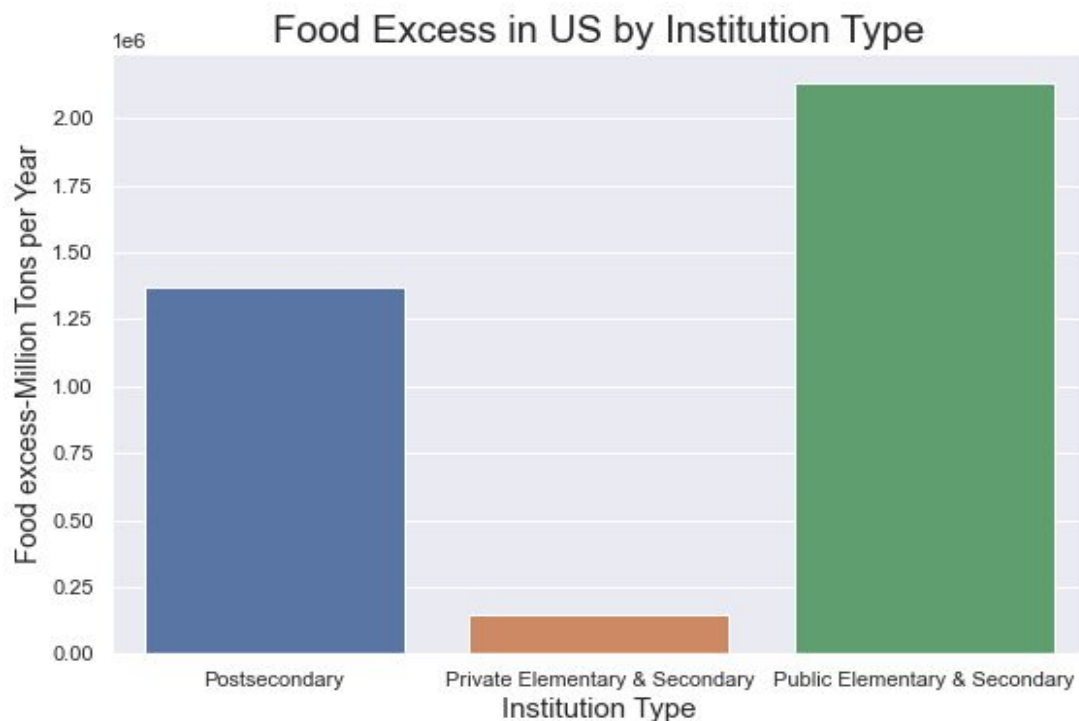


Food waste reduction & composting

OPPORTUNITIES AT EDUCATIONAL INSTITUTIONS

By: Akhil Arularasu



* Based on Raw Data obtained from the EPA

Introduction

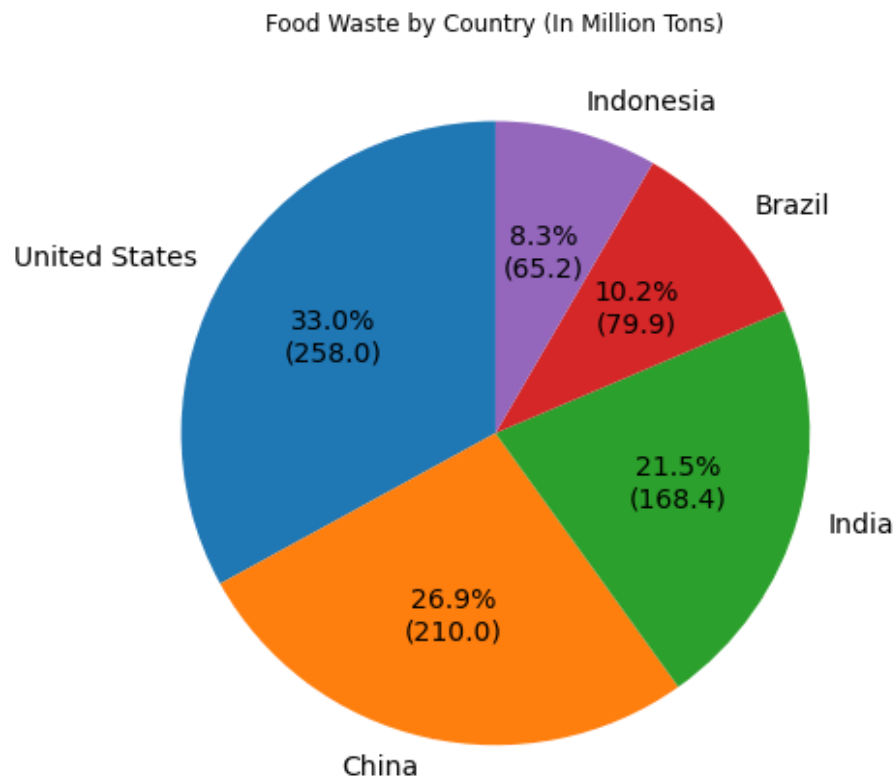
Food is ever present in our lives as we spend several hours each day feeding ourselves at breakfast, lunch, and dinner with snacks in between. Did you know however, that we consume only 60% of what the food produced? That's the equivalent of buying five bags of groceries and dropping two of them in the parking lot before you make it to the car! Very little of the food we waste every day is recycled back into nature, and the vast majority end up in landfills, where they decompose and cause harm to the environment. As University of Michigan sustainability researcher Shelie Miller says, "We have this great understanding of

