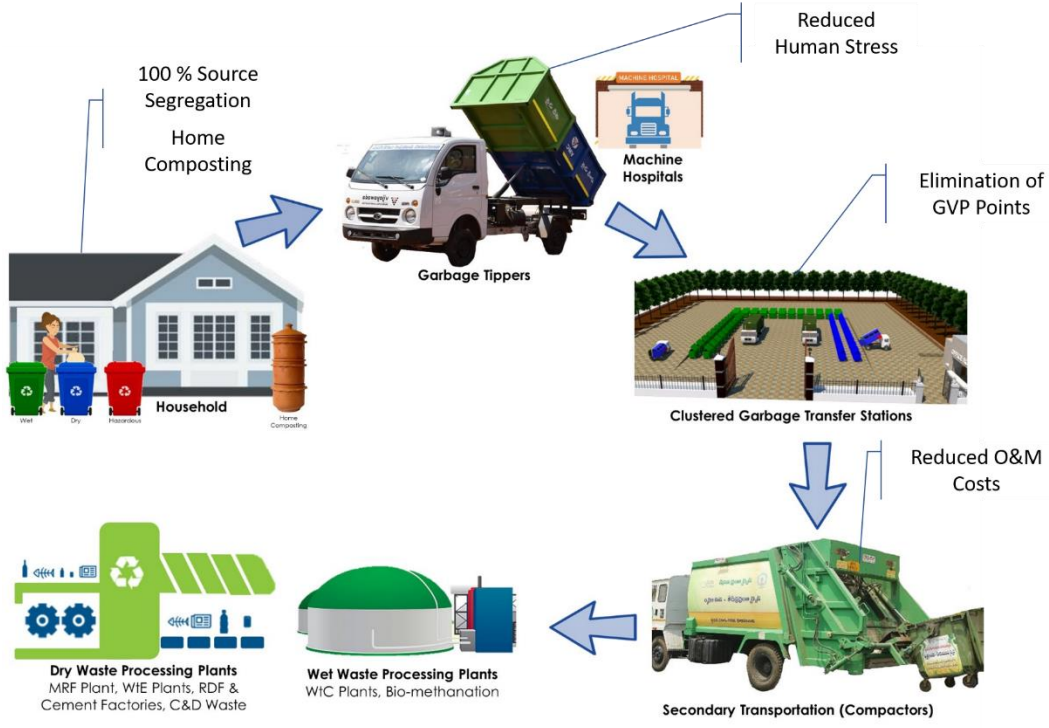


Standard Operating Procedure for CLEAN ANDHRA PRADESH

Cleanliness and sanitation for the State of Andhra Pradesh has been a story of steady progress under Swachha Bharat Mission. While policy measures can play a key role in ensuring universal sanitation, nothing can replicate the impact of a behavioral change.

In cognizance of this fact and to initiate a state-wide movement to build a Clean Andhra Pradesh, the Clean Andhra Pradesh Program is envisioned. The core objective of the Mission is to “create Bin free – Litter free – Garbage free cities”.

- Visual Cleanliness of the Cities
- 100 % Segregation of Waste at Source with Community Participation
- Encouraging Home Composting and Onsite waste treatment
- 100 % Door to Door Collection
- Scientific Treatment of 100 % Solid Waste Generated
- Comprehensive Sewerage and fecal sludge treatment
- Legacy Waste management



Solid Waste Management Chain in CLAP

Source Segregation

- Waste segregation at source ensures that waste does not get contaminated and it can be collected and transported separately for further processing.
- Segregation of waste optimizes waste processing and treatment technologies.
- It results in high proportion of segregated material that could be reused and recycled, leading to less consumption of virgin material.
- Proper segregation of waste thus leads to a 'Circular Economy' creating green jobs, reducing consumption of virgin resources and promoting investments and innovations.

Door to Door Waste Collection

Collection of solid waste from the door step of households, apartments, housing societies, shops, commercial establishments, offices, institutional or any other nonresidential premises, including collection of such waste from entry gate or a designated location on the ground floor in a housing society, multi storied building or apartments, large residential, commercial or institutional complex or premises.

Transportation of Collected Waste

Transportation of the segregated waste collected from source premises in specially designed, partitioned and covered transport vehicles, to the respective processing facilities.

