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Lost opportunities in food chain sustainability: Assessing the absence of a Swedish food bank through the utilization of an MLP framework

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Abstract: Food is an integral part of our everyday lives, with a plethora of social and commercial activities built around it. Despite being so intensive in resources, a third of the production is destined to be wasted. To comply with the waste management guidelines, redistribution should be society's priority, especially when considering how many individuals cannot afford food. Interestingly, despite its social reputation, Sweden does not have an officially recognized food bank, which could handle food redistribution, even if this practice is common in nearly all the European nations. Utilizing an adaptation of the Multi-level perspective framework for food chains, this study analyzes the currently established regime, landscape developments and regime of the suggested solution. Interviews with food redistribution organizations and a regional recycling company explore the factors that affect this phenomenon as well as how regime agents hinder the transition and are being reshaped. Despite the plethora of organizations active in food surplus, the emergence of a food bank will require time. The main findings stress the significance of a clear and protective legislative framework as well as funding to adhere to the small capacities that limit the growth of niches. The small and regional networking of peers should overcome any short-term power relations so that national coverage of food redistribution networks can be achieved.

Key words: Food waste, food surplus, food redistribution, food banks, sustainability, social entrepreneurship, Sweden, Skåne

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“Waste is a lack of imagination”

Dimitrios Skopelitis

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1 Introduction

Food is an intimate as well as necessary part of the everyday life of every individual. More than a need, it stands as a daily pleasurable activity and an important part of an individual's social life from the infant age until one's decease. Additionally, local cultures and practices are built around it as well as supplement it and affect its development.

The significance of food in our lives as well as our daily contact with it explains why it can be such a widely-discussed topic both in daily discussions as well as academic ones and thus host a big diversity of opinions around it. Each of those voices can stem from a background as complex as an individual's unique blend of culture, upbringing, societal status, religious beliefs etc. Moreover, the activities of producing, selling and buying food, as any other exchange relationship, is a rather symbolic act that has an emotional significance bigger than the value of the commodity in itself (Oosterveer, 2012; Midgley, 2014).

That said, food is a commodity that has a very high probability to be wasted. The evidence most commonly cited in both academic journals as well as newspaper articles and everyday discussions about the extent of the issue of food waste is derived from reports executed by the UN Food and Agriculture Organization (FAO) (2011 & 2013). In this and other reports (such as Katz, 2012) it has been claimed that a third of all the production is destined to waste at some part of the food chain (production, transportation, storage, retail, marketing, cooking and preservation).

1.1 Consequences

Food production is intensive in valuable and scarce resources such as water and arable land (Mourad, 2016; Rutten, 2013), which adds to the importance of the issue of food waste. Its environmental impact has been excessively studied in literature (Gustafsson et al., 2013; Kummur et al., 2012; Venkat, 2011; Cuéllar & Webber, 2010). Not only does 70% of the fresh water supplies go into the needs of agriculture (Pimentel et al., 2004) but is also a major driver of deforestation, as it can be held accountable for the 80% of deforestation worldwide (Kissinger et al., 2012). Besides the resourceful pattern of the food chain continues along the handling, transportation to retail sites, storage and transportation towards the destination of consumption. Lastly, the hygienic disposal of food requires the utilization of additional resources such as chemicals and car fuel for its transportation to the proper facilities.

Apart from the above, one must also consider the carbon and methane emissions linked to those stages as well as during the disposal of food (Papargyropoulou et al., 2014a). Notably, the FAO (2013) has estimated the carbon emissions attributed to food waste and compares to those of a medium-sized country. Similarly, Guinée et al. (2006) declare that the food industry is responsible for 22% of the global warming phenomenon within Europe. On the positive side, as Barrett and Scott (2012) suggest, the food chain is an area where significant reductions of emissions are possible.

Aside from the environmental perspective, the social and economic aspects that bind food wasting are not neglectable (Salhofer et al., 2008). Disposal of edible food occurs in all the parts of the food chain and consumers pay higher prices which cover the lost profits of retailers (O'Donnell et al., 2015). Moreover, retail inexpediciencies to estimate the amount of food sold result in promotional deals, (buy 1 get 1 free) otherwise known as “food waste traps”. This moves the burden of food waste from retail to consumers as consumers are granted the responsibility of the disposal (Kullenis, interview, 2018) of otherwise edible food, due to improper storage or overestimation of needed quantity. Fischer-Kowalski et al. (2011) suggests that the efficient usage of resources allowed by accurate predictions is expected to decrease costs and release resources towards employment growth and exploration of new business fields.

From a similar perspective, Papargyropoulou et al. (2014a) discuss that food losses have a direct and negative financial impact on producers and consumers. They discuss that the phenomenon of food insecurity¹ is primarily a matter of low consumer income, rather than a problem of supply. The reduction of food losses would lower the prices of foodstuffs (also an argument in Rutten, 2013) thus making accessible, safe and nutritious food more affordable to those already facing food insecurity, making a significant positive impact on their lives. However, one can argue that this would only happen when all the actors involved in the food chain would, at the same time, increase the sentimental or perceived value of food, which should not be directly translated into monetary terms. If food's value is translated into monetary terms, its possible price reduction would possibly result to the rise of food losses.

Alexander and Smaje (2008) review another dimension of food poverty. According to their stance, food poverty aims towards a healthy nutritional diet rather than meeting the necessary daily calorie intake. They report figures of individuals under food poverty in the UK to illustrate the existence of “food deserts” especially in urban environments (Wrigley et al., 2002), where consumption of fresh nutritional fruits and vegetables is low for smaller incomes and as a result, individuals desert to more affordable foodstuffs of poor nutritional value. From a similar

¹ for more research on food insecurity the reader is suggested to consult (Stuart, 2009; Lundqvist et al., 2008)

standpoint in the US, the research conducted by Phillips et al. (2013) explores if part of the waste stream can be redirected towards those currently facing food insecurity in the US. As Marsden (2012) adds, the increasing prices of food products as well as the increasing competition of resources between food production and biomass production provides a challenge for the outlook of food poverty in the future.

The ethical dimension also considers the substantial population that is under-nourished in both developing and developed countries (Papargyropoulou et al., 2014a). For instance, in the developed European economies, the percentage of individuals in need is significant. More specifically, the at-risk-of-poverty rate share is fluctuating around 24% for the EU-28 for the period between 2010-2015 as underlined by Eurostat (2018)². In Sweden, the estimated share of individuals at-risk-of-poverty rate fluctuates between 15-17 % in the afore-mentioned period (Eurostat,2018).

Additionally, the increased influx of asylum-seeking refugees, during the last years, stands as an extra challenge for the Scandinavian country. Prior to their integration in the labor market, those individuals require the support of humanitarian organizations. The renewed needs of immigrant support facilities are added to the existing demand of food from humanitarian agencies.

Lastly, the increase in rodent population in urban centers can be connected to food waste. Rats and mice are known to live close to human populations, feeding themselves on food discards. The growing rat problem in the Sweden's southmost region, Skåne, (Lindgren, 2018) is on the one hand related to the region's increase in population in the last few years but also the relation to the increased amount of food wasted within the region is being discussed (Lindgren et al., 2018) by the local press. As a result, the hygienic implications of the issue are significant even in a developed country as Sweden.

1.2 Waste hierarchy

Given the scale of the issue and because of its inevitable nature³, scholars in waste management science have developed an elaborate framework on how waste of all sorts can be utilized from

² Eurostat (2018) defines "at-risk-of-poverty rate" as "the share of people with an equivalised disposable income (after social transfer) below the at-risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income after social transfers"

³ The reader is suggested to consult the section reflecting "Reasons behind food waste" to get a better understanding of that statement

an environmental approach and the optimal practice among a variety of solution can be chosen. Originally coined by the European Commission in the 70's, the framework is called Waste Hierarchy and aims to narrow down the most environmental friendly solution. As the name suggests the framework studies the impact of alternatives and classifies them from most optimal to least. A similar framework was introduced by the US Environmental Protection Agency in 2011 (Mourad, 2016).

As Papargyropoulou et al. (2014a) clarifies, the waste hierarchy solely examines the environmental perspective, as opposed to academic criticism (notably Rasmussen et al., 2005) which supports a close evaluation of social and economic consequences of the alternative scenarios, a guideline also suggested by the European Commission towards its member states, when constructing their own waste hierarchy. The current research factors into environmental, economic and social implications of the phenomenon of food waste.

Elaborating on the prevention stage Papargyropoulou et al. (2014a) suggest that one efficient way to reduce food that succumbs to waste can be traced back during the production phase, requiring a more precise estimation of food quantities expected. Beyond production, prevention practices call for sustainable consumption patterns and correct portion sizing. More specifically, due to the unique reasons behind food waste in the developed countries, prevention would be more efficient when targeting retail and consumption, especially for the latter, increased awareness and better preparation can be seen as promising solutions. Papargyropoulou et al. (2014a) stress that the difference between prevention of waste and its optimal management should be clear, as the former investigates methods to reduce the amounts of waste generated whereas the latter deals with the utilization of waste after it has been generated.

Nevertheless, one can argue that prevention is a solution that can be manifested in the lapse of time, as it requires the reshaping of retail practices, formal and informal institutions. On the other hand, the redistribution of food for human consumption, when it is edible, stands as a primal choice for a sustainable food chain (Mourad, 2016). The above describe the first two stages of the inverted pyramid of the food waste hierarchy seen in Figure 1. The stages below refer to recycling (as animal feed or composting) and recovery for energy purposes (biomass) prior to the worst-case scenario of disposal for land-filling. Mourad (2016) comments that the dominant views on the sustainability of the food chain focus mainly on recycling and discovery, whereas according to her, a more sustainable solution would focus on long-term shifts that would limit the creation of waste in the first place. One can claim that she refers to the extension of the prevention stage, as it is not currently established by major stakeholders. She illustrates her view with examples from France and US, where prevention currently focuses on more efficient production methods rather than to what she suggests should be a discussion about the suggested consumption levels and patterns or shorter food-chains. Lastly, she explains how food waste becomes a new free product, organic resource or commodity which circulates in new distribution channels, a topic the reader can familiarize with below, where the operation of food banks is explained.

However, Eriksson et al. (2015) comment that previous research (Schneider, 2013) has focused little or has not achieved the evaluation of the environmental benefits of the prioritized scenarios of donation and prevention, or utilized evaluation methods that are used within the lower levels of waste hierarchy. According to them, the prediction of the economic cost to build infrastructures that would allow donation and prevention has not been included in the argumentation supporting donation. Their research suggests that what eventually makes up for the best scenario depends on food characteristics. For example, food waste of high calorific value and low water content such as bread can be well adapted in replacing fossil fuels, considering its low carbon footprint. As one can comment, this approach by Eriksson et al. (2015) prioritizes the environmental perspective of the waste hierarchy and almost seems to ignore the ethical and social motives behind donation. Moreover, despite the fact that the need for an organization that can handle food donations in the area of study is mentioned in their research, any implication towards prevention of waste generation by awareness raising is not considered or mentioned by Eriksson et al. (2015).

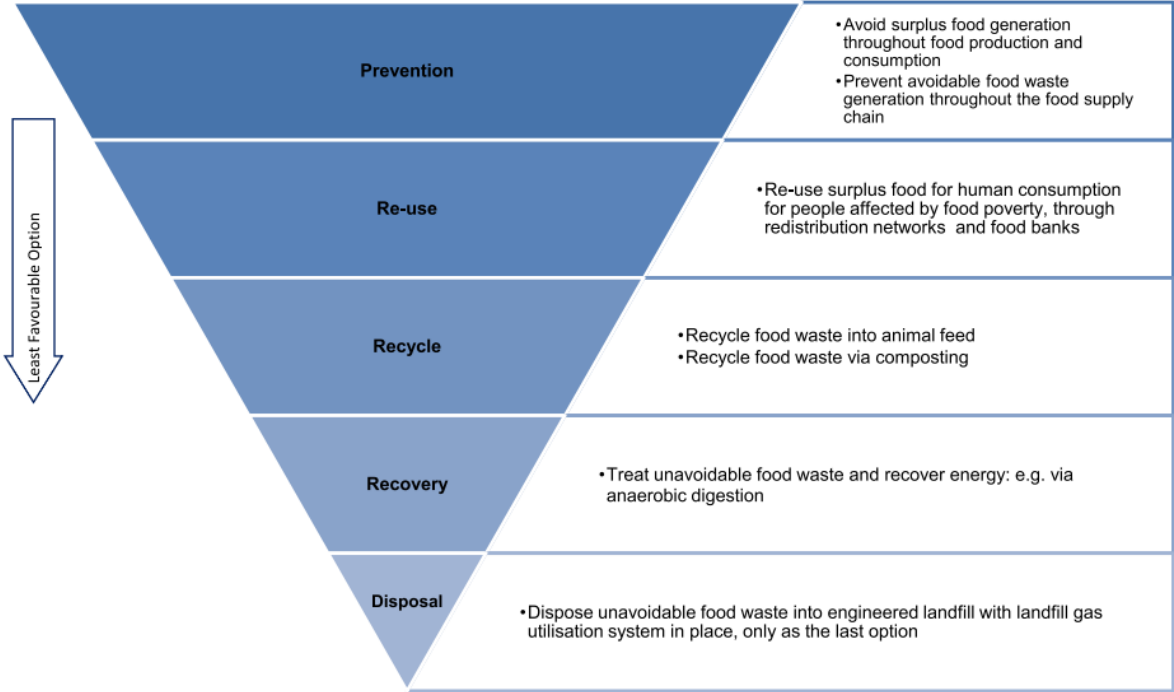


Figure 1 The food waste hierarchy. Source: Papargyropoulou et al. (2014a)

1.3 Food donation and food banks

As can be clear from the above the redistribution of food products stands as an environmentally as well as economically and socially optimal solution (Mourad, 2016). Schneider (2013)

elaborates on the common food donation practices exercised in modern western societies, among which is the unconditional donation of “rescued” food to individuals, fueled primarily by environmental motives, and the operation of food banks. In the former, recipients unconditionally receive food donations, meaning that they are not obliged to be part of a minority group or face other financial obstacles since the main objective of such organizations is the reduction of the environmental burden of food waste. An example of such a community is “Foodsharing Copenhagen”, which unconditionally donates edible foodstuffs otherwise destined to be part of the waste stream.

