

Abstract:

For decades, humans have been the culprits of large amounts of food waste. As food production became more industrialized, individual consumers became more and more removed from the process. There used to be an unacceptable amount of food waste, nearly 40% by 2018. Perfectly good, healthy, nutritious, safe food was not being consumed and ending up in landfills to rot.

Prior to 2020, most of the food waste was occurring during agricultural production and with the consumer. Other areas of waste, but in a smaller amount, took place during post harvest, distribution, and processing. Two main reasons for food waste during post harvest and agricultural production were that farmers were often over producing and due to the concept of the ideal looking piece of food. Farmers were over producing either due to subsidies or because prices were so low that they had to produce large amounts in order to make reasonable profit. Additionally, over time, consumers have developed the ideal looking food and they expected all food that is sold in stores to fit this standard. This left little to no choice to farmers who harvested deformed food, often fruits and vegetables. Due to a deformity, odd shape or change of color the piece of food instantly dropped in value and was often hard to sell. These deformed pieces of food often went unsold, were wasted, and often ended up in landfills. The most commonly wasted food, in order of most wasted to least wasted, were fruits and vegetables, cereals, dairy, meat, and fish.

Through this Wordpress page the evolution of food waste will be outlined leading to what life is like in 2040 and how it is significantly better than life before. It took many years and a lot of steps along the way but it has been a worthwhile and extremely positive change. The ultimate goal is to reduce food waste by source reduction, not producing in excess and buying what is needed. However, there are also steps to help with food that is produced. If the food is still safe to eat it can be donated to food banks and shelters to feed the hungry or to farms to feed the animals. This way the food is still being used. If there are unuseable food scraps or the food is no longer safe to eat then the food will be composted and the compost can be used as fertilizer. Now in 2040 there is full municipal composting and it is illegal to send food waste to landfills. Industrial farms are a thing of the past, now most food is produced locally or regionally. There are local, community, and personal farms where people can grow their own food and be more connected to the food cycle. There has been a standardization of dates placed on food packaging to mean the same and send a clear message to consumers of how long the food is good for. Food prices have also increased to help make consumers more conscious of what they are consuming. In 2040, individuals are also smarter consumers, being more purposeful in their shopping and only buying what is needed.

By 2040, society has embraced the change and has fully adjusted. Life full of over production, the perfect piece of food, and food waste is something of the past. With this outline, society is living a more healthy and sustainable lifestyle that will be able to thrive for years to come.

10 Main Highlights

1. Food waste in 2018 - 40% lost, overproduction, food lost in many places.
2. Eliminating problem is twofold → producing less and capturing waste.
3. Dismantling large industrial farms that produce to surplus → too disconnected from the consumers they are actually growing food for.
4. Subsidizing the creation and expansion of local (household and community) gardens to localize food production.
5. Community/regional food self-sufficiency → communities producing enough to feed themselves but not extra.
6. Composting instead of trash → food scraps to compost, none can end go to landfills.
7. Food production to match actual needs → if there is extra it goes to feed hungry people, if not edible it goes to animals.
8. Standard food dates → one 'eat by' meaning for all food labels, telling when it is safe to eat the food until.
9. Municipal composting → gets picked up with trash and recycling to be made into fertilizer for local gardens.
10. Achieved a closed food loop → everything grown is either eaten or re-enters the food production cycle.

Summary

Between 2018 and 2040, the food system in the United States was significantly restructured and redesigned to promote sustainable agricultural production and ensure a closed food loop. In 2018, about 40% of food in the United States was wasted, millions of pounds per year ending up uncaptured and rotting in landfills. Both the patterns of food production and consumption contributed significantly to the staggering amounts of waste, industrial practices of agriculture and over purchasing of cheap food leading to the tremendous scale of the problem. According to the EPA, food waste solutions followed a six step process moving away from landfill disposal and towards original source reduction. After many years of unsustainable food growth and consumption practices, a severe drought in 2019 forced the country to more seriously recognize the necessity to shift away from the current systems of that time. The elimination of food waste and adoption of a sustainable system required changes in production, consumption, and waste practices on both a large and small/individualistic scale.

There were many changes on the way from 2018 to 2040, and different aspects of the food system were restructured throughout this period of time. In 2018, industrial farms used to produce to surplus, using unsustainable agricultural practices to grow as much food as was possible, instead of just enough to fulfil the needs of the population. Food production was extremely disconnected from those who were actually the consumers of such products, resulting in a significant disparity between how much food was actually needed and how much was being produced. To solve this part of the problem, industrial farms were slowly closed and food production shifted to smaller, localized household and community farms, supported by government subsidies and assistance. This was the first major step of source reduction in efforts to eliminate food waste. In 2040, almost all food consumed by communities is produced within that community, promoting local self sufficiency and eliminating the production of unnecessary and wasteful agricultural surplus. Smaller sized, community farms can more accurately assess the consumptive needs of local populations, therefore producing only to match consumption rather than for a surplus. Understanding more accurate assessments of food demand was imperative in making changes to production. However because it is challenging to perfectly match production to consumption, if extra food is produced beyond what the community eats, it is distributed to people in need, charities, or as animal feed at farms. To eliminate confusion about food dates and their various meanings, a standardized “eat by” date was adopted by all food producers to represent a singular definition of when food was safe to eat by. Before this standardization, there were different labels such as “best by” and “good until” which had ambiguous meanings about the health and safety of food beyond certain dates.

