

Turning food “waste” into a commons

The case of Foodsharing (Germany) and Solidarity Fridge (Sweden)

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Abstract

Is it possible to reduce food waste on the final stages of the supply chain by turning the unsold surplus into a commons, managed by and for a community? What does it take to turn this food excess into a shared resource? The paper explores these questions by making an in-depth qualitative analysis of two case studies: Foodsharing in Germany and Solidarity Fridge in Sweden. The cases show that there are some clear characteristics similar to the governance of other common-pool resources, but also that the commons approach to reducing food waste finds itself in a legal gray zone and is dependent to a great extent on other market players. The paper also highlights the importance of digital tools and sharing of knowledge in allowing this model be scalable and widespread.

Introduction

The figures on global food waste are staggering. Roughly one third of the food produced for human consumption gets lost or wasted, corresponding to approximately 1.3 billion tonnes a year (FAO 2011). In Europe only, waste is approximately 40% of the food produced, still according to FAO’s report. Furthermore, if represented as a country, food waste would be among the top greenhouse gas emitters, only after China and the USA (FAO 2013).

This problem occurs in different stages of the food supply chain and it correlates to socio-economic differences between countries. In affluent societies, for example, food waste happens mainly at the end of food supply chain – in distribution, retail and in final consumption (Griffin, Sobal and Lyson 2009, Parfitt et al. 2010, FAO 2011). At these stages, a number of different measures to curb food waste have been studied, such as social supermarkets (Holweg and Lienbacher 2011), food banks (Cicatiello et al. 2016), and new business models in the so-called sharing economy (Michelini et. al 2016). Although there are studies dedicated to creating a typology of the different ideas out there to reduce food waste, from more profit-oriented social enterprises to non-profit charities (Holweg et. al 2010, Michelini et. al 2016), there is no in-depth qualitative analysis of any model in which food excess is managed by and for a community. In fact, models that are more akin to the commons way of organizing and managing a shared resource are not even recognized as such. There seems to be an unrealized, taken-for-granted, or perhaps even ideological acceptance in academia that food is a private good (Vivero-Pol 2017). It is not surprising then that,

by consequence, this view also spills over to food excess, which is assumed to become either waste, a cheap commodity or a donation for charity.

Thus the aim of this paper is to explore the question of whether there is a commons approach to reducing food waste, by making a qualitative assessment based on the case studies of Foodsharing in Germany and Solidarity Fridge in Sweden. After the section about the overview of the case studies, we analyze their institutions of governance, rules for collective action and conditions for building community. Thereafter, three themes that are intimately related to the process of commoning will be explored: First, the relationship of this model with authorities and regulations; second, the relationship with markets; and finally, the role played by digital tools and knowledge sharing.

Food “waste” as a commons?

There is a particularity about food excess – or waste, from the perspective of some market actors – that makes it differ from any of the traditional resources that have been studied as commons. Contrary to common-pool resources like pastures or irrigation systems, food waste is not a resource itself that communities are interested in keeping and reproducing. Food waste needs to be reduced. It is important to note the difference between *waste* and *excess* (or surplus), for the idea of turning food “waste” into a commons is conceptually incorrect (hence the quotation marks), since this paper is actually referring to the social practices of turning food *excess* into a shared resource, before it becomes waste. Therefore the reference to waste is meant to highlight that there might be a commons model for dealing with food surplus in order to reduce waste, in clear qualitative contrast to other ways of reducing waste (commercial or charity solutions). The argument made here is that, like any other type of commons, groups can successfully manage the food surplus by setting up their own rules and self-organize in order to turn this surplus into a shared resource.

Limits of the study

The scope of this study is limited in a number of ways: first, it portrays a context of affluent societies, more specifically North European. Second, it covers specifically the last steps of the supply chain, consumer, retail and partly wholesale. The case studies tackle food waste by sharing between peers (“consumers”), by saving food from retail shops, supermarkets, bakeries, etc. and in a much lesser scale by saving food from wholesale. Third, the qualitative analysis presented here is

about one model – the sharing and commons economy – among others, such as conventional charities, food banks and business ideas, that are also being applied to reduce food waste in this particular point of the supply chain.

