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Redistribution, Reciprocity, and Householding
Recontextualized: An Interconnected Approach to Prevent
Food Waste in Germany's Retail and Homes

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Abstract:

Food waste is a global problem. While in some regions food security is insufficient, wealthier ones see the consequences of their provisional abundance. Despite some state efforts in Germany through campaigns and citizen initiatives, an estimated 11 million tons of food go to waste every year. When it comes to preventative and redistributive measures in retail and households, a notable reason seems to be a lack of coordination between stakeholders like the government, foodsavers, and regular consumers. This work highlights some of the main obstacles by first reviewing formal and informal efforts present in Germany. This informs the survey that was distributed to what is here termed 'foodsavers' and 'non-foodsavers'. It highlights differences between the groups while contextualizing practices and obstacles of storage and involvement. Inconvenience, uncertainty and preconception emerge as larger terms that group different problems for food saving activities and other waste-preventing behavior. The collected findings are then recontextualized, leaning on three principles of economic organization as defined by Karl Polanyi: redistribution, reciprocity, and householding. By recontextualizing them in a food waste context and applying them to the problems and opportunities identified, this thesis suggests some paths to moving towards more interconnected stakeholder relationships that make better use of the collective resources available.

Lo spreco alimentare è un problema globale. Mentre in alcune regioni la sicurezza alimentare è insufficiente, quelle più ricche vedono le conseguenze della loro provvisoria abbondanza. Nonostante alcuni sforzi statali in Germania attraverso campagne e iniziative dei cittadini, si stima che ogni anno 11 milioni di tonnellate di cibo vadano sprecate. Quando si tratta di misure preventive e redistributive nella vendita al dettaglio e nelle famiglie, una delle ragioni principali sembra essere la mancanza di coordinamento tra le parti interessate, come il governo, gli operatori del settore alimentare e i consumatori abituali. Questo lavoro mette in luce alcuni dei principali ostacoli, esaminando innanzitutto gli sforzi formali e informali presenti in Germania. Ciò informa il sondaggio che è stato distribuito a quelli che vengono qui definiti "foodsavers" e "non-foodsavers". Il sondaggio evidenzia le differenze tra i gruppi e contestualizza le pratiche e gli ostacoli di conservazione e coinvolgimento. L'inconveniente, l'incertezza e il preconcetto emergono come termini più ampi che raggruppano diversi problemi per le attività di risparmio alimentare e altri comportamenti di prevenzione degli sprechi. I risultati raccolti vengono poi ricontestualizzati, basandosi su tre principi di organizzazione economica definiti da Karl Polanyi: redistribuzione, reciprocità e householding. Ricontestualizzandoli in un contesto di spreco alimentare e applicandoli ai problemi e alle opportunità identificate, questa tesi suggerisce alcuni percorsi per muoversi verso relazioni più interconnesse tra gli stakeholder che fanno un uso migliore delle risorse collettive disponibili.

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The candidate also declares that all the materials used during the preparation of the thesis have been explicitly indicated in the text and in the section "Bibliographical references" and that any textual citations can be identified through an explicit reference to the original publication.

Firma dello studente

K. Diehus

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1 Introduction

“In a world of seven billion people, set to grow to nine billion by 2050, wasting food makes no sense – economically, environmentally and ethically, aside from the cost implications, all the land, water, fertilisers and labour needed to grow that food is wasted [...]”

Achim Steiner, UN Under-Secretary-General and UNEP Executive Director, Press release 2013

1.1 Background

When it comes to political recognition of food waste as an issue of global concern, with impacts far beyond the spaces of landfills, one runs in the proverbial open door. While in some countries there is a lack of sufficient nutrition and food security, with an estimated 720 to 811 million people worldwide having faced hunger in 2020 (FAO, 2021, p.11), wealthier countries see the consequences of their provisional abundance. The wider environmental impacts of food waste are at least equally far-reaching, including air and water pollution (Poovazhahi and Thakur, 2020), soil erosion, deforestation, air, and water pollution (Lombardi and Costantino, 2020) as well as greenhouse gas emissions occurring within the whole food supply chain from the agricultural until the waste management phase (Scherhauser et al., 2018). Considering that 25-30% of the greenhouse are estimated to be caused by the food system (IPCC 2022, p.440) while tons of food are lost along the chain, the error in the equation for responsible resource management and a just food system is obvious enough. This is underlined by the FAO's connection of the United Nations Sustainable Development Goals (SDGs) target 12.3 (to half global waste at the retail and consumer and reduce food losses along production and supply chains) to possible environmental effects on, among others, SDG 6 (sustainable water management), SDG 11 (sustainable cities and communities), SDG 13 (climate change), SDG 14 (marine resources) and SDG 15 (terrestrial ecosystems, forests, land and biodiversity) (FAO, 2019, p.2).