After the systemic agricultural shifts were made to tackle source reduction, the post-consumption side of food waste was addressed. In addition to localized sustainable agriculture, waste systems evolved to include compost as an alternative/addition to the traditional two-part trash and recycling model. This way, food that is not eaten or used is repurposed through a compost system rather than thrown out and eventually rotted in landfills. When food in landfills became illegal in 2025, the American population was obligated to accept compost as the singular disposal option for uneaten food. Not only does a composting system

eliminate the disposal and buildup of food in landfills, but it helps close the food loop by repurposing uneaten food into new agricultural growth and production. To make composting convenient and effective, it became a full municipal service by 2030, food scraps collected weekly by compost trucks and brought to composting centers. At these composting centers, food waste is processed and made into fertilizer, which is then redistributed to household, community, and regional farms to aid in the food growth process. By slowing agricultural and food production, investing in sustainable agriculture, and composting any uneaten food, a once broken and inefficient food system has become environmentally considerate and virtually waste free. It took many steps over 20 years to achieve this closed food loop, but the benefits of these systemic changes is widespread and society is better off for it.

To explain the workings of this new world, and how we were forced to change our lifestyles to accompany it, we have found four normal citizens, one scientist, and two archivists to write about their lives today in 2040. To accompany this we also looked to the past and found one account from a scientist in 2018 who wrote about their problems with food waste at the time, as well as what potential solutions they saw as possible. Those picked will write about what they see as the most important differences that have grown in the past twenty-one years since the beginning of the drought which shook our economy and culture to the core, and how it affects and changes their lives today compared to the lives of those living in 2018. To read more about their lives, see Appendixes 1-3.

Food Waste 2040 Conclusion

The illegalization of food waste by 2040 has completely changed the way we live. Industrial farming is obsolete, compost bins match trash cans in number, and landfills are growing at a fraction of the rate from 2018. The country is a better place to be now. Not only has the change been affected by governmental legislation, the mindset of the nation has completely shifted from one of ignorance surrounding what food waste does in landfills to understanding that composting is the only way to dispose of food. The country could not have changed as quickly as it did had the behavior and attitude of the population not followed the need for change.

Industrial farming has been completely done away with. The process was deemed too wasteful among maintaining the facilities, producing crops, and transporting goods. Cross-country movement of produce was too inefficient and resulted in damaged food that people were not willing to buy when no one knew for how long they had been sitting on the shelf. Small-scale farms feed the local community, ensuring enough food is grown for everyone. Less people go hungry as locals buy from these small farms instead of relying on industrial processes that overproduced but somehow couldn't get food to the starving. Households that can support a home garden do so, cutting down their dependence on outsourced farming. "Ugly" food is no longer a concern considering people know exactly where the produce came from and understand that there is nothing wrong with the food.

Most people do not understand how composting wasn't part of the food disposal system before; composting completes the food loop by replenishing home and local farms, which is the obvious answer to food waste in most people's eyes nowadays. Because these farms feed the entire community, their upkeep is essential to the operation. Municipal composting centers collect the food waste from homes and treat it in their community centers. That treated compost is then redistributed to local farms and home gardens to support the nutrient cycle. This process is simply a way of life now, and no one questions it.

Communities are in touch with what they consume now, and the earth is better off for it. Food is much more accurately distributed to communities' specific population needs, ensuring that people have access to nutrition without having to travel far distances. Water is saved by eliminating industrial farming and by banning food in landfills. The planet and its inhabitants are happier and healthier now, and it is a wonder no one thought to do this sooner.

Appendix 1:

Contained within are two accounts from scientists, the first from 2018, which details the problem of food waste as they saw it before the drought, and the potential solutions that they were thinking about. The second scientist is actually writing from the perspective of living through the drought, and seeing the solutions implemented as time went on.

Scientist 1:

The patterns of production and consumption in our food system contribute to the significant, large scale food waste problem we face. 40% of the food we produce, package, and purchase in the United States ends up uneaten and untouched in landfills across the country. There are many different parts of our food system that we can attribute the food waste problem to, considering that significant food loss occurs in production, transportation, distribution, and consumption. Because the problem is so deep rooted in the way the American food system operates, it is going to take large-scale systemic technological, behavioral, and social change to eliminate food waste. It is imperative to address the various stages at which this waste occurs to find a solution that considers the entirety of the problem rather than honing in on one specific aspect of it. Eliminating food waste will require a change in the relationship between people and the food they eat in addition to local and national understanding of appropriate production, and it is imperative to implement technological and social systems that will allow this shift to happen.

