

Waste Management Report

1. Title of Practice: - Waste Management through Eco-Friendly and Sustainable way.

2. Target: -

The target of waste management through eco-friendly and sustainable ways is to minimize the negative impact of waste on the environment and human health, while conserving natural resources. The ultimate goal is to create a circular economy where waste is minimized, and resources are conserved and used efficiently.

To achieve this, the target of eco-friendly and sustainable waste management includes:

1. **Source reduction:** This involves reducing the amount of waste generated at the source. This can be achieved through policies and regulations that encourage waste reduction, and through education and outreach programs that promote responsible consumption and production.
2. **Recycling and reuse:** This involves diverting waste materials from landfills and incinerators and using them to create new products. Recycling and reuse help to conserve natural resources and reduce the amount of waste that ends up in landfills.
3. **Safe disposal:** This involves disposing of the remaining waste in a way that minimizes harm to the environment and human health. Safe disposal methods include landfilling and incineration, but these methods should be used only as a last resort, and should be accompanied by measures to reduce waste and promote recycling and reuse.
4. **Innovation and research:** This involves investing in new technologies and innovations that promote eco-friendly and sustainable waste management. This can include new recycling technologies, waste-to-energy systems, and composting techniques.

Overall, the target of waste management through eco-friendly and sustainable ways is to create a more sustainable and environmentally responsible approach to waste management that reduces waste, conserves natural resources, and protects the environment and human health.

Intended outcomes of vermicomposting practice would not only a sustainable organic waste management but also produced compost of superior value with very high nutritional value. The vermicompost is not only used on campus gardens but is proposed to make it available to public at very affordable rate. While the E-waste was reused or recycle by the dept. of electronics.

3. The Context: -

N.H. College has lushed with central garden and many trees in and around the college campus. As the vegetation in this region are mainly of deciduous type because of which senescence of leaves are very common particularly from the months of Late January to June. As much number of dried leaves and plant clippings dispersed throughout the ground and are only meant to be collected and burnt out. Instead to vein all these natural elements department of zoology and N.H. college decided to utilize it in proper way by setting up a vermicomposting unit, the product which can be utilized for the development and enhancement of green campus.

4. The Practice

Lot of waste is generated from senescent leaves of trees and plants which is wiped and collected by cleaning and garden maintenance staff of the college every day. Organic waste from college campus includes leaves, wood sticks, garden waste such as flowers, branches, remnants from garlands etc. It also includes non-degradable items such as, plastics, polythene etc. Though the waste is segregated at the source itself, it still consists of plastics etc. Major contextual features for making sustainable waste management successful is to ensure waste is segregated at the source itself. Later this non-degradable waste was sent to the Nagar parishad of Bramahpuri. And the E-waste was sent for the recycle. After this Institute has applied the NO PLASTIC POLICY for the minimize the plastic waste.

Rather liquid waste of college is treated differently. All toilets blocks and laboratory waste of the campus are connected to sewage line network of the campus. And these sewage line connected to the main sewage line. And Hazardous chemicals are dump in the soak pits.

Bio-degradable waste- According to plan compost pits (two outer pits for initial decomposing of waste without worms, one pit for cow dung, and four pits inside the unit for vermicompost) are formed for the purpose of vermicomposting at north site of college. The pits are filled with organic waste every day. Each pit has capacity of 300-400 kg. The organic waste is thoroughly mixed with cow dung. This is to ensure proper mixing and faster decomposition. It also improves the quality of compost. The composting is done on a phased manner.

Non-Biodegradable waste- non-biodegradable waste like plastic and other things get separated from the bio-degradable waste and give to the local Nagar parishad of Bramhapuri for further process.

Bio Hazard and chemical waste – Bio-Hazard waste like sanitary napkins are destroyed by sanitary napkin incinerator which is more safe and eco friendly way. While the hazardous chemical is dump into special soak pit where they get neutralized.

E-waste - Repairing and recycling of laptops, computer hardware, projectors is encouraged and executed frequently. Some departments use overhauled computer peripherals and laptops as a part of this process. Department of electronics open their E-waste collection center where anyone can donate their old or outdated electronics to the department.

Liquid waste - All toilets blocks and laboratory waste of the campus are connected to sewage line network of the campus. And these sewage line connected to the main sewage line.

