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## Municipal Solid Waste Management

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### Abstract

Solid waste management all over world is looked as major challenge to civil bodies. Pune corporation has taken initiatives to collect, segregate and treat solid waste and system for handling around 1600 MT / day is operative. Composting, biogas and inert waste recycle are present mode of treatment. Praj Industries limited, Pune has taken the activity further to noticeable level and can integrate overall waste management activities so that from biodegradables, biodiesel, bio CNG, fuel ethanol and liquid manure can be safely produced. No waste is left over. Biodegradable solid waste in Pune has potential to generate Biodiesel-18 to 20 MT/ day, Fuel ethanol-7 to 9 M3/ day, BioCNG-10 to 12 MT/ day and in addition 1100 to 1200 M3 liquid manure / day can be produced. These energy rich compounds can generate electricity, run vehicles and maintain solid fertility. One has to look scientifically in the optimization of collection and segregation from the point where waste generates.

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### Introduction

Unorganized Municipal solid waste (MSW) disposal system, increase in population leads stress on ecosystems and disturbs various nature cycles and human health. Despite having lower waste generation by India than developed countries, the picture of waste management in most of the Indian villages, cities so far shows tremendous scope for improvement. Developed countries are far ahead and have set benchmarks on solid waste management. Pune Municipal Corporation has taken lead and has started addressing various issues. Segregation of MSW is the big challenge; many NGOs and nonprofit organizations are coming forward to give their best so that further processing has become manageable.

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## 1.1 Pune Corporation solid waste generation

Pune is spread over 250 square KM and has population over 40 lacs. Corporation has taken initiatives to collect, segregate and transport solid waste from various regions to processing units. Many initiatives are also taken to educate citizens to minimize waste generation. Various programs on public awareness and reinforcement are also taken up by Pune Corporation. Besides, corporation has established analytical facilities to understand composition of solid waste from different regions and generated database that monitors day to day operations. Around 1600 MT solid waste is collected per day from Pune city averaging about 400 g/day/capita waste generation.

## 1.2 The Municipal Solid waste categorization

In Pune municipal Corporation 1600 MT/Day MSW generated , It is categorize in following table

1.0 Bio-degradable waste – 720 MT/day	2.0 Non biodegradable– 880 MT/day
Organic waste- 400 MT	Inorganic waste-560 MT
Households waste-320 MT	Inert waste – 320 MT

### 1.2.1 Treatment methods

Organic waste –Bio-composting

Household waste- Bioethanation

E waste- Recycling

Biomedical waste-.Burning

Construction and debris, Inorganic waste -Land filling

In addition, over 3000 vermicomposting units have been operative in the housing societies, and residential colonies all over Pune.

## 2.1 Treatment procedure developed by Praj.

Praj Industries Limited, Pune, The Global company in the field of distilleries and breweries is also leading in the field of corporate social responsibilities.



Fig. 1 Bio-degradable waste before homogenization

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