



Government of Puducherry
Local Administration Department



Policy Framework for **SOLID WASTE MANAGEMENT** in UT of Puducherry

CONTENTS

1. Background
2. Scope
3. Objectives
4. Guiding Principles
5. Region Specific SWM Approaches
6. Implementation Strategies
7. Implementation Methods
8. Validity of Policy

SOLID WASTE MANAGEMENT POLICY

1. Background

The Union Territory of Puducherry (UTP) has two districts viz., Puducherry District and Karaikal District. Puducherry District comprises of three outlying regions namely (i) Mahe Region (adjoining Kannur District of Kerala) (ii) Yanam Region (adjoining East Godavari District of Andhra Pradesh) and (iii) Puducherry region which lies adjoining Tamil Nadu. Karaikal District lies about 140 Km south of Puducherry Region surrounded by Tamilnadu. The map in Figure-1 below shows all the four regions of UTP that are geographically scattered across three main southern states in the country.

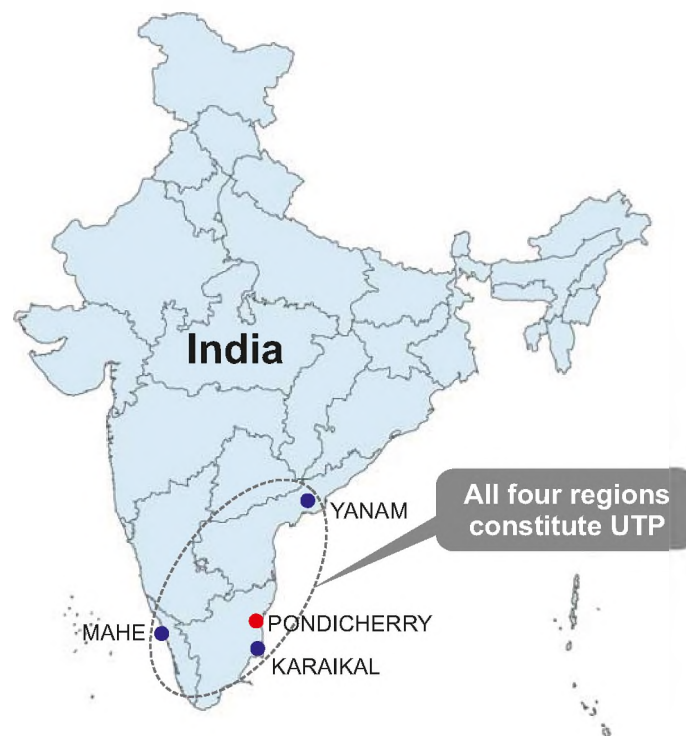


Figure 1: Map showing the geographically scattered regions in Union Territory of Puducherry

The Solid Waste Management Policy of the UTP under the Solid Waste Management Rules (SWM), 2016 applies to all the 15 Local Bodies in the territory comprising of five Municipalities (four Municipalities in Puducherry District and one Municipality in Karaikal District) and 10 Commune Panchayats (five Commune Panchayats in Puducherry District and five Commune Panchayats in Karaikal District).



Table-1 below shows the area and population in the five Municipalities and ten Commune Panchayats (CP) in Puducherry.

Table-1: Area and Population of Urban Local Bodies and CPs in UTP

Sl.No	Local Body	Area in Sq.Km	Population (2011 Census)
Urban Local Bodies			
1	Pondicherry Municipality	19.46	2,44,700
2	Oulgaret Municipality	36.7	3,00,150
3	Karaikal Municipality	35.20	1,00,000
4	Mahe Municipality	9	41,934
5	Yanam Municipality	30	55,626
Commune Panchayats			
6	Ariyankuppam CP	24.51	75,055
7	Bahour CP	54.81	55,000
8	Nettapakkam CP	30.19	51,781
9	Villianur CP	42.53	89,133
10	Mannadipattu CP	64	86,500
11	Kottucherry CP	27.50	23,186
12	Nedungadu CP	26.35	27,939
13	Thirunallar CP	45	40,000
14	TR Pattinam CP	21.12	21,335
15	Neravy CP	9.25	12,841