Methods

Different approaches were used for each case study. In order to obtain information on Foodsharing I relied extensively on online documentation, particularly Foodsharing's wiki (wiki.foodsharing.de), which has been a rich source of information, as well as their platform (foodsharing.de) and other forums related to food saving internationally (<https://yunity.atlassian.net/wiki/spaces/FSINT>). The abundant information on their wiki is a reflection of an important value in their organization, about sharing food *and* knowledge, treating the latter as a commons as well, a pre-condition on making this model for saving food work on a larger scale (more on that later). Obviously, there is always the risk that information on the wiki is either outdated or that it reflects the theory but not the actual practice. I have cross-checked information with the interviews and conversations that I conducted online with people active in Foodsharing and who have or have had different levels of participation and engagement: foodsavers, ambassadors and people from the organization team connected to the formal association. Due to limited financing and lack of institutional support as an independent researcher, I could not gather on-site data, apart from an introduction tour to Foodsharing in 2015¹, nor have I been able to do any kind of ethnographic research.

The case of Solidarity Fridge was based on participant observation in which the author is much closer to one extreme of the spectrum of being a complete participant, rather than a complete observer (Gold 1958). Having an insider's position and a practitioner's perspective in a grassroots movement comes with both advantages and limitations that need to be addressed (Uldam and McCurdy 2013). Whereas my position gives me access to privileged information and trust between my peers, there is also a risk of being biased on my interpretation and uncritical towards the movement. Therefore we need a full disclosure of my motivations and role in this project, for the reader to be aware and even critical of points that I might take for granted.

After I was introduced to Foodsharing I thought it would be an interesting experiment to try and start something similar in the city where I live. Beyond my curiosity, I consider myself an activist that hates the idea of food being waste on such a large scale. During this whole year since

1 The tour was part of a conference in Solidarity Economy in Berlin, 2015 (<http://solikon2015.de/de/foodsharing-fairteiler-tour-0>), and consisted of visiting different fair share points in the city and accompanying a foodsaver who collected food at a store.

we kicked off by putting up the first fridge and share point I have been intrigued not only by the challenge of reducing food waste, but by the very research question that led me to write this paper: how to build and organize a community that saves and shares the food that would have been thrown away. Therefore all the material presented here about the Solidarity Fridge project is based on a first-hand experience in taking an active role and facing the challenges and difficulties that a project like this entails.

Overview of case studies

Foodsharing Germany

The history of what is known today as Foodsharing in Germany and in other German-speaking countries is quite complex to be told here, so I will highlight the points that are relevant and connected to the themes discussed here. The non-profit association that launched in 2012 the first version of the platform foodsharing.de started almost in parallel as the grassroots movement in Germany bearing a different name, *Lebensmittelretten*, or “food saving”, in a direct translation. One of the founders of the latter, Raphael Fellmer, got some media attention for living in a money strike as a form of protest against injustice, hunger and environmental destruction, during which he got food for his family by dumpster-diving. Dumpster-diving consists of collecting food, discarded by supermarket, bakeries and food shops, from containers and trash bins. This is not a very uncommon practice in Western affluent societies and people do it for a wide number of reasons – for saving money, as a form anti-consumerism, as a statement against waste, etc. – some of which overlaps with the reasons why people participate in what later became known as Foodsharing in Germany (Rosembach and Bitsch 2015). Fellmer started saving food on a bigger scale when he contacted the CEO of the supermarket chain Bio Company and struck a deal to reduce waste. Instead of throwing away food that could not be sold, the Bio Company donated to a group of volunteers in the cities of Berlin and Hamburg who would collect and share this surplus food. An opportunity to spread the saving food movement nationwide appeared with the launch of the foodsharing platform and the development of digital tools to coordinate the work of the volunteers, so-called foodsavers. *Lebensmittelretten* and the platform Foodsharing merged in 2014, after the organization team of the former and the board of the latter reached a consensus on using as little money and bureaucracy as possible, in the common goal of drastically reducing food waste.

