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France, Food Waste

### **Fixing Food Waste in France**

At first glance, France appears to be one of the least qualified candidates for a country being considered food insecure. Given its exceptional multitude and variety of unique and exotic food products, from wine and cheese to bread and cake, it's hard to believe that anyone has an issue getting enough to eat. However, this is unfortunately the case for 8 million of France's people ("Elie 2021"). The primary issue with this situation is not just that those 8 million people are unfamiliar with food security, but also the fact that despite France being a highly developed land of plenty, the "plenty" is being wasted. Fortunately, a solution to this problem can be found through cooperation with French startups and the French government.

The country of France is a European country located south of the United Kingdom, and northeast of Spain. It has a total population of over 65 million people ("Worldometer 2023"). 18.76% of this population is rural, with the remaining 81.24% being urban ("Crop Trust 2023"). Despite the rural population being less than 1/5 of the total, over half of the land in France is farmland, with 52% of its earth being arable and used to grow sugar beet, wheat, maize, barley and potatoes ("Crop Trust 2023"). These crops are grown on farms that average 69 hectares in size. This is about the size of 129 football fields ("Census | Reuters 2021"). The climate of France is optimal to support such a substantial quantity of agricultural land. France's climate varies slightly depending on the area; west and north France have mild summers and cool winters, while southern France experiences hot summers and mild winters ("CountryReports 2023").

The typical family of France is small, with the average size being only 2.18 people in 2021 ("GlobalData 2021"). The average size of the house that a family lives in is 1206 sq feet ("Wilson 2022"). Nearly all houses are equipped with water and utilities. Families have little to worry about in the name of health care and education, since healthcare is provided universally ("France Health System Information 2023") and most forms of common education are paid for by the state ("Expatica"). The French diet is made up of dairy products such as cheese, yogurt and butter. Fruits, vegetables and meat are also a cornerstone of French foods. French people fortunate enough to be food secure are able to acquire their food from supermarkets, and employ several unique cooking methods.

Despite its developed status, France still has the problem of food waste. 10 million tonnes of food is wasted per year ("Cullen 2022"). Unfortunately, it is predicted that the wasting of food will only grow by the year 2030 ("Why Is Food Waste Increasing 2022?"). A number of factors contribute to this trend, such as equipment malfunction and the culling of damaged produce. Additional factors include over buying/cooking food, and poor portion control ("USDA 2023"). The result of this trend has an effect that reaches urban and rural populations alike, and that is that every pound of food that is wasted could have been used to feed someone food insecure in either of those settings. Marginalized populations, such as France's 330,000 homeless people, are in just as poor of a state because they are the first who could make

use of wasted food (“Euronews 2023”). Food waste also has an extremely detrimental environmental and financial impact. Fifteen million tons of CO<sub>2</sub> are emitted in France from food wasted in a year, which accounts for over 3% of the total emissions of the country (“Lemos 2019”), and €16 billion per year is lost from the production of wasted food (“Food Loss and Waste 2021”). This is equal to 17.3 billion USD.

France has made a tremendous effort to reduce food waste so far through passing new laws that crack down on food retail businesses. In 2012, France introduced and passed the Waste Management Enforcement Law. This law regulates the amount of organic waste sent to landfills, and requires private sector companies that produce more than 120 tons per year to recycle their organic waste (IVANOVA 2020). In 2016, France passed a law that banned supermarkets from discarding food that was of good, consumable quality but approaching its “best before” date. It also forced supermarkets to partner with food charities and donate any unsold food products to them instead of discarding them (“Marandi 2019”). As of January 1st, 2024, a new law coming into effect states that all French residents must either possess a compost bin in their households, or discard any bio-waste they possess into bins made available to them by municipal authorities (“World Today 2022”). While these plans are certainly steps in the right direction, more could be done to decrease food waste further through the many startups France is home to, such as Les Alchimistes, OuiCompost, Green Phoenix, BicyCompost, and BinHappy (“Bucak 2023”). These startups vary in size and efficiency. For example, Les Alchimistes collects 12,000 tons of biodegradable waste in a year, possesses 10 composting plants and operates in 13 cities, is considerably larger than ones like Green Phoenix, which only collects 520 tons of waste per year and is limited to the city of Strasbourg (“Bucak 2023”).

How can these startups be the key to solving food waste in France? The answer to this question can be found by examining a startup in Denmark called “Stop Spild Af Mad.” Stop Spild Af Mad has already reduced food waste in Denmark by a staggering 25% (“App to Fight Food Waste 2019”). The organization accomplished this through over 200 projects and collaboration with local organizations, the Danish government and the EU (“Our Projects 2023”). I believe that, in order for France to have the same results, they must do the same thing. The startups alone cannot accomplish what they could if they collaborated with the French government, just as Stop Spild Af Mad couldn’t have accomplished what they have without collaboration with the Danish government. So, to ensure a dramatic drop in food waste, 3 major steps must be taken. First, France’s startups must unite into one large organization instead of several smaller ones. Second, this large organization must establish collaboration with the French Ministry of Agriculture, so that they will be better equipped and able to create and manage larger, more effective projects outside of waste collection. Third, after collaborating with the French government, they should then begin projects that involve collaborating with the EU.

