Team Name & School: Compost Stax - Tucker High School

Teacher Name: Dr. Chilkamari

Green Heart Action Plan

Problem Definition/ Problem Statement

The **Compost Stax** is designed by the THS students team using sterilite storage crates for making composting Easier and Cleaner by using a **Tiered System**.Compost stax seeks to implement a sustainable, home or community-scale food composting model to divert daily organic waste from homes /local restaurants/schools per week. This initiative will turn food scraps into nutrient-rich compost to feed local gardens, thereby decreasing landfill methane emissions, strengthening soil health, and fostering a culture of sustainability in our community.

Root Cause of the Problem

The root cause of our problem is that we under consume what we over produce. A lot of companies mass produce their products to still throw some out at the end of the day. For reference this can go for fast food restaurants or grocery stores. Some examples are McDonalds, Dunkin', Walmart and Kroger. Usually these stores are forced to get rid of their food because of strict fresh food policies.

List at Least Three Credible Resources that Support Your Problem Statement

- https://captainplanetfoundation.org/guide/composting-with-a-3-stage-vertical-compost-bin/ - Captain Planet guide to vertical composting; notes issues with scaling (limited to small gardens with slow turnout) and the fact that "These systems are expensive".
- https://www.gardentowerproject.com/pages/how-it-works - Larger commercial solution

- https://www.instructables.com/Milkcrate-Composter-vertically-stacked/-The one we used, with stackable crates and upcycled waste.

Proposed Solution

Now this problem could be easily solved. We have two solutions. We could easily produce less plastic and more biodegradable material. While doing this everyone can collect their own waste in separate bins for the city to collect and compost to reuse. The other solution is for companies that throw out their leftover food at the end of the day to donate to the needy. If you're wondering who could do such a task. We can create a volunteer program for anyone who needs volunteer hours, such as Beta club and NHS.

How We Will Measure Our Success

We will have a journal to measure the new waste we add. After every week or two we will also weigh how much compost we produce.

Who are Decision Makers We Need to Reach

- Governor / Mayor
- Big companies who mass produce their merchandise or food.
- School principals and district leaders

Our 3-5 Step Plan for Change

1. We need to build more units for our school
2. We need to incorporate after-school clubs like Beta and NHS; the volunteers will get points and hours for requirements, and we will get the long-term labor for continual operation.
3. We need to share the news with other schools, as this is a very low-cost and simple way to reduce waste, bolster community engagement, and inspire more widespread change. Barriers of entry to composting have been the cost of a new system and the back-breaking dirty labor required to operate, but with this stacking system, all you have to do is lift and dump, no shovel no rake no boots, just shake.

Impact & Equity

By reducing the amount of food waste that enters landfills, we directly reduce greenhouse gas emissions of methane (from anaerobic decomposition), as well as CO2 from transportation and plastic waste from trash bags. The resulting compost is rich for plant use, further reducing emissions and plastic by eliminating the need to buy garden soil for garden clubs.

What Help We Need to Be Successful

What we need help to be successful are people who are willing to spend a few hours each week to cycle the boxes, and a much larger group of participants in other schools, homes, and businesses. If we spread the word of this low-cost and easily-maintained solution, change for the better could happen very quickly and permanently. In order to scale, we may need more milk crates, but the largest limiting factor has been suitable mesh or fabric to cover the holes.

We need the people in power—the governors, the district leaders, the presidents of after-school clubs and principles—to at least try out this solution or share it with others. It does not take a lot of time, money, or effort to do, but it has lasting and sustainable results.