Nowadays, the bulk of the Foodsharing activities consists of the following: volunteers collect the food at cooperating stores, and the food is either brought to a fair share point, a fridge and/or a pantry that are usually open to the public, or the food collected is consumed by the

foodsavers themselves, given away to friends, family, neighbors or charities. It does not matter much who gets the food surplus. What matters is that food is “saved”, that is, consumed instead of being wasted. There is also the possibility of sharing food as a private person, either by leaving your leftovers at a fair share point, or by announcing it at their website, as a food “basket”. At the moment of writing, Foodsharing has saved more than 9133 tons from the trash, with 26299 registered foodsavers, 3521 cooperating shops and almost 620000 foodsaving occasions (pickups).

Solidarity Fridge in Gothenburg, Sweden

The initiative Solidarity Fridge (hereafter “Solikyl”, abbreviation in Swedish and nickname for solidarity fridge) in Gothenburg started undeniably because of Foodsharing in Germany. Nothing similar had ever existed here, to the best of my knowledge, and from my experience as a dumpster-diver, aware of the number of people practicing it here (Facebook groups with thousands of members), I was surprised that no one had ever thought of organizing such a thing in the city. Things started when I contacted an acquaintance of mine who knew the place for the first solidarity fridge, or food sharing point, and after started promoting the idea through Facebook, a website and on small conferences. The place, called Transition Workshop, hosts other like-minded initiatives, such as a community-run and DIY bike repair workshop and a Hackerspace. I describe the it because it was relevant in two aspects: in the process of building community, that is, attracting people interested in the idea of saving and sharing food; and the fact that this place was more willing to take any risks related to food safety regulations in a space open to the public, an aspect concerning relations with the authorities that will be discussed ahead.

At the beginning we did not have partnerships with any shop, so the fridge was mainly filled sporadically by dumpster-divers, until our very first foodsaver, a guy working at a medium-sized supermarket, heard about the initiative and managed to convince his boss to donate food to us. We started rescuing large amounts of bread and after some months we were filling the fridge with all sorts of food: fruits, vegetables, meat, dairy, processed, etc. The right precautions were taken in sorting food correctly, like throwing away immediately anything past the last expiry date, keeping edibles that passed the “best before” date and simply making visual assessment of fruits and vegetables. At the moment we have four solidarity fridges spread around the city, including one at a city library, although the few partnerships we have with a supermarket and a couple of coffee shops are concentrated in the region where the first fridge is, to where we deliver food regularly. Finding stores willing to cooperate has been one of the main challenges that I will describe in one of the following sections. At this stage, we are preparing the ground to scale up the food sharing model to

other neighborhoods, which includes preparing communication material for partnerships, building community by attracting engaged people, and setting up the appropriate digital tools to coordinate the work of foodsavers, an aspect that will be treated later.

Institutions of governance and rules for collective action

What are the institutions of governance in Foodsharing and Solikyl? What are the rules established by its community and possible sanctions when a participating member breaks one of these rules? What does it take to build a food saving and sharing community? These are some of the questions that need to be examined in order to determine if – but more importantly how – it is possible that excess food is turned into a common resource instead of being thrown away. Particularly in Foodsharing's case, we can observe that the complex set of institutions and rules developed during the last years do follow many, if not all, of the basic design principles for successful governance of a common-pool resource identified by Elinor Ostrom (1990). There are rules governing the use of collective goods, some well defined group boundaries, monitoring of behavior by community members and a graduated system of sanctions. The case of Solikyl, because of its small scale and for being a project in its infancy, has not developed explicit rules and institutions, but rather implicit rules and tacit knowledge. Solikyl will be interesting to our analysis later in order to explore more closely the question of community-building.