Thus, food waste is not only pressing with regard to the resources lost but also the harmful byproducts of food production and food insecurity still happening simultaneously. To combat the intertwined results of food systems, clear definitions of the problems and causes are indispensable.

Food loss and waste (FLW) are often grouped together in general discussions where food waste is mentioned. Yet the distinction between loss and waste is relevant here, as this work will focus on the latter. This work also uses the widely adapted definition of food loss as occurring at production, postharvest, and processing stages and waste only including the retail and household level (Parfitt et al., 2010). Waste in this case is all discarded food that would be appropriate for human consumption, irrespective of whether it was kept beyond the expiry date or spoiled (FAO, 2013).

The most comprehensive data on food waste from the United Nations Environment Programme report from 2021 estimates that 17% of global food production, around 931 million tons, was wasted in 2019 alone. Of those, 61% are related to households, 26% to food services, and 13% to retail (UNEP, 2021, p.70). The last two phases of the food chain are responsible for most of it. Commitments at the highest levels of administration have been made. Among others, the United Nations Sustainable Development Goal of responsible production and consumption to halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains by 2030. The European Union ran its FUSION project from 2012 to 2016 and introduced the Farm to Fork Strategy. National and regional measures have been applied both voluntarily and as part of the commitments of member states. And yet, the update on this commitment about the percentage of food lost globally “is estimated at 13.2% in 2021, unchanged from 2016 and far from the target of halving post-harvest food losses by 2030.” (Report of the Secretary-General, 2023, p.19).

It has been reported that developed countries’ significant share of wasted food occurs at the consumption stage while developing countries rather note losses during the early and middle stages of the chain like production and transportation (Parfitt et al., 2010). Newer findings nevertheless suggest that waste levels in households of high, upper-middle-, and lower-middle-income countries are similar to each other (UNEP, 2021). This stresses again that not just action against losses, but also waste is relevant and could make a difference across a group of consumers larger than previously assumed. If from production to processing, distribution, retail, and consumption the two last ones are responsible for a massive part of food being produced for naught, and certain countries are more likely to fall into this category of FLW, it is worth looking at current practices that offer the bigger potential for change. Germany is such a case. The Federal Statistical Office reported that in 2020, 59% of food waste occurred in

households, and 17% in restaurants and food services (Destatis, 2024). Apart from retail and household waste being an issue from a resource perspective despite the country's relative size, the ethical implications of setting an example should not be overlooked. Denmark, for example, has drawn quite some attention to itself with its movement *Stop Wasting Food* (2008), an approach that shares similar approaches with the later introduced German initiative *Zu gut für die Tonne* ('Too Good for the Bin').

The sources of wasteful behaviors and systematic setups that need to be at the basis of such an intervention design are now being extensively studied. At the retail level, limited shelf life, aesthetic standards, and variability in demand have been shown to be major causes, while within the household lack of meal planning, excess buying related to large portion and packaging sizes, confusion over labels ('best before' and 'use by') and poor in-home storing are main contributors (FAO, 2019). Overstocking due to inaccurate forecasts of the demand of customers in shops or catering and lack of knowledge on the consumer side about storing, food preparation and use of leftovers is also contributing (Priefer et al., 2016). Many products travel long distances nowadays from the production site to consumers. At the same time, the concern for food safety and high-quality fresh produce has been reported to have grown already some time ago, resulting in the waste of edible food before it is even sold (Lundqvist et al., 2008). Suggestions for addressing the problem vary in scope and moment of intervention, from policies to education and bottom-up citizen initiatives. These can be applied at the individual moments and places along the chain on which research has gained insights, whether it be the complex dynamics of food waste in the home (Turner, 2018), compromised performance of food recovery networks due to competition and conflict (Kunchambo et al., 2023) or what different kinds of food waste policies are happening on city level (Fattibene et al., 2020).

1.2 Objective

Still, these methods each often exhibit limits or unfilled potential due to a ceiling out of a stakeholder's control. Consumers might have no access to choose saved foods when shopping in their area or information campaigns on food waste might only reach people already looking to reduce their waste by seeking out such information (Chinie et al., 2021). Policies guarantee legal security but can complicate redistribution that would

