



Solid Waste Management in Urban India

Pammal , Tamilnadu Experience **-Best Practices, Challenges and Issues**

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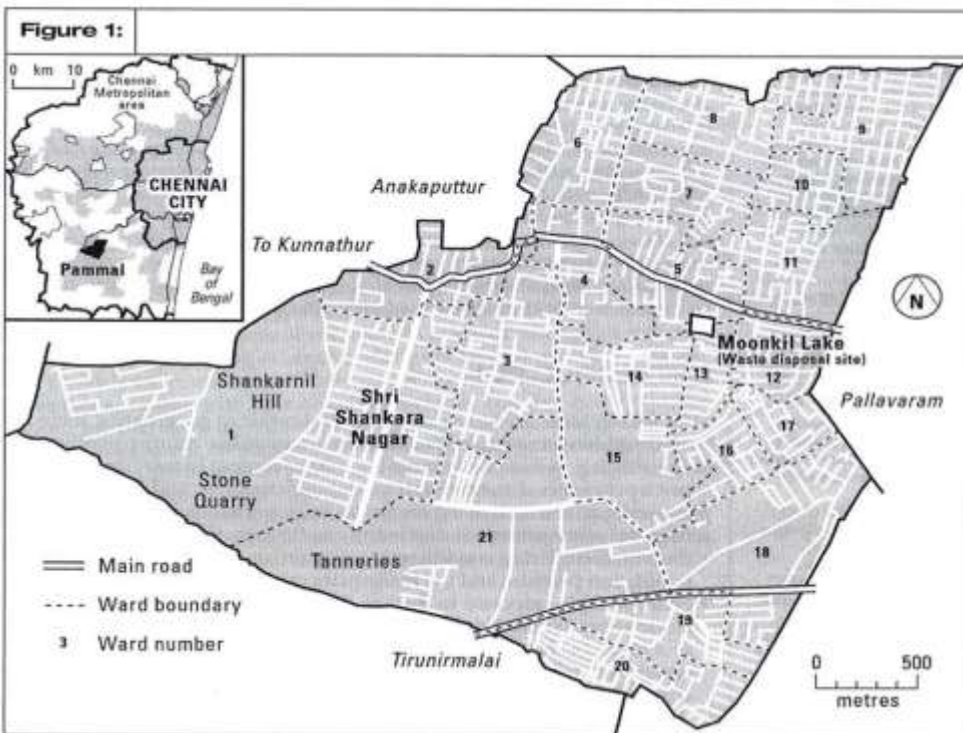


Waste Generation



A function of people's consumption pattern and is based on their socio Economic condition