The group boundaries defined by Foodsharing do not concern so much the access to rescued food after it is delivered to a share point or announced by an individual on the platform for peer-to-peer sharing. Rather, boundaries (or filters) to participate are set to determine who may collect food at cooperating stores (foodsavers), who manages a partnership with a store, guaranteeing regular pickups and solving eventual problems (store coordinators), and who is able to officially represent Foodsharing at a specific region or city, organize meetings, verify new foodsavers and try to find new partnerships (ambassadors). These are different formal roles within the organization that imply different levels of engagement and responsibility, roles that can be achieved or taken by actively participating in Foodsharing's activities and by demonstrating that one has the knowledge and shares the basic values of Foodsharing. A quiz was implemented in order to determine whether a person is informed enough – one can access documentation on their wiki to prepare for the quiz – about the basic rules, values and code of conduct for taking one of these roles. One basic and crucial rule is that selling the food is strictly forbidden, so to become a foodsaver, for example, one would be asked during the quiz about what kind of exceptional situations the use of money is acceptable, how to behave in a store during a pickup, and so on. Besides the quiz, a foodsaver is required to do

three trial pickups on a store before she is formally recognized as such by the ambassador of the region, which gives the foodsaver access to other forums in the platform and the schedule where the foodsaver can self-assign the pickup dates and times.

Foodsharing has also developed a whole procedure for verifying misconduct and applying graduated sanctions². Violation of rules and code of conduct, such as being late or not showing up at all for a pickup, acting disrespectfully or selling food, can be notified at the platform and will be sanctioned accordingly. The person who shows up late for a pickup at a store, for example, will get a warning the second time and a temporary exclusion in the third time, but only if repeated within a period of 8 weeks. More seriously, if someone sells the food, this person will be temporarily excluded the first time and permanently excluded the second. An ambassador can decide upon taking actions against this kind of unruly conduct, as it occurred in one example (interview) about foodsavers who were “kicked out” because they took the food to sell at a football match.

As an organization, Foodsharing is quite dynamic and not bureaucratic at all. Local groups enjoy a relative freedom in how to organize, as long as they follow this framework and set of basic rules that evolved together with the organization, allowing collective action on how to manage a shared resource on a quite large scale (see section on digital tools).