1. Primary Collection & Transportation

Primary Collection refers to the process of collection of segregated solid waste from source of its generation including households, shops, offices, hotels, institutions, and residential or non-residential premises and taking the waste to transfer stations or directly to the disposal site. It is accomplished using garbage auto tippers in plain areas. In hilly areas, many of the houses are accessible only by footpaths or steps, in these areas segregated waste from households should be collected using backpacks having small leakproof containers, wheeler bags, etc.

2. Secondary Collection and Transportation

Secondary collection includes picking waste from intermediary points or garbage transfer stations and transporting it to waste processing plants.

Garbage Transfer Stations:

A Garbage transfer station is a secondary collection point where the waste from primary collection vehicles is temporarily stored and transported to processing plants using large vehicles to improve the collection efficiency of primary vehicle, save transportation time and fuel.

In compliance with the rules and to achieve the vision of Bin Free, Litter Free and Garbage Free Cities GoAP started the program of Clean Andhra Pradesh (CLAP). To replacing the existing Pushcart system with Garbage Auto Tippers is introduced to reduce the physical stress on sanitation workers and improve the Door-to-Door collection services.

Primary Collection: 2525 (Petrol/CNG) Auto Tippers and 1123 E-Autos are being provided to 123 ULBs.

Garbage Transfer stations: Proposed to construct 243 Garbage Transfer Stations and they are at various stages and 481 compactors provided for secondary Transportation

Waste Processing

Swachha Andhra Corporation on behalf of Government of AP and all the Urban Local bodies, is acting as nodal agency for implementation of Swachh Bharat Mission Urban and also in selecting the agencies under competitive bidding methods for establishing Solid Waste Management and processing projects in the above regard.

The current status in the State is of Solid waste Management processing in the State is as follows:

- 2 Waste to Energy Projects at Guntur and Visakhapatnam covering 42 ULBs within a radius of 100 KMs are commissioned.
- 32 Wet Waste Projects covering 34 ULBs are functional
- 17 Wet Waste Projects covering 17 ULBs are in progress
- Tenders were called for selection of agencies to establish ISWM (Integrated Solid Waste Management) projects in balance 72 ULBs under PPP mode.
 - 37 ULBs Received Bids, Work Award Issued
 - 35 ULBs Bids not received and 19 ULBs can send their wet waste to the nearest ULBs

ISWM: *Integrated solid waste management refers to the strategic approach to sustainable management of all categories solid wastes in one location or under one project.*

Source Segregation of Municipal Solid Waste & Collection

Standard Operating Procedure for Door-to-Door Waste Collection

Roles and Responsibilities of Municipal Commissioner

- Arrange for door-to-door collection Vehicles to collect segregated waste from households.
- Formation of Self-Help Groups, provide identity cards and thereafter encourage door to door collection of waste.
- Create public awareness through information, education and communication campaign and educate the waste generators through Ward Volunteers, NGOs, MEPMA and SHGs.

Roles and Responsibilities of Sanitation Secretary

- Ensure that allocation of 2 PH workers to each vehicle for effective D2D collection of segregated waste.
- Ensure that vehicle is collecting waste as per designated route plan.
- Ensuring that driver & helper who operate and maintain the vehicles.
- Record that data logs are prepared which shall cover attendance, GPS reports, duty slips, and repair and maintenance, etc.
- Direct waste generators not to litter i.e., throw or dispose of any waste.
- Educate workers, including contract workers and supervisors for door-to-door collection of segregated waste and transporting the unmixed waste during primary and secondary transportation to processing or disposal facilities.
- Create various awareness activities through volunteers and MEPMA and SHGs to sanitation workers.

Standard Operating Procedure for Segregated Waste

Roles and Responsibilities of Municipal Commissioner

- Supply 3 colored Household bins to Households to segregate the waste.
- Once door-to-door collection of segregated waste begins, keep regular track of the percentage of segregation in each ward.
- Depending on the type of stakeholders, use appropriate IEC strategy and awareness creation through Volunteers, SHGs and MEPMA staff.

- Conducting workshop/meetings with Sanitation secretaries on Source Segregation and collection.
- Conducting weekly meeting with Volunteers, SHG women, associations and NGO's on status of activities and solution to improve the situation.
- Citizen awareness campagins on segregation of waste, Home composting.
- Conducing competitions to sensitize students, citizens etc,

Roles and Responsibilities of Sanitation Secretaries

- Ensure that 3 colored HH bins are supplied to Households.
- Ensure that citizens are using Household bins for segregation of waste.
- Make sure that sanitation worker is collecting segregated waste from households.
- Once door-to-door collection of segregated waste begins, keep regular track of the percentage of segregation in each ward.
- To spread awareness for segregation at source in every ward and sensitize people through IEC with help of Volunteers and MEPMA staff.

