

COMPOSTING: “THINK GLOBALLY, ACT LOCALLY AND START PERSONALLY “!!

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Abstract: Human race has effectively ruined our entire ecosystem through our selfish deeds and inhumane attitude towards Mother Nature. It is now that we are feeling the wrath of nature we have started taking steps towards the preservation of our ecosystem. Steps, taken timely for the betterment of our environment will in turn help us in the process. Hence on this note present work reveals the utility of modern composting towards the conservation of nature.

Key words: ecosystem, preservation, environment, composting, conservation, nature.

I. INTRODUCTION:

With increasing population, the management of Municipal Solid Waste (MSW) or Urban Solid Waste (USW) in the country has emerged as a severe problem not only because of the environmental and aesthetic concerns but also because of the sheer quantities generated every day. A natural balance needs to be maintained at all cost for existence of life and nature [1].

Solid Waste Management (SWM) is one of the most essential services for maintaining the quality of life of the people in the urban areas and for ensuring better standard of health, sanitation and the environment

Composting is a process of controlled decomposition of the organic waste, typically in aerobic conditions, resulting in the production of stable humus like product, compost.

Composting has become a popular method for the safe disposable and cost effective treatment of diverse organic wastes for the production of organic compost [2]. It is an environment friendly age-old rural method for sustainability and natural recycling of plant nutrients.

According to the Central Pollution Control Board (CPCB) 144,165 TPD (Tons per day) of Municipal Solid Waste was generated in India during 2013-14. Of the total waste generated, approximately 115,742 TPD (80%) of MSW was collected and only 32,871 TPD (22.8%) was treated.

Maharashtra is one of the urbanized states in the country. The state is having total of 258 Local Bodies. The population of Maharashtra as per 2011 census is about 11.24 crore, out of which 45.22% people live in urban areas. The total figure of population living in urban areas is 5.1 crore and the urban population in the last 10 years has increased by 45.22%.

With rising urbanization and change in lifestyle and food habits, the amount of municipal solid waste has been increasing rapidly and its composition is also changing. With rapid migration of rural masses to urban areas, particularly in metro cities, MSW is being produced at an ever increasing rate. The increasing population directly influences the municipal solid waste generated in the surrounding areas. Industrialization affects level of urbanization and increases population levels thereby increasing the overall waste generated.

The “Swachh Bharat Mission-Urban” (SBM-U) is a major initiative of Government of India. Launched on the birth Anniversary of Mahatma Gandhi on 2nd October 2014, the mission seeks to attain his vision of a ‘Clean India’ by his 150th birthday in 2019. Expected to cost over Rs. 62,000 crore, it is a national campaign covering 4041 statutory towns.

The SBM-U is a bold and visionary response to one of India’s key urban challenges. The specific objectives of the mission, describe a comprehensive set of actions that can deliver, at one end, the goals of social transformation, such as eliminating open defecation and manual scavenging, and, at the other, the goals of scientific solid waste management and sanitation, through the fundamental instruments of social change: change in behaviour and attitudes, and greater awareness about the adverse health effects of poor sanitation and waste management.

Types of waste: Municipal solid waste (MSW) or Urban Solid Waste (USW) includes predominantly household waste or domestic waste. Waste may be residential, commercial, institutional, e-waste, bio-medical, industrial hazardous, construction, demolition and waste collected by municipal services [3].

It can be broadly categorized into two:

Biodegradable waste and Non-biodegradable waste.

Biodegradable waste: Food and kitchen waste, green waste (vegetables, flowers, leaves, fruits), paper (can also be recycled) out of which food forms around 73% of garbage.

Recyclable material: paper, glass, bottles, cans, metals, certain plastics, etc.

Inert waste: construction and demolition waste, dirt, rocks, street sweeping, drain silt, debris.

Domestic hazardous waste (also called "**household hazardous waste**") & toxic waste: medication, e-waste, paints, chemicals, light bulbs, fluorescent tubes, spray cans, fertilizer and pesticide containers, batteries, shoe polish.

Non-biodegradable waste: Plastic, metal, glass etc

II. MATERIAL USED IN ORGANIC COMPOSTING:

Biodegradable organic matter which is commonly called waste can be used to make organic composting. Food wastes of all kinds such as cooked and uncooked foodstuff including eggshells fruit wastes, fruit peels, waste of leafy vegetables, flowers, paper food wrappers and paper towels etc can be utilised for composting.

Non-biodegradable waste like metal waste, plastic, glass etc is donated to NGO's for recycling purpose.

III. OBJECTIVES:

- To take a step towards zero garbage, in turn keeping the environment and the city clean.
- To help the municipal corporation in waste disposal, as it is our fundamental duty.
- To make compost within the society limit.

IV. RESULTS AND CONCLUSION:

- Daily collection of biodegradable solid waste or kitchen waste from the society: **140- 150kg.**
- Every month average garbage: **4500 kg.**
- Daily garden waste (mainly foliage) from society: **15- 20 kg.**
- Monthly garden waste :**500 -600 kg,**
- Monthly around **5000 kg** of total biodegradable solid organic matter is produced by that society.

Expenditure for organic composting unit:

- For the composting unit, 4 workers on a monthly salary: Rs 40,000.
- Monthly maintenance of the composting units: Rs 10,000.
- Total monthly expenditure: Rs 50,000.
- From around 5000kg wet waste around 250 kg compost was formed.
- By selling 250 kg organic compost at the rate Rs 20- 30/ kg, monthly income is around: Rs.6000.
- Monthly 2000 society members shell out from their own pocket: Rs 45,000,
- Monthly each member has to pay $45000/2000 = \text{Rs.22.5}$.
- **Daily** per person $\text{Rs.22.5}/30 \text{ days} = \text{0.75 Paissa}$.
- **It means not even 1 rupee.**
- It indicates **each person** on an average daily creates **70-75 gm solid waste** in the city like Mumbai.
- It means only **1 paissa requires to convert 1gm of wet waste in to the organic compost at the residential level.**
- It means **each flat with one family** consisting **4 family members** spent **Rs 3 daily.**

Taking inspiration from the society, I conducted the same experiment in my house using kitchen waste and the expenditure was **zero**.

There will be no need to shell out Rs. 62,000 crore, by the government on "Swachh Bharat Mission-Urban" (SBM-U) on 'Clean India' if every citizen of India will contribute in this manner.

Hence, it is our responsibility to start maintaining the world we live in, or else one day the only place where we can afford to live, will be in our thoughts!

Acknowledgement:

I am grateful to Vijay Nagar Society, Andheri, Mumbai, Maharashtra India.

I am thankful to Mrs. S. Pethe, Associate Prof, Sathaye College, Mumbai who is a resident of the said society and also an active society member for providing information and updates from time to time required for this project.

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