2 <https://wiki.foodsharing.de/Versto%C3%9F>

FOODSHARING.DE's INTERNAL STRUCTURE

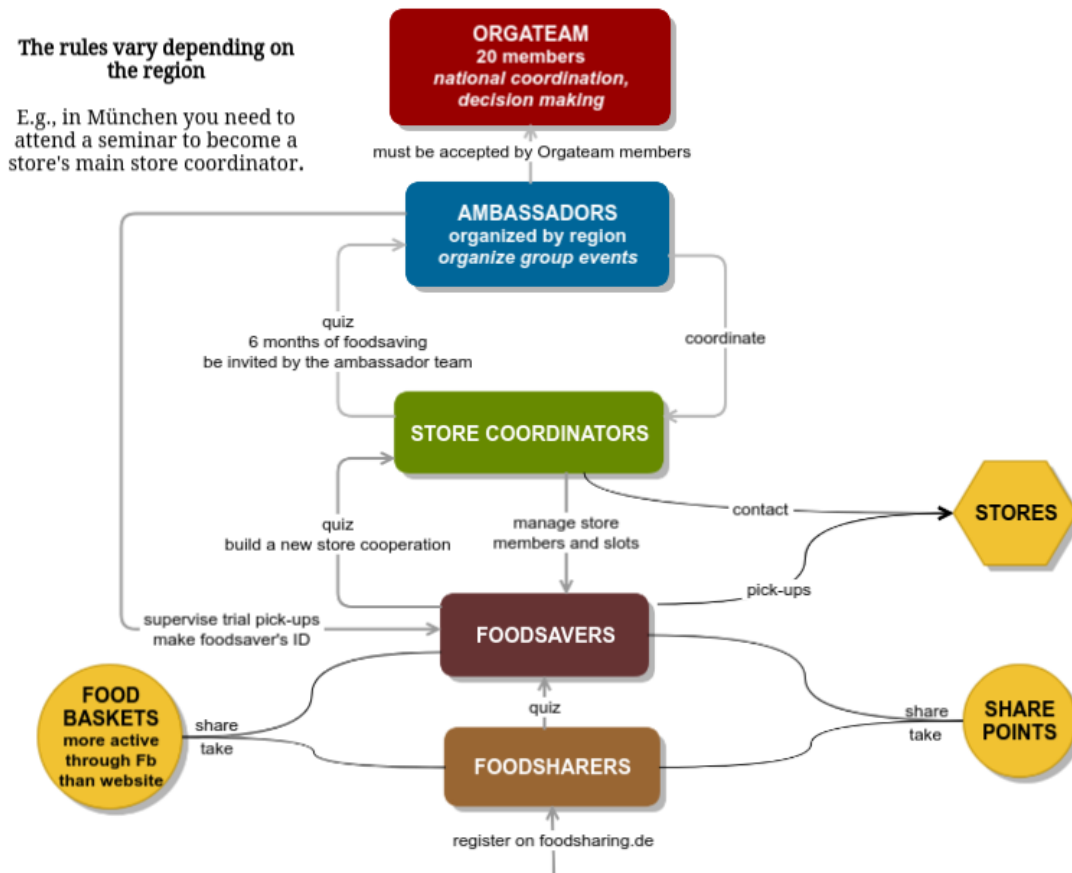


Illustration 1: Source:

<https://yunity.atlassian.net/wiki/display/FSINT/Internal+structure+diagrams>

In Solikyl's case there are so far only tacit rules on behavior, since we are still quite a small group of people – 4 to 7 actively engaged in the core group and around 20 foodsavers – who share the basic values on how the project works. Therefore it is not hard to observe and monitor behavior between foodsavers, who know the routines for saving food, how to behave in stores, etc. However, in order to find enough foodsavers who can pick up food on a regular basis at cooperating stores, we had to put an effort in informing the people coming to the fridge about how the project works. Food will not be delivered by itself if people do not participate, and sometimes this is not very clear in some people's minds. It has happened that Solikyl has been seen or treated as a regular service or charity. This was mostly evident on Facebook discussions, when some people started expecting notifications about when food was delivered, which fortunately turned into an opportunity to explain how the project works. This is part of a learning process that has also been pointed out by interviewees in Foodsharing, who view it as much more than saving food, but also as a “cultural

change”, “raising awareness”, “changing people’s attitudes”, etc. Observing people’s reactions on the Solidarity Fridge and this process of building community, one could say that its functioning and success is dependent on a shift from a passive consumer’s mentality into an active member and contributor of a community. Just as there is no commons without a community, there is no food being saved and shared without “foodsavers”.

Interactions with the State – a legal gray zone

The relationship between Foodsharing and authorities, according to interviewees, is usually positive. Reducing food waste (and waste in general) is, after all, one of the duties of city authorities. In Gothenburg, we experienced the same reaction from the little contact we had with some officials in the area. However, this new model for reducing food waste is sometimes placed in a legal gray zone regarding food safety regulations. Analyzing food safety regulations in relation to this model of sharing food makes an interesting case to reflect upon a possible mismatch between legislation and practices of commoning.

In 2016 Foodsharing had to close down two sharing points because of sanitary inspection by authorities (Veterinär- und Lebensmittel-Aufsicht) in Berlin, which required Foodsharing to follow the same requirements as companies in the food industry. According to these requirements, one person only should be there to check and control what is being put in and taken out of the fridge and donations should all be registered on a list. Non-compliance would imply a fine of 50000 Euros and the closing down of the fridge or the entire organization. Up to now these two specific share points remain closed and the case is still running. Foodsharing’s main argument is that fair share points are nothing more than exchange and sharing points between private persons, for domestic uses, in which case EU Regulation (178/2002) about general principles and requirements of food law and procedures in food safety would not apply. The legal argument by Foodsharing is that it should not be classified as a food business operator, by referring to EC 852/2004, which states that rules “should apply only to undertakings, the concept of which implies a certain continuity of activities and a certain degree of organization”.