On the other hand, other organizations which facilitate this donating activity are called food banks and started emerging in the 60’s in the USA (Schneider, 2013), maintaining the same core principles as their modern re-incarnations, that is to donate food with minor cosmetic blemishes to charitable human service agencies, which in turn aid individuals and families in need. Food banks’ primary aim is to relieve food poverty by utilizing edible foodstuffs that would otherwise go to waste. Therefore, their operation is also linked to an environmental benefit due to the reduction of food waste and lastly have implications for the labor market integration of marginalized groups, since such individuals voluntarily man the available job positions in food banks, acquiring work-experience (Alexander & Smaje, 2008).

Due to this conditional donation of food, the operation of food banks can be considered to be more beneficial for the social challenges a country faces, as donations are directed to those mostly in need, through agencies that represent them. Such charitable agencies can include orphanages, elderly houses, homeless shelters, refugee hosting facilities etc. The practice of food banks can be preferred due to the arguments below. To begin with, one must consider that due to the sourcing of such foodstuffs, when donated they have very limited life-span before they are rendered unfit for consumption. Therefore, the prioritization of cooking those foodstuffs is crucial to ensure the preservation of their nutritional values, since prepared meals can be frozen for a considerable time and still retain their nutritional values. This can be ensured by the trained professionals who are employed by charitable agencies (Schneider, 2013). On the other hand, individuals who receive unconditional donations might not prioritize the cooking of the foodstuffs due to their perceived “lower” value and eventually risk wasting them, negating the benefits of food donation. Moreover, the donation to agencies assures that donations reach receivers, who might not be able to attend the unconditional donating events in the first place (for example infants or individuals with mobility difficulties). Last but not least, individuals attending unconditional donation events might already have the means to purchase food but are attracted by those events because of the free nature of commodities and thus limit the donations towards those without the necessary means.

How has food banking been practiced? Feeding America is the national network of USA food banks with more than 200 branches across the 50 states. With the help of 61 thousand agencies, it ensures that the 37 million individuals registered receive donations, that accounted up to 1,5 tons of food in 2009 (Schneider, 2013). In Europe, each national food bank is registered in the European Federation of Food Banks (FEBA), which was founded in 1984. The Federation helps food banks train their personnel and put pressure for policy-making. As the Federation claims in 2017 44,7 charity organizations received 4.1 million meals that benefitted 8,1 million people. Food banks in Europe are also supported by the Fund for European Aid to the Most Deprived (FEAD). The European fund accounts up to € 3,8 billion for the 2014-2020 period and is co-

financed by the national government. This fund provides food products as well as monetary aid to European Food Banks.

Despite the fact that within a country’s borders there might be a number of food bank branches operating, they are eventually registered as one national food bank within the Federation. When this research was conducted, (May of 2018) the federation has members from 28 European countries registered. In order to be registered to the federation, members need to reach a critical size, prove the viability and consistency of the project, points that help a food bank pass a successful assessment. Needless to say, the inclusion of a food bank into the Federation signifies its credibility, which helps it reach more donators and grow the number of people benefited by its actions.

In the Nordics, the only registered food banks are the Danish and Norwegian ones. This creates questions on why Sweden and Finland do not have such an organization that handles the donation of food. In spite of the characterization of the Swedish corporation Allwin as a food bank in Hanssen et al. (2015) the organization does not comply with the standards set by the European Federation and thus cannot be considered as one. The lagging food redistribution activities are also showcased in the table below, where Nordics are by far the poorest performers (Stenmarck et al., 2016).

Table 1 Quantities of redistributed food across European countries. Source: Stenmarck et al., 2016, pg. 31

Country / region	Amount (tonnes)	Year	Source
EU	411 000	2014	The European federation of foodbanks (FEBA)
Austria	11 100	2014	Pladerer et al. (2015)
Nordics	900	2013	Hanssen et al. (2014)
UK	20 000	2014	WRAP 2015
Netherlands	20 000	2013	Bos-Brouwers et al (2015)

1.4 Research Problem

Sweden is respected due to it being a home for a big number of innovations and businesses that set the precedent both on their humanitarian and environmental values. To begin with, Sweden’s welfare state is well-renown to protect the most vulnerable members of its society and host a number of institutions to support its function. The country is ranked first on the sustainable development goals (SdgIndex, 2018), which encompass how countries can economically grow, at the same time answering environmental and social challenges. Additionally, Sweden is ranked 5th globally in the Environmental Performance Index (EPI, 2018), as a result of the low pollution rates, natural environment preservation and extensive environmental initiatives established in the country, such as a well-functioning recycling scheme (Chaminade, 2017). Lastly, the Swedish innovation Agency (Vinnova) has been closely collaborating with the Swedish Energy agency and Formas (the Research council for

environment, agricultural science and spatial planning) since 2012 with an aim to solve complex societal issues that are related to sustainable development (Coenen et al., 2017).

Contrastingly to the afore-mentioned environmental and social focus of the country, Sweden is lagging behind on food redistribution, since the establishment of an official organization that would ensure national coverage has not occurred yet.

From the above one can only question: What is the reason behind the unestablished status of a Swedish food bank? Why isn't there an organization that deals with the redistribution of food fit for consumption in a big-scale before it becomes part of the waste stream? What could be the major obstacle for a potential food bank, within the Swedish context? What are the characteristics of the currently established regime? What are its major lock-in mechanisms (Spaargaren et al., 2012)? One can argue that food banks might not be the optimal practice of food redistribution or that there is another pattern which has proved to be more efficient for the country. If this is the case, what are the actors in the food redistribution scene and what are the solutions they bring forth? How far away are they from establishing a food bank? What do those actors regard as an optimal solution to reduce food waste?

Prior to conducting the research, one can expect that the efficient recycling regime established in the country is the main reason behind the un-established status of a major food redistribution organization. The society relies on its recycling facilities to handle food waste and convert it to fertilizers, compost or biomass. However, as Quedsted et al. (2011) mention, the redistribution of food is eight times more effective than anaerobic digestion in the challenge to reduce the amount of greenhouse gas emissions. The operation of the food bank promotes a sustainable and efficient production of food, an important objective of the National Food Strategy for Sweden (Naturvårdsverket, 2016). Moreover, the wasting of edible food is a massive energy loss in itself, as a percentage of this resource-intensive product finally feeds waste-transporting trucks and biomass tanks instead of humans.

1.5 Scope and Aim

In order to explore the issue, this research utilizes a Multi-level perspective framework and assesses the state of food redistribution and the global trends in the foodscape. Then, it progresses using interviews with some actors of the food redistribution scene in Sweden. Such actors include a social supermarket in Stockholm that resells food on a reduced price, a catering service which utilizes food that would otherwise be discarded, a social entrepreneur who attempted to start a Food Bank, the regional recycling company which explores ways to reduce food waste and a University student initiative redistributing food from local shops to humanitarian organizations.

As will be later showcased in the research there is a big interest both from companies in the food chain as well as the state to reduce the amount of food waste. As a result, this research is addressed towards all parties interested on the issue. Given that food redistribution is only a segment of the rather small but emerging literature of food chain sustainability (Midgley, 2014), itself one among the variety of topics that concern academic sustainability research, the author's

hope is to provide an overview of the current state of the Swedish redistribution scene, motivating further research on the issue.

On a more practical side, past research (Gram-Hanssen et al., 2016; Hanssen et al., 2015) has provided a detailed overview on legislation⁴ and formal institutions potential social entrepreneurs will face in the market, while focusing on the most significant actors in the food redistribution scene. The current research builds upon this foundation and wishes to facilitate further research based on the emerging network dynamic as well as inform interested entrepreneurs on the established available networks and challenges to be addressed. Eventually, such parties will need to utilize any assistance available in order to transform the current Swedish foodscape into one that adheres to the social challenges of today and the emerging environmental ones of tomorrow, for the sake of an efficient market with social sensibilities. Similarly, policy makers can reflect to existing policies and reshape them in an attempt to decrease entry barriers and accelerate the growth process of ventures wishing to achieve sustainability goals.

Therefore, unlike previous research which examines the extraction of benefits from a more efficient retail environment (Eriksson et al., 2012; Strid & Eriksson, 2013; Nilsson, 2013) or the implementation of more technologically advanced solutions to scenarios that lie lower in the waste hierarchy (Nicolaidis, 2015) the current research tries to provide an insight into the Swedish reality of food redistribution, a scenario that has, to a certain extent, been implemented but needs to grow to a bigger scale and while gaining momentum, raise awareness about the currently unsustainable food chain and work towards the optimal solution of the waste hierarchy, prevention of surplus (Papargyropoulou et al., 2014a) . Nevertheless, there should be no misconception. No trajectory is privileged enough to be considered as a single best practice (Regeer et al., 2009). The main aim of such a kind of research is to provide insight on which solutions best fit within a set context of historical and transformative capacities (Van Amstel et al., 2012).

1.6 Outline of the Thesis

The present study is structured as follows, in the next chapter the theoretical lens of this study are analyzed, as a food-chain adaptation of the multi-level perspective framework is developed.

The third chapter is devoted to research methods utilized for the analysis and explains the strategy and method behind them. Expanding from the seminal paper of Geels (2002), researchers within the Dutch food chain (Spaargaren et al., 2012) have adapted the theoretical lens for this specific field and it theirs scope that will be utilized.

⁴ for an updated and simplified version of the EU legislation to facilitate food donation readers are directed to Commission (2017)

In the fourth chapter the case as it currently holds will be presented, commencing with an outlook of the current food regime. It should be stated that the issue of food waste has attracted multi-disciplinary research from sustainability studies and economics to waste management scholars, sociology scholars who focus on the inclusion and exclusion of minorities and property rights specialists who stress the significance of waste as a resource and its ownership. Thus the navigation of the literature without the prior comprehension of the appropriate terminology as well as its concepts can be challenging. Thus, under the section “Global dimension of the issue”, I elaborate on the definition of food waste and surplus, reason on the existence of the phenomenon and provide some reported facts about the quantity of food waste globally. The operation of a food bank is illustrated, along with the benefits from its operation and challenges such organizations face. The second part of this chapter focuses specifically on the Swedish regime and food redistribution scene through the interviews conducted as well as with the help of other material available.

In the fifth chapter, the interviews are reflected upon our initial research questions and theoretical scope and are discussed. The sixth chapter sums up the research and concludes it.

2 The theory

Before proceeding to the analysis of the case, it is important to discuss the theoretical lens to be utilized. The study relies on the Multi-Level Perspective of sustainability transitions, as previously developed by Geels (2002), among others. This framework initially focused on the historical study (Roep & Wiskerke, 2012) of socio-technological innovations with a sustainable profile. Despite the criticism towards the multi-level perspective framework for being a descriptive method to structure empirical research (notably in (Pierick & Mil, 2009) it has found application in a wide array of sustainability transitions literature. More specifically, Spaargaren et al. (2012) have transformed it to fit their approach of the food chain. It is this food-chain specific framework we will elaborate on and utilize in this study.

2.1 The multi-level perspective and its adaptation for the food chain

Transitions initially take advantage of problematic situations or opportunities within a certain regime of established power relations and challenge it. Geels (2002) calls these situations and opportunities landscape developments. Such transitions can emerge because of changes in the landscape, not directly influenced by the forces of the regime. An example of landscape change in the sustainable transportation framework could be social unrest in an oil-producing country, which could in turn have an impact on prices. This provides incentives for the development of new technology, as consumers would turn to an alternative of the existing regime, a transition towards more environmental-friendly transportation solutions, for example electric cars, as opposed to the established regime of fossil-fueled conventional cars.

Is the transition from an established regime to an emerging socio-technical innovation so easy? Spaargaren et al. (2012) elaborates that lock-in effects of the mainstream practice hinder transitions and their dominance can only be confronted by the continuous emergence of new ideas, technologies and practices. However, emerging socio-technical regimes initially find fertile ground within their strategic niches, small portions of the market ready for change. Within the protective borders of its niche, a socio-technical regime can have the time to improve its technology, adapt itself to its consumer-base's daily routines and push forward for a protective policy framework. This indicates that the right exploitation of its regime together with fortunate landscape developments can provide an opportunity for the new socio-technical regime to break-through the mainstream, transforming the established practice one or even becoming the new mainstream. Nevertheless, it is not uncommon to observe the parallel existence of a variety of socio-technical regimes among the same industry.