Puducherry Urban Agglomeration Area:

The two Municipalities in Puducherry regionnamely Pondicherry Municipality and Oulgaret Municipality and some urbanized pockets of Ariyankuppam and Villianur Commune Panchayats comprise the Puducherry Urban Agglomeration Area (PUAA). The extent of PUAA area is 83.09Sq.Km and represents the Conurbation area of Puducherry is 83.09Sq.Km and represents the Conurbation area of Puducherry



Region. The PUAA map is given in Figure-2 below

Due to the nature of urbanization in Puducherry Region, the conurbation area i.e. PUAA is treated as a single administrative unit for the purpose of SWM. Government of Puducherry is contemplating the idea of creating a Municipal Corporation in the area that is currently covered under PUAA. The SWM practices that is currently adopted in PUAA is thus homogenous even though it falls under the jurisdiction of two Urban Local Bodies (ULB) and two CPs.

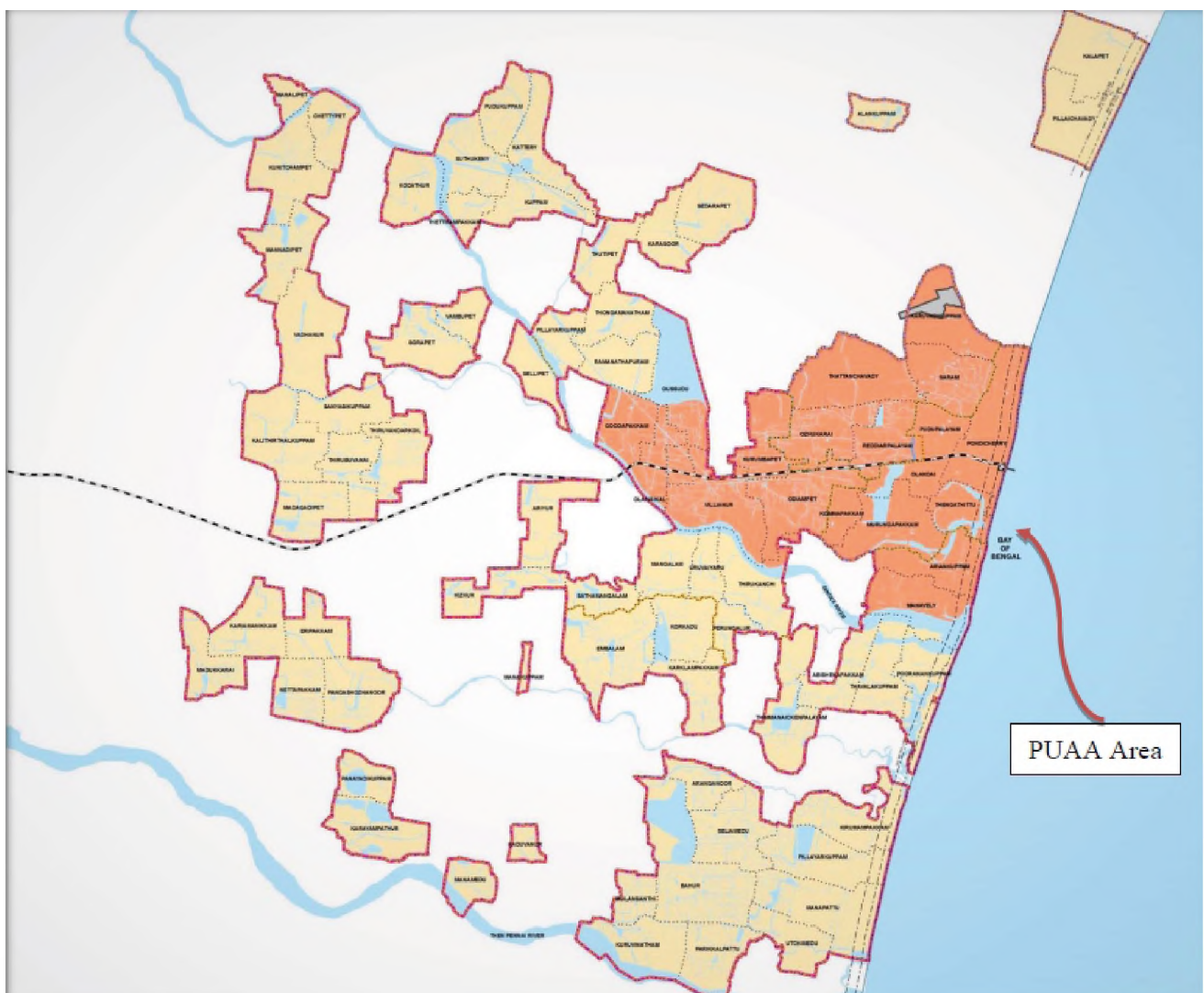


Figure 2: Map of Puducherry Region showing the PUAA Area



2. Scope

The SWM Policy is made under the Solid Waste Management Rules, 2016 and is applicable to all the urban local bodies and commune panchayats in the UTP and covers all the domestic, institutional, commercial and other non-residential solid waste generators situated in the urban and rural areas except the industrial waste, hazardous waste, hazardous chemicals, bio medical wastes, e-waste, lead acid batteries and radio-active waste, that are covered under separate rules framed under the Environment (Protection) Act, 1986.

3. Objectives

The specific objective of this policy is to evolve a sustainable system of Solid Waste Management in the ULBs and CPs in adherence to the SWM Rules, 2016.

The SWM Policy will be implemented through:

- a. Educating the citizens to Refuse, Reduce, Recycle and Reuse and to segregate the domestic waste at source
- b. Promoting the culture of “user charge” (Polluter Pay principle) for conservancy
- c. Creating a bin free Puducherry
- d. Implementing waste management activities such as collection, transportation, treatment and disposal in a manner which is not only environmentally, socially and financially sustainable but is also economically viable.
- e. Establishing an integrated and self-contained operating framework for solid waste management, which would include the development of appropriate means and technologies to handle various wastes.