In fact, the whole question of liability (in the hypothetical case that someone would get food poisoning, for example, and file a lawsuit against Foodsharing) has triggered a reaction from the Foodsharing’s board to safeguard its association, and in April 2017 they sent out the following recommendation to foodsavers:

“[...] To ease this not yet legally clarified situation in our everyday work and to aim at improved security the foodsharing e.V. therefore suggests the intentional founding of local independent non-profit associations, either as membership associations of individuals or as incorporated societies. The foodsharing e.V. (future Bundesverband), licensor, will support you in the area of consulting, sample articles and legal opinions. [...]” (Foodsharing, 2017)

This statement reveals one of the main challenges of working with a more or less decentralized structure, where the actions of local groups may impact legally the people that are directly connected to the registered Foodsharing association, or that may damage the Foodsharing “brand” and concept as a whole.

Not surprisingly (because of EU regulation), in Gothenburg we experienced the same legal gray zone. However, there has been no threat to the project and the question is not as pressing as in the German case, due to the small size of our project. When in contact with authorities, one of the main questions revolved around the degree of organization and continuity of activities in Solikyl’s case, in order to determine whether or not it should be classified as a food business operator, and therefore if legislation on food safety and hygiene would be applicable to Solikyl or not. Since we are still a very small initiative, having only a few sharing points around town and just one big partnership providing food to one of these sharing points, there is no need to register with local authorities as a food business operator. Note that the legal form of the organization, whether non-profit or private company, would be irrelevant in this assessment.

However, the answer we got from the chief of food inspection from Gothenburg’s environmental administration is noteworthy: “If there were to be many fridges, one would need to set up a service to go around and clean up the fridges. Then we [the city’s environmental administration, together with Sweden’s National Food Agency] would assess that this is a food business operator that needs to be registered” [my translation]. This is exactly *not* the way we intend to grow our project, that is, by becoming an organization that could perform this kind of task, nor do we think it is feasible. If Solikyl were to grow, we strive for doing it in the most possible decentralized way, by enabling and empowering local groups to do the work of saving and sharing food, including the maintenance of basic hygienic standards. If this will ever happen and how it will turn out, if we would have similar challenges as in the German case, is yet too soon to be told.

The fact that this kind of undertaking is in a legal gray zone may serve us as a reflection on about what kind of social relations this legislation is supposed to regulate and what kind of actors they are aimed at. Regulations on food safety and hygiene are very much based on a juridical

paradigm of enforcing measures to protect the interests of consumers and the health of the population in general against possible misconduct and abuses by businesses. Besides the obvious need to establish and inform best practices to maintain food quality, regulations are needed because there is no built-in incentives in profit-seeking actors (other than potential damage to the image of a brand) to be transparent about the food being sold and the measures to keep its quality. In the commons paradigm, on the other hand, the community is usually able to establish and monitor its own routines, enforce its own rules and to look after its own health, as both case studies have shown. There has been so far no known and documented case of food poisoning related to Foodsharing or Solikyl, which certainly does not mean that some unheard-of cases might actually have happened, but rather that in this hypothetical case, no one felt compelled to accuse those who they see as their peers or make their case known to the public. As one foodsaver put to me: “people should check their own food [when they take it from sharing points]”, so there is an expectation that this is actually done, besides the guideline on share points (both in the case of Foodsharing and Solikyl). Overall, the lack complaints during these years mean that the basic hygienic routines and controls by the community of savers and shares work well.

Interactions with the market – avoiding commodification (and maybe money)

Food waste is a byproduct dependent to a great extent on the excess that is not absorbed by demand in the market. Part of this waste is in fact due to the food market itself, how it is structured, its standards and workings. Ugly vegetables do not sell well, shelves full of new products sell much better than products that had passed the “best before” date, damaged packaging and overstocking are all some of the well-known reasons why food goes to waste (Parfitt et al., 2010; Stuart, 2009). That does not mean, however, that food excess, at any point in the supply chain, could not possibly have a market value for other actors. Indeed, there is a number of business models, like social supermarkets (Holweg and Lienbacher, 2011), that either make the food excess into a cheap commodity and target poorer consumers, or smartphone apps that try to match consumers and business (usually restaurants) selling surplus food with heavily discounted prices.