plastic and packaging waste as major environmental impacts, but for whatever reason we don't have that same idea associated with food" -- **and that is my concern**. Although many people know about how to recycle plastic and many schools encourage their students to recycle, I am worried that there has clearly not been enough awareness spread about the devastating impact of food-waste and ways to put a stop to it.

Effects

Food waste negatively impacts 3 different points: economically, environmentally, and in a humanitarian standpoint. It is no mystery that a substantial amount of food around the United States (and around the world) goes waste every single year. From an economic perspective, the 40 billion tons of food that we waste in the US alone costs 218 billion dollars each year (and \$1800 per family). Not only that, the wasted food ultimately goes to landfills, where it releases methane, a greenhouse gas that is considered 28 times more dangerous than carbon dioxide in the pollution of our atmosphere. 2.6% of all US greenhouse gas emissions annually come from wasted food rotting in landfills. That is the equivalent to the emissions of **37 million** passenger vehicles. If the amount of emissions from food waste that goes to landfills made up its own country, it would be the third largest in the world in terms of pounds of greenhouse gas emissions. While these are mind blowing statistics, it's not that surprising. However, according to my research and analysis based on data from the EPA (Environmental Protection Agency), I have found that, aside from individual households, educational institutions are leading contributors to this nationwide problem. At a time when over one in ten American households are food insecure (42 million people), it is important to see what we as fellow Americans can do our part to solve this issue.

Why Us?