According to Spaargaren et al. (2012), transitions refer to more or less structured processes of change, that take place in a certain time and place and can last 10 to 50 years, with their ultimate result being structural changes and new methods in production, retail and consumption. Spaargaren et al. (2012) comments that scholars have previously referred to those transitions as socio-technical because they encompass a big number of human factors, social and societal elements, regardless if their primal scope of study was the technological aspect (also in (Roep & Wiskerke, 2012). As Spaargaren et al. (2012) discusses, the study of the food chain is served better when it puts a greater focus on the social aspects of the framework, as it is the human agents that design, monitor, manage and influence social change and they also lobby, learn and appreciate the human and non-human elements (technology) of transitions. The food chain's take on the MLP framework (Spaargaren et al., 2012) also prioritizes the use of the term "practices" instead of socio-technical "regimes", as practices are easily institutionalized, providing more stable interactions. Nevertheless, since this terminology is a unique characteristic of this particular school of analysis, in the rest of the thesis the terms practices and regimes are used rather interchangeably, against otherwise noted (for instance, daily practices of consumers).

Moreover, from a similar standpoint Roep and Wiskerke (2012) point out that in their study, it was the institutional change that facilitated technical change in the food chain. Such a statement is understandable since their study focused on how alternative food networks, one of which can be networks of localized organic producers with short supply chains, who can reshape the foodscape. The functionality and popularity of emerging practices facilitates the development of networks of like-minded individuals who wish to expand those practices in regions where they are not practiced. The connection with the practice of food banks and how it expanded and became relevant in the wider European context is clear. Moreover, this example of emerging practice stemming from small actors is a typical "bottom-up" innovation. In the "bottom-up" category one can also include citizen initiatives, networks of like-minded individuals etc. However, a "top-down" approach, where the agent of change possesses an established status, for instance policy initiatives or even firms that expand on sustainability issues is not uncommon.

When analyzing the agents that comprise practices, Spaargaren et al. (2012) contrary to Geels (2002) interpretation, shrinks down agents into three parties: cultural images of human-ecosystem interaction, socio-technical innovations and thirdly new forms of governance, combining several traits of the seven agents mentioned in Geels (2002) to construct the three above, also encompassing to them features that are more well suited for food chain analysis. The framework suggested by Geels (2002) included the agents below: Industrial networks, market and user practices, culture and symbolical meaning, sectoral policy, techno-scientific knowledge, technology and lastly infrastructure.

The understanding of how these agents interlink and affect transitions in the foodscape is elaborated within the contents of this thesis and is considered as known to the reader. Nevertheless, a brief description follows. Industrial networks refer to the bonding of different industries that are relevant for the production processes of a regime and its supplementary products and services. Market and user practices refer to the practices used by the market to facilitate the adoption of a regime and retail it and the daily routines of users around a regime. Culture and symbolical meaning refer to the historically perceived beliefs and value system

around a regime as well as the popular culture set of images and beliefs that accompany it. Sectoral policies refers to the formal institutions that regulate the function of a regime. Techno-scientific knowledge and technology refer to the available knowledge and technology resources that has built around the regime as well as the professionals who have been trained and specialized on regime specific processes. Infrastructure includes all the supplementary and complimentary equipment, facilities etc. that have been involved with the consumption of the products and services at the center of a regime.

Lastly, it is important to focus on the social relations, the relevance of human networks, especially those between niche and established actors (Van Amstel et al., 2012). For the emergence of alternative food networks, on the contrary, Roep and Wiskerke (2012) elaborate on the protected and autonomous communities that place themselves out of the mainstream and develop their own value-system to distance themselves from it. The development of institutional reforms grant the incumbent regime more durable.

This social significance re-confirms the importance of the added focus on social relations rather than technological ones, as Spaargaren et al. (2012), stress it. Moreover, to connect the human with the technological aspect, it is important to analyze the organized learning processes that concern both the development and the production of the regime, as well as its adaptation by end-users.

2.2 The suggested research process

It should be mentioned that transition processes are not-linear in nature and their manifestation is complex because they tend to interact between them (Van Amstel et al., 2012). For this reason, Spaargaren et al. (2012) utilizes an interpretation of the MLP framework for food chains.

This transition theory according to Spaargaren et al. (2012) can pinpoint the negative aspects of a currently established mainstream practice, realize new socio-technical ones that not by chance but rather through a thorough understanding and enticing conditions can challenge and transform the mainstream one. Moreover, a study can commence either by analyzing the emerging practice or the established one. In the case of the former the description of the different motives between practices and power relations is crucial. The study of the established one requires the comprehension of its openness to novel practices as well as the stability and influence of its lock-in mechanisms. The third method of research suggested by Spaargaren et al. (2012) studies the transition dynamics of the landscape historically. Through the long-term study the trends of the socio-cultural, socio-economic or socio-political institutions within a system are detected and a lasting impact is illustrated.

3 Research methods

As the reader understands, the theoretical lens previously utilized by literature have provided a clear guideline for the study of food chain sustainability transitions. Moreover, the various collection methods utilized, ambiguity of existing data and uncertainty about the quantities of food waste and rescued⁵ do not facilitate the execution of a quantitative analysis. Reflecting back to one of the research methods, proposed by Spaargaren et al. (2012) for the analysis of food chain sustainability, the researcher is suggested to commence by analyzing the established regime, and how past landscape developments along with the interplay of its agents have shaped its lock-in mechanisms and its current status.

Thus, in order to comprehend the dynamics that hinder this transition, the analysis provides insight from existing research on the system agents of the food chain. Ultimately, I research the Swedish case, both from available literature as well as from the interviews that were conducted for the point of this thesis.

Five interviews with actors that are active in the food redistribution scene in Sweden were conducted. I previously knew about the actions of some of them (Matmission & Rude Food), whereas for others I had previous acquaintance with either through social connections (Eva Mitsou) or because of my attendance in seminars (Sysav). I also tried to approach more actors, suggested by my interviewees, which are significant due to their established collaborations with the biggest Swedish retail branches. Unfortunately, some of them didn't reply for interviews (Allwin, food2share), whereas the tight schedule of others did not allow a meeting in a timely manner (Food Loopz and Kontrapunkt). Nevertheless, their actions will be briefly mentioned, based on the material available. The interview requests sent signify my attempt to approach all the organizations, which I was aware of, that deal with food redistribution in Sweden and a major recycling company, which had initiated a project for the reduction of food waste.

As expected, some actors who are active in food redistribution in Sweden might be missing from this study. Nevertheless, considering that my interviewees were also suggested to contribute some of the actors they know, a possible absence questions the popularity and, effectively, impact of unmentioned cases. Sampling was not among my priorities because of the small number of actors. Moreover, there is a number of apps which inform the users about available surplus portions with discounted prices in restaurants. Such companies were not contacted due to their tech focus and the indication of absentee social incentive behind their actions, an element that is critical when discussing about alternative food regimes (Roep & Wiskerke, 2012).

⁵ the reader is suggested to consult the section referring to the quantification of the phenomenon

Lastly, since a big number of material from reports is in Swedish and in a rather scientific terminology, attempts to include Swedish literature were made but this study has not focused on official governmental reports. The absence of retail stores from the interviews can be seen as an additional limitation. I was doubting their availability and willingness to participate in interviews but literature that incorporates the corporate view is included in the case (notably (Eriksson, 2015; Kolam, 2018)).

3.1 The interviews

Interviewees were initially contacted through e-mails for the possibility of a meeting in person for an interview. For their better preparation, they received some of the questions prior to the interview and they were informed that interviews would be semi-structured and discussion could follow their answer, if further clarification was needed. The list of questions was there simply to ensure that all the topics would be covered and to provide a rough structure in the discussion. The question list varied, as it was adapted to the activities of each organization. The interviewees agreed with the audio recording of the interviews, which were conducted between April and May of 2018.

The interviews began with an introduction to interviewees' previous experience and moved on to a discussion of food waste and surplus definitions as well as the reasons behind those phenomena. More than trying to access the interviewee's knowledge, the main aim at this point was to promote the discussion, since, I as an interviewer, intervened more in these introductory questions. This was done for two reasons, both to assess the interviewee's standing point behind the phenomenon as well as to ensure they would engage in discussion with a fellow discussant and would be eager to reveal as much data as possible. This practice was followed in order to counteract to the inert limitation of qualitative researches, the speaker not giving out a lot of information (Mourad, 2016).

Proceedingly, the questions were directed towards the details behind the organizations foundation and eventually on the specific activities of each organization. Research conducted prior to the interviews allowed me to become familiar with their routines and formulate questions based on those. The aim of the questions was by referring to familiar topics without academic terminology, to sketch an overview of the regime of each organization.

As mentioned in the theory section, Spaargaren et al. (2012) has shrank down agents in three categories. Even though this shortening facilitates the research executed in their book, for the purpose of this thesis, the analysis of seven distinct agents as seen in Geels (2002) will be utilized, as it can explain the distinct dynamics across regime agents.

Therefore, when discussing about the public image of an organization and the ease of conducting collaborations, the intention was to explore the significance of regime agents such as symbolical meaning and market practises, respectively. It is my assumption that by elaborating on rather familiar topics, the interviewee was given time to construct and express his/her opinion, before coming to answer the final questions. Those handled the familiarity with

the concept of a food bank and the absence of a food bank in Sweden, eventually discussing what was their opinion about the absence of a major food redistribution organization.

For the process of the analysis, the audio recordings and brief notes were utilized. The main aim was by connecting the interview answers and considering who voiced them, to identify a pattern which can be interpreted with the help of the food-chain specific MLP theory.

4 The case

4.1 The established food regime and emerging practices

The rise of incomes and technological innovations that made communication and transportation much easier as well as the change of societal models around household composition and division of labor inside it have all affected the trajectory the food system has taken in the recent years, as pointed by Oosterveer and Spaargaren (2012) as well as an array of other scholars (notably Atkins & Bowler, 2001; Sassatelli 2007; Shove et al., 2009) Roep and Wiskerke (2012) are among the academics who question the sustainability of the current food system.

The importance of sustainable production and consumption methods is stressed in a wide array of literature, firm reports, policy guidelines as well as in daily discussions (Spaargaren et al., 2012). Official actors such as the United Nations Environmental Program UNEP (2008) have mentioned and defined sustainability as the “production and use of goods and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardize the needs of future generations”. Such approaches can include cleaner and other eco-friendly production methods (Oosterveer, 2012), prevention of pollution etc.

The current state of the food system is among others accused to contribute to environmental pollution and degradation of biodiversity. Moreover, the treatment of animals as well as concerns on the safety of products and possible health problems related to food indicate the unsustainable direction of the current food system. (Yakovleva & Flynn 2004). The discussion of food system sustainability was brought forward after the 2008-09 food crisis and focused on how productivity can grow sustainably in the midst of the global warming phenomenon and can adhere to a growing global population, according to O’Donnell et al. (2015).

Spaargaren et al. (2012) discuss some of the established food system facts. To begin with, instead of food shortages, developed countries enjoy a big surplus and variety of food that even affords them to waste big quantities of it. The consumption of exotic foodstuffs including fruits, vegetables and other condiments is considered as usual practice in modern households along with the global tracing of their sources (Millstone & Lang 2003). This can be attributed to improved preservation techniques (Oosterveer & Spaargaren, 2012) and the increased popularity of exotic recipes (James 1996). Similarly, the dramatic rise in the consumption of meat (Oosterveer & Spaargaren, 2012) along with the increasing practice of eating out in restaurants or canteens on a daily basis (Warde & Martens 2000) all constitute the current consumer perspective of the modern food-system as we know it. Despite the fact that it is only a small number of people who follow all of the afore-mentioned patterns (National Geographic 2010), such consumption patterns put a great pressure on the tracing of resources to sustain its operation.

Food safety regulations are strict and effective and wide trust in the food catering and retail sector has granted them big power in co-ordinating actors and networks. However, the trajectory of the food system is rather unknown and insecure. Power has shifted away from farmers to consumers, whose organizations and initiatives protect the non-economic traits behind food, and drive some of the pattern changes witnessed (Padel & Foster, 2005). The public opinion has become much more protective and aware around sustainability issues in the food chain with topics such as animal well-being, nature and climate preservation. At the same time, supply chains have been extended globally and new cultural aspects of food consumption have arisen after the aim of societal groups to define their unique identity through food.

For example, Papargyropoulou et al. (2014a) discuss the emergence of “freeganism” and “dumpster diving” movements, where individuals limit their purchases from stores and consume what is disposed of, as a response to the existing situation of abundant edible food disposed of. Supporters of such movements have environmental and political motives which complement their choice of frugal lifestyle (Evans, 2011) as well as protest about the moral dimension of the disposal of food (Parfitt et al., 2010) and the materialistic perception of food waste which disables people in need to have access to it (Evans, 2012).

4.1.1 Governance

On the governance side, rather than the older direction of rationalization in agricultural production, the current focus of the EU governing bodies is on the consumer perspective of public health through the promotion of change in agricultural production and rural development as well as innovation in the regulatory system of food (Oosterveer & Spaargaren, 2012). Such regulatory frameworks do not solely apply on the production and harvesting of food but also on other important processes in the food chain such as handling, processing, distributing as well as retailing.

