WASTE NOT WANT NOT; ASSESSING BEST FOOD AND PLASTIC WASTE PREVENTION APPROACHES

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Background

- The topic of waste and how to manage it is a growing environmental and economic concern
- Food and plastic comprise nearly half of the municipal solid waste stream landfilled in the US in 2018 (EPA)
- Source reduction (and reuse), or prevention, is the most preferred method for the management of waste. There exists limited consensus on the most effective prevention approaches

Figure 1- (From highcountryconservationcenter.org) Food waste contributes to climate change via methane emission when it rots in landfills, and plastic waste contributes to pollution and degradation of natural systems

Research Question

What are the best approaches to preventing food and plastic waste that Seattle should incorporate at the city level?

Internship and Methods

- I interned with Seattle Public Utilities (SPU)
- I conducted a literature review using key search terms decided by the SPU waste team and interns
- I conducted interviews with the Oregon DEQ, Austin Circular Economy Program, StopWaste Alameda County

Results

- Research revealed that prevention approaches can be separated into three categories (see figure 2)

Information and capacity building:

- Education raising campaigns, remained one of the most common practices, especially ones aimed at consumers since a significant amount of waste comes from residences. Examples of consumer campaigns include U.K. Love Food Hate Waste and U.S. Save the Food. Programs and initiatives that build capacity for information provision include the Austin Circular Economy program, Commonwealth Blue Charter, 10X20X30 Initiative

Redistribution and Reuse:

- Approaches include donation of food that would be landfilled. Policies that encourage food donation include the Bill Emerson Act

Supply Chain and Retail Alteration:

- These initiatives include voluntary commitments, and legislative initiatives mandating the usage of materials or the end-of-life disposal of certain materials. The Courtauld Commitment, U.K. and U.S. national plastic pacts, are voluntary commitments.

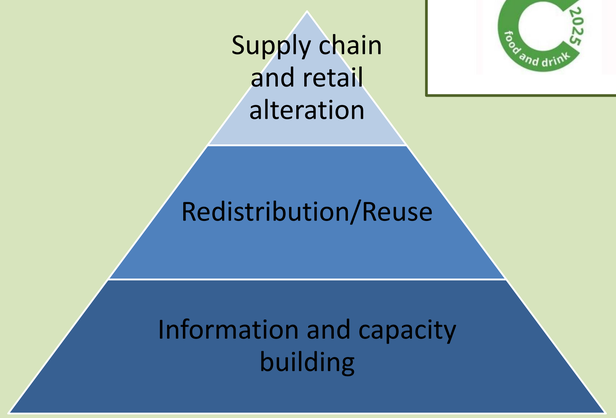

Figure 2 Best Prevention Practices Pyramid
Displays different types of approaches that were found to be effective

Implications

- To prevent waste, the city should generate awareness of the costs of waste to encourage residents and commercial industry producers to promote less wasteful behavior. Informing on the costs will prove the best incentive to change wasteful behavior. The costs at a national level of food waste and loss is shown in figure 3. Also, the advocation for corporate social responsibility is necessary to encourage economic circularity and bring about policy action
- Further research into the efficacy of approaches is needed to address the research knowledge gaps in order to inform decisions made on waste management for cities

Figure 3 as shown above, adapted from data from a research article on drivers of food waste (Thyberg &Tonies), displays the economic impacts felt by respective nations in select years related to their food waste. Since financial incentive is the greatest motivator to change wasteful behavior, the graph highlights this

Acknowledgments

I would like to acknowledge and thank my site supervisor, Veronica Fincher, who gave me the opportunity to undergo this internship. I would like to thank my faculty advisor, Dr. Kristi Straus for her support and guidance through the process of research. A special thanks to my internship partner Amy who helped and worked with me. Lastly I would like to acknowledge my family, friends and PoE cohort for their encouragement and support.