allow the flow of food to final consumers instead of the bin. Voluntary efforts of citizen initiatives or movements may be restricted by time, personal or financial resources. As will be touched upon in the next chapter, a lot of research is still directed toward the technical side of solution design, for example, storage solutions (Holsteijn and Kemna, 2018; Amani and Gadde, 2015). This means that not only are the social components, among them social actors of food systems, not considered enough to the topic, but also not connected enough among each other. There is potential in investigating how they could aid waste prevention or how they hinder one another; not individually, but as part of and within an enabling food saving social structure. The question is thus: is there a way to use joint efforts effectively and directed in a way that shares each other's advantages and removes individual barriers? What about possible functions and responsibilities that could emerge, if we not only considered an actor's own realm of food waste curbing measures but positive synergies of facilitating or encouraging another's effort? In other words, do we need a more socially interconnected approach and if so, what would it look like? These connections shall be at the heart of this study. To do so, chapter two will first offer an introduction to the relationship between social sciences and food waste to get an impression of the ground we are standing on and which approaches have crystallized so far. This is followed by an account in chapter three about the anti-food waste measures within retail and households in Germany, which will be the case study and one basis on which explorations for change shall be based. Chapter four shall provide more support and revolves around a questionnaire that was distributed to both consumers and highly food waste-conscious food savers from Germany's *foodsharing* network. The goal will be to get a sense of the two individual situations of intention versus scope for action in the current food system. Specifically, how the distances between an unconscious consumer (who is not particularly mindful of the topic), the conscious consumer (who is, but under certain circumstances hindered from acting accordingly), and the enabled consumer (who is both conscious of it and also structurally able to align this with their action) can be perceived. This should show if there are unused opportunities, possible commitments, or pitfalls when it comes to moving more people out of the first category. Once this situation has been properly examined, chapter four takes key themes from Karl Polanyi's major work *The Great Transformation*, and examines whether it might help to reimagine the issue in the context of food waste. This is to see what can be learned in the rethinking rights, obligations, and opportunities of mainly three stakeholders in

food systems: the consumer, the government, and the food saver, as represented in initiatives, movements, or citizen groups that partake in rescuing food from being wasted. Finally, chapter six will tie the findings of these two parts together with special attention to the three aforementioned principles of economic organization redistribution, reciprocity, and householding to summarize what this means for potential openings within the current food system in Germany. Householding as a means of mainly self-sufficient production and consumption for the living unit has been largely replaced by market exchanges. Still, it is argued that with a focus on these three, with respect to the market influences that impact them, it is fairly interesting to explore these alternative possibilities. We thus ask, how we can maximize positive dynamics between actors to maximize their potential. Are there maybe limits related to or created by their current form of co-existence? What obstacles are in the way, and can this framework offer a solution? If so, it could and should change how we operate.

This thesis is thus diving into the governing role and two citizen roles. On the one hand the regular, at times even actively conscious, and on the other the food saver, consciously active. Instead of focusing on individual consumer responsibility or governmental attempts to curb 'bad waste behavior', this work is an attempt to connect interdependent solutions. The outcome should provide help to orient problems and ideas in space.

2 Food Waste in the Social Sciences

2.1 From Absence to Rise

Before entering the case study of Germany, this chapter tries to provide a general overview of the way food waste used to and is now being connected to social sciences, as well as demonstrating some ways in which they approach the issue. This is not only relevant to show the different forces contributing to the problem of waste, but also how different social sciences offer contributions to different parts resulting in the same problem. This connection of the wider social sciences shall be made instead of only between food waste and sociology, for example, as later research will not only connect social practices but also governance, consumer behavior, or political economy as decisive entrances into the way of addressing the problems connected to waste. The two main questions are thus: what does the relationship between food waste and social sciences look like? And secondly: what do they have to offer in contrast to research coming from 'harder' sciences that deal with, for example, the technical improvement of recycling rates or packaging?

The change that the disciplines went through with respect to the breadth of attention that was not given to the matter in the consciousness of the academic landscape shows that these questions are not trivial. Indeed, the topic seems to have suffered from the multiplied burden of its two parts: firstly, a lack of attention to the social, political, and cultural aspects of food; secondly, an even lesser degree of the same for waste; and thus an even narrower selection of research that dealt with their combination - food waste. In an attempt to explain the apparent neglect of attention, Evans and colleagues (2012) speak about an apparent lack of interest that is connected to the role social questions were ascribed to in relation to food waste. Waste, they say, lay beyond central cultural and economic questions and had their point of contact, if any, rather with practical questions of social organization. While Chen et al. (2017) acknowledged that within their research period of 1997-2014 there has been a rising interest in food waste, especially in the last years, the research focus of the 2340 research articles they analyzed was largely based on categories like agricultural engineering, environmental sciences or biotechnology applied microbiology. Surely, social and cultural aspects of food have been of interest for a good amount of time before. Yet several dynamics have been going on in the academic landscape to push food waste specifically ever more into the direct light of research interest, going from

disinterest or negation of importance to the 'hidden value' of the discourse. The individual parts of the term certainly constitute some of them, namely the social sciences' investment firstly in food, and secondly, in waste. A relevant one for the first half came onto the agenda with the sociology of food, even though food waste or food disposal still was hardly to be found (Evans, 2012). However here we can see the matter being tackled through subcategories as well, as with the sociology of food and agriculture (Carolan, 2016), food and nutrition (Williams, 2016), or food and eating (Ward et al., 2010; Murcott, 2019), where, in the latter, food waste already constitutes one chapter.