Oosterveer (2012) pinpoints that priorities in the regulation framework of the food chain and its transformation are different for each European country. Countries have assisted sustainability through the facilitation of consumer empowerment or by allowing the market and retail to mark its own sustainable pathway with the shaping of food consumption and production patterns.

4.1.2 Market structure

The increasing urbanization, rise of incomes, female participation in the job market and increasing significance of the media and advertising industry have all contributed to the establishment of supermarkets as an integral part of the food chain (Oosterveer, 2012). Moreover, in the late part of the 20th century domestic retail brands have expanded to the world market exploiting pro-corporate legislations on globalization and market liberalization (Lawrence & Burch 2007), expanding global supply chains and homogenizing standards globally. Despite the fact that small actors such as farmer markets and other niche forms of retail exist, it is the super markets that hold the biggest part of the market share. This has major

impact on how the contemporary food chain is structured, as Traill (2006) discusses how those large-scale retailers have a great influence on the way farming, processing retail and consumption is structured. Along with those privileges, they can also be held accountable for the sustainable profile of the current food chain and have a major say in its future trajectory.

Oosterveer (2012) also discusses the possibility of retailers' contribution to sustainability and comments that the monopolistic nature of retailers allows them to structure the supply by implementing standards on suppliers, as well as independently decide on the internal operation of shops. Their influence on enforcing regulations as Oosterveer (2012) explains is stronger than that of policy makers, as food safety standards are more effectively coordinated by private companies.

However, due to the inherent dynamics of the system, the balance of power in the last decades has shifted from producers to consumers as noted by Gereffi et al. (2005) and Spaargaren (2003). Bearing that in mind, retailers need to present a sustainable image so as to remain relevant in consumers' preferences, engaging with the sustainability concerns of consumers. (Oosterveer, 2012). Nevertheless, Oosterveer (2012) discusses that this shift should not be approached in such an oversimplified manner but is rather a result of "complex and shifting networks of interfirm relations" (Coe & Hess, 2005; pg. 453), since retail encompasses a number of distinct social networks and socio-technical systems, each with its own scope of transition.

4.2 Food waste and redistribution – The global dimension

4.2.1 The landscape of food waste

Defining food waste and food surplus

Due to the common misconception around the terms food waste and surplus and the incorrect interchangeable usage of the two terms it is important to clear any ambiguity. To begin with, Papargyropoulou et al. (2014a) cite three separate definitions of food waste. The FAO (1981) definition refers to food waste as "wholesome edible material intended for human consumption, arising at any point in the FSC that is instead discarded, lost, degraded or consumed by pests." Stuart's (2009) contribution to the definition also includes edible material that is purposefully given as animal feed or arises as by-product of the food processing and is no longer part of the human food chain. From a similar perspective, Smil's (2004) definition builds upon the above and adds the dimension of over-nutrition and the gap between the food required per capita and the amount being consumed. As also suggested by Papargyropoulou et al. (2014a), Stuart's definition is the best one to provide a fertile ground for the discussion of topics such as uneven consumption of food across the societal spectrum, its untimely disposal and the redistribution of food fit for consumption which emerges as a solution to such a problematic context.

Papargyropoulou et al. (2014a) also make a distinction between unavoidable and avoidable food waste. The former arises after handling and is not edible, neither was it originally. This includes

shells, fruit skin etc. Despite the argumentation on creative usage of such parts in the food chain, it is cultures, social norms and personal preferences which to a large degree dictate the extent of their usage. On the other hand, it is the avoidable food waste that mostly interests scholars in the field. Avoidable is coined the food waste that stems from bad storing, consumer patterns that support the homogenous appearance of food etc.⁶

With that in mind, the meaning of food waste is well explained, which now leaves us to discuss about food surplus. Alexander and Smaje (2008) discuss that surplus food and its difference to food waste are not well defined, a point also underlined by Rutten (2013) who mentions that definitions between nations and year of observation varies, making comparisons futile. The underlying unofficial conflict of consumers seeking the freshest produce and retailers trying to maximize their profits by selling as much of their stock as possible before it is deemed rotten distorts the meaning of surplus food. The donation of foodstuffs is thus suggested as an act of last refuge since businesses can still extract positive environmental and social reputation (Tarasuk & Eakin, 2005), even with reduced profit margin.

For the reasons above, the definition developed by Papargyropoulou et al. (2014a) incorporates the view of Fareshare, which is the official UK food bank. Thus, the research claims that Fareshare regards food surplus as a surplus of the food a society needs, produced in order to adhere to possible shortages or unpredictable weather conditions. As an excess quantity by its nature, it is disposed of, becoming waste instead. However according to Fareshare, it is important to comprehend what is the desired safeguard and what is undesirably thrown away and come up with solutions to decrease the latter.

That said, the definition of food waste and surplus is influenced by the scope and position of the one providing it. Midgley (2014) cites Tarasuk and Eakin (2005, pg. 178) who refer to surplus food as the one that cannot be sold or does not conform with market quality due to cosmetic imperfections and other damages inflicted during transportation. In this research, Midgley concludes that the difference of surplus food and the one circulating in the market is small. However, what lies under the definition of the term largely relies on definition given by the food industry despite of the attempts of other actors to spread awareness. For instance, Alexander and Smaje (2008) also brings forth evidence from Fareshare, which attempts to raise awareness about the term food surplus more often since waste is linked to something useless (Mourad, 2016), a trait not associated with food fit for consumption. Finally, Mourad (2016) points out activists protest that any definition of food surplus and waste should not leave out the fact that it is an inherit characteristic of the capitalistic production system.

Reasons behind the phenomenon of food waste

Now that the extent of the issue is mentioned, what are the main reasons behind food waste? Papargyropoulou et al. (2014a) discusses that food waste can be explained by the high-calorie

⁶ the reader is referred to the corresponding section below for more on the topic

intake documented in developed countries. While agronomists suggest that a food supply of over than 130% our nutritional needs will ensure food security (Smil, 2004; Lundqvist et al., 2008) high-income countries tend to design their food supplies around a diet of higher than 3500 daily calorie-intake. According to Papargyropoulou et al. (2014a) this is a thousand calories over the required for food safety and thus reveals considerable implications for food waste. Moreover, the research of Mourad (2016) suggests that restaurants and caterers prepare 10% more of what is expected to be served since there can be no estimation of what will be sold in the day. The overflow of food is a commonly witnessed characteristic of the food-chain (Callon, 1998). Surplus food is embedded in the food chain and is a natural part of it, so the proper usage of this surplus should be prioritized.

Additionally, Alexander & Smaje (2008) cite the work of Betts & Burnett (2007, pg.46) and claim that some of the reasons behind the phenomenon of food waste can include mis-labeling of non-perishable products, cancelled orders, end-of-line runs, out-dated promotions or damaged and incorrect packaging. Additionally, another source of food waste is attributed to seasonal ordering, over-ordering, errors in manufacturing (Midgley, 2014), the excess quantities produced during the testing and development of new products as well as unpredictable events such as sudden weather changes (Schneider, 2013) and poor quality control. Lastly, market volatility leading to over-supply and transit damage of multipack items is reported.

Other reasons include the confusion surrounding best before and use-by-date which affects both shelf-life as well as the disposal after purchase and is also mentioned in an array of papers (Williams et al., 2012; Eriksson et al., 2012) as well as broken packaging which endanger the safety of products and thus results in the disposal of otherwise fit for consumption foodstuffs (Eriksson et al., 2015). The proper training of staff can be considered crucial for the reduction of food waste as Eriksson et al. (2015) informs about the decisions of supermarket staff to discard products when they consider them as unsellable, despite the fact that they are fit for consumption. According to Papargyropoulou et al. (2014a) and Parfitt et al. (2010), the waste that occurs past the harvest and production point is closely related to behavioral issues.

On the other hand, it is important to claim that such wasteful practices should not be solely attributed to staff but is rather the escalated result of the interaction between consumer and retail practices. Research by O'Donnell et al. (2015) claims that primal reason behind the figure of 21% of produce discarded upon arrival at the super market in the US is because picture imperfect items will not be picked up by customers. Moreover, exaggerated attitudes towards shape, colour and perceived freshness are also accountable (Schneider, 2013). Drivers of waste with a combined causality include socially accepted consumption habits that revolve around shopping frequency and promotional offers, restaurant portion sizes etc. (Aschemann-Witzel et al., 2015; Evans, 2014; Neff et al., 2015) as well as psychological factors linked to the consumers' tendency to decrease consumption when shelves are not full. The latter forces retailers with a prioritized profit-motive to fill their shelves and displays (Nilsson, 2012) which bears implications on waste, especially on products with a sensitive shelf-life rather than processed. This amplifies the problem of nutritious food poverty mentioned previously, increasing the prices on fresh nutritious produce compared to nutritiously poor foodstuffs. Subsequently, research by O'Donnell et al. (2015) underlines that such practices conclude at the disposal of 49% of fresh fruit and vegetables at the retail level in the USA as a result.

Nevertheless, Mourad (2016) suggests that research should overlook the dichotomy of “producer/consumer” and study the food chain in a holistic way with an intention to transform public policies and informal institutions. To illustrate that, the wasteful pattern of purchasing food products without any cosmetic flaws has recently started to change both after consumer as well as formal initiatives (Haverkamp, 2015).

In the post-consumer phase, research by Papargyropoulou et al. (2014a), Parfitt et al. (2010) and Williams et al. (2012) among others refers to issues that are linked to over-consumption and improper planning/handling. Purchasing bigger quantities than needed, plate scrapings and leftovers not utilized or poorly stored and improper preparation techniques along with the common confusion around “use-by” and “best-before” dates are the drivers of household waste, which by far the major driver of food waste in Sweden according to Naturvårdsverket (2016). Schneider(2013) criticizes this phenomenon as being the result of an affluent society that has lost the required respect for food. Since fitness for consumption cannot be guaranteed by households this leaves anaerobic digestion, composting and landfilling as the only destination of foodstuffs, eliminating the possibility of redistribution.

Reported evidence about the amount of food waste and surplus handled by redistribution mechanisms

Researchers have tried to grasp the amount of wasted food either regionally or locally. Such studies commence after trying to capture the environmental impact of food waste or try to showcase the need for the expansion of activities that make use of food waste. As can be understood the variety of methods utilized across countries or even industries hinder the comparability of those quantities. Moreover, Schneider (2013) discusses that quantification is a rather complex task due to the limited amount of data which currently only allows for estimations. However, as she mentions with the new EU legislation that enforces traceability of food stuffs, the process of record keeping enables a better view on the exact quantities of food donated and wasted. Additionally, despite the fact that the sheer numbers are striking to the common citizen, it is hard to grasp their amounts. For this reason, future research faces the challenge to formulize a method when referring to such quantities. For example, weight can be transcribed to relevant terms by calculating the amount of food waste by a country’s population or even more enlightening indexes that demonstrate the calorific and/or nutritional context of such foods. The latter stems from research that claims that one off the most usual victims of food waste, bread, despite being rich in calorific content has poor nutritional value(Eriksson and Strid, 2013).

However, Alexander and Smaje (2008) remark that in spite of the significant amount of food waste the variety of methodologies used to estimate this amount render comparisons as challenging and quote Betts and Burnett (2007; p. 44) who claim that the actual figure of waste is in fact higher since it is usually mixed with packaging material and ends up being part of general waste streams. Moreover, Alexander and Smaje (2008) suggest that the complexity of legal definitions can alter what is accounted as food waste. For example, when food is not saleable but is practically fit for consumption, it is not labeled as food waste. As (Papargyropoulou et al., 2014a) mentions the ethical and social dimensions of the disposal of foodstuffs which are fit for consumption is a growing issue within developed countries (also in Schneider, 2013), as a result of the renewed social challenges brought forth by the economic recession.

Recalling the figure from FAO that mentions that a third of the food production is wasted, it is necessary to stress out the fact that this is a globally estimated index, as the amount of food wasted varies among countries, with high-income countries demonstrating a higher tendency to dispose within the household and restaurant whereas low-income countries demonstrate higher losses during harvest (Hodges et al., 2011). As suggested by Gustavsson et al. (2011) the reason why food waste occurs at harvesting is attributed to the low capital input in the production and transportation stage as well as in the climatic conditions that exist in such countries. Mourad (2016) and Buzby et al. (2014) also comment that market fluctuations as well as cosmetic criteria for produce explain the waste pattern witnessed in early stages.

Research by Papargyropoulou et al. (2014a) also suggests similarly and presents data from Gustavsson et al. (2011) which claim that the expected food waste in developed countries fluctuates between 280 to 300 kg/capita per year whereas developing countries showcase 120-170 kg of losses. USA is indeed one of the countries with the highest waste profiles, where 2/5 of the available food is wasted (O' Donnell et al., 2015). To illustrate that, Mourad (2016) presents studies by Buzby et al. (2014) and Thyberg and Tonjes (2016) which claim that the annual economic cost of food waste accounts to more than 161 million USD every year in the United States. This high cost has motivated companies and community organizations to prevent, re-use and recycle food waste.