5. Implementation: -

We are converting 50-60% of waste into compost using Vermicomposting in more than 06 pits, where each pit has capacity of 300-400 kg. The compost is of good quality. The compost is used in college gardens for enriching the soil it also utilized for the development of green campus. This has eliminated the need for chemical fertilizers for the same.

We also running a certificate course on Vermicomposting which educate and aware the more than 50 students each year under the guidance of well qualified and trained faculty of Department of Zoology.

We also have future plans to provide skill training to other institutes and individuals like farmers, gardeners and students who wish to learn this skill of composting. This enhances their job potential and provides a sustainable source of income to them. We also encourage Schools teachers and students to visit our department and learn about practices of Sustainable Organic Waste Management. Active involvement of faculty, non-teaching staff, students, of the department enhance their waste management skills and inculcate green habits in them.

We can reuse the 40%-50% electronics be by repairing them and reduce the expenses of the college marginally. While the by dumping the hazardous chemical in to the soak pit we can save the environment.

6. Evidence of Successes:

Here biodegradable waste can be utilized to make vermicompost. plastic and Styrofoam can be segregate from the waste and after this it will be collected by the municipal corporation garbage van. Tree leaves can also be utilized to make vermicompost. which is a very good substitute for synthetic fertilizer.

Following objective are achieved: -

1. Zero waste Generation
2. No pollution of nearby natural water body
3. Minimum plastic waste by No Plastic Policy
4. Minimum E-waste Generation
5. Marginally decreases in purchase of electronic appliance

7. Problems Faced and Resources Required:

There are several problems that can be faced during waste management in a college campus. Some of the common ones include:

1. Lack of proper waste segregation: Often, students and staff members may not segregate waste properly, leading to recyclable and organic waste being mixed with non-biodegradable waste, making it difficult to dispose of them separately.
2. Insufficient waste collection: Inadequate waste collection and disposal facilities can lead to waste accumulation in the campus, which can cause health hazards and environmental pollution.
3. Lack of awareness and education: Students and staff members may not be aware of the importance of waste management or the impact of improper waste disposal on the environment.
4. Limited resources: Limited financial and human resources can make it difficult for the college to implement an effective waste management program.
5. Resistance to change: Some people may resist change and may not be willing to adopt new waste management practices, making it difficult to implement new programs or initiatives.
6. Nearby there is no such facilities who can recycle the non-biodegradable waste.

Waste Management Facilities



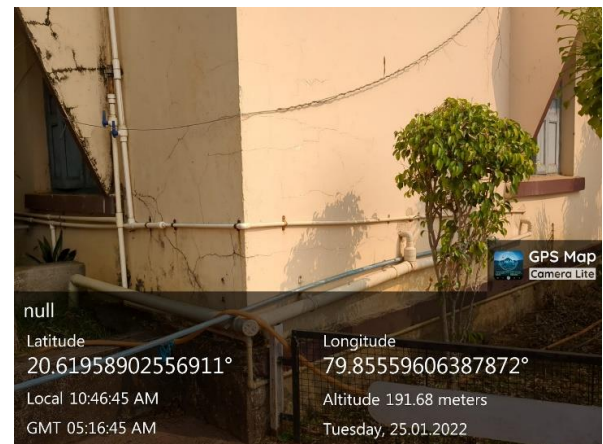
Vermicompost Unit



Degradable and Non-Degradable waste collection



Sewage Line for Laboratory Waste



Soak pit for Hazardous Chemicals



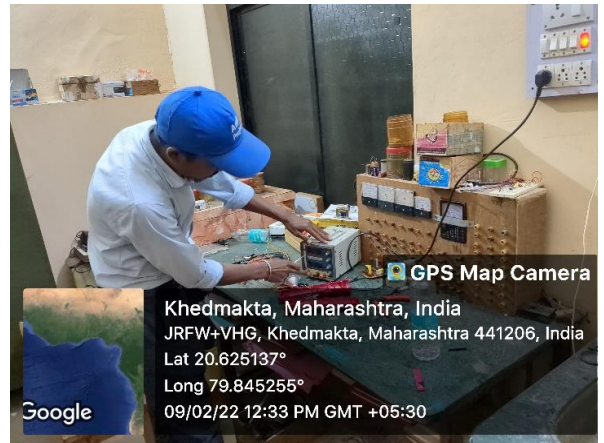
Dustbin for biodegradable and non-Biodegradable waste



Vermicompost Unit



Processed Vermicompost



Collection and Recycling of E-waste



Fumigator for removal of toxic gases



Sanitary pad Incinerator