



OUR OWN FOOD WASTED

Author: Reid Harmacinski

Abstract

In this paper, I take a look into the issue of food waste and how it negatively impacts the people, economy, and environment at a community level, specifically in South Bend, Indiana. It is explained how generating food waste in a community prevents it from being sustainable and how it negatively impacts each of the four system conditions of sustainability as described by The Natural Step's *Sustainability Primer*. Ideas are discussed about what citizens can do at the individual level as well as potential programs to be started or maintained that can track then cut down food waste within the community.

Introduction

On June 14, 2016, the South Bend Tribune shared a story titled "Garbage entrepreneurs are turning food waste into a business". The story covers Melissa Tashjian and her successful business Compost Crusader LLC which collects food scraps from restaurants, schools, and hospitals all around the Milwaukee area and turns them into compost. Explained in that same story is that according to EPA estimations, 70 billion tons of food waste in the United States ends up in the garbage. All the work that went into growing that food, shipping it, and selling it is wasted and ends up filling garbage cans all over the country.

Tashjian is combating this problem in one possible way and it has been successful. In April of 2016, her business picked up 114,000 pounds of food waste and converted it into usable compost. At the time of the article, 55 different clients were involved in this waste pickup. Compost Crusader is still going strong today and is aiming for 40% landfill diversion in Milwaukee by 2020. Not only is Tashjian's business growing, the number of waste collectors has

steadily grown. Jeremy Brosowsky, another food scrap collector in Washington D.C, was quoted in the article saying "Now I think there are 40 or 50 companies doing it around the country in one form or the other..." showing just how much this business practice has increased.

What Tashjian and now many others are doing is tackling the problem of food waste in their community. Food waste is a problem that shouldn't be ignored as is demonstrated by the EPA estimate of 70 billion tons of food ending up in the garbage. While that national number of food waste is staggering, and efforts should be taken at a national level to combat it, it is each individual community's waste that creates that national level. It is in our communities' best interest to lessen our own food waste within our own community for our sake and for the sake of the country.

Problem of Food Waste

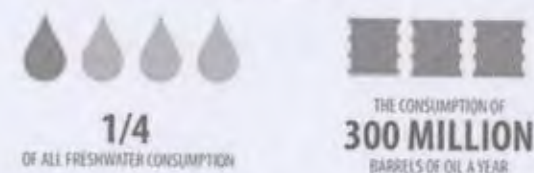
The entire process of getting food from where it is grown or processed to the end consumer is long and involves the use of many resources like money, fuel, human labor, land, and time. With all the work that goes into this, food waste means much more is wasted than just the food itself. The idea of wasting is bad, but the concept of money being lost really catches attention. Olio.com, a company that connects neighbors and local businesses to reduce food waste, shares that the value of all wasted food in the world totals over \$1 trillion (Olio). Within our own city it is hard to justify losing so much money and resources on food products that don't even get eaten. This wasted money could be used to fund programs of all sorts, or to solve issues that we face in our community today.

One such issue that faces our community is poverty, and the hunger that often comes with it. As shared by Olio.com, 800 million people go to bed hungry every night, which is an obvious issue, but this is made worse when so much good food is wasted. South Bend, just like any other community has its fair share of food insecure. Food insecure means someone who doesn't know where or when their next meal is coming from. Enough food is produced for no one to

be food insecure, however a lot of food is wasted because it never finds its way to people who need it one way or another. This graphic from treehugger.com shares statistics about food waste and how many could be fed in the U.S. Unfortunately, food waste is something that is increasing as growing populations need more food to be produced, but the percentage of that food that is wasted hasn't decreased.



FOOD WASTE IN THE USA ACCOUNTS FOR...



Graphic A, Source: treehugger.com

Environmental Issues with Food Waste

Clearly people are affected, and the effectiveness of money and labor are impacted when food is wasted, but there are large environmental problems in this issue as well. A lot of land is used to grow all this food and much of that land requires deforestation which involves loss of species habitats and displacement of indigenous populations. Even with those requirements for getting the land, \$1 trillion worth of food grown ends up wasted. With a growing population even more land will be needed if we continue to waste food at the rate we are now.

There is also the environmental issue of what to do with all of our waste including our wasted food. Most often, it will end up in growing landfills all around the country. This is important within each community because no citizens want to live near a landfill, but our waste has to go somewhere. Also, of growing importance to communities is access to fresh water. As shown in Graphic A, $1/4^{\text{th}}$ of all freshwater usage is for wasted food. This is a surprising number but considering how much freshwater is used for agriculture and how much of the food from agriculture is wasted, it begins to make sense. Fresh water is very important around our area for agriculture and personal use and needs to be protected.