Evidence from the UK is brought by Alexander and Smaje (2008) who mention the study executed by Waste and Resources Action Programme (WRAP, 2008). The trend in UK is comparable to the global trend of food waste mentioned above as a third of the food production is being discarded. More specifically this study highlights the implications food waste has on households as well as municipalities and approximate that 18 tons of CO₂ were released in the atmosphere as a direct consequence of that waste. As researchers (Betts and Burnett, 2007, p.5; Vidal, 2005) claim UK retailers dispose half a million tons of food waste annually. According to Alexander and Smaje (2008) retail food waste accounts for only a third of the total food waste in the country. Nevertheless, a more recent study (Papargyropoulou et al, 2014a) also discusses that the household generation of food waste has reduced by 13% between 2006-2010, in the UK.

What is the outlook of surplus food? Midgley (2014) states that the information of fit-for-consumption food quantities are limited. UK's officially registered food bank claims to have redistributed 3,6 thousand tons of food between 2011 and 2012. As criticized by Midgley (2014) this is only a small percentage compared to the 3 million tons of food waste expected to arise annually WRAP (2010). This quantity includes food products both fit as well unfit for consumption. That said, initiatives to efficiently reduce the wasted quantity of food in UK promote the re-use (DEFRA, 2007; p.7) which encompasses redistribution (DEFRA, 2010) as well as the careful design of packaging which decreases the tendency to waste food. The latter is part of a partnership between WRAP and larger player in grocery retail, known as the 2005 Courtauld Commitment (Alexander & Smaje, 2008).

On other documented facts from food redistribution activities, O'Donnell et al. (2015) executed a study in order to demonstrate how surplus food can be managed and what are the commercial as well as environmental implications of redistributing this amount of food. Using a life-cycle analysis in an urban district in Philadelphia he estimated that from the 16.000 tons of food waste

disposed out of one grocery store chain, 33% percent of it was evaluated as suitable for consumption whereas the remaining was either in practically really small quantities or unfit for consumption. Extracting a sample from the initial amount of the wasted quantity the research showed that the store could re-sell the surplus and gain 8700\$ monthly income as well as eliminate the costs related to disposal. The research examined the possibility of local enterprises being the recipients/buyers selling back to the grocery stores products whose added value could sustain the wages of 2-4 of their employees. The findings of this research conclude that if such a scheme was implemented in 38000 large supermarkets, the 500 thousand tones wasted could be treated by local enterprises and provide the equivalent of 10 kgs of fruits and vegetables to 46.1 million recipients annually.

Schneider (2013) focusing on the work of Austrian food redistribution organizations, mentions the quantities of food distributed by the social supermarket SOMA of Hilfswerk to its 240 customers. According to her, in 2009 the net weight of food products distributed accounted to 525 tons. This includes vegetables and fruits, bread, soft drinks, yoghurt and other products. According to estimations, those products, distributed by only one SOMA store within a period of one year, are equivalent to 202 tons of CO₂. Similarly, this research brings forth evidence from the Vienna branch of a social supermarket, Tafel, that is supported by the red cross, whose redistribution of foodstuffs to its 200 customers account for 100t of food. As transcribed by Schneider's (2013) research this is equivalent to 192.5 million kcal, 122 tons of CO₂ and 702 kg of SO₂. It is noteworthy that the results are again annual, from a store that is open for business only once a week. (Schneider, 2013).

4.2.2 The food bank regime

As previously mentioned, the main aim of a food bank is to address food insecurity by diminishing the food surplus, thus providing social and environmental benefits (Alexander & Smaje, 2008) by using food surplus and resolving the problems of the established food system (Midgley, 2014). Despite the fact that food banks have a certain degree of freedom for their operation, they abide to the sectoral policy constituted by European Federation of food banks. Food banks accept food donations from various sources in their network (Schneider, 2013):farmers, industries, super markets, catering services etc. but not households (Midgley, 2014) as the fitness for consumption cannot be ensured in the last case. Donations might be part of "un-sellable" inventory from retail stores or be donated directly to the food bank without it priorly reaching retail, because of batch packaging errors or mis-prints for instance. As Alexander and Smaje (2008) mention, the rule that applies to donations is the earlier in the food chain a product is donated, the larger, more reliable and of higher quality it is. Except for fresh produce, food banks can collect products with a long life-expectancy such as rice or pasta, flour, jam and other canned products.

Midgley (2014) criticizes the symbolical meaning attached to the operations of food banks, which relate to the quality of donated products and the perception of "dependency culture" of donation-receiving parties. She clarifies that in her study all donations were of high quality and awareness spreading of the food bank actions help deconstruct the perceived labels of "second-hand people receiving second-hand food". Devaluing the "other" people that receive donations would in turn devalue the products and the brands that stand behind them (Tarasuk & Eakin,

2005), a risk corporations would not take. On the contrary, as Schneider (2013) comments, it is the distorted and exaggerated strict perception of freshness that the general public requires, which perceives such products as “second class”.

Relevant to the discussion, Midgley (2014) also adds that the constructed category of the “other” person, the reliant, is the other side of the coin for the economically sufficient and independent individual who regards donation as a form of charity rather than a show of dignity and social justice (Lambie, 2011). Power (2011) comments that in spite of the fact that such actions make donators feel better for themselves it still reminds the “other” they are dependent and are not free to do the choices as the privileged do. Midgley (2014) stresses, however, that the access to such luxury brands and products through donation reshapes perceptions of differences in consumer and societal “labels”.

What are the food banks’ market practices to ensure the quality of the food? First off, the donating partners are by legislation guaranteeing the products’ fitness for consumption (Schneider, 2013) and they are accountable if found otherwise (also mentioned in Kullenius, interview, 2018). As an additional safety checkpoint, the hygienic controls carried out by the Food Bank’s staff can guarantee products are edible. As Alexander and Smaje (2008) document from their research with Fareshare, the food bank might reject some donations upon delivery. In that case products fall under the donating partner’s liability. For the case of donations which were proved to be unfit for consumption after they were received, Fareshare is responsible for their disposal. Moreover, it has been reported (Alexander & Smaje, 2008) that some of the stores regards Fareshare as one more waste treatment company and provide them with foodstuffs not suited for consumption or mixed with unsuitable for consumption. The understanding of the role of Food Banks is crucial to be understood by stores, to ensure the fruitful co-operation. When collaborating stores donate waste to “greenwash” their reputation, Fareshare refuses to accept donations, as a penalty, and can consider the termination of collaboration if the phenomenon persists.

Products are stored in the Food Bank infrastructure, the warehouse before they are shipped out towards their recipients, which include charitable human agencies and not individuals. Shipping can be executed by either food banks or recipients. After charitable organizations receive donations, the food banks’ involvement terminates (Alexander & Smaje, 2008). Due to the limited life-expectancy of products (Papargyropoulou et al., 2014a) only trained professionals should handle them, to avoid risking the public hygiene and make sure the brand is treated properly (Midgley, 2014; Alexander & Smaje, 2008). The protection of their brand is a major concern stressed by retailers. Alexander and Smaje (2008) refer to the examples of retailers wishing to remove brand insignia when products are donated. This, however, can create problems with the trace-ability of goods.

The redistribution of food improves the Corporate Social Responsibility (CSR) profile of food industries, retail shops and catering services. The strong competition among corporations and the need to strictly follow legislation, promotes sustainability measures in the operation of retailers, who discover that the promotion of a responsible image is highly-regarded among consumers (Oosterveer, 2012), as those with strong sustainability concerns will prefer to shop from a retail with a sustainable reputation (Oosterveer & Spaargaren, 2012). As Midgley (2014) suggests, food banks can charge donating companies a rate comparable to the disposal rate. As

opposed to the fees payed to their respective municipalities or national environmental agencies for the handling of food waste as well as the transportation to facilities, redistribution stands out as a much better alternative for such companies, as they can extract a value from waste (Tarasuk & Eakin, 2005) to increase their environmental profile and reputation among the consumers and the society. It can also aid in the reduction of environmental fees that national governments might require of companies (also in (Parfitt et al., 2010; Mena et al., 2011). Managers have claimed that the involvement with Fareshare has “paid back” not only through waste reduction but also improving the company’s reputation (Alexander & Smaje, 2008).

The above showcase how waste can still be a resource (Papargyropoulou et al., 2014a). The operation of food banks protects the environmental and social qualities embedded in products, the ones that go beyond their actual market value and include the functionality of the market as well as the interpersonal relations required for it to flourish (Midgley, 2014). Alexander and Smaje (2008) mention that the other alternatives for business to minimize costs and increase profits, related to waste, fall under the minimization of waste with a very precise logistics operation or the devolving of ownership. The former is practically impossible as retailers will not risk the loss of consumers who do not visit their stores because they are known to run out of stock. The latter refers to promotional offers which pass on the waste responsibility from stores to households.

What happens in the case of companies wishing to run their own charity events? The food bank’s operation is fueled by products that would be otherwise directed towards disposal. This means that ordinary sponsored food, either free of charge or to a very low price, cannot be donated to the food bank. Without conflicts of interests between the different actors, the existing charitable actions of private companies are not disrupted. Nevertheless, it should be mentioned that contrary to one-off charitable actions of food companies, the established operation of a food bank ensures the safety of donated food as well as the longevity of such actions (Midgley, 2014).

Food banks can set the example of local community mobilization on both environmental as well as social issues, reshaping views on sustainability and at the same time integrating minorities into the job market. For example, Schneider (2013) reports the cooperation of the Food Bank in Columbia with college students who satisfied the dietary requirements of recipients based on the current inventory of the organization and also aided its logistics structuring. Despite having normal wage-receiving employees on crucial positions, the majority of the positions are manned by volunteers. However, this places a challenge for the organizations, as volunteers should be properly trained both to adhere to their post’s responsibilities as well as to avoid “food waste traps” they might fall for as consumers (Alexander & Smaje, 2008).

4.3 Empirical research – Food waste and redistribution in Sweden

It is estimated that around 88 million tons of food are wasted annually in the EU, with associated costs estimated at 143 billion euros (Stenmarck et al., 2016). More specifically for Sweden, the country’s Environmental Protection Agency, Naturvårdsverket (2014), estimates, based on previous research, that the 2012 unnecessary food waste of Swedish supermarkets, restaurants and catering facilities sums up to 182 thousand tones (Table 2) . The 2012 food waste accounted to industries reaches 171 tones. Households are the biggest contributor of unnecessary food waste, as in the year of 2012 they disposed of 270 thousand tones. This roughly accounts for 127 kg of wasted food per person. Due to the alteration of methodology in estimations, the study estimates that the figures in industry have not changed. The need for a consistent methodology is evident, as Andersson’s (2012) research uses a different methodology, showcasing different results.

Table 2 Food waste volumes in Sweden for 2010 and 2012, Source Naturvårdsverket. (2014, pg.3)

	2010		2012		
	Total		Total	Unnecessary waste Unnec quantities	
Households	771		771	35%	269.85
Agriculture & Fishery	-		471**	-	-
Industry	171		171	-	-
Catering	58		58	52%	30.16
Restaurants	127		142	62%	88.04
Super Markets	67		70	91%	63.7
					SUM
					182

Quantities in thousand tones *** Based on assumptions*

More recent estimations are provided by the Naturvårdsverket (2016) study. The figures showcased are lower than in the previous study, with the avoidable food wasted accounted up to 49 thousand tones. However, when closely comparing the two studies, one can observe that different data collection methods have been used, as the 2012 figures do not correspond.

Table 3 Food waste volumes in Sweden for 2012 and 2014, Source: *Matavfall I Sverige* (2016, pg.5)

	2012		2014		
	Total		Total	Avoidable waste	
Households	771		941	442	
In residual waste	520		429		
In separately collected food waste	199		240		
In the drain	*		224		
To home composting	52		48		
Agriculture & Fishery	*		98	*	
Food Industry	171		75	*	} SUM 49
Large-scale catering establishments	64		70	17	
Restaurants	79		66	21	
Food Stores	45		30	11	

Quantities in thousand tones

4.3.1 Public and private interest to reduce food waste

Official actors such as the EU and the government of Sweden strive to limit the disposed quantity of food, as part of their environmental policy. The reduction of waste quantities is part of the EU Framework Directive (2008/98/EC), mandatory for all member states. A food redistribution organization also complies with the objectives set by the EU to promote a circular economy, as a way to reduce carbon emissions and improve efficiency (European Commission, 2015). Funds under the Horizon 2020 initiative support organization in achieving such aims and can also aid with regulatory obstacles.

In Sweden, the authority responsible for the implementation of similar policies is the Swedish Environmental Protection Agency (EPA). In September 2015, a target of halving per capita food waste at the retail and consumer level and reducing food losses along production and supply chains was decided, as part of the 2030 Sustainable Development Goals (Naturvårdsverket, 2016). Additionally, the Swedish agency for research and innovation Vinnova has been collaborating with Innventia since 2014 on a 4,7 million SEK project which aims to reduce food waste by reconsidering product packaging. Private enterprises such as Electrolux, Santa Maria and Axfood have also joined the project. The state agencies also collaborate with more than 50 members of academia, food chain corporations etc. under the SaMMa network to reduce food waste, mainly by elaborating on practices that help in the direction of prevention (Naturvårdsverket, 2014).