Roles and Responsibilities of Ward Volunteers

- After distribution of bins to households educate households with pamphlet explain the importance of segregation and its uses.
- Once door-to-door collection of segregated waste begins, keep regular track of the percentage of segregation in each ward.
- Assist households in case they face any issues or challenges with regard to segregation.

Roles and Responsibilities of MEPMA

- Spread awareness for segregation at source in every household and sensitize people through IEC.
- Develop an individual action plan to households for implementation source segregation.
- Conducting mini meetings with households on Source Segregation and collection.
- Conducting of competitions on source segregation, home composting, art & crafts with recycled items, kitchen garden etc.,
- Participating in awareness rallies conducted by ULB in achieving the 100% segregation.
- Check and keep regular track of the percentage of segregation in each ward after sensitization of the households.

Standard Operating Procedure for Collection and Transportation

Component	Action to be taken	Responsibility	
		Corporation	Municipalities
Primary Collection	<ul style="list-style-type: none"> The primary collection plan consists of time schedule, number of trips required for 100% service coverage, optimum utilization of vehicle and allocating nearest dumping location (GTS/Processing Plant) in that area. Route plan for every trip consists of start point (household /commercial), end point (household/commercial) and dumping location for that trip (GTS/Processing Plant). After preparation of plan collection activity shall be monitored and if any changes required it should be updated in the plan and final plan need to be stick on vehicle. Ensure that driver is aware about the plan and vehicle is traveling as per the plan. Ensure that vehicles are equipped with functional GPS Device, Camera and Audio System Street sweeping and drain cleaning waste are to be collected in separate vehicles it should not be mixed with household waste. 	Sanitation Secretary/ Sanitary Inspector	Sanitation Secretary/ Sanitary Inspector
	<ul style="list-style-type: none"> Allocation of sanitation workers for door-to-door collection activities Daily monitoring of primary collection activities ensure that 100% vehicles are in working Ensure that all the route plans are prepared and stucked on vehicles Identification of intermediary transfer points and arranging compactor bins at this location till the completion of GTS 	CMOH/MOH	Commissioner
	<ul style="list-style-type: none"> Driver shall follow the time schedule of collection and travel as per the route plan provided Sanitation Worker is responsible for collection of waste from every establishment in the allocated area 	Sanitation Worker/Driver	Sanitation Worker/Driver

	<ul style="list-style-type: none"> The waste collected shall be deposited in respective compartments provided in the vehicle: <ul style="list-style-type: none"> Green Compartment for Wet Waste Blue Compartment for Dry Waste Red Bin for Hazardous Waste Black Bin for E-Waste 		
Garbage Transfer station	<ul style="list-style-type: none"> Ensure the construction is completed in intime daily monitor the construction activity Identification of intermediary transfer points and arranging compactor bins at this location till the completion of GTS All the bins should be covered and there is no spillage of waste from the bins Ensure that waste is dumped in separate bins placed for different types of waste Periodic inspection of GTS if any damage caused to floor, walls, bins, ramp etc should be repaired. Secondary storage bins capacity should be at least double the expected daily flow of waste Ensure that secondary storage bins are cleaned at least once in a month and painted once in a year GTS Not completed <ul style="list-style-type: none"> Construction of intermediary and temporary transfer points for ensuring the transfer of waste from Primary collection vehicles to secondary transport Ensure the ramp has enough elevation and width Ensure the temporary transfer point is maintained very clean Permanent GTS Construction to be expedited 	MHO (or) Assistant Engineer (Env)	Assistant Engineer (Env) (or) Sanitary Inspector
Secondary transportation	<ul style="list-style-type: none"> Routing of secondary transportation vehicle should be planned to ensure synchronization of primary collection Ensure that waste is transported daily and it cannot be stored more than 24 hours 	MHO (or) Assistant Engineer (Env)	Assistant Engineer (Env) (or) Sanitary Inspector