- f. Enhancing the ability of ULBs and CPs to provide effective waste management services to the urban and rural resident respectively.



4. Guiding Principles

The guiding principles of the policy are:

- a. Promoting awareness of waste management principles among citizens and all stakeholders.
- b. Minimizing multiple and manual handling of waste.
- c. Designing a system to ensure that Solid Waste is scientifically and economically treated and disposed-off.
- d. Developing systems for effective resources utilisation and deployment.
- e. Promoting recovery of value from municipal solid waste.
- f. Stakeholder Involvement by fostering a spirit of co-operation from households, communities, NGOs and Lbs.
- g. Defining the roles and responsibilities of various stakeholders and putting in place an operating framework, which would include appropriate contractual structures.
- h. Promoting recovery of value from Solid Waste: Developing treatment and final disposal facilities, which, while adhering to the statutory requirements, are sustainable, environmentally friendly and economical.

5. Region Specific SWM Approaches

a) Urban Local Bodies

As the ULBs in Puducherry are geographically spread across three different states in the Southern India (Tamilnadu, Andhra Pradesh & Kerala), specific solutions that are applicable to the local conditions of the four regions are required. The journey of the solid waste from the point of generation at the residential and commercial places till it reaches the Resource Recovery Parks is thus different for an Urban Local Body than the Commune Panchayat in the UT of Puducherry. Based on this, an Urban Approach for SWM in ULBs is evolved keeping in mind the requirements of the ULBs.

The process flow followed in the ULBs is provided in the infographics provided in **Figure-3** below.



a) Commune Panchayats

Commune Panchayat System of local governance are present only in Puducherry and Karaikal regions of UTP. As CPs are a unique two-tier Panchayat Raj System functional in the UTP, the SWM strategy evolved is based on a Cluster Approach to ensure functional effectiveness and financial viability. All the Gram Panchayats that constitute the CP will be treated as a single administrative unit for the purpose of SWM. As the ten CPs in the UTP are administratively similar in nature, a common approach towards SWM for CPs is prescribed as the requirements are same. **Figure-4** shows the SWM Approach in Commune Panchayats of UTP.