Actions by private actors also include the “Food is precious” campaign by the IKEA group (2017), which by 2020 plans to halve down food waste by a more precise prediction of the food quantities a restaurant is sells through the day. The above were selected among a plethora of

state policies and motives to reduce food waste, along with private corporations initiatives to foster collaborations in the same direction.

4.4 The existing regimes

4.4.1 Organizations not interviewed

Allwin

One of the established actors in the redistribution of “rescued food” in Sweden is Allwin (2018). It has started operations on 2010, based in Gothenburg. The company has partnered with the biggest super market chains such as Coop, ICA and Lidl. Their partnership with the logistics company Samhall granted them accessibility to 19.000 distribution points in Sweden and has enabled them to provide the equivalent of between 2 and 3 million meals. The interviewees were unaware if it has founded branches in Stockholm or Malmö, despite Allwin’s acclaimed plans to do so.

The company receives food donations from its partners and resells them to individuals in need, meaning that it operates as a conventional corporation, which restricts it from registering as a food bank in FEBA. The company has been awarded with sustainability and social entrepreneurship prizes several times since its foundation and the founder has been featured as a main speaker on the afore-mentioned topics several times.

Food2change

Food2change (2018) was founded by Rikard Lundgren in 2016 and is located in Västerås. Oriented towards individuals with an income below 13000 SEK per month, it requires a membership subscription of 500 SEK every six months. Members can visit the affiliated super markets once a week and pick up food products that would otherwise be thrown away. Individuals with higher income can support the project by donating 500 SEK per year, receiving a grocery bag once a year. The members cannot decide the types of products and quantities they get, as it depends on the availability of surplus and therefore they usually proceed to buy the “normal” products in the store as a supplement.(Kolam, 2018)

Food2change mentions their affiliation with ICA and Netto. They have partnered with 22 stores, 6 of which are located in Stockholm and Gothenburg and 4 more stores in the region of Skåne (Kolam, 2018). It should also be mentioned that expansion in the region of Skåne is really critical for them and seek for volunteers and ambassadors who can aid their operations. According to them, the food that has been redistributed so far reaches up to 66 tones, worth roughly 3.18 million SEK and has saved 400 tons of CO₂ from being released in the atmosphere (Kolam, 2018).

4.4.2 Other initiatives

As research by Kolam (2018) suggests, some of the ICA branches in Lund utilize surplus food for the cooked meals sold in store, since 2007, an initiative named Resurskocken. Additionally, ICA runs its own food surplus donation activities under the “Frälsningsarmén” or “Salvation Army” moniker, with donations sourced from within the retail’s branches and are perceived to operate in a small scale (Matmissionen,interview, 2018). On the contrary, Gram-Hanssen et al. (2016) state that the “Salvation army” regularly donates bags of food to people in need from 11-25 localities, with some of it being intended donations. Some smaller initiatives of local Soupkitchens (Soppkök) across the country are mentioned in Gram-Hanssen et al. (2016). Lastly, certain super market branches are known to sell surplus food in a reduced price.

Table 4 below demonstrates some of the initiatives mentioned in interviews and literature.

Table 4 Other organizations and initiatives and short description of their activities

Organization / Initiative	based in	short description	citation
Dela Jönköping (Hela människan)	Jönköping	Social supermarket	Larsson (interview, 2018)
Food Loopz	Stockholm	B2B "middleman" for the redistribution of surplus food	Matsson, Mitsou (interviews, 2018)
Kontra Punkt	Malmö	Social DIY space and restaurant, used to operate a food bank	Matsson, Mitsou (interviews, 2018)
Matakuten	Gävle	Appears to work as a food bank	Kolam (2018)
Rescued fruits	Helsingborg	Juice from surplus fruits	Matsson, Kullenius (interviews, 2018)
ResQclub	Finland	Also working in Sweden. Surplus meals at restaurants for a reduced price. Restaurants jeopardize it by advertising their normal menus.	Larsson, Matsson, Kullenius (interviews, 2018)
Resursrestaurangen	Gothenburg	Catering service utilizing surplus food	own research
Solikyl	Gothenburg	Foodsaving/sharing citizen initiative	Food Saving Lund (interview, 2018)
Sopköket	Stockholm	Catering service utilizing surplus food (Influenced by and collaborated with Rude Food). Notice difference to soup kitchens ("Sopköket") existing across the country.	Larsson, Matsson (interviews, 2018)
Spills (Erik Andersson)	Malmö	Restaurant that utilizes surplus food (Chef has previously worked in a Michelin starred restaurant)	Kullenius (interview, 2018)
Värt	Gothenburg	Catering service utilizing surplus food(vartsweden.com)	own research

4.4.3 Interviewed organizations

The interviews are presented in the order they were conducted.

4.4.4 Matmissionen

Matmissionen, founded in 2015, is a department of the NGO “Stockholm’s Stadsmission” and a social supermarket in Stockholm (the first in the Nordics) which receives food donations and sells it to individuals with an income lower than 9290 SEK after tax/month for nearly a third of the normal retail price. Stockholm’s Stadsmission works with marginalized individuals and also has branches in other cities of the country. Other projects that it runs is a social café and a second hand shop. Matmissionen has two branches in Veddesta and Hägersten. At the time of the interview the latter was being renovated and a food bank and social restaurant were operating in the former. Unsold products are cooked in the restaurant, to reduce wastage. The interviewee was Tove Larsson, who began working with the project in 2016, as a labor market integration coach and after six months in that position she became store manager.

The project started as a cooperation – industrial networking between Stockholm’s Stadsmission and Axfood. Anne Lunde Dinesen had previous work experience from the Danish foodbank (FødevareBanken) and contacted Stockholm’s Stadsmission in order to develop a similar project in Stockholm. At the same time the organization was approached by Axfood, who needed a reliable partner for their plan to engage in food redistribution. The project followed the principles and know-how of Austrian social supermarkets since its foundation but adapted it and constantly reshaped it to find their optimal practices. Such adaptations mainly concerned the appearance and structure of the store, application of limits to the quantities customers can buy etc. They currently apply a user practice that limits customers to 250 SEK worth of products/week and in cases of products such as dairy or fresh meat/fish only a limited number of units is allowed.

Matmissionen’s industrial network encompasses its main donating partner, Axfood (which includes the retail branches of Willy’s and Hemköp) and Snabbgross. Their collaborative network includes online retailers like City Gross, Mathem, Linasmatkasse and Mat.se. Some of the industry partners are Rydbergs, Santa Maria, Nestle, Arvid Nordquist and Coca Cola. Coop’s market practice with respect to competition is to donate foodstuffs only to be circulated through the food bank and not sold in the social supermarket, as the latter is known to have a close affiliation with a competitor. The organization is also in close contact, with an intent of future collaborations, with ICA and Lidl, despite that the former has mentioned that they already have their own project, the Salvation Army.

The value added for companies is the CSR and sustainable symbolical meaning they acquire when being involved in such a project. Matmissionen has some regulations regarding who and when gains exposure in the market by referring them as a partner, using their logo. Those regulations concern the amount and value of donation a company contributes to the

organization. When contacting more companies to expand the organization's donation network, retailers have a positive view on the project and urge Matmissionen to also seek collaborations with more retail companies, as this will grow the project bigger and give it credibility. In spite of their positive views, the biggest practical challenge faced is the logistics, since the infrastructure for such a project that has not been established. For this reason, Matmissionen has recently received funding from Vinnova to expand their sourcing of donations from Stockholm region to national coverage.

Its user practices are as follows. Matmissionen has 3000 active memberships and nearly 90% of its customers shop as much as their limit allows. Nevertheless, ordinary customers are also allowed to shop in the store, paying normal prices. The goal of the organization is to circulate 60 tons of surplus food per month across the three departments, which is reachable since in the last months before the interview the social supermarket alone sold 40-50 tons of food and the food bank donated around 10 tones/month. The food bank handles donations to charitable agencies and deals with deep-frozen products that are not sold to individuals to avoid the danger of thawing. Receivers include homeless shelters of Stockholm's stadsmission and other humanitarian organizations, all located within the Stockholm region.

Reduced prices as well as the environmental aspect are important for customers in the store. The public image of the project stands out as a good idea but the argument "you should not serve poor people surplus food because it comes out of the bin" has been sometimes addressed to Matmissionen. After communicating the idea and trying the products, those misconceptions disappear. On the contrary, its customers have had the chance to try "premium" products and for charitable agencies freeing up their resources it means expansion of their charitable actions.

The practice each department of Stockholm's Stadsmission follows is to be financially sufficient, otherwise the organization can aid a department's operation. Turn overs cover the operating expenses and profits are re-invested into the project. Their current infrastructure in Veddesta is an old Willy's store, initially provided for a reduced price from Axfood and currently leased for a relatively small cost, due to the organization being among the few currently renting space at the complex. Salaries are also part of their operating expenses, as five individuals are employed, whereas volunteers, whose remuneration is covered by the fund for the unemployed (A-kassa), also provide labour. Volunteers usually come from marginalized groups, since one of Stadsmission's objectives is to integrate minorities in the job market.

Since relocation is in their imminent plans, Matmissionen faces a challenge with the tax policies concerning NGOs, as the Swedish law allows only a number of non-vat paying NGOs to be located within a certain area. Nevertheless, there have not been any legislative obstacles regarding the selling / donating of food stuffs, as the framework is the same as all businesses that deal with foodstuffs and their partners Axfood have provided guidance on the legislation enforced in the sector. The main legal pre-requisite, ensuring the products' fitness for consumption is done by visual and taste inspection. Nevertheless, it has been reported that some of the collaborating supermarkets have donated foodstuffs unfit for consumption.

Lastly, they have also contacted FEBA and work on its criteria, for the official characterization as a food bank. Since the interest from the state as well as the industries is existing, Matmissionen aims to expand their collaboration network with more actors in the food redistribution scene to effectively tackle the issue of food waste. They aim to have 3 physical stores in the Stockholm region by 2020 and plan to grow of the social franchise of social supermarkets on a national scale and provide their know-how on how operations work. The main obstacle for such and attempt would be the logistics feasibility. Lastly, Larsson (2018) mentions that, historically, the need for organizations that deal with food surplus has not been so obvious, due to the existence of the welfare state but developments in public and state interest encourage the establishment of similar projects.

4.4.5 Rude Food

Rude Food, based in Malmö, is the first Swedish catering service that utilizes surplus food. The interviewee, Hampus Mattson, is Rude Food's current chairperson at the management board, has academic background in food sustainability issues in urban environments and is the owner of small urban farm. He has been in the organization since its foundation in 2015. Zeenath Hasan, the founder, is a professional cook with a PhD in design processes and started the venture with an intention to mitigate surplus food and at the same time develop "participatory opportunities". After Zeenath's departure from the project, the five members of the management board continued the activities.

Rude Food operates as a Not-for-Profit Organization ("Ideell förening") and relies on volunteers as well as a free-lance cook who handles its day-to-day tasks and orders. Its currently active volunteers are between 5 and 10. In the past, there were three paid positions within the organization but this not economically feasible anymore. Moreover, the idea of a food surplus brunch and lunch was tried out with little reception from the public and was not continued. In the first two years of its operation the organization has received funds from Vinnova and municipality of Malmö but since then the project has been self-sufficient and had no need of external funding. Moreover, no legislative policy barriers were faced, since the organization is treated as a conventional catering business.

Rude Food's practice is to rescue food and utilize it. Of the 15 to 16 tons of food rescued since its foundation, 40% has been used for Rude Food's activities. The rest was donated to, among others, Kontra Punkt and Malmö Stadsmission's social kitchen and homeless center. Their surplus tracing practice is achieved through networking with two small-scale fruit and vegetable operators, who donate their surplus to Rude Food weekly as well as a bakery and a restaurant from which they collect bread and the surplus of a salad bufee, respectively. An official written agreement has been signed with only one of the above, as a way for them to promote their "green" image to the public. As Mattson (interview, 2018) mentioned their structure for tracing of surplus is not formal, as most of their sourcing agreements so far have been informal "handshake agreements", which has somewhat hindered the attraction of bigger actors, who require specific and strict agreements. Lastly, foodstuffs unfit for consumption are donated to Rude Food from time to time, but not that often. This was not the case in the past, when some previous partners did not comprehend the organization's motives and donated any kind of waste to the organization.

Matsson (interview, 2018) mentioned the high environmental consciousness of public in Sweden means that people are more willing to support such ventures. Therefore, Rude Food has received positive comments for its actions and the few suspicious opinions about the quality of food have changed after people got familiar with the concept. On the actions of official actors, the project “Food Loops”, developed by Sysav and the Malmö Municipality was mentioned by Matsson (interview,2018) as a landmark for the reduction of food waste in the county. Moreover, the schools of the county have focused on how to reduce food waste as well as raise awareness on prevention measures, from a young age.

This is a positive step, according to Matsson (interview, 2018) since according to the experience gained from school workshops with Rude Food and personal experience, he mentioned that the cultural meaning of food for young generations shows a complete ignorance on its origins (“it just shows up on the plate”) and disregards the resources and effort required to produce something that they would so easily throw in the trash. This is a sign of consumers distancing themselves from production and attributing a low value on food. (“Food is cheap”; Mattson, 2018) However, he expresses his concern: if prices were to rise in order to increase the value of food within consumers, this would amplify the distress of those more in need. Moreover, since the market practice of disposing food is not high, stores have no motives of finding alternative ways to circulate surplus and simply direct it towards disposal. Waste, as an inert trait of the current food chain, cannot be systematically reduced (Matsson, interview 2018). He also stressed that subsidies need to shift from industrial mass-produced farming to organic short-chain farming.