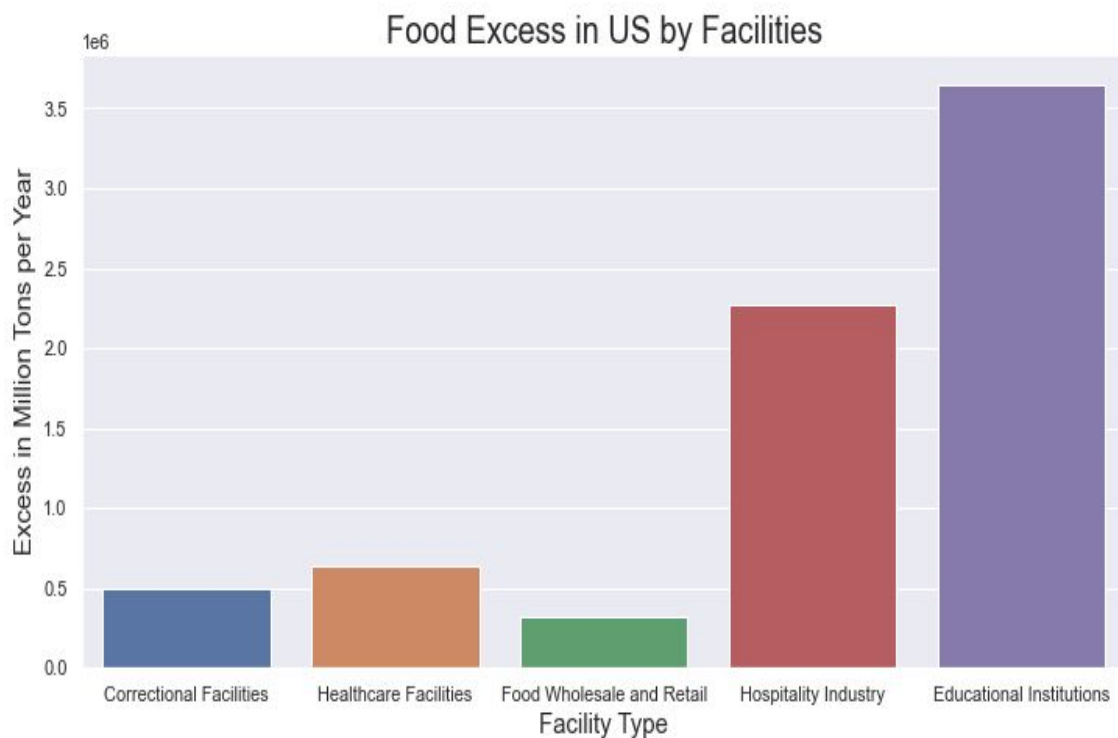


* Based on Raw Data obtained from the World Bank

The above graph shows the top 5 food-waste producing countries in the world in 2018. As seen by my analysis, (from a raw dataset obtained from the World Bank) the United States (with only 330 million people), produces more food waste than both China and India, despite the fact that China and India are the two most populous countries in the world (with approximately **1.3 billion people** each). Additionally, the USA produces **almost twice as much** food waste as the 4th and 5th ranked countries (Brazil and Indonesia) **combined**. These numbers have to change if we want an environmentally-friendly Earth for future generations. As a global role model, America (and its people) should lead the charge for a cleaner, greener future.

Why Educational Institutions ?

Educational institutions play a large role in promoting reduction of food waste in several different ways. Based on my analysis, educational institutions themselves waste with 3.6 million tons of food excess each year. That is significantly more than any other facility in the United States, thus demonstrating the vast opportunities present at educational institutions around the United States to prevent food from being wasted.



* Based on Raw Data obtained from the EPA

Reducing that number would be very beneficial to the environment. Even more importantly, educational institutions can spread awareness to the community because, by sending the message to their students, they indirectly promote food-waste reduction and composting at home (which represent the biggest group of food-waste generators with 38 million tons wasted annually). Data has shown that students who learn to reduce food waste during their school days are more likely to reduce and compost when they grow older, thus creating a greener and more-environmental friendly nation in the future.

Solutions

Food waste may seem like something small to begin with, but on a larger scale, it is actually a huge issue. Here are some potential solutions to address this issue:

- Creating a team/committee of students and staff who will advocate the reduction of food-waste and will instruct other students on how to separate food waste from other types of waste, which will (over time) bring awareness unconsciously and may help students only buy the food that they require in the future in order to avoid food-waste to begin with.
- Composting at school is another solution. Organic waste is often an inevitable part of cooking and the best way to deal with it is not to throw it in the trash, but to compost it. The combination of overall food waste-reduction and composting will allow families to significantly reduce the amount of waste they contribute to landfills (and the carbon footprint that goes with it).
 - In a case study found at a middle school in Princeton NJ, a student-led team was able to divert 2,597 pounds of organic food waste from sitting landfills into fertilizer by composting.

I believe that, as educational institutions, it is important to spread the message and ensure that families have the knowledge and tools to help reduce their food-waste that would otherwise be rotting in at local landfills.

Conclusion

We have seen how, in a world where close to 700 million people go hungry every single day, carelessly wasting food not only harms people but also the environment in a multitude of ways. Whether it is releasing greenhouse gases like methane or taking up space at landfills, unnecessarily wasted food poses an incredibly serious threat to our planet. It is our social responsibility to inform people in our community about this issue and to take action by not only doing our part to help the environment, but also by spreading awareness of environmental ethics to the younger generation. I believe that if we can recognize the importance of educational institutions in helping their communities reduce food waste and follow through with the proposed solutions, we can come together and reduce the amount of food wasted.

Works Consulted

- Advancing sustainable materials management: Facts and figures. (2021, January 26).
<https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/advancing-sustainable-materials-management-0>
- Food waste Recycling Analysis, reduce food Waste & Food Recovery. (n.d.). Retrieved February 02, 2021, from <https://refed.com/?sort=economic-value-per-ton>
- Gunders, D. (2017). Wasted: How America is Losing Up to 40 Percent of Its Food from Farm to Fork to Landfill. Retrieved from
<https://www.nrdc.org/sites/default/files/wasted-2017-report.pdf>
- The State of New Jersey School Food Waste Guidelines. (2019, November). Retrieved from
<https://www.nj.gov/dep/seeds/sfwg/docs/K-12.pdf>
- What a waste global database. (2018, September 20). Retrieved February 02, 2021, from
<https://datacatalog.worldbank.org/dataset/what-waste-global-database>