Currently, composting is not a regular part of most people's lives. Over many years, recycling has become a cultural normality and people better understand how/what to recycle and generally expect a blue bin next to trash cans. In the same way that recycling has become expected and commonplace, compost must also become a part of daily life to help solve the food waste problem. We have so much food that we don't eat, in the household and on a larger national scale, and we lack the technology and diligence to appropriately recycle this food in useful and ecologically thoughtful ways. Not only does compost keep tons of food out of overflowing landfills, but it allows the food to naturally decompose and then be reused to fertilize and enrich soil and the earth. Compost is a valuable tool that keeps soil rich, moist, and fertile and aids the growth of agricultural products, so it would be significantly beneficial for many reasons to capture our food waste and turn it into compost. Ideally, compost pickup would become incorporated into the typical trash and recycling pick up system that we are all used to, whether is be a municipal or private service. To successfully incorporate compost into our everyday waste disposal systems and habits, it needs to become regularized in the same way traditional trash and recycling are. Where there are trash and recycling receptacles, there can also be a food waste/compost bin, both in households and public places. If garbage trucks also collect compost, it will make it easy and relatively convenient for households to shift away from throwing food scraps into the regular trash. A three-type waste system that allows food to be composted instead of thrown out will seriously



decrease food waste that ends up in landfills. By repurposing uneaten food into a valuable agricultural additive, we can not only eliminate the prevalence of food waste in landfills but can also advance food growth efforts on a local scale. If behaviors can change systematically and all people compost their food scraps, essentially all food waste can be captured and turned into compost.

In addition to composting the food we have already grown/made but do not eat, we must also produce less food in the first place by more accurately considering the true demand for food in the United States. We live in a society of surplus and overproduction, where it is always better to have too much than too little. In order to assess how much food is actually needed to sustain communities and not produce so much more than could ever be eaten, food production needs to be shifted to become a more local process. Instead of massive CAFOs making and growing most of the food the country eats, smaller localized farms should be the main producers not only because smaller agricultural operations have less ecological impact, but also because localized food production will more accurately understand the reality of the local consumption needs. Ideally, to eliminate excess production, our food system would shift from large industrial farming to smaller scale, local, sustainable farming. If each farm is providing for only one or two localities, they will be able to more accurately assess how much food is actually needed and therefore not overproduce beyond the communities consumptive needs. Because local farms would be influenced by the climates in which they are located, agricultural technology could be used to help maximize yields in the growing season and assess which varieties crops will be the most successful in that part of the country. This model should include both community farms and individual household farms, which together with technological assistance can sufficiently feed the local populations. The compost collected as a part of regularly weekly trash pickup can also be redistributed to these household and small community farms to fertilize their soil and help increase agricultural yield and quality. A new system of efficient, local farming could arise to replace the current industrial CAFO model, eliminating excess food production to more accurately match the food demand in local populations and also promoting sustainable agriculture within communities.

By composting essentially all food scraps and reshaping the current agricultural production system, it is possible to imagine the reality of a food waste free society. According to these plans, in 2040 every person will eat food grown locally in considerate moderation, tailored to the populations' consumption patterns and needs. Food will not be grown and produced to excessive surplus because each farm will grow only as much as their community needs. All food that is not eaten will be composted in the home and from the farms, and the collection, handling, and redistribution of compost as fertilizer will be a municipal service in the same ways that trash and recycling currently are. As the project continues on, we will find more ways to fix the flaws in our food system and use technological and social changes and advancements to further eliminate food waste.

Scientist 2:

Ever since the devastating three-year drought of 2019, the United States has been driven to recreate their systems of food production, transportation, and disposal, in a way that would be more environmentally friendly. The first step in this was the dismantling of large-scale industrial farming use, while moving towards a mostly small farm model in which each family would have their own small farm on their land, or if they lived in a city they would have access to rooftop gardens for fresh food. This would have been an impossible system to implement before the drought, however in the years since the drought the culture of the people of the United States has warped massively. Now in 2040 people actually want to spend the time to work on these farms so that they have more nutritious fresh food that hadn't been transported a thousand miles to them. Luckily this actually solves two of the major problems that had to be dealt with, both production and transportation. Production is much more easily managed because people would be able to gauge the amount they grow on how much they would want to eat. While before this change industrial companies would have to guess at how much people would buy, most likely overestimating on purpose to make sure they didn't run out of product, while also creating a lot more waste.

The third problem which would need to be dealt with is how exactly food scraps would be reused instead of disposed. If you look at the food recovery hierarchy from before the drought, you can essentially see the process used today if you enlarge the other five layers to fill in what was Landfill/Incineration. One of the largest used solutions was a promotion of composting. This came in two forms, first those who had enough land would create their own private composting pile, while in cities municipal composting centers would be erected, and a third bin would be left out for people to put their food scraps into so they could be collected. This effectively solved the problem of any food waste created by the farms themselves, however some more specific solutions were needed for other foods, such as meat farms. Each of these farms would need to make sure they are using any usable part of the animal, including grinding up the bones for fertilizer.

