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1. Introduction

The problem of waste management continues to grow as waste generation is inevitable, while landfilling and incineration face both environmental, social, and economic concerns [1]. Many works deal with this issue [2,3,4,5,6,7,9]

Various methods of recycling and reusing waste can reduce the volume and cost involved in different waste management methods and provide a variety of environmental benefits. Compost communities are grassroots networks or groups of individuals, often within a local or municipal setting, that come together with the common goal of managing organic waste through composting [1].

These communities emphasize collective responsibility and encourage active participation in reducing waste, turning organic materials like food scraps, yard waste, and biodegradable materials into valuable compost. By doing so, they contribute to sustainable waste management practices that reduce the reliance on traditional disposal methods like landfills and incineration [8].

The aim of this study is to present the advantages and disadvantages of implementing composting communities and their contribution to sustainability, as well as presenting examples of successful composting communities.

2. Methodology

A literature review was followed to identify the advantages and disadvantages of composting communities and their contribution to sustainability, while successful composting communities are presented.

3. Advantages

The combination of compost communities and sustainability is profound. Composting naturally fits into the framework of sustainability by closing the loop in organic waste cycles, transforming waste into a resource that enriches soil, reduces the need for chemical fertilizers, and helps sequester carbon in the process. On a larger scale, compost communities promote environmental sustainability by lowering greenhouse gas emissions associated with organic waste decomposition in landfills, where methane—a potent greenhouse gas is released [1].

Beyond environmental benefits, compost communities align with the social and economic pillars of sustainability. They foster social cohesion, as members work together to tackle a common issue while raising awareness about sustainable practices. Economically, community composting can reduce waste management costs for municipalities and offer the potential for local businesses or cooperatives to produce and sell high-quality compost [9].

4. Disadvantages

While composting has many environmental benefits, there are some disadvantages or challenges that can arise, especially in community or large-scale composting initiatives. Mainly, if not managed properly, compost piles can emit foul odors or attract vermin. In addition, community composting requires space, which can be a limiting factor in densely populated urban areas. In cities, finding suitable locations for composting hubs can be difficult, and local regulations may restrict where composting can take place. Finally, participants may put non-compostable items in their organic waste bins, mainly due to a lack of education about what can and can't be composted [9,10].

5. Examples of composting communities

5.1 Los Angeles Compost (L.A. Compost)

L.A. Compost is a community-based non-profit organization, based in Los Angeles. Across Los Angeles County, spaces are being created for residents to access and participate in home composting, and community restorative and empowering practices are being pursued. Compost centers are built in places where people coexist, such as churches, schools, gardens and workplaces. Through composting, citizens are sought to take control of their organic waste and contribute to a more sustainable future [12].

5.2 Composting Communities in Paris

Parisians without backyard space or community support can benefit from public composting sites.

These neighborhood composting sites have become extremely popular, as those who live in Paris but don't have the means to compost in your building can store food scraps and take them to a community composting site. These sites are more concentrated in the outer suburbs where there are a greater number of community gardens [12].

6. Conclusion

Compost communities are microcosms of a broader sustainable movement, emphasizing local action, shared knowledge, and ecological stewardship. They embody a shift towards circular economies, where waste is minimized, and resources are reused in harmony with natural systems.

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