A Sustainable Community Needs Less Food Waste

Having a high amount of food waste in a community prevents that community from being truly sustainable. To fix this, it is important to understand what sustainability is. As defined in 1987 in the United Nations Brundtland Commission, sustainable development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Therefore, general sustainability is living in a way that meets the needs of the present without compromising future generation's ability to meet their own needs. In the case of our community's food waste, are we meeting our needs and not preventing future generations ability to meet their needs when we waste food? In this situation, we are having trouble meeting our own needs as many people go hungry while good food is wasted. Future generations could be in trouble with the high unneeded amounts of food waste taking up space and the lack of valuable resources like fuel and water if we continue this way.

The Sustainability Primer created by The Natural Step, an organization started to develop a framework for sustainable planning, explains sustainability in depth. An important idea covered in the Primer are the four system conditions for sustainability. They include nature not being subject to systematically increasing (1) concentrations of substances extracted from the Earth's crust, (2)

concentrations of substances produced by society, (3) degradation by physical means, and in that society (4) people are able to meet their needs. Graphic B presents a visualization of each of the four system conditions.



Graphic B, Source: www.naturalstep.ca

Between the first three conditions, number three is most effected by food waste in our community because so much space is used for farmland where a large portion of food produced there will end up being wasted. The farmland takes up a lot of natural land and in this case, doesn't efficiently use it. We also have to take up more land for the use of landfills to make up for the extra waste we are creating. The fourth system condition is clearly not being fully met in our community if people don't meet their food needs even though there is enough produced, as evidenced by of the high amounts of waste. We also prevent other generations from meeting their needs by taking up high amounts of land to compensate for the lost food and using extra resources like fuel for that extra food.

System condition one sees its biggest impact with the amount of fuel that is wasted transporting food that will eventually only go to waste. This can include all travel from the farm to a landfill. This oil is extracted from the earth's crust and is a nonrenewable resource. System condition two isn't as impacted as the others with food waste but there are two man-made substances that play a role in

this, and they are pesticides and herbicides. When food is wasted, farmers have to produce bigger crops which will require more use of these fertilizers, which can enter our bodies when we consume the food and they can potentially end up in our waterways. These issues show that we need to make improvements with the amount of food we are wasting to truly be a sustainable community.

How to Improve: Personal

One way to improve our community's food waste situation and become more sustainable is to inform the citizens about the problem and explain how they can help their own community with the issue. Getting the citizens involved would take the problem head-on and it gives them an opportunity to improve their community and the lives of those in it. Some good instructions are provided in the chapter "Waste Not: At Home, at the Store, in Restaurants" of Kate Heyhoe's book *Cooking Green*.

One way people can reduce food waste according to Heyhoe, is the storage of food and types of food that have better shelf life. Poor storage of your food can cause it to go bad quicker or make you forget about it until it goes bad. Making sure the food does not sit out and is properly sealed each time you put it away sounds trivial but can make a big difference in its shelf life. Keeping track of what food you have and double-checking before you go shopping can prevent you from buying food you already have and wasting it and your money. It is best to create a shopping list with everything that you need and sticking to that when you go shopping. Carefully keeping track of what you buy may seem tedious, but it can save a consumer time and money by not buying or wasting food they didn't need.

Heyhoe explains that some foods have a long shelf life and while consumers shouldn't feel limited to these foods, buying more of them could help cut down individual food waste and prevent consumers from spending money on lots of food that will soon go bad and be thrown out. Foods with good shelf life are usually dried and

can include nuts, raisins, and mushrooms. These foods are also beneficial to have because they typically don't require cooking and can be mixed in within meals fairly easily.

Another point of education for citizens is composting. This turns food waste into a useful product and eventually more food, so the cycle can continue. The idea and much of the process of recycling is understood, so it would be beneficial if composting would catch on and become an everyday practice in the same way recycling is today. Composting can introduce citizens to the idea of gardening where they may learn to make healthy food for themselves at an affordable price. Heyhoe mentions the idea of restaurants giving their organic waste to local farms for composting. There is clearly a lot of organic waste generated in restaurants so putting that waste to good use would be a big step. Also, by local restaurants and farms working together, a stronger, more united community could be built.

How to Improve: Community

This issue isn't just solved by informing and encouraging citizens, changes can be done by the local government and by group efforts. The first of these improvements can start with the creation of programs to cut down on food waste and its negative effects. One active successful program is something familiar to our area and that is Food Rescue. A Food Rescue site is located at The University of Notre Dame which shows that the community does have a desire to reduce food waste and help those in need.

What Food Rescue does is take donations from food providers like stores or restaurants and serves it to those in need. The food providers only need to list their unneeded food and a volunteer driver will come and pick it up and take it to a food pantry where other volunteers serve it. This saves food and gives it directly to those who need it. However, this food rescue isn't well-known by all and it should continue to be supported. This program does require donators as well as many volunteers for each step, so getting the word out is needed for its continued growth and success.