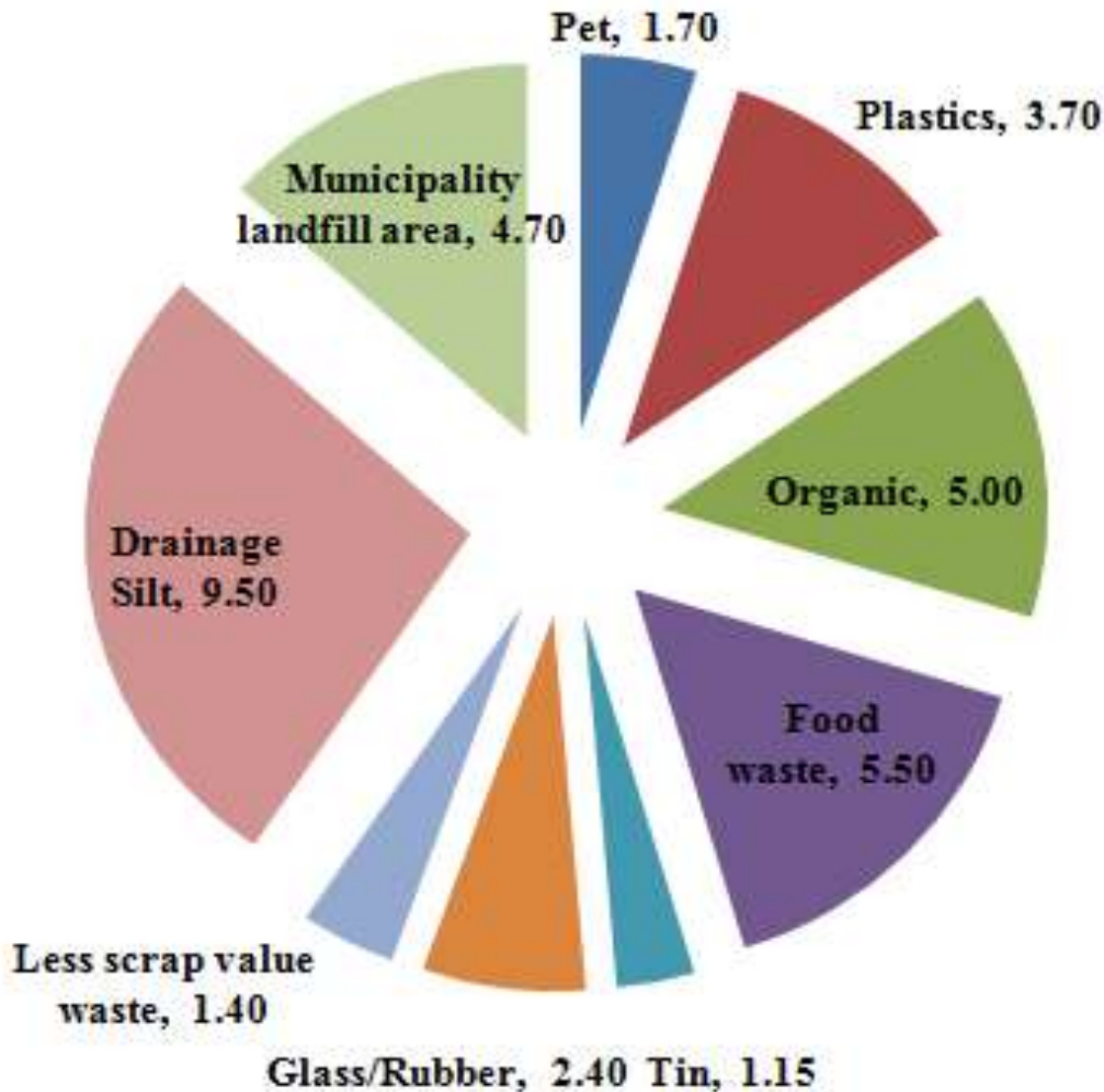
Pammal – Selection Grade Municipality



- Pammal Total Pop 75,000
- Floating Pop 20,000
- Slum Pop 15,000
- Streets 618
- Stom water drains 118 Mt
- Leather Industries 323
- Total Area 13.80Sq.m
- Total Wards 21
- Total Slums 11



Waste Generation per day 35 to 37 tons



Waste Segregation at municipalities	
Type of waste	Tons
Pet	1.70
Plastics	3.70
Organic	5.00
Food waste	5.50
Tin	1.15
Glass/Rubber	2.40
Less scrap value waste	1.40
Drainage Silt	9.50
Municipality landfill area	4.70
Total	35.05



Waste Management in Pammal

➤ Collection

Segregation @source

➤ Street Cleaning / Night Sweeping

➤ Transportation

➤ Processing

➤ Disposal





Recycling

Recycling is a resource recovery practice

- Aluminium
- Beverage Tins
- Copper
- Steel
- Polyethylene
- Pet, glass, paper board, news paper



Up cycling

Carrybags, waterpouch, laminates

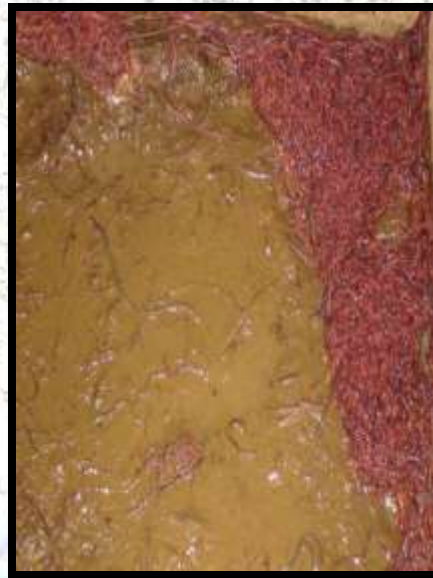




PRECURING ORGANIC WASTES



VERMI PITS





Biogas to Power Generation



EGP -Methodology

Collection of food, slaughter House Waste



↓
Grinding of waste

↓
Anaerobic digester (50m³)

↓
Produces gas CH₄, CO₂

↙
For lighting

↘
For cooking

↓
**Organic manure for
agriculture**



Food Waste	500 kg/Day
Biogas Production	50 Cum/Day
Electricity	5 Kw
Lights 75	3 -Streets
Liquid Fertiliser	225 Litter/Day



Temple Biogas



2 cmt Per Temple/Day = 1 Kg of L.P.G/Day



Biomass Charcoal Briquettes



A portable cylindrical structure with the top cut out to place the chimney. The drum size is about 100 cm height and 150 cm width made



Biomass	Time period	Char yield (%)
<i>Casuarina</i> leaf litter	1hr 30 min.	42 to 45
Coconut leaves	1hr	32 to 35
<i>Eucalyptus</i> leaves	1½ -hrs	38 to 40
<i>Prosopis</i> stem	45-1hr	40 to 48
<i>Ipomoea</i> stem	1½ -hrs	42 to 45
<i>Lantana camara</i> stem	1 hr	35 to 40
Pongamia leaves	45 min	28-30



PLASTIC UPCYCLING PROCESS





Upcycled Products





Good practices

- ❖ Waste prevention
- ❖ Recycling
- ❖ Composting
- ❖ Combustion

**Pammal has comprehensive
Integrated Solid Waste Management**



Challenges

Good practice is dominated by technology

- ❖ **High tech compaction trucks**
- ❖ **Fully automated collection system**
- ❖ **Incineration**
- ❖ **Advanced waste to energy**



❖ **compactor Trucks –High Packing materials
& Little Organics**

❖ **Lack of underground sewerage system**

- ✓ High Organic Content
- ✓ Low calorific value
- ✓ High Tropical rainfall
- ✓ Silts from drainage canal
- ✓ Widespread littering by Shop keepers,
- ✓ office going residents





Way Forward

❖ Political will and commitment



Simple Appropriate affordable Solutions



Laying the Basis for
improvements





Early System

- ✓ Extensive collection system
- ✓ Phasing out open dumps
- ✓ Replacing them with controlled disposal site



**Documenting and Improving
Recycling system**

**Pick and mix
adopt and adapt**



**Every ton waste
Reduced, Reused, Recycled**



**A Ton of Waste that City Does not
have to pay to collect and Dispose**





Current Scenario

**Widespread littering and dumping of MSW
hamper**

**India`s efforts to achieve
MDG and combat Climate change**



BY2020

**The wastes will be 4 times more
Requiring an area of 1500 sq.km**

Are we ready for this challenge ?

Contact Us!



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Link 1 : https://www.youtube.com/watch?feature=player_detailpage&v=OTNNXP3Navs

Link 2 : https://www.youtube.com/watch?feature=player_detailpage&v=OTNNXP3Navs

Link 3 : <https://www.youtube.com/watch?v=u6n7mrF-FJw>