The last problem was raised once the problem of how to dispose of food waste was reached, and this problem is how to monitor all of this to make sure that people are really abiding by the rules, and that small farms don't use and GMO plants, or that they don't try to hide their food waste. To combat this problem sensors were put into grocery stores so that the amount of food you buy can be accounted for. Along with this any private farms/composting must be recorded, this makes it so that if someone is under question you can look at how much they buy, and how large their garden is and see if it matches up to the amount of compost that they create.

Appendix 2:

Herein lie two accounts of archivists who have studied the narrative of this solution to food waste, and have written accounts for how this issue came to rise, and how we were able to survive in the wake of the drought of 2019.

Archivist 1:

After the old system of food consumption was put out of effect, there was an obvious demand for new legislation. Industrial farms that transported hundreds of pounds of food across the country were put out of business either by the droughts of 2019 or by the government itself that demanded that all large scale production be replaced with small, localized farming practices. The change was drastic, but there was no other option if the United States was going to survive. By 2024, small farms were being subsidized by the government to promote initial growth and were run by individuals who were put out of work by the closing of industrial farms. The workers' relocation was essential to making sure these new small farms were sustained; as a result, urban areas saw a decline in population while the suburbs and rural areas were overwhelmed by new homeowners.

The issue of determining what and how much produce would be necessary to support the local communities for which these small farms were responsible was a task that took a considerable amount of work. In the years that the last of the large-scale farms were capable of feeding the nation, a census was put out to all Americans. Each household was responsible for reporting their daily food consumption to the minutest detail. Sociologists were shocked to see that the majority of the nation was more than willing to record its intake to the detail demanded by the government; however, this reaction was necessary for the United States to regain its footing in feeding the entire country, so I personally understand the interest in making sure the new initiative was executed perfectly.

In 2024, municipal composting was also undertaken as a nationwide ordeal. Individuals who had originally worked in industrial farming and could not afford to relocate or could not find a job at local farms took jobs in the composting business. Garbage disposal was broken up into three categories instead of two: waste, recycling, and now food waste. Compost was collected weekly with the stipulation that only a certain percentage of the food that was brought into one household could end up in their respective compost bin. Because food was weighed and documented upon purchase, it was easy for government officials to notice when one household accumulated too much waste. Further, any food waste that was incorrectly discarded would land those individuals a generous fine.

By 2030, the composting initiative had taken off spectacularly. Compost was collected, brought to the local composting centers, and turned into usable soil. The government had also encouraged those who could support an at-home garden to do so. Not only would this take some of the burden off of local farms to provide all produce for an entire county, it also diminished the cost of food in the home. Grocery store prices had risen to discourage buying petty items imported from other farms, and being able to grow personal produce was a cost-effective and eco-friendly alternative. Because most Americans in the suburbs could support a home garden, the compost initiative was a key ingredient to starting and maintaining

these plots. Once properly treated at the municipal centers, compost was delivered back to households to stimulate growth of their personal gardens. All other compost went to the local farms to sustain their production.

Archivist 2:

It is a Saturday morning and I'm sitting at my kitchen table drinking my morning coffee, thinking about how much has changed in my lifetime. Every once in a while I find myself strolling down memory lane, thinking back to childhood, college, and young adult life and how that is so different from today, being in my early sixties. To put it simply, the world is a different place today.

I was born in 1980, and to be honest, I do not remember much of my early years of life. From conversations with my parents and some research I know that consumerism and the food industry was very different. Before I was born, food used to be grown and consumed locally and people consumed food that could easily grow in their region. When the industrial revolution and the World Wars hit, there was a boom in new packaging, such as glass, metal, cardboard and plastic. There was also a greater demand for trading food products. As technology and globalization advanced throughout the late 20th century, trade and packaging only continued to increase. In the mid to late 1900s it was still common to shop locally and have certain foods delivered, like fresh milk and eggs. As a young child I remember putting the glass milk containers in a box out on the front steps and anxiously await for the milk man to exchange the glass bottles for fresh containers of milk. Soon, it was possible to get food from any part of the country or world. There was no such thing as eating seasonal foods, as it was possible to get anything you wanted all year round. Walking into a grocery store it was almost impossible to guess what time of year it was. Fruits and vegetables were available year round. If they could not be grown locally, it was easy to import them from somewhere else.