As a solution, Matsson (interview, 2018) claimed that the French case is a good example of how policy should enforce the “big actors to take care of their food waste” and encourage them to look for opportunities to distribute their surplus food. Moreover, according to him, a growing number of store owners is positive towards donating their surplus, but has no knowledge on the available actors that deal with food redistribution. Raising awareness on such actors and networking, is therefore a good solution towards this direction. Such initiatives have great potential. “It can halve the amount of food waste to 50% within 5 to 10 years, in a city like Malmö” (Matsson, interview, 2018). Nevertheless, he questions whose responsibility it is to promote the actions of those actors, is it the local authorities or the actors themselves?

Why hasn’t food bank been established in Sweden? He explained that, historically, the Swedish landscape of the welfare state did not reveal a need for such an organization. However, due to the current developments on global trade, labour market and immigration the need for such projects is becoming more imminent. The slow adaptation to such developments can be partially attributed to older generations being in decisive positions, both in private actors and policy making. “People in power come from an old world where everyone is comfortable and do not fully understand that there is a need” (Matsson, interview, 2018)

4.4.6 Swedish Food Bank of Skåne

Eva Mitsou was the entrepreneur – founder of Swedish Food Bank of Skåne. Her educational and professional background in food science, as well as social incentives and the success of the Food bank in her home-country, Greece, motivated her to try to start a similar project in Skåne,

after her Master's graduation. Moreover, according to her, Skåne is home to the majority of food industries and also holds the biggest share of agricultural production, which makes it a promising home-base for such a project. Lastly, the established food bank in Copenhagen would be a good potential collaborator.

She worked on the project for one year (2016–2017), initially using the workspace, mentoring and networking capabilities provided by the Lund University business incubator, Venture Lab. As she regards it, the project could not fully utilize the above due to the tech-orientation of the incubator which was not consistent with the social nature of her venture. At that point the project hired two interns, contributing business development and marketing skills that would help network with established actors in the food industry, a crucial movement due to the capital-intensive nature of such a project. For this reason, she collaborated with a small fruit and vegetable importer (“Matcentralen”) who provided infrastructure, namely a bus and a warehouse and also had surplus food that he wanted to donate. In the 4 months of their collaboration they distributed both the company's as well as customers' surplus to Kontra Punkt and Malmö Stadsmission. However, due to the financial adversities and personal problems faced by her collaborator, she terminated the project and sought for employment.

Before and during the project's housing in the facilities of Matcentralen, influenced by how Matmissionen in Stockholm was established, she approached the local retail branch of Willy's and some ICA branches as well as the Swedish innovation agency Vinnova and other local state actors, to propose the donation of surplus to the former and seek for possible funding for the improvement of the warehouse from the latter. Their answer in both cases was positive, but they would wait until the project would show momentum. She also stressed how an international with small knowledge of Swedish and a small network is not regarded as a trustworthy collaborator by retailers. As she planned it, the operational expenses, after kick-off, would be covered by companies investing in the food bank as a way to improve their CSR. Since she has studied how Fareshare, the Greek and Danish food bank operate, she described her intention to develop quality control departments to go in line with the sector's legislation. This would secure the food's fitness for consumption as well as the trust of donating partners.

On the other hand, a lot of local charitable organizations expressed their interest to receive donations from the project. Apart from those mentioned, there was interest from refugee hosting facilities and Ronald McDonald Hus which a hospital facility for families with sick children. Additionally, she mentioned the eagerness of her food redistribution network (Matmission, Rude Food) to provide guidance and insight information and she stressed how others (notably Allwin) seemed to be un-approachable and not replying to collaboration proposals. “The redistribution scene is not a profitable market with the need to put barriers to competitors. The problem of food waste can be fought effectively only through collective collaborations” (Mitsou, interview, 2018)

She viewed the developments in the landscape, increase of social motives and the realization of an occurring and growing human crisis as pivotal to promote food redistribution, as the country already has high environmental incentives. (“The realization of social incentives will move the surplus from composting tanks to redistributing organizations and people in need.”, Mitsou, interview, 2018). Moreover, she discussed the beliefs surrounding the competition of secondary and primary market. Since food banks' end recipients are not individuals with low

income, but rather those with no income, the argument of competition between them is not valid, since those people would not buy anything in the first place. The plethora of projects developed within the last few years show that a big-scale solution to the problem is only a matter of time.

4.4.7 Sysav

Sysav is the recycling company operating in Skåne and owned jointly by the 14 municipalities of the county. The company handles the household waste of said municipalities and has two sister companies, Sysav Industry AB, which handles industrial waste as well as Sysav Utveckling, which works with sustainability issues and is funded by governmental and EU funds. The interviewee, Xue Kullenius, is a project manager within Sysav Utveckling and has a background in European business law (from China and Lund University).

The current market practice for the company is turning food waste into biofuel and biofertilizer, while trying to explore ways to reduce surplus food and “upcycle instead of downcycle it”, due to its high resource and labor intensity. “By this, we are giving away part of our potential income, ..., but we should aim at the highest level of the waste hierarchy, that is to prevent” (Kullenius, interview, 2018). Agreeing that the charges on disposal of food waste is rather low, with 625 SEK/ton, she stressed examples of countries where the price of disposal was increased and disposal of waste kept on happening through toilet drains or rivers with catastrophic implications both for the infrastructure and the environment.

How much is the amount of food waste in the county? Kullenius (interview, 2018) mentioned that SaMMA, the national collaboration network for the reduction of food waste, proposed the establishment of a statistical tool that all companies can use to record their food waste on a daily basis, since the volumes currently available are not comparable due to the variety of methodologies used. In the reports issued by Sysav (2016), fat sludge makes up for nearly half of the figures, and the rest is both avoidable and unavoidable food waste, including packaging. Therefore, estimations based on such figures are simplistic and speculative. A really rough estimate would be that surplus fluctuates between 20 to 40% of their food waste stream. Based on the figure of 55.4 thousand tons of food waste and sludge, provided by Sysav (2016), this roughly estimates between 5.5 to 11 thousand tons of food surplus in the county of Skåne.

Kullenius (interview, 2018) stressed that Sweden, due to its climate and the currently established regime needs to import a lot of food from other countries and as the last part in the food chain, is confronted with a big amount of waste that cannot be shipped back to the exporting countries. In order to adhere to the issue, Sysav has collaborated with the environmental department of Malmö municipality (“miljöförvaltningen”) in a project called Food Loops, in an effort to decrease the amount of food waste. The project was initiated by Andreas Nicolaidis, who was at the time working in the municipality of Malmö and had an interest in the sustainable supply chain.

Under the project, an open invitation to a workshop was sent to entrepreneurs and other actors who were interested in the reduction of food waste, with an intention to matchmake between the two sides and promote the networking of different industry representatives. Their

conclusion from the workshop was that this procedure “would be rather difficult, because the capacities of the startups were quite limited. They could for example rescue 5% of the total” (Kullenius, interview, 2018). As she claims, Rude Food and Allwin are good ideas but the business models are hard to expand. Moreover, social business like Matmission “provide good practice and possibilities but need to compliment other business models to fit different needs. There is no one-fits all idea.” Nevertheless, a positive outcome of these meetings was the networking of actors and the mutual exchange of ideas and inspiration.

Investigating alternative directions, the company formed a group of interested parties: stakeholders, wholesalers and retailers, business developers from an environmental consultancy and expert researchers on the field. Among those interested are two major wholesaling companies and a major retail store. Their vision is a more holistic idea: redistribution of surplus, drying to prolong the life of fresh produce and ultimately composting for fertilizers or animal feed. Despite the big adjustments in the system and need of big investments, this three-stage process can handle 90% of the food surplus.

What are some of the challenges faced by redistributing organizations? Donor companies do not want safety, hygiene and transparency issues to be at stake, since this can jeopardize the company’s reputation and divert from the policy framework. It should be underlined that a negative aspect of this strict EU legislation concerning food safety is retailers disposing surplus food in order to avoid the risk (Kullenius, interview, 2018). Therefore, infrastructure built around an efficient logistics system that can adhere to the limited life-expectancy of surplus food is required and it is what the entrepreneurs lack or cannot afford. Moreover, the beliefs concerning secondary and primary market competition need to be clarified, to ensure the companies’ profit margin. On the other hand, the more regulated framework and functional market practices of social supermarkets such as Matmission provide a viable solution both for businesses as well as individuals in need (Kullenius, interview, 2018). For the future, she assumes that block-chain or artificial intelligence can help reduce the amount of food surplus, by closer estimations of requested quantities.

4.4.8 Food Saving Lund

Food Saving Lund is a student initiative, part of the sustainability forum of Lund University students. With its actions starting in 2013, the FSL initiative currently has 5 volunteers. In the interview I talked with 2 international master’s students both involved in the project for one year.

One of them was aware about similar activities in their home countries, but they both became active through the initiative in Lund. Despite the initiative being open to contribution from anyone interested, the people involved are international students. As they discuss, they do not know if natives are careless about the initiative or it has to do with the idiosyncrasy of the current network of people involved. The opinion of the public when they hear about the idea is generally positive. However, they mention that the promotion of their activities is not prioritized since there are so few members. The only exception would be their facebook group, which mainly serves as a communication channel for the members of the project.

Group meetings are weekly and informal but they try to provide feedback on their actions and discuss about further plans. Moreover, the initiative is not officially registered, due to the amount of bureaucratic work that would be needed to be done as well as dedication and monetary funds required to register. This can be seen as an obstacle for their activities. For example, their participation in a sustainability event in Lund University was halted due to a bureaucratic fee that they were required to pay.

Their practice for tracing surplus is based on informal agreements, despite their effort to be as consistent and trustworthy with the pickups as possible. Bread is daily provided from a bakery and a small grocery store weekly provides fruits and vegetables. 5 to 10 kilos of bread would be an estimate of how much they collect every week but keeping of figures of the amount of food shaved has not been done yet, though it is planned to happen as a way to raise awareness about the solution they bring forth.

In the past, they have tried to extend their network of collaborations with the local branch of Willy's and a hotel. However, their proposals were denied, as the main reasons provided were legislative barriers and the unsure hygienic safety, since the initiative does not own any infrastructure with cooling facilities and the store and hotel would be held responsible if donated products would be unfit for consumption. The main recipients of their donation are a homeless center, a young refugee facility and Fontänhuset, a mental health support facility. Moreover, they distribute surplus to their network of friends and store it in a public fridge in a university department, which anyone can access.

According to FSL (interview, 2018) food waste is a "structural problem" and they referred to the combined consumer and retail practices that amplify it. Moreover, they stressed that consumers are distanced from production and disposal of food ("it's all good as long as you don't see it"), making them so eager to dispose of products that are not cosmetically perfect. Lastly, the promotion of a more sustainable consuming attitude from supermarkets "would be in their profit, as they would sell as much as possible". Legislative measures as well as awareness raising are crucial to adhere to the phenomenon. The perceived image of a lack of a social need for a food bank is a reason behind its absence as well as the exaggerated concerns about the hygiene of surplus foodstuffs. Lastly, consumers highly regard the symbolical meaning of "paying for your food, as it feels good". Entrepreneurs or groups of people who want to kickstart such projects need the aid of official actors, as it can be harder for internationals to develop the network needed.

5 Analysis

In spite of the different standing points and significance of actors, one can observe a convergence in their incentives as well as challenges faced. Their organizations were influenced by existing working practices in other countries and tried to apply similar solution in the Swedish context, as an answer to the currently unsustainable food chain, as well as emerging social challenges in the landscape. Through this reshaping process of agents in their respective regime the aim was to advance the transition from the niche of a Stockholm or Malmö suburb to an accepted if not established solution nationally. This goes in line with Roep and Wiskerke (2012), who mention that AFNs create a global network of connected spaces of change which challenge and reform the established food regime, forging new paths for transition. But why did it take so long? As most of the interviewees suggested, the perceived prosperity level of the country as well as the efficiency of the welfare state were indeed what delayed the realization of the landscape development, an outcome of the economic and refugee crisis. The question persists, was it a structural characteristic that delayed the development of such organizations, comparing to fellow Scandinavian countries, which have already developed similar initiatives?

Nevertheless, a plethora of food redistribution organizations have sprung up in the last few years. How can one access the agents of the established food regime? How do its lock-in mechanisms hinder the transition to redistribution practices in Sweden and to what extent have they been reshaped to the needs of emerging regimes?