However, the model chosen by Foodsharing and Solikyl implies that excess food should be freely distributed. Preventing food surplus from becoming a cheap commodity requires work, first in order to get it donated and second to keep it from being sold after collected. Let’s start with the latter. Foodsharing, as noted above, has a strict policy against selling the food, and sets guidelines on generally avoiding the use of money. There are exceptions, for example, when a foodsaver needs to pay a deposit for bottles and containers at stores. Whenever there is a specific need, the rule of

thumb is to seek donations in kind. This is how Foodsharing has been able to cover its fixed costs. To give a couple of examples, servers and publicity material were covered with the support of web hosts and a printing house. All the work has been done on a voluntary basis, except for one part-time job of programming within the association.

One can understand this resistance to deal with money, not only by referring to the anti-consumerist values of participants in this movement (Rombasch and Bitsch 2015), but also by noticing the issue with making a business idea out of saving food, even when the business gives away the food for free. In Gothenburg, for example, we are aware of all the other organizations working with food waste, and one of the biggest players in this field is a company that collects food waste at supermarkets to distribute it to charities. The food is free for the receiving organizations and what the company sells to supermarkets is the image of goodwill plus “garbage” collection. Thus it can be argued that this kind of business “depends on waste to grow” in order to thrive, as it was put by one foodsaver and ambassador of Foodsharing when asked about commercial approaches to reduce food waste. Avoiding money therefore is also a way to avoid any kind of commodification related to the activity of saving food. Although in the case of Solikyl we do not take such a firm stance against the use of money, which could eventually cover some costs for expanding our idea, we have managed so far to do what we do by receiving donations in kind only, with a budget close to zero. Adopting a business plan would turn the whole idea upside down.

Nonetheless, even if there is a tendency to avoid commercialization, commodification and market exchanges, this model of commoning to reduce food waste is still very much dependent on market players in order to have access to food surplus. An important factor in why Foodsharing was able to grow has been the initial cooperation with Bio Company, but the movement has always had an easier time in establishing cooperation with smaller shops. The difficulty with big supermarket chains was experienced first hand here in Sweden. Even though there could be an incentive for stores to start a partnership because it would reduce their costs with garbage, many prefer to just ignore the problem, or to donate to established charities. Some of our attempts have resulted either in very poor excuses - “we don’t have any waste” - or in possibly real concerns, regarding food safety regulation and risks of liability. The latter issue has only been recently verified by us and the cooperating shops are not liable for food ending up in the “solidarity fridges”. However, there is still the whole issue about presenting them the idea of a community-managed system for saving food in a way that gives them confidence in what we do, while showing the advantages that could be gained, such as promoting the image of the shop, besides reducing garbage costs. A more favorable scenario to communities who would like to save food could be one similar to France,

where a law was passed last year obligating big supermarkets to donate unsold food to charities or for animal feed. However, the details on this law and its effects still require further research.

Achieving scale with digital tools and the information commons

The relative success and scale of Foodsharing would not be possible without the use of their platform and other digital tools. On the one hand, social networks like Facebook have played an important role in establishing the sense of community on a global scale, promoting the values and narratives on reducing food waste and sharing (Ganglbauer et al 2014). On the other hand, making the platform Foodsharing.de available to the German-speaking public has enabled people in different cities to start saving and sharing food, but it is important to note that the platform itself did not come before and unconnected to an already existing movement and community of foodsavers. In fact, the institutions and rules for the community's self-governance were co-created, and have co-evolved, with the platform, as pointed out before with the particular examples of the quiz and the access rights that are given to certain roles (foodsaver, ambassador, etc.). The structure of the platform reflects the structure of the community itself and its organization. Together with Foodsharing's wiki³ – the place to find all kind of relevant information about the organization, its history, values, codes of conduct, rules, current and past issues, materials for promotion, guidelines, etc. – these tools form part of a larger ecosystem of available knowledge and information that has enabled people to save and share food on a wider scale.