	<ul style="list-style-type: none"> • Ensure separate vehicles or separate trips should be planned for wet and dry waste • Collection times should be effectively planned to minimize the transport distance • Transportation of waste at night may be done in areas prone to traffic congestion • All the vehicles may be utilized in at least two shifts, depending on waste generation 		
	<ul style="list-style-type: none"> • In case of transportation of waste to cluster plan in other ULBs separate plan should be prepared • All the vehicles shall be utilized in two shifts <ul style="list-style-type: none"> ◦ day shift for collection of waste from commercial and bulk waste generators ◦ Night shift for transporting waste to the processing plant 	MHO (or) Assistant Engineer (Env)	Assistant Engineer (Env) (or) Sanitary Inspector
Capacity Building & IEC Activities	<ul style="list-style-type: none"> • CB shall be carried out to sanitation workers on characterisation of waste and storage in separate compartments assigned in vehicle • Community participation in waste management activities is critical for ensuring a well-functioning collection system • Involvement of the community in the primary collection system, specifically in determining the timing for waste collection is important for the effective planning and implementation of the primary waste collection system • Involvement of community leaders, community associations, SHGs and local members who represent the interest of the community at large must be adopted • Involving Self Help Groups, in solid waste management activities creating awareness in citizen on source segregation, home composting and handing the waste to sanitation worker. • The collection vehicle shall be equipped with announcement system to announce their arrival for waste collection, creating awareness on segregation etc., 	CMOH / MHO (or) MEPMA	Commissioner (or) MEPMA

Standard Operating Procedure for Waste Processing

Category of Waste	Status	Action to be taken	Responsibility	
			Corporation	Municipalities
Wet Waste	Existing Plant	<ul style="list-style-type: none"> All the necessary infrastructure provided for the project to be maintained such as roads, power, and water facilities Provision of adequate Segregated Wet Waste Ensure the project are completely operational and working at full capacity Ensure all the workers at the project are working under safe conditions Deployment of ULB staff at the projects for Knowledge transfer Testing the quality of all the parameters of the plant regularly Sale or use of the compost / biogas generated has to be continually monitored 	Additional (or) Deputy Commissioner	Commissioner (or) Assistant Engineers
	Clustered with Other ULB	<ul style="list-style-type: none"> Provision of adequate Segregated Wet Waste Arrangements for storing and transfer yards for wet waste Ensure dedicated Vehicles along with the Staff are deployed for transportation of waste Ensure the vehicle transporting the waste should be closed 	Additional (or) Deputy Commissioner	Assistant Engineers (or) Nominated officer
	Project Awarded	<ul style="list-style-type: none"> Land has to be identified as per the CPCB Norms Identified land to be provided with basic infrastructure such as Leveled Land, Water, Electricity, and Approach roads. The agencies which have been awarded the projects will approach the ULBs and Land may be handed over to the developer after completing the concessioner agreement procedures 	Commissioner	Commissioner

		<ul style="list-style-type: none"> • Support the agencies in acquiring the Consent to Establish and Consent to Operate from the Pollution Control Board • Push the agencies to complete the project within the stipulated time • In the due time windrow composting can be taken up in the available land at the project site 		
	Project yet to be awarded	<ul style="list-style-type: none"> • Land has to be identified as per the CPCB Norms • In the due time windrow composting can be taken up in the available land at the project site and Local NGOs and CSOs may be made responsible for the operation of the 	Commissioner	Commissioner
Dry Waste – Recyclables	MRF Available	<ul style="list-style-type: none"> • All the necessary infrastructure provided for the project to be maintained such as roads, and power • Provision of adequate Segregated Dry Waste • Ensure the project are completely operational and working at full capacity • Ensure all the workers at the project are working under safe conditions • Integration of informal waste pickers in to the projects and ensuring • Sale or use of the recyclables to monitored continually 	Additional (or) Deputy Commissioner	Commissioner (or) Assistant Engineers
	No MRF	<ul style="list-style-type: none"> • ULBs with the ISWM projects can handover the segregated dry waste to the agencies • Formalizing the informal sector of the dry waste by <ul style="list-style-type: none"> ○ Registering the Khabadiwalas in to the system ○ Registering the informal waste pickers in to the system ○ Establishing a monitoring system ○ Providing dedicated vehicles for the Dry waste 	Commissioner	Commissioner