First off, the cultural meaning of food donation as discussed above, includes the non-realization of an emerging social need. However, one can state that this argument is less and less valid as more and more food surplus organization emerge. Still, the false perception of surplus as garbage directed towards poor people (Matmissionen, FSL, interviews, 2018) denounces the acceptance of the idea beyond the network of people that are closely related to the redistribution scene and have a common set of beliefs (Padel & Foster, 2005). One can argue that this perception largely stems from the distance incorporated to the consumerist attitude towards food (Matsson, FSL, 2018). The “Food is cheap” argument (Matsson, interview, 2018) can be interpreted as implying the perceived low (sentimental) value of food and the lost respect for it in affluent societies (Schneider, 2013). If that was not the case the amount of food waste would be remarkably lower. The significance of education was frequently mentioned as a preventive measure, as was the closer estimation of food quantities requested. On the contrary, the public view is positive when the organizations’ missions are explained, indicating the reshaping of symbolic meaning. Therefore, the promotion of such organizations is seminal for a more sustainable food chain. The question persists (Matsson, interview, 2018). Who is responsible for the promotion of those ideas? Is it the state or the organizations themselves?

To begin with, stress was put to formal institutions in a number of ways before reaching to the issue of promotion. The sectoral policy that abides food donation is no different from other food business operators as already mentioned. Nevertheless, as research has indicated (Gram-

Hanssen et al., 2016), nearly one third of food serving parties have ignorance or uncertainties about the legislative framework (also noted in (Hanssen et al., 2015). The very recent practice of food donation explains this phenomenon, but it also might be used as an excuse from retailers to avoid the input of more resources into the required processes (FSL, interview, 2018; also found in Schneider, 2013). Nevertheless, clear national guidelines on what is considered waste (Kullenis, interview, 2018) as well as on redistribution activities (Gram-Hanssen et al., 2016) would accelerate the spreading of knowledge. Moreover, following the French example, more restrictive laws concerning the disposal of food surplus were suggested (Matsson, FSL, interviews, 2018) and an increased fee for food waste was not suggested (Kullenius, interview, 2018). As Gram-Hanssen et al. (2016) stress the issue of VAT-liable donations which hinder retail, especially in countries that invest in biogas facilities such as Sweden. Contrary to other EU countries, tax deductions are not applicable for donating businesses. Nevertheless, neither of the above seemed to be referred as an obstacle from interviewees. This, however, might be different if interviews with retail actors were conducted.

Should the organizations handle the promotion of redistribution practices themselves? Of course, the promotion is crucial to attract more donators-collaborators and expand the social-environmental value added. Some of the organizations have already attracted public attention. A distinctive example is Allwin, with the company investing on building the founder's and its partners' sustainability profile by delivering lectures and grabbing media attention. According to Mitsou (interview, 2018) this sustainable business profile contradicts the little or no networking and collaboration with emerging ventures. As Larsson and Mitsou (interviews, 2018) stressed, collaboration is needed to achieve national coverage, or as the framework would put it, transition to a new regime. Therefore, networking should be prioritized instead of strategic games. Gram-Hanssen et al. (2016) also regard the lack of networking as a major hindering factor, due to the lack of knowledge about redistributing organizations (also in Matsson, interview, 2018) or interested recipients. Gram-Hanssen et al. (2016) add that redistribution mostly takes place in big urban centers, despite recipient organization being located in smaller cities, indicating the need of networking among actors. It should be noted that Matsson (interview, 2018) suggested that Allwin has aided the food bank set by Kontra Punkt.

Due to the nature of the concept of redistribution, actions of redistributing organizations can also be promoted by retailers, that wish to improve their CSR. The interview with Larsson has shown that retailers, despite being reluctant to donate to an organization that is linked with their competitors, were eager to donate products to the food bank and urged the collaboration with others, as it would help grow the activities and reputation of the venture, a positive outcome for all the parties involved. Food2change and Allwin are more organizations which show that their independent approach has attracted competing retailers. Van Amstel et al. (2012) comment that the relative power of actors and their impact is a topic widely discussed in the sustainability transitions literature, questioning whether transitions can derive from the bottom-up niche innovations or top-down actors, coming from the currently established practices.

This questions if top-down initiatives such as Matmission and ICA's Salvation Army can adhere to the situation better than independent bottom-up initiatives. As Oosterveer (2012) underlined, private companies can enforce regulations more efficiently than governments due to their market power and can thus promote the actions of their affiliated food bank.

Additionally, one can argue that due to the high capital intensity of the project as well as the knowledge and infrastructure required, ventures with retail support devote less time in the learning process, but are less attractive when it comes to the attraction of other industry players. Nevertheless, one can question how “independent” an organization can be, especially when wanting to break out from the niche. The support of its collaborators will arise sooner or later and will to a certain extent determine its trajectory.

Essentially, a food bank operates as a middle-man utilizing a traditional supply and demand model (Alexander & Smaje, 2008) and a fairly straightforward warehouse and logistics routine, being however restrained by the power relations of big industry actors that would not allow their brandname to be jeopardized by an organization with unreliable processes. Thus, more than the hygienic tests executed, an efficient logistics system is crucial for redistribution of products with limited life-expectancy and expected by large food companies. “More peers are welcome, if they can work the logistics” (Larsson, interview, 2018) essentially means that food redistribution organizations are limited by the cost of infrastructure. The issue of small capacities of actors was mentioned as a major hindering factor (Kullenius, interview, 2018) as well as described through the narratives of initiatives that failed or face difficulties scaling up and gaining trust (Mitsou and FSL, interviews, 2018). Such capacities include but are not limited to how many skilled individuals an initiative can attract, the founder’s entrepreneurial skillset and connections in the market, the available capital for investment etc. The above are all essential for a venture to break out from its small niche and gain momentum as well as attract the attention of big industry actors.

Nevertheless, one can argue about the limited motivation of entrepreneurs to grow their venture from an “eternal niche” when it has reached a satisfactory level, or the informal market practices that limit the expansion of volunteer initiatives. Even though there is a certain truth in the arguments above, it should be stressed that expansion is hindered by limited public reception (f.i. in the case of Rude Food). Moreover, it should be considered that if there was a big margin for growth, this would attract more initiatives and startups to engage in this market. The regional scattering of such projects indicate that despite the interest in such projects, the market has not pushed the threshold of more than two big projects per county. Lastly, it should be mentioned that the sourcing of labour was not challenging, according to the interviews, as the environmental and social incentives attracted a number of volunteers.

5.1 Discussion

The importance of providing protective spaces for such organizations to develop as well as the necessary funding, was stressed given the socio-environmental weight of the projects. Mitsou (interview, 2018) suggested the redirection of subsidies towards organizations that create social value, instead of tech startups, which one can claim is the eternal struggle of the social entrepreneur. Despite the fact that both policy makers and the market itself seem to welcome the development of such initiatives, Gram-Hanssen et al. (2016) confirm that the lack of political prioritization hinders the expansion on national-wide food banks in the Nordics. This

creates the questions: is a food bank the optimal redistribution solution for the Swedish context and should one organization be responsible or rather a network of collaborating ones?

Despite fact that this thesis examined the Swedish transition to a food redistribution mechanism, the researched practice of a food bank hasn't yet proven to be the most efficient solution, as there isn't a one-fits-all solution (Kullenius, interview, 2018; Regeer et al., 2009) but rather innovations need to be tested, re-shaped and might even fail in the process (Geels, 2002). Rather, using the literature around food banks served as a foundation in the investigation of the field. As Alexander and Smaje (2008) comment in their research on Fareshare, 1/3 of the products donated to charitable industries still become part of the food waste stream. Despite the fact that there is a big quantity of food being wasted and a significant population threatened by poverty, Schneider (2013) claims that food donations cannot really solve the problem of food poverty, as "different mechanisms regulate poverty and prosperity", an argument also brought forward in the German case(Rinke, 2018). Moreover, donations can be hindered by practical barriers, especially when individuals are not "represented" by humanitarian agencies and are required to pick up charities themselves.

Nevertheless, the aim of organizations is to redistribute as much food as possible and decrease food insecurity(Alexander & Smaje, 2008). Representatives of redistribution initiatives stressed that similar ventures should be fostered for the greater public good, since at times their financial return can question their longevity. The growth of their operations is a pre-requisite, but the implementation of more (social) innovations was also suggested (Kullenius, interview, 2018), to expand their business models. Similarly in Fareshare, there has been discussion to provide a vertical waste management solution for businesses, on the one hand utilizing surplus food for charitable activities, on the other hand providing transporting solutions for unavoidable waste. This requires improved monitoring and logistics systems as well as delivery routines, in order to attract more donations and increase their scale of operations both on the avoidable as well un-avoidable waste. This expansion was suggested as a way to grow Fareshare from a supplementary solution focusing exclusively on surplus food to an all-encompassing solution (Alexander & Smaje, 2008). Such a shift would move the company from the philanthropic model towards a conventional business one, which could grow in scale and be deemed reliable to extract as much social value possible. Alexander and Smaje (2008) regards this direction as a plausible way to adhere to the challenges a social business needs to face, essentially capitalizing on the network it has established. One can question the regime under which this transformation can and if it will take place as well as the ratio of social to corporate business tactics followed eventually. Nevertheless, providing such services for retail could prove to be a more efficient solution both from a sustainability perspective as well as adhering to the challenge of increased manhours required to properly short surplus from waste.

The topic above provides only a hindsight of how current niche practices need to review their business models, a topic that needs to be further developed in future research. As Spaargaren et al. (2012) mentioned when analyzing the model, the social dimension within it is the most important element. For this reason, further research can deeply investigate how said organizations collaborate and if those collaborations promote a faster transition. Gothenburg provides an interesting case candidate, as a lot of initiatives have sprung out and its important to see how they collaborate or have been influenced by Allwin. For a more holistic approach to

the food chain MLP, research should also capture the food redistribution perspective of official actors and private companies.

6 Conclusion

Food is a product with a high resource intensity. Its production, trade and consumption are also linked to the social and professional life of individuals and therefore has an added high sentimental value. Nevertheless, it bears a high waste probability, even when it is edible. After a commodity has been produced, waste management suggests its reuse as the optimal scenario, due to the social value still attached to it. The redistribution of edible food in Europe is the main activity of food banks. Sweden, despite its welfare state, social sensibilities and highly-acclaimed environmental conscience rates low on the redistribution of food, since no food bank is currently established in it.

This study utilized a food chain specific adaptation of the MLP framework to initially analyze the currently established food regime of the country and then map the existing plethora of small actors. Moreover, with the help of interviews conducted with experts from organizations that deal with food redistribution, I tried to answer why Sweden lags on this field, which are the lock-in mechanisms most challenging to reshape, discuss the emerging niches and finally explore if a food bank is likely to emerge in the country.

Interviewees suggested that the landscape development which motivated the emerging practices was rather new. Moreover, pressure was put on how legislation and formal actors have done little to clarify the framework, foster and protect such niches, as cultural meaning of redistribution has started to alter. The networking of redistribution peers is an effective way to exchange knowledge and collectively adhere to the common infrastructure and small capacity challenges, which hinder the expansion from regional to national coverage. In spite of the concerns voiced from branches, overall retail seems to be eager to support such initiatives. The organizations interviewed are in a transitioning phase but Matmission seems to be the organization most probable to operate an officially recognized food bank.

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8 Appendix

Questionnaire example

Rude Food Malmö interview – 2nd of May 2018

1. Talk about yourself. (name, current position, past experience)
2. What is food waste for you? (what are the negative aspects of food waste?)
3. What is the difference between food waste & surplus?
4. Rude Food utilizes surplus food and provides catering services for the price of a normal catering service. When was it founded? Who (person or team) came up with the idea behind the project? What is their background?
5. Has its operations changed since it began? If I am not mistaken Rude Food is about to/has started to operate a food surplus café. Is it something you intend to do on a bigger scale?
6. Do you have figures about the amount of food cooked and how many volunteers are currently registered? What percentage of them are active?
7. How is it managed? Is there a central board responsible for decisions? Do volunteers have a say?
8. Does Rude Food have normal “employees” or does it solely operate on voluntary work?
9. Is Rude Food registered as an NGO? What is the tax regime it falls under?
10. Where / How do you trace food surplus? Do you collaborate with stores that provide you with surplus food on a frequent basis?
11. If not have you approached them in the past and what was their response?
12. What happens in the case of food shortages or surplus? How do you deal with your stock food considering that it has a limited lifetime?
13. Do you cover expenses just by the profits of Rude Food? Do you receive any other type of support (monetary or material)? By whom?
14. What is the response of the general public towards Rude Food? Has any mistrust towards the quality of products come to your attention?
15. Have you faced any legislative obstacles when founding/expanding the operations of Rude Food?

16. You have been active in promoting the issues of food waste and taking part in/organizing workshops for the reduce of food waste. How do you perceive the support of official actors? Is the food-rescuing attitude on the rise in Malmö?

17. What other actors (companies, NPOs) active in the food redistribution scene are you aware of? To what extent do you perceive them as competitors? Would you pursue collaborations with “competitors”?

18. What do you think is the optimal solution to fight food waste?

19. What other solutions to decrease it / make use of it do you know of?

20. Can a substantial amount of food surplus practically reach people instead of composting / thrown away? Do you think there is a better way to systematically reduce food waste on a large scale?

21. My thesis investigates the possibility of a foundation of a Swedish Food Bank. Are you aware of the concept? Sweden is respected due to it being a home for a big number of social innovations and businesses. Contrastingly, Sweden is lagging behind on food redistribution, since the establishment of an official organization that would ensure national coverage has not occurred yet. What is your opinion? What is the reason behind the unestablished status of a Swedish food bank? What could be the major obstacle?