There are other programs with good ideas that could be used in addition to food rescue. The Sierra Club's website shares many possible programs, starting with Food Shift in California, a twist on food rescue that involves government intervention and service instead of volunteer work. Food Shift works with local businesses to help them improve the tracking of their food waste and then works with the local governments to create interventions in the parts of the process with the most food waste. Founder Dana Frasz wants to think about "food recovery as a government service that provides jobs, rather than as a charity thing" (Sierra Club). This cuts the high amount of volunteers needed for food rescue and provides jobs in the community. With government involved, businesses may be more inclined to improve the tracking of their food waste and cut down on it. However, some citizens, farmers, or business owners here may not be up to the idea of government intervention in the food process. Graphic C, from Food Shift's website shows their main goals in a simplified form.



Graphic C, Source: foodshift.net

Another program listed by the Sierra Club where a similar idea could be beneficial to our area is Imperfect Produce. One area where food is heavily wasted is on the farm where 20% of produce never leaves the farm because of "aesthetic challenges", meaning it doesn't meet expected shape standards. Farmers have to overproduce their crops to compensate for this particular issue. Imperfect Produce works to cut this specific waste down by buying this imperfect produce

that farmers wouldn't be able to sell to traditional retailers. This produce is then sold at a reduced price. This reduced price could provide families in need a chance at buying healthy food that otherwise may be too expensive. In this program, less perfectly good food is wasted, and farmers still receive money for produce that would normally be thrown out.

Npr.org's food for thought column also shares larger scale solutions to the food waste problem and among these solutions is something the city can educate its citizens about and encourage change. This solution is to create standardized date labeling that is printed on packaging. There is no standard for the dates and they aren't necessarily when the food goes bad, these dates are most often chosen by manufacturers rather than experts. Explaining to citizens that food past its sell by date does not mean it must be thrown out can cut the amount of good food being wasted because of a misunderstanding. However, the best way to improve this is to push for standardized date labeling and having local governments bring this up and support it can really push for it to actually happen.

Conclusion

If our community were to follow these steps, we could address our food waste problem and move towards becoming truly sustainable. With these improvements, we could be living in a way that allows us to meet our needs without compromising the ability of future generations to meet their needs. By having educated citizens and programs designed to cut our waste we are certainly helping meet our own needs. We could save money and time, and people in need could have access to food that would otherwise go to waste, and we would produce less trash. Also, the need to grow more food to compensate for all that was wasted and all the environmental damage that the extra growing may entail is lessened. It is with this lesser environmental impact that we also allow other generations the ability to meet their needs. Less farm land will be required meaning less clear cutting of natural land, less water and fuel will be needed, as well as less landfill space being taken up by food waste.

The four system conditions of sustainability are an important part of being a sustainable community, so how are these being met? For system condition one, less fuel is used for food that will be soon wasted. With citizens having better buying habits and programs in place to rescue food and give it to others, there is less wasted food and less fuel used on something that never gets used. For system condition two, with lesser amounts of food produced because of low amounts of waste, less fertilizers and pesticides will need to be used. For system condition three, like condition two, less amounts of food need to be produced. This allows this condition because there will be less need for more land so that natural land can be preserved. Also, less landfill space will be needed for food waste, especially if organic waste is turned into compost. For the fourth system condition, we will begin to allow everyone today to meet their food needs better because we have systems in place to get unused food to those in need. We will also allow future generations to meet their needs by using less land and other important resources like fuel.

With these conditions met, we can take a big step towards becoming a truly sustainable community which there are great benefits for. First, we save money and time on food that would otherwise go to waste. Also, people who are in need of food will have a way of getting this food. Finally, less land and resources will have to be used in order to compensate for the amount of food waste.

References

- Aubrey, A. (2016 Mar. 15). *These 27 solutions could help the U.S slash food waste*. Retrieved from: <https://www.npr.org/sections/thesalt/2016/03/15/470434247/these-27-solutions-could-help-the-u-s-slash-food-waste>.
- Heyhoe, K. (2009) *Cooking Green*. Boston, Massachusetts: Da Capo Press.
- Olio. (2018). *The problem of food waste*. Retrieved from: <https://olioex.com/food-waste/the-problem-of-food-waste/>.
- O'Reilly, K. (2016 Aug. 26). *10 innovative solutions to food waste*. Retrieved from: <https://www.sierraclub.org/sierra/2016-4-july-august/green-life/10-innovative-solutions-food-waste>.
- Romell, R. (2016 June 14). *Garbage entrepreneurs are turning food waste into a business*. Retrieved from: https://www.southbendtribune.com/news/business/garbage-entrepreneurs-are-turning-food-waste-into-a-business/article_fe83b089-3f37-59dc-85d2-6a98b1e9b16e.html.
- The Natural Step. (2012). *Sustainability Primer*. Ottawa, Canada: The Natural Step Canada.