This constant demand for food year round continued to grow and by the time I was in college it seemed as though more food was imported to America than actually grown domestically. Food prices also were relatively low compared to other life expenses. With ample food and low prices this led to many individuals, families, and restaurants over buying and over serving food. Back then, there was no regulation for what to do with leftover unwanted food and there were consequences for improper disposal. People did whatever they wanted to with the food. Some people would keep the leftovers and eat it the next day, others would use it as ingredients for another dish, and some would simply just toss it in the trash. Similarly, restaurants sometimes donated leftover or unused food to local food banks and shelters while other times the food went right to the trash. This makes me laugh because now in days that is illegal. There is no such thing as throwing food straight into a garbage can that then goes to a landfill. The last time I threw a piece of food in the trash was probably after I graduated college. There was also a drop off of individuals going to the food store weekly to pick up fresh food. Instead, stores started food delivery services. From the comfort of their home, people can place orders at the food store online and within a couple of hours the food will arrive at someone's doorstep. People were no longer going to the food store and picking out the perfect apple, tomato, or melon. Slowly people became even more disconnected from food and the experience of buying, and prepping.

The disconnection between farm and fork only grew farther and farther apart as I went through my young adult life. Eventually the number of farmers declined because farming became more mechanical and machines were replacing the work of farmers. The combination of food delivery and the disconnection widening, food became more of an object than a process that needed to be thought about and protected. There were large amounts of food waste, as people cared about the food system decreased each year.

In 2019 things began to change within the food system because in 2019 there was a drought that struck the west coast, midwest and southeast of the US. This had a catastrophic effect that spread throughout the country, especially as the areas that were directly affected are major agricultural producing areas. This was a result of the combination of increased pressure on natural resources from climate change, over production and industrialization of farms. Farmers, and their machinery, were exploiting the land too heavily. The overproduction of food lead to extreme amounts of water being wasted and being taken away from other uses. The drought lasted until 2022 and it was within these three years that a lot of legislation was passed and attitudes were changes when it came to agriculture and food production.

Individuals started to realize what went into food production and just how many resources were wasted along the supply chain. In the months and years that followed the drought there were many investigations and studies done to see just how much water, fertilizer and other resources went into agriculture and then tracked food all the way to the store and consumer's home to see how much was wasted. The numbers were astonishing. It was discovered that there certainly is not a food shortage problem in America, but rather a distribution and marketing problem. In 2023 throwing food away in a trashcan was outlawed. Instead of throwing food away, food waste and scraps can be composted or be used as animal feed and leftover food can be donated to food banks and shelters. Each city also has municipal compost facilities, similar to how cities have garbage and recycling facilities. Residents can either pay for compost to be picked up from their house, in the way they may have garbage and recycling picked up, or they can drop off household food scraps to the facility. As long as the food was not going to landfills, almost any other alternative was okay.

There was also a huge mindset change for individuals when it came to eliminating food waste. Not sending food to a landfill helps a lot, but realistically, its better to not have so much leftover food so consumers and industries were trying to get better at buying appropriate amounts of food in order to eliminate waste. A major problem back in 2000-2020 was that individuals had the image of the perfect food, most often when it came to fruits and vegetables. These foods had become idealized so that the ideal apple was perfectly round and shiny with no imperfections, flaws, or bumps. The perfect carrot was straight with perfect orange coloring and smooth skin. The ultimate strawberry was round with dark red coloring and green leaves perfectly folding over the top. Anything that diverted from this standard for each piece of food was often unacceptable to the consumer. Even if it was from the same plant or bush and was equally as nutritious and safe to eat, the consumer eye has deemed it as no good. Foods with imperfections, color flaws, or simply not the ideal shape were often thrown away because producers know that the consumer will not buy it. However, in the mid to late 2020s consumers were more focused on no waste and more economical production that they were no longer concerned with the ideal looking food. Farms also had a maximum amount of food, in terms of

weight, that could be properly disposed of. This encouraged farmers to promote and sell the imperfect looking food.

To help decrease food waste and promote composting, it became a law that every home had to have a garden on their property. This also led to individuals growing more of their food and buying less industrially produced foods, especially fruits, vegetables, and herbs. Since every household also has to compost unused food, the compost can be used on said household gardens. There was also legislation passed to regulate how many farms could be in a given county and the size of each farm. The reasoning for this is that nowadays, society is prioritizing eating local so if farms get too big it will push out other competitors. Consumers would rather have something grown in their city or county than buying that same piece of food that was imported from the other side of the world. In fact, there is now a governmental limit on how much food can be imported. Additionally, there are no longer farms non-cropping, now each farm has at least 3-5 different types of crops growing, if not more. And many farms will rotate crops in order to fertilize and protect their land. Farms were hit very hard by the drought back in 2019 and are taking large steps to prevent that from happen again.

Another major change today in 2040 is that food is now tracked and monitored to make sure there is no food waste. Now when a consumer purchases food from the store, each products weight is incorporated into the barcode scan. At the end of a transaction, a consumer will know how much they spent on food but also the total weight of purchased. Households have a maximum amount of weight that they are allowed to dispose of or compost at the end of each week or month, which is a fraction of the incoming food weight. Food manufactures also agreed upon standardizing the date on food packaging to all mean the same thing and extend the date so people do not preemptively get rid of food.