		<ul style="list-style-type: none"> ○ Establishing a chain between the Recyclables purchasers, Khabadiwalas and formalized waste pickers. 		
Dry Waste – Non-Recyclable	WtE Cluster	<ul style="list-style-type: none"> ● Provision of adequate Segregated No recyclable dry Waste ● Arrangements for storing and transfer yards for non-recyclable dry waste ● Ensure dedicated Vehicles along with the Staff are deployed for transportation of waste ● Ensure the vehicle transporting the waste should be closed 	Additional (or) Deputy Commissioner	Assistant Engineers (or) Nominated officer
	Cement Factories	<ul style="list-style-type: none"> ● Meeting with the nearest cement factory officials for acceptance of non-recyclable dry waste ● Provision of Segregated No recyclable dry Waste ● Arrangements for storing and transfer yards for non-recyclable dry waste ● Ensure dedicated Vehicles along with the Staff are deployed for transportation of waste ● Ensure the vehicle transporting the waste should be closed 	Additional (or) Deputy Commissioner	Assistant Engineers (or) Nominated officer
	ULBs not in the WtE Cluster / No Cement factories	<ul style="list-style-type: none"> ● Maintaning store yards for non-recyclable dry waste and may be transported to the WtE/ Cement factories when the quantiles are large enough ● Provision of Segregated No recyclable dry Waste ● State Govt will provide decentralized solutions to these ULBs 	Commissioner	Commissioner

Standard Operating Procedure for Visual Cleanliness

Strategy	Action to be taken	Responsibility	
		Corporation	Municipalities
Prosecution & penalties on Garbage littering	<ul style="list-style-type: none"> Ensuring 100 % segregated waste collection Sanitation rules/bye laws to prosecute and penalize garbage littering User charges collection to induce sense of responsibility towards handing over waste to sanitation workers 	Additional (or) Deputy Commissioner	Commissioner (or) Assistant Engineers
Transformation of Garbage Vulnerable Points (GVPs)	<ul style="list-style-type: none"> Elimination of secondary storage bins and transportation of waste to Garbage Transfer Stations (GTS) Transformation of Garbage Vulnerable Points to Green spots Monitoring of GVPs after transforming them into green spots Promoting beautification through plantation, wall paintings etc after transformation of GVPs Community involvement to clear GVPs 	Additional (or) Deputy Commissioner	Sanitary Inspectors
Elimination of Open Urination and Open Defecation spots	<ul style="list-style-type: none"> Provision of IHHL/Community & Public toilets Ensuring operational CT/PT, maintaining the aspirational standards Periodical inspection of CT/PTs and conducting structural audit Sensitizing public towards use of toilet Bye laws to penalize the offenders Monitoring of OU and OD spots 	Commissioner	Commissioner
Animal policy where animals cannot be allowed on streets	<ul style="list-style-type: none"> Tourist places, markets/mandis and commercial areas to be free from stray animals Ensuring implementation of Andhra Pradesh Municipalities Act, 1965 	Commissioner/CMOH	Commissioner /MHO

<p>Visual Beautification</p>	<ul style="list-style-type: none"> • Development and maintenance of parks and promotion of composting in parks • Maintenance of dividers, footpaths and promotion of greenery along roads • Streets beautification through wall paintings • Retrofitting of slums 	<p>Additional (or) Deputy Commissioner</p>	<p>Commissioner (or) Assistant Engineers</p>
<p>Mechanized sweeping</p>	<ul style="list-style-type: none"> • Opting for mechanized sweeping on 4 lane and main roads • Monitoring of mechanized vehicles through vehicle tracking system • Water sprinkling to suppress dust • Procurement of vehicles under NCAP 	<p>Commissioner/Chief Engineer</p>	<p>Commissioner /Deputy Engineer</p>
<p>Promotion of composting</p>	<ul style="list-style-type: none"> • Promotion of source segregation and home composting • Promotion of community composting by Residential Welfare Associations • Mandating Onsite composting by Bulk Waste Generators • Procuring composting equipment under CSR funds • Incentivizing the home composters, community composters by procuring compost 	<p>Additional (or) Deputy Commissioner/CMOH</p>	<p>Assistant Engineers (or) Nominated officer</p>
<p>Elimination of water logging areas</p>	<ul style="list-style-type: none"> • Identification of water logging areas and reasons behind water logging • Maintenance of drains by clearing silt, blockages ensuring free flow of water • Filling and leveling up the potholes and water logging areas 	<p>Chief Engineer</p>	<p>Deputy Engineer</p>
<p>Clean water bodies</p>	<ul style="list-style-type: none"> • Ensuring water bodies are free from visible floating solid waste through regular cleaning • No drain should lead sewage/fecal matter into water bodies. Identification of such cases and taking necessary actions • Elimination of OU and OD spots • Conducting cleanliness drives with NGOs/communities etc 	<p>Commissioner</p>	<p>Commissioner</p>