

Study of Municipal Solid Waste Management using Biogas Projects (Spl. Ref. to Mailhem Ikos Environment)

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ABSTRACT –

The fast growing urbanization affects the acute problem of Solid Waste Management. The per capita waste generation in India has 150 Million Ton (Per Day). In India out of total Maharashtra state has maximum of solid waste generation. Such situation has created a stress on infrastructure, environment, human health & budgetary resources. The total quantity of per day waste generation is 1600 to 1700 metric tons in Pune Municipal Corporation. Thus it is necessary to make the proper management of solid waste. i.e. collection of waste, transportation, segregation, storage & waste reduction at source processing & disposal. This study emphasizes on the assessment of detail process of solid waste management by using Bio Energy Projects: Mailhem Ikos process plant.

KEYWORDS – Municipal solid waste management, Sustainable, Urban Environment, Bio Gas Energy.

INTRODUCTION – Increase in urban population and changes in life styles result in solid waste generation. Solid waste is heterogeneous in nature such as mixture of vegetables, food items, paper plastics bags, medical waste, electronic materials etc. If solid waste is disposed off on land open areas it causes a negative impact on the environment, ground, water & on human health. The most important problem is related with improper solid waste management include odor, mosquito nuisance, atmospheric water pollution, and aesthetic nuisance & eco losses.

In Pune city primary source of solid waste are household, commercial establishment, hotels, hospitals, restaurants & markets. The total quantity of waste generation per day is about 1600-1700 metric tons in PMC. PMC is responsible for providing MSW service using Bio Gas Energy plants like Mailhem IKOS.

SIGNIFICANCE OF STUDY – Rapid industrialization and population explosion in Pune city has led to the migration of the people from villages to the cities which

generates large amount of solid waste. The city does not have scientific landfill site and the capacity of existing dump site cannot cater the future demand of the waste generated. So there is an immediate need for designed scientific integrated solid waste management system using Bio Gas Energy Project to minimize negative effects on environment, social, economic of SWM. Therefore the present research work focuses on understanding effective waste management practices in study area.

OBJECTIVES – The main objectives of this study is to assess the municipal solid waste management system of Pune city using Bio Gas Projects.

STUDY AREA – The city of Pune is a historical city and known for its educational importance. Today it is also known for IT hub. The area of Pune city today is 244 sq.km with a vast population. 31, 15,431 lakhs in 2011 by 2025 it is expected to group 65 lakhs. In the present study an attempt has been made to provide comprehensive review of the MSWM

using Bio Gas Projects undertaken by Mailhem Ikos.

Pune Municipal Corporation had been undertaking 32 waste process plants in Pune. Out this total 22 plants are belongs to biogas process. Out of this 22 Mailhem IKOS has been undertaken 5 Bio Gas Projects in Pune city. From the data it is observed that Mailhem major contribution towards the MSW.

ADVANTAGES OF DECENTRALISED WASTE TO ENERGY PLANTS –

Waste disposal at Source.

- Reduce Transportation and Labour cost.
- Less requirements of setup space.
- Low burden on Landfills.
- Migration of green house gas emission.
- No foul smell and flies /mosquito nuisance.
- Easy maintenance of plant & machinery and less wear and tear of equipment.
- Only semi skilled Operators required.

- Offers employment to the local population.
- Effective utilization of energy and by-products generated.

Successful use of biogas technology can also provide other benefits including the production of bio-fertilizer, social & ecological benefits including sanitation, reforestation and reducing the reliance on fossil fuels. The governments of India initiative have made biogas plants exempted from excise duty, are made eligible under Corporate Social Responsibility and 80% depreciation is admissible.

PRESTIGIOUS BIO GAS PROJECTS OF MAILHEM IKOS –

1. PMC, Katraj, Pune – 5 TDP MSW Biogas Plant.
2. BBMP, Bengaluru - 5 TDP MSW Biogas Plant.
3. Arcot Municipal Corporation- 3 TDP MSW Biogas Plant.

GOVERNMENT CLIENTS OF MAILHEM IKOS –

- Indian Parliament House, New Delhi.
- Pune Municipal Corporation.





- Bruhat Bengaluru Mahanagar Palika.
- Nasik Municipal Corporation.
- Arcot Municipal Corporation.
- Vijaywada Municipal Corporation.
- Upcoming 27 Projects in the State of Tamil Nadu.

MAILHEM IKOS have more than 300 biogas plants for various biodegradable solid waste in India.

MAILHEM IKOS ENVIRONMENT is a global waste management conglomerate offering customized solutions in solid waste treatment and management. Anaerobic Digester is based on Modified Upflow Anaerobic Sludge Blanket Technology. This Digester is provided with gas tight top covers, proprietary internal modules, baffles and launders. These proprietary items enable high solid retention time

without choking, better settling characteristics of the suspended matter, faster release of the 'blanket' at the gas liquid interface, better interaction between microbes and the organic matter. It is also provided with scum breaking & removal mechanism.

ACHIEVEMENTS –

- Successful Pilot Project-Zero Base Area -Katraj.
- Safai Giri Award by P.M in 2015.

CONCLUSION – In cities & towns waste related issues like segregation of waste and promotion of recycling or reuse of segregated materials reduce the quantity of waste & the burden on landfills.

The efficient utilization decentralized Bio Gas Plant base on solid waste will be ideal solution.

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