Appendix 3:

In this document we have collected four accounts of citizens who live today in 2040 to talk about their lives today related to food and food waste, and compare it to how they used to interact with food back in 2018.

Citizen 1:

I wake up a few minutes before my alarm goes off, and in that time I run through a mental to-do list for today. First I am going to go out to the garden and see if there is any fresh fruit that I can pick for breakfast, I would really love some blueberries! If there is some, I'll pick it, wash it and stick it in the fridge so it can chill before I eat it. I will also pick some fresh herbs to steep for my morning tea. If I see any other fruits and vegetable that I can use as a snack or dinner I will also pick those and bring them in. While I am out in the garden I will stir up the compost and toss in anything from the day before. I'll then go back to my room and get dressed for the day.

Out in the garden it seems to be a good day! There are lots of fruits and vegetables ready to pick. I pick up my basket and start collecting blueberries, tomatoes, green beans, carrots, zucchini, and a handful of mint and basil.

I am fortunate to live a little outside of the city so I have quite a large garden in my yard. My dad and I spent the summer to expand the garden that my parents had built when they moved into the house. Right after my parents got married, there was a catastrophic drought that hit America. They say that life, and more so everyday habits, changed a lot after the drought. They used to go to the grocery store and find foods from all over the world, regardless of the season. There was a constant supply of every possible fruit and vegetable. Food was a lot cheaper and whatever was not used, was often just tossed in the garbage can and sent to landfills. However, after the drought this all seemed to go away. Today, you can no longer get any type of food you want, from anywhere in the world, regardless of the season. I honestly do not know if I would like that. The thought of importing bananas from Guatemala or Colombia seems so strange to me. Food prices started to go up other structural changes were enough for my parents to want to build a garden. This allowed them to produce food for a lower price and be more in touch with food. A few years later, many cities and towns started to encourage, and some even mandated, having personal or neighborhood farms.

One has to be very careful when harvesting the garden. If you pick too early, the food is not at its prime and will have to ripen inside, which never tastes as good as when it ripens on the plant. However, if you pick too late, the fruit and vegetables are often soft and squishy. Picking too few means you may have to go out later in the day to pick more to make sure there is enough for dinner. Picking too many means there will be leftovers, which we try to avoid at all costs. Neither is exactly desirable, so it is essential to think ahead and plan picking accordingly. It is illegal to throw away any food scraps or left over food. If we have food scraps that cannot be used we will compost them. If we have left over food that is still good to eat, we will offer it to our neighbors. Our neighborhood has a very close relationship and swap food and ingredients quite often. A day rarely passes when I do not see one of the neighbors walking down the street with a basket, either collecting from others, or walking around with his/her leftovers for others. If

we cannot get enough food, mostly fruits, vegetables, and herbs from our garden or from neighbors we have to go to the store or local market. My family doesn't like to do this too often because it is a lot more expensive and we prefer the fresh taste of just picked foods.

Citizen 2:

Day 1

This was the second meal of the day that I couldn't finish, and my mother knew it. We had been sitting at the table for over forty-five minutes, and every bite I took seemed to somehow replace itself on my plate.

"Elise, you know it's not going anywhere," my mother said from across the counter. "And nothing else can fit into the compost bin, so you're either eating it now or tomorrow for breakfast."

Not to be a brat, but leftover eggplant parmesan was not the first thing I wanted to look at the next day. Or really any day. My sister sneered at me across the kitchen as she forcefully fed our dog the rest of her own dinner. Poor thing looked like she was having as much trouble as I was finishing what was put in front of her.

In the last twenty years, the government had taken action against people like me who ate five bites of something and threw the rest away. As much as I resented the initiative, their plans made sense. The droughts that covered the country before I was born were so bad that water couldn't be wasted on anything unnecessary, food waste included, so food waste was the first thing to be banned from landfills. According to my parents, the previous system of garbage disposal wasted so much desperately needed water that people rioted around national administration for change, and change we got. No food could end up in a landfill ever again. To compensate, the government mandated that every household have a garden to grow produce that wouldn't be bought from a grocery store and then thrown out when everyone forgot about it in the back of the refrigerator. Compost bins were disseminated with the stipulation that only a certain amount of food brought under one roof could end up there. The world only needs so much compost apparently. Imported food in grocery stores had become ridiculously expensive to make sure no one bought anything they didn't absolutely need, and meat prices went through the roof when no one could figure out what to do with the animal remains that were banned from landfills. Hence the eggplant parmesan that everyone hated. Most of us had grown up vegetarian because of how expensive and difficult to find meat was. I had only tried chicken once, and it might have been the best day of my life.

