



## **Fall 2024 Undergraduate Sustainability Case Competition**

### ***Mitigating Food Waste in Your Community***

Food waste refers to the food that is discarded, lost, or left uneaten. Approximately 90 billion pounds of food gets thrown away annually, equating to nearly 40% of the food in the United States going to waste (Feeding America, 2024). This food waste occurs at every stage of the food supply chain: from farms overproducing to retail stores only selling presentable produce to households where leftover food often gets discarded.

#### **Background:**

Food waste has many different causes, each one stemming from some part of the food supply chain. First is production: farmers may produce more food than what gets sold, leading to waste. Additionally, food (e.g., apples, tomatoes) that does not pass a cosmetic standard, meaning that “ugly” food is not sold, and therefore wasted. Second is processing and distribution: there are inefficiencies in processes such as improper packaging, handling, distribution or sorting, leading to wasted or contaminated food. Last is consumer waste: consumers often engage in overbuying, leading to food spoilage and waste.

Given the issue's gravity, there are many harmful effects that should be considered.

#### **Environmental Impacts:**

The environmental impact of food waste is substantial. Food waste is responsible for at least 6-8% of the world's carbon emissions, due to making up a significant portion of what goes in landfills (WWF, 2024). Additionally, growing food requires water, fuel, and other valuable resources. When food is wasted, these resources are wasted as well.

If the issue of food waste is properly addressed, it would mean that natural resources are being used more productively, we are able to reduce the environmental impact, and we would have more sustainable systems in place.

## **Economic Impacts:**

The economic ramifications of food waste are also important. It takes a considerable amount of effort to get the food from the farm to our homes. With wasted food, we squander very valuable resources such as water, fuel, and labor, thereby creating financial strain for various stakeholders along the supply chain. Additionally, this financial strain could accumulate quickly when accounting for the cost of production, transportation, and disposal of wasted food.

In the United States, it is estimated that \$473 billion worth of food annually is thrown away (Food Waste in America, 2024). To think even smaller, the average American family of four loses about \$1,500 due to food waste (Consumers – USDA, 2024). If we can properly address food waste, we can redirect the money and resources, that would otherwise be lost to other essential needs.

## **Social and Ethical Impacts**

Lastly, there are social implications of food waste. Within the U.S., nearly 35 million citizens are food insecure, 10 million of them being children (RTS, 2024). People impacted by food insecurity suffer from worsened physical and mental health, decreased ability, and instability.

Considering the amount of food that is being thrown away, it highlights an ethical dilemma. Despite there being more than enough food to feed, people are lacking in this basic need. By addressing these major issues, we can bridge the gap between food excess and food necessity, providing much needed assistance to those who are deprived of basic needs.

## **Challenges:**

While there are many benefits to reducing food waste, there are many challenges that present themselves when trying to solve this issue.

Social Norms and Consumer Behavior: While many people know it is better not to waste food, it is hard to break their purchasing and consumption habits.

Logistical Challenges: Getting food to the proper organizations and ensuring the food is in good condition for the recipients creates challenges.

Financial Challenges: Many businesses discard food because it is cost effective for them to do so. Additionally, business may think that it is in their best interest to throw away food to reduce the risk of spoiled food being given away, preventing potential lawsuits.

Technological Limitations: While there are technologies that allow for tracking food waste, there may be limited access to these technologies. Lack of infrastructure also creates barriers for adoption.

## **Your Assignment:**

### **Your Consulting Team's Assignment**

Your team must address the question: **How can you solve the problem of food waste in your community?**

### **Guidance on Selecting Your Community of Choice**

Because we have teams participating from a wide range of locations, let's first define what we are referring to when we say "communities". Therefore a "community of choice" is defined as *the specific geographic setting* (e.g., college campuses, apartments, dining halls) where you will situate the problem. Your community will be the focus of your team's presentation. The key decision-makers in your community are your main audience. You must develop solutions and interventions that are feasible and applicable in your specific community. While there are no constraints around the nature of these solutions, they should be grounded in the local context.

Advice on selecting your "community of choice":

- *Be specific* – we do NOT recommend you choose an entire state or region or city; be specific and focus on a particular area, community, organization or unit.
- *Be realistic* – we recommend you select a geographic location that your team is familiar with and can access the required information and data.

In sum, select a "community of choice" that you know well, is specific and where you can model your solutions. The quality of your presentations will be gauged by the potential of your solutions to have significant local impacts in your communities. Finally, while solutions are often tailored for a specific location, it is important that your solution can be replicable.

### **Success Criteria for Proposed Solutions:**

**Financial Implications** – This is foundational. What is the total cost of your proposed solution? Where will the funding come from to pay for it? Please be detailed and specific about financial and economic implications.

**Environmental/ Social Impacts** – How does the solution reduce negative environmental impacts (e.g., waste, pollution) and/or social impacts (e.g., food insecurity)?

**Feasibility** – How realistic is your proposed solution? What are the recommended steps for implementation and are they feasible? Provide evidence of a well-thought-out implementation plan.

**Innovation & Partnerships** – Is your solution original and ambitious? No community can address food waste alone. It must partner effectively with nonprofits, churches, alumni, faculty, staff, donors, businesses, and others. How does your solution leverage the power of partnerships?

**Risks & Mitigation** - What are the risks associated with your solution and what mitigation steps can be put in place? What assumptions are you making that might turn out to be incorrect? What are possible unintended consequences? Identify these risks and how they can be avoided or at least mitigated.

## **Deliverables:**

### **Round 1 Deliverables**

1. **Video presentations are no more than 15 minutes long. Everyone must be a part of the presentation. Late submissions will not be reviewed.**
2. **PowerPoint for a 15-Minute Presentation. Your team also must submit a PPT and a PDF version of the PowerPoint used in your presentation.**
  - The review process is anonymous; DO NOT include team member names or photos in the video or in the PowerPoint
  - Intro Slide: Pick a Team Name and put it on your Title Slide (not team member names, just the overall Team Name)
  - There is no required minimum or maximum number of slides; it is up to your team to determine the appropriate number of slides for a 15-minute presentation
  - You may include an additional appendix for data, graphs, analysis, sources, etc.

### **Final Deliverables (if your team is chosen as a finalist)**

1. **15 Minute Live Presentation** (Expectation is Every Group Member Must Present)
2. **10 Minutes of Q&A with Judges**

If you have questions, please contact us at [smealsustainability@psu.edu](mailto:smealsustainability@psu.edu)

**References:**

Feeding America. (2024). *Food Waste in America | Feeding America*. Retrieved Sept 6, 2024,

from <https://www.feedingamerica.org/our-work/reduce-food-waste>

World Wildlife Fund (2024). *Fight climate change by preventing food waste*. Retrieved Sept 6,

2024, from <https://www.worldwildlife.org/stories/>

RTS. (2024). *Food Waste in America in 2020: Statistics & Facts*. Retrieved Sept 6, 2024, from

[www.rts.com/resources/guides/food-waste-america/](http://www.rts.com/resources/guides/food-waste-america/).

USDA. (2024). *Consumers*. Retrieved Sept 6, 2024, from

[www.usda.gov/foodlossandwaste/consumers](http://www.usda.gov/foodlossandwaste/consumers).

USDA. (2024) *Food Waste Activities*. Retrieved Sept 6, 2024, from

<https://www.usda.gov/foodwaste/activities>

USDA. (2024). *Food Waste FAQs*. Retrieved Sept 6, 2024, from

<https://www.usda.gov/foodwaste/faqs>