The initial absence of waste on the other side demonstrates how it was pushed to the margins of scholarly and political imagination, argued O'Brien in his influential work "A Crisis of Waste? Understanding the Rubbish Society" (2008). The centrality of it in all our lives would be diminished as if waste could be disposed of and forgotten. Yet making his case for what he calls a 'rubbish society' and a critical look at dominant sociological theories of waste elevated the matter in the general consciousness about our relationship with waste. Another important contribution came in the form of 'waste regimes' (Gille, 2007). Gille describes how social institutions and conventions ascertain the value of waste and asks about what studying waste production reveals about the social relations that govern it: "whether or to what extent waste issues are a subject of public discourse, what is taboo, what are the tools of policy, who is mobilized to deal with waste issues, and what non-waste goals do such political goals serve" (p.34). Those are all questions that can also be narrowed down to food waste. Indeed, Gille later specifically wrote about 'food waste regimes' (Gille, 2012). There she expands on how a stronger public discourse about consumer responsibility instead of structural explanations of waste serves already powerful actors, who apply various risk avoidance strategies, economic or political for example. She thus argues strongly for the need for a more sociological analysis. Waste thus, too, as a general category was slowly starting to overcome its unappealing sideline association.

Evans et al. (2012) again see a combination of tendencies responsible for the shift of enthusiasm for food waste, which they identify as "sudden events and crises that have altered hitherto taken-for-granted certainties; secondly, national and international governance and policy shifts; thirdly, activist and cultural politics; and fourthly, longer-term technological and environmental trends." (16). And so, there have been acknowledgments in the gradual turn of consciousness. In *The Handbook of Food*

Research, the chapter on food waste (Alexander et al., 2013) considers three shared pillars of social science and food research, namely political economy, the cultural turn, as well as posthumanism. Through them, they write, one can begin to see how, respectively, waste occurs along the whole value chain and not just as a symptom of household consumption; how a cultural shift in ideologies can influence the politics of food and consumption and thus the prioritization of solutions; or how through the many networks of live matter the boundaries of food are blurring. Those cases only highlight the inseparability of food (waste) from its various social contexts. It is clear then, that food waste is not as clear cut as it might seem, that the scholarly luggage of both food and waste about individual, social, political, and cultural embeddedness and contexts play a huge role. Meanings and processes are dynamic and shape how we deal with food, its transformation into waste, and who is in charge of dealing with it.

In recent years especially the political agenda of prioritizing food waste has certainly helped involve a large variety of sciences to come up with their proposal of causes and strategies. The European Union committed to the UN Agenda for Sustainable Development and its Sustainable Development Target about halving per capita food waste at the retail and consumer level by 2030, as well as its own action plan in 2015 to deal with the problem. Whether it be via the *FUSIONS program*, the *Circular Economy Action Plan*, or the *Farm to Fork Strategy* - the race to measure, explain, and prevent (or at least properly deal with) food waste has properly come into the political and academic arena. Even if the social share of food waste studies leaves something to be desired, one might say that the general wave of food waste scholarship raises these disciplines with it.

2.2 Social Innovation

Before indicating possible contributions, different social sciences can make, one last emerging tendency is noteworthy. Social innovation (SI) is being used in a variety of contexts for new ways to develop and apply solutions to social challenges. Edwards-Schachter and Wallace (2017), recognize the difficulty of providing a final definition of the term, yet their meta-study traced three commonly shared fundamental characteristics: the processes of social change, the aim of sustainable development, and lastly social needs within the service sector. They conclude that “SI is a collective process of learning involving the distinctive participation of civil society actors aimed to

solve a societal need through change in social practices that produce change in social relationships, systems and structures”, p.73). It becomes thus apparent how SI applied to a food waste context could help not only to have critical participants of change like citizens (or consumers) be truly part of change, but also address this change via practices that make up the total of these structures and relationships.

With the social turn to food waste, SI too has finally been considered as a possibly viable tool to realize more sustainable ways of dealing with food. Zhao and colleagues (2023) published an analysis of fifty studies about social innovation activities such as food rescue hubs, digital food-sharing platforms, and social supermarkets, categorizing them and identifying areas where more investment and research might be needed to make social innovation actions more effective. Within this area, similar future propositions can