A half hour later, I had choked down most of my soggy dinner. My mother had left the kitchen. The opportunity was right in front of me. Grab plate, tiptoe to bathroom. Drop leftovers into toilet, flush, and pray to the sweet lord above that it all goes down smoothly. When I was a child and genuinely did not understand why I had to eat everything presented to me, I would sneak handfuls of food into my pockets and throw it out the window or flush it. Only until my father caught me and explained that if I was caught disposing of my rejects by just throwing them to the wind, my family could be fined the equivalent of my college tuition. The terror that followed that scolding was enough to stop frivolous flushing.

The universe was on my side as the last bites of my hellish dinner swirled down the drain. Sewer rats would eat well tonight. I tucked my plate into my sweatshirt and stepped out of the bathroom. Run to kitchen, rinse plate. Safe.

Day 2

I woke up excited that day for two reasons: the first was that I didn't have to eat last night's dinner for breakfast, and the second was that it was my twenty-first birthday. I didn't normally care about my birthday, but this one was special. For the first time in my life, I was going to eat at a restaurant.

After the anti-food waste laws were passed, eating out had become incredibly expensive. The food industry itself didn't actually produce that much waste, but the people who ate there would rack up hundreds of pounds of uneaten food per week. To compensate for our wastefulness, dining out was not common because of how pricy it had become.

My parents had agreed to let me take my three friends with me to dinner. They had never been to a restaurant either. We arrived early out of excitement and sat quickly. I looked at the menu and cringed. The least expensive thing I saw was the house salad. \$40. \$40. I understood why this was my birthday present. Last time we were doing this.

Day 3

My summer job nothing to brag about, working on one of the farms required to produce most of our town's food. That was another law passed after the droughts. Too much food was wasted in the old system of trucking food across the country, so the government had mandated that each county has a certain number of local farms to provide for the town. The gardens each household was responsible for maintaining just weren't able to provide enough for an average family so community farms were mandated too.

I liked working on the farm. It was peaceful and simple work. I wasn't allowed to bring anything home that I might have wanted because of the regulations placed on our farm. Everything had to be weighed, documented, and certified by government officials who would stop in intermittently to make sure that absolutely no food scraps ended up being illegally discarded. Those were the worst days to work.

I'll never complain about my work or my life, but I wonder what it was like before the droughts. I wonder what a wheat farm looked like when we were allowed to grow just one crop on an entire plot of land. I'm sure it was beautiful in the sun. I wonder what it was like to eat when I wanted to instead of not eating for a day because food had gotten too expensive for my poor parents and our garden wasn't doing well or having to eat enough for two people because we accidentally bought too much. I don't think I'll ever go hungry, but the past couldn't plan for the droughts in the past, and I don't know how to plan for something like that to happen in the future.

Citizen 3:

It is the year 2040 and it has been eighteen years since the end of the devastating three-year drought that rocked the entire country of the United States of America. The drought, even though some were able to avoid the effects due to use of sustainable technologies or

access to aquifers, shocked the entire culture of the country, this led to a massive call for better water practices and use. The first result of this was that there was a cease to the use of most industrial farming practices. This came as a result of findings that pointed towards the incredible amount of water needed to upkeep these farming techniques of the early two thousands as the reason for the drought. The largest issue of water use in industrial farming was created due to how the crops were being chemically manufactured so that they would produce more, however they were commonly less nutritious, and would require much more fertilizer and water to upkeep. Another reasoning for this was the industrial use of mono-crop agriculture, in which a plot of land only grows a single crop, which would deny it many of its needed nutrients, eventually leading to an environmental catastrophe. This replicates the Dust Bowl that occurred from 1930 to 1936 throughout the southern plains of the United States, causing farmers to revolt in incredibly large amounts due to the deplorable conditions that they faced without much aid. Along with a care for the conservation of water, the drought also led to a lot more knowledge and interest in the conservation of food, as it became an incredibly important aspect of life throughout its duration to make sure that you never wasted food due to its inflated price. Due to this change in cultural attitude towards food conservation along with protests which broke out throughout the drought, and even after, laws were quickly enacted which made it federally illegal to waste food. This had several consequences, including a further derailment from industrial farming, as it is so hard to achieve without waste. So once industrial farming practices were cut out of the equation there needed to be a replacement. The solution came that each household would have its own personal farm to grow fresh vegetables for the year. This would not only cut down on the harmful industrial farming practices, but would also make it so that the fruit that is eaten in the U.S. is much fresher. This would be true because families would again be getting it from their backyard instead of their food being transported across the country from a large industrial farm. Along with this change came a large movement to make sure that the farms that were popping up in everyone's houses, and along the rooftops of cities, were properly regulated and cared for. This led to large increases in both private composting for larger properties, as well as large municipal composting centers to make sure that any potential food waste could instead be composted and used again. While this had a huge impact on industrial farming, and the lives of those who were gaining wealth due to these practices, these changes had a much less harmful affect for all of us citizens, who were not benefiting from these practices, but were rather being exploited by them (either through our loss of nutrients in our food, or the fact that they were damaging the land for their gain (their being industrial farming)). For us these changes resulted in a much better lifestyle, as we began to get our food from much closer at home, fresh fruit from our backyard, or from the roofs if you lived in a city, as well as fresh meat from more local farms. This meant that we began to receive more nutritious, wholesome food, with the only true downside being that each citizen would have to learn to deal with imperfections in their food, as in the early 20th century we had begun to see food as 'bad' if it looked imperfect, and would then be thrown away. This contradicted reality because most food, which is not genetically modified, does not turn out perfect, not each carrot is straight, and not each apple is perfectly red. The only negative impact that could be perceived would be that of the policing of these new laws. For each citizen these laws mean that we must document our personal farms annual growth, as well as the annual use and production of any