A special trait that differs knowledge from other resources is that it is non-rivalrous, that is, one person's use of the resource does not subtract from another person's use. However, knowledge and information can be considered a commons as long as it is actively protected and maintained from any sort of enclosure (Hess and Ostrom 2007). In this sense, the case of the Foodsharing platform is quite an interesting one. Although its source-code was never enclosed in the sense of being privatized, it has not been released to any open-source repository, for technical and language reasons (available only in German) which I did not have the time to investigate in-depth. Whatever the specific reasons, the fact that the platform was not open-sourced has made it a bit more complicated to expand the Foodsharing model beyond German-speaking borders. A group of enthusiastic people has been working on the internationalization of the model in a number of different ways, some of which include translating the wiki from German to English and developing the basic digital tool (foodsaving.world) for food saving in an open-source project. This tool has

3 <https://wiki.foodsharing.de/>

been either used or tested by other communities in France, Italy, the Netherlands, Spain and in Poland, but also by Solikyl in Gothenburg, in order to coordinate the work of foodsavers. Although it is far from being a full-fledged platform like Foodsharing.de, it has facilitated the coordination of our regular pickups and not costed us a thing, while giving us the opportunity to give feedback to the developers on how we would like this tool to be further developed.

Concluding remarks

This paper has described an existing model in Germany for reducing food waste and its initial application in Sweden in a project in which the author of this paper has been involved. The main question driving this inquiry has been whether food surplus, particularly in retail and final consumption, can be turned into a commons. The answer is affirmative, after making a simple analysis of the cases' institutional arrangements, focusing on their governance and the process of community-building. Furthermore, some of the common characteristics, challenges and limits in turning food “waste” into a commons have been explored, and the following was observed:

- Turning food excess into a widely shared common resource put communities into a legal gray zone regarding food safety regulations, which assumes only market relations between consumers and businesses. Authorities and legislation may play a role in both enabling and making it difficult for initiatives of this kind.
- A basic principle in this model is that food excess should not be (re-)commodified, by being sold again after donation, neither should there be another business model, a product or a service, around the activity of giving food surplus away for free. Getting access to food excess, however, is usually dependent on the discretion of market players, which is a big challenge for these commons-based initiatives.
- Sharing knowledge and information is necessary in a successful process of commoning. Digital tools and platforms play a crucial role in making this practice widespread and scalable

On a final note, this paper does not mean to argue that turning food “waste” into a commons is *the* solution to food waste, but rather *one* of the solutions. This model of saving and sharing food, as well as other charity-based or business models, is still dependent upon an industry that is wasteful by design, since it has made food itself into a commodity (Vivero-Pol 2013, Magdoff 2012). The myth of free trade and markets that are efficient in the allocation of resources does not

seem to hold, at least in terms of efficiently using natural resources, in face of the many market factors and incentives that produce waste: speculation on commodity prices causing unforeseeable price fluctuations, which in turn forces producers to throw away whole crops and leave it to rot, unreasonable aesthetic standards set by wholesale buyers, “best before” dates that bear no relation to food safety whatsoever, and so on. If food is still unidimensionally framed as a market good and produced in a industrial and global scale dictated by a few industry giants, there is no possible model within the commons and sharing economy that can take care of all the waste produced. Therefore, transitioning to sustainable food systems should be the basic (and certainly the most challenging) long-term solution to reduce waste. This task would require a polycentric approach to it, as suggested by Vivero-Pol, which includes the commons perspective:

“Food could be produced, consumed and distributed by hybrid institutional arrangements formed by state institutions, private producers and companies, and self-organized groups under self-negotiated rules, such as those actions labeled as Community-Supported Agriculture in the US. Those self-organized groups or communities of users and the local rules they develop are key components of the emergent polycentric governance of natural resources described by Ostrom.” (Vivero-Pol 2013, 20)

Nonetheless, the case studies here might hold a promise even in a future scenario of more sustainable and less wasteful food systems. These models for food sharing can still be useful, particularly in urban contexts, to take care of any food excess that is unsuccessfully allocated by the market, with the value added of creating community and social benefit. This commons-based model for reducing waste, however, is not meant to be a guide for “best practices” neither as a solution to be imitated, but rather as a reference on one possible way to start “commoning” (Bollier and Hilfreich, 2015) on food excess, which may vary a lot depending on the context. More conceptual awareness for the differences and advantages of these models will hopefully promote better policies to deal with food waste, as well as engage grassroots communities in saving and sharing excess food.

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