The first step would be getting all of the startups to merge into one, as this would create a unified organization that could function more efficiently, and have a wider area that they could provide their services to. For this to occur, collaboration between the startups would need to take place. This would be challenging, because the startups are located all across France. However, larger startups like Les Alchimistes are active in 13 cities across France, meaning they would be able to start a collaborative effort with the smaller startups much easier. (“Bucak 2023”). I believe that early on, the best course of action would be for Les Alchimistes to collaborate with a startup that is nearest to one of its main cities of operation. A good example of this would be BinHappy, which is from Normandy working with the Les

Alchimistes members in Paris, France. Ideally, the plan would then be for the smaller startups involved in the collaborative effort to merge after the successful completion of a few collaborations together. If this were to succeed, several issues would be solved with a large scale plan such as this one. For example, the question of management. Out of the multiple startups that are active across France, Les Alchimistes is by far one of the largest. Therefore, upon the creation of a new organization that unites all the startups under one name, this group would handle “managing” the smaller ones. Second, the question of funding. Many of the small startup companies have their own ways to acquire the necessary funding to run. Green Phoenix charges a small amount of money for recycling passes and also charges based on bucket size. Large startups like Les Alchimistes also have the aid of investors (“Bucak 2023”). Combining the startups would mean having multiple points of income that would make for a very financially stable organization. Having the startups merge together would have another unique advantage: once it became large enough to successfully collaborate with the French government, the two groups working together would provide the best of both worlds for food waste collection. Each side has their own limitations, so having them collaborate means one could address the problems the other would face. For example, the large startup group would have the advantage of being able to handle civilian areas and businesses with ease that government municipalities might have trouble accessing or that they might overlook. These areas could include rural residential areas outside of the limits of French cities such as farms, small businesses, or small corporate businesses not covered by Frances passed legislation such as gas stations, movie theatres, or parks. On the other hand, the government could focus on areas that the startups are not able to reach, such as governmental buildings or industrial food production facilities. The government would also be much more efficient in handling urban areas, as they would be able to handle the large amount of people that the startup organization might otherwise be overwhelmed by.

The second step in the plan to reduce food waste in France would be to garner the attention of the French government, specifically the Ministry of Agriculture. This would prove to be just as difficult as the first step, because as of today, not all of the authorities in France are willing to work with startups, though a few select ones have (“Bucak 2023”). For example, Les Alchimistes managed to gain permission to collect waste from areas deemed “professional sites” (“Bucak 2023”). Unfortunately, this is not the case for many of the other startups, as the government of France and its local authorities often prefer to do it themselves (“Bucak 2023”). There are a few reasons as to why the government would be against supporting these startups, such as a misunderstanding between the two entities on how the other functions, or what is considered a “success” between the two (Garrity 2022). For the startups in France, it's likely that the latter is the case. The French government may not be aware of how similar the startups are to what they plan to do, which would lead them to be more inclined to do it themselves instead of accepting the help of startups. It's also likely that the government may believe that enlisting the help of startups may not have enough of an impact to make it worth the process of doing so, or that the startups simply cannot contribute enough compared to a widespread, large-scale operation. Simply put, the government might believe that they are too small to help.

To have a truly significant effect on food waste like Denmark did, all of the startups need government support and approval. In order to acquire this support from the French government, the startups need the support of the public. If the public is willing to support the startups, then it will be easier for them to get the support they need from the government, because they will have a louder voice as a whole. In order to get the public on the side of the startups, the startups would first have to educate the public on the

importance of what they do, why they need help to do it, and the significance of going the extra mile and getting involved. The best way to do this would be to use the media to their advantage, which could be done in a number of ways. Startups could create posts about how reducing food waste benefits everyone, including those who are utilizing the startups. They could educate people by posting about the impact food waste has, which would increase the drive of citizens to do their part. They could also encourage people to choose to work for the startups, which would increase public involvement even more, and have the added benefit of further increasing the manpower of the startups. The media could even play a key role in establishing contact with the French MoA, as leaders of the startups could use the media to reach out to political leaders directly and earn their support. Startups could also contact French officials and explain how they operate, which might help the government see how similar their goals are, further making them more inclined to lend aid to the startups. Startups could also win the support of the public by increasing the variety in the ways they collect waste. They need to put themselves out there into the public instead of relying on just a monthly collection bin. I believe that an excellent idea would be for the startups to begin by being designated waste collectors at large public events such as concerts/musicals, conventions, charity/fundraising events, fairs, or holiday celebration events. This would get their name out there much more than it currently is, and put them in a position where they could get the attention of the right people who could provide further connections and support to their cause. With enough time, perseverance from the startups, and encouragement from the public, I believe the French government would be more than willing to work together on large scale projects and provide additional resources and support to the startups.

Finally, once the new organization is able to accomplish steps one and two, they would be of sufficient size and influence to reach out to the European Union. Reaching out to the European Union would result in a multitude of benefits, the most important being new ways of fighting food waste. I believe that, were the startups in France ever able to reach a point where EU collaboration is possible, they would have a wealth of new knowledge acquired along the way on how to be organized and efficient with startups that they could share. This would inspire other industrialized countries in Europe to start or improve their own startup organizations and work with their respective governments. They could also share what efforts France has taken and begin trying to make that happen in other European countries. It would be incredibly beneficial if they were able to contact Stop Spild Af Mad, as they would undoubtedly be able to lend knowledge and support to France that could propel their understanding of reducing food waste ahead by a very significant amount of time.

The issue of food waste in France can ultimately be solved by the collaboration of startups and the French government. As of today, the division of these two entities is limiting what could be done to solve food waste and food insecurity in France. By bringing the two together, more projects covering a wider area that would have a greater impact on food waste would be possible, and food waste in France would become a thing of the past.

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