composting pile which I would have active. Along with personal care, when living in a city each member of the community/apartment that wants fresh vegetable must work a quota on the rooftop farms. This has been seen by some as a violation of human rights, however in the wake of the drought there was such an increase in care about having local food growth that the overwhelming culture supported these farms. By this I mean that the general feeling of the people of the United States has changed so that most people do not mind this small quota of work in exchange for a system of fresh food that everyone can participate in. There are a few other previously unmentioned affect which the people of 2040 must deal with each day, but as with these other effects, the change in culture brought on by the 2019 drought made it way less important of a problem than it would have been for those living before the drought. The first effect I should mention is that food prices are higher than they used to be before the drought. This is a relatively easy change to deal with because ever since the drought due to food becoming more nutritious, and a general cultural change of attitude. The fact that food waste has been banned, along with the general attitude change to stopping food waste, has made it so that you don't need to spend nearly as much food. This is true because you actually eat a much higher percentage of the food which you purchase instead of buying a ton of unneeded food and only eating a percentage of it. Along with this the food which we eat is much more nutritious due to the use of small nearby farms instead of industrial farming and genetic modification. This makes it so that we need even less food because all of the food which we eat would be much more nutritious and filling. Overall this makes it so that even though the food that we are buying is more expensive, this does not take a toll on our income as we are using less food by avoiding waste and less-nutritious foods. There are also several other small, almost non-factors, that have changed in our lives, for instance, when grocery shopping, the amount of food we buy is naturally recorded by the register as you purchase. This gives information which can be compared to what is recorded when you either drop off food at a municipal composting center, or through your records of your own composting. Again while some see this as an intrusion onto basic human rights, the culture of our day an age accounts for the fact that this world is not perfect and there are some concessions that you must make to ensure that everyone abides by the laws that are put in place to ensure that humans interact well with their environment and ensure that humanity is able to survive on this planet.

Citizen 4:

As a citizen living in 2040, it is illegal for me or any other person to throw out food in the trash. Ever since the great drought that forced society to modify and rethink our understanding of and relationship to food, laws and systems have been changed that eliminate food waste and restructure farming and food consumption. Because I've been alive since the late 1900s, it was a significant adjustment that I and my family, and every for that matter, had to make when the laws changed. We went from virtually no regulation around food production, consumption, and waste to a very structured system that now guides most of our food-surrounding behavior. Back before the drought and ensuing changes, I didn't think much about the food I was buying and eating or how much of it was really ending up in the trash. The new composting system we are all mandated to use has made me realize the quantity of food that I don't end up eating, but

having to still not compost too much makes me realize it even more. Before all the changes, my everyday decisions about grocery shopping, eating, and throwing out food were entirely up to me and I didn't give them much thought, but now I have to be careful and calculated about those choices in order to fit the expectations of the new system.

Composting has been relatively easy to do, I compost my food the way I recycle my paper and after enough time it has become a natural and automatic action to appropriately sort my waste. The garbage truck collects my compost weekly so I don't really have to think about it, but it is definitely challenging to not exceed the maximum food waste limits. Because our compost is weighed based on family size, I have to make sure that my family either does not buy too much, or is careful and sure to eat everything we can. I recognize the necessity of carefully producing, eating, and disposing of food, but it is hard for me to always be so calculated with my food decisions, especially when I remember how free and unstructured our food system used to be. My family, like most, has a small garden on our property that provides us with a good amount of food in the growing season, but I do miss the food options we used to have. It is healthier for my family and the environment to eat food that is locally grown, but it limits our options and I can't help but wish I could still have exotic fruit and out-of-season produce. Over time I have definitely adjusted to the less diverse food options, but it is hard to not wish for the past.

My life is certainly different than it was before the drought, considering how much the American food system has changed. Since 2018, we have gone from wasting 40% of the food in the country to approximately zero. Although there are many things that make buying and eating food much less convenient now, the agricultural production system is certainly more sustainable and the elimination of food waste has been extremely beneficial to the environment. In a way, it is crazy to me that we ever wasted food in the ways that we did. Our household garden, community farms, and imports (when necessary) do provide all of the food we need, even if the options aren't as diverse and physically perfect as they were in the past. The way the systems have changed makes food a little bit more calculated, but the changes do work to shape our eating habits in a way that eliminates food waste and ensures sustainable agricultural practices.

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