Solid Waste Management Approach in ULB's of Puducherry

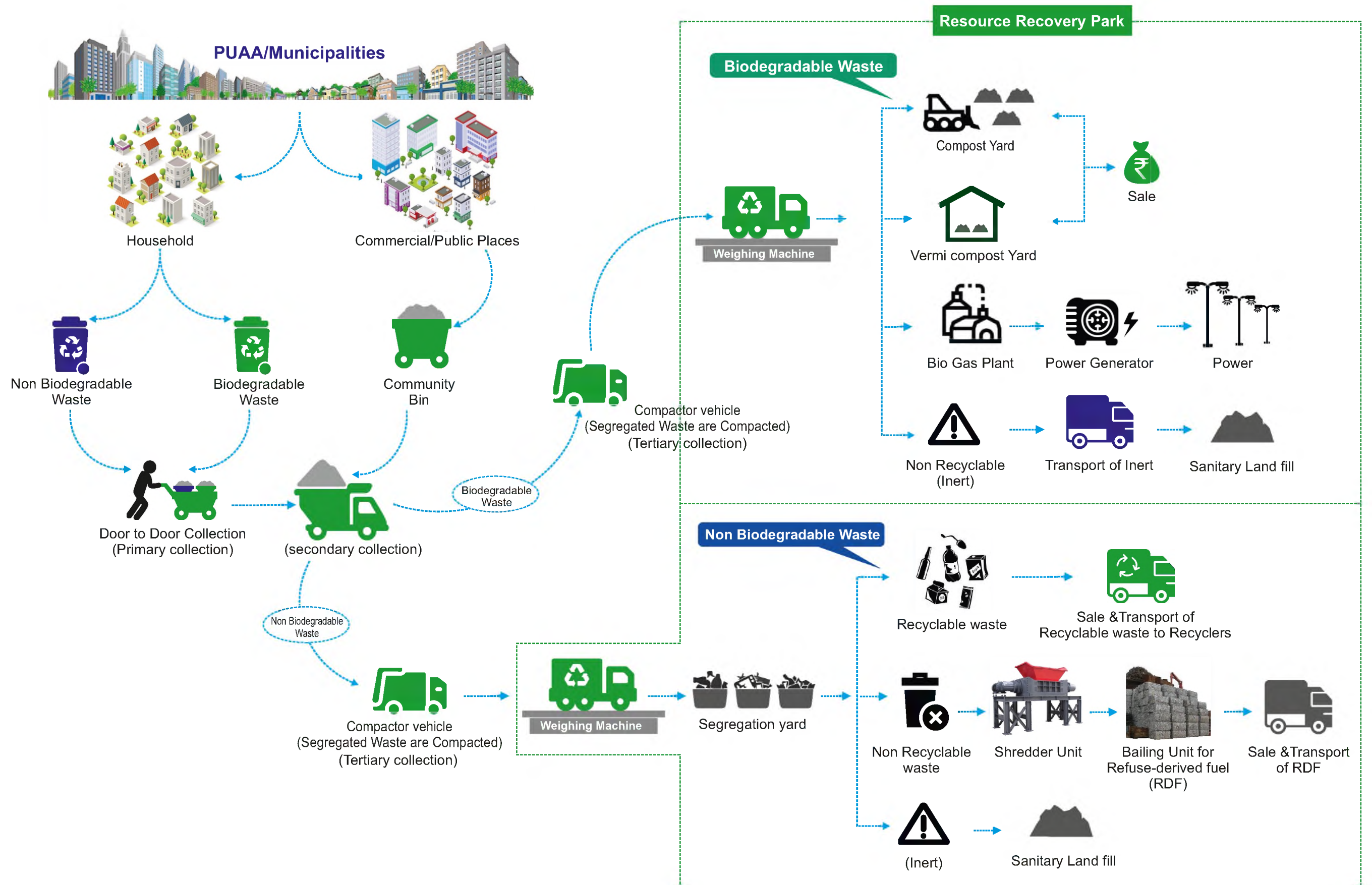


Figure 3 SWM Approach in ULBs of Puducherry



Solid Waste Management Approach in Commune Panchayats of Puducherry

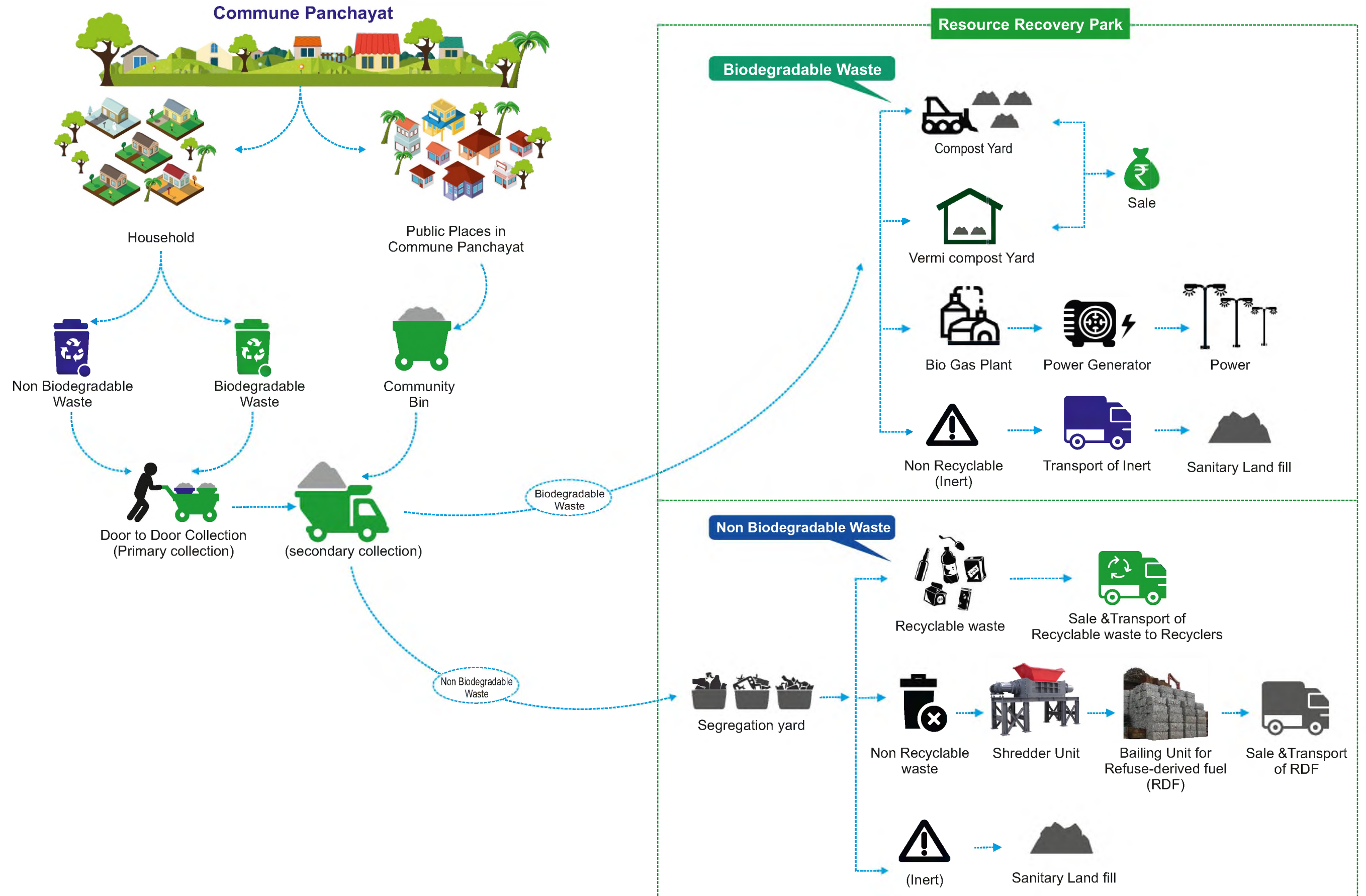


Figure 4 Cluster Based SWM Approach in Commune Panchayats of Puducherry



6. Implementation Strategies

The implementation strategy for Solid Waste Management in the ULBs/CPs in Puducherry based on the SWM Rules, 2016 is prepared by assessing the current scenario of SWM in the local bodies and the improvements to be made in adherence to the SWM Rules, 2016. The summary of the strategy is provided in Table-2 for ULB's and Table-3 for Commune Panchayats (CP) by encapsulating the various processes involved in the SWM collection, transportation, processing and disposal.



Table 2: SWM Strategies in Urban Local Bodies of Puducherry under SWM Rules, 2016

Sl.No	Urban Local Body	Source Segregation	SWM Collection Strategies			Disposal Strategies					
			Primary Collection (Door to Door)	Secondary Collection	Tertiary Collection (Compaction)	Windrow Composting	Vermi-Composting	Biogas Generation	Segregation & Sale of Recyclable Waste	Sanitary Landfill	Biomining Legacy Waste
1	Pondicherry Municipality	✓	✓	✓	✓	✓	✓	✓	✓	✓	DNA
2	Oulgaret Municipality	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Karaikal Municipality	✓	✓	x	x	✓	✓	✓	✓	✓	✓
4	Mahe Municipality	✓	✓	x	x	@	@	✓	✓	✓	DNA
5	Yanam Municipality	✓	✓	x	x	✓	✓	✓	✓	✓	✓

✓ Strategy Adopted

* Primary Collection is done. Secondary and Tertiary Collection are not required.

\$ Cluster Based Approach for Establishing Sanitary Landfill

@ Pipe Composting at Household Level will be adopted in Mahe Municipality



Table 3: SWM Strategies in Commune Panchayats of Puducherry under SWM Rules, 2016

Sl.No	Commune Panchayat	Source Segregation	Door to Door Collection	SWM Disposal Strategies				
				Windrow Composting	Vermi-Composting	Biogas Generation	Segregation & Sale of Recyclable Waste	Sanitary Landfill
1	Ariyankuppam CP	✓	*	✓	✓	✓	✓	\$
2	Bahour CP	✓	*	✓	✓	✓	✓	\$
3	Nettapakkam CP	✓	*	✓	✓	✓	✓	\$
4	Villianur CP	✓	*	✓	✓	✓	✓	\$
5	Mannadipettu CP	✓	*	✓	✓	✓	✓	\$
6	Kottucherry CP	✓	*	✓	✓	✓	✓	\$
7	Nedungadu CP	✓	*	✓	✓	✓	✓	\$
8	Thirunallar CP	✓	*	✓	✓	✓	✓	\$
9	TR Pattinam CP	✓	*	✓	✓	✓	✓	\$
10	Neravy CP	✓	*	✓	✓	✓	✓	\$

✓ Strategy Adopted

* Primary Collection is done, Secondary and Tertiary Collection are not required.

\$ Cluster Based Approach for Establishing Sanitary Landfill

@ Pipe Composting at Household Level will be adopted in Mahe Municipality



7. Implementation Methods:

a) Stake Holder Participation

- a. Disseminating the waste management initiatives to the waste generators level, and entrust the responsibility of source segregation.
- b. Utilizing the services of Non-Governmental Organisations (NGOs) for coordinating and propagating the awareness program, the IEC campaign and providing support to the informal sector (rag pickers, waste recyclers etc.)
- c. Defining the role of NGOs for effective propagation of complete awareness regarding solid waste management among various stakeholders for successful implementation of the SWM.
- d. Information, Education & Communication Activity (IEC) and Behaviour Change Communication (BCC) which are key to the success of the SWM will be taken up in participation with NGOs, who would be appointed through due diligence / selection process.
- e. Defining the role of NGOs: The SWM Rules, 2016, stipulates extensive involvement of the community in waste management In order to educate the community and bring awareness of solid waste management program, the involvement of an intermediary such as Non-Governmental Organisation is very essential. The NGOs would play a pivotal role and help in effective propagation of the complete awareness regarding solid waste management among various stakeholders, so that waste management can be implemented as per the State Policy. The IEC activity would be carried out by NGOs as per the specified terms.
- f. ULBs and CPs would enter into contracts with private operators for various waste management activities.



a) **Primary Collection**

Doorstep collection would be followed where Primary Collection or first stage collection is involved. And for this purpose, the following measures are proposed:

- a. Residents would be encouraged to segregate, store and deliver the solid waste to primary collection staff at a pre-specified time as per procedures set out by ULBs/CPs
- b. Auto tippers/pushcarts/tricycles, would be deployed to enable door to door collection.

Plans for efficient and effective street cleaning include:

- a. Provision of ergonomically designed implements/vehicles for street sweeping to the conservancy staff.
- b. The refuse swept from the street would be directly deposited into the secondary transporting system. The street sweeping and road side cleaning would be part of the collection activity of the contractor who would be engaged by the ULBs/CPs. And for efficient operation of the system appropriate contractual agreements with private operators would be entered into for carrying out the activities. The Contractor would be selected through a transparent tender process.

a) **Secondary/Tertiary Collection and Transportation**

- a. Metal containers/bins of specified dimensions and capacity are proposed for secondary storage.
- b. Solid Waste collected by the pushcarts/tricycles/auto tippers during primary collection would be directly transferred into these metal containers/bins. The metal containers would be handled mechanically through bigger vehicles and compactor vehicles.
- c. The transportation vehicles and compactor vehicles would unload the waste mechanically at treatment plants and landfill sites depending on the type of waste.
- d. The procurement of vehicles could either be by the concerned ULBs/CPs or the private operators based on the contractual arrangements.



a) **Processing of Solid Waste**

- a. The ULBs and CPs would facilitate construction, operation and maintenance of solid waste processing facilities and associated infrastructure through private sector participation for optimum utilization of various components of solid waste adopting suitable technology prescribed in the SWM Rules 2016.
- b. Sanitary Landfill, as required under prevailing statutes, would be developed to dispose non- biodegradable matter and post treatment rejects/inert.
- c. Development of these facilities, either individually or as an integrated unit, could be done through appropriate contractual arrangement (management contract / BOT contracts etc.).
- d. Private participation in Solid Waste Management would be encouraged to tap the new and emerging technologies in SWM. The ULBs and CPs would enter into contractual arrangement to ensure effective implementation of the SWM strategy adopted by the respective local bodies.

b) **Bio-mining**

Land is essential for accommodating the segregated wastes and for developing treatment facilities. For economical operation of treatment facilities land has to be provided to the developer of the facilities. There is a huge accumulation of legacy solid waste in all the dump yards. To create land bank for accommodating future wastes and meeting the land requirement for developing treatment facilities, it is proposed to bio-mine the dump yards in PUAA, Karaikal and Yanam Municipalities by developing suitable Material Recovery Facilities (MRF) and redeem the land through private sector participation.

c) **Sanitary Landfill:**

The rejects from the post treatment process have to be land filled. Sanitary Landfills will be established in PUAA and in the other three ULBs (Karaikal, Mahe and Yanam). In case of Commune Panchayats, as cluster based approach for Solid Waste treatment and disposal is proposed, the Resource Recovery Park in CPs will have a Sanitary Land Fill to cater to the disposal of inert and other non-recyclables in line with the stipulations laid down in the SWM Rules, 2016.



The landfill proper would be developed for isolation of the wastes from surface runoff and containment of the waste to protect against movement of leachate directly to ground. Liner systems would be provided for leachate collection and facility would also be provided to treat the leachate and to cover the waste. Once the planned waste levels are reached a cover liner would be provided. The landfill would be developed with 20-25 years perspective. A detailed plan for implementation would be prepared prior to investment.

8. Validity of Policy:

The Policy shall be in force for period of 10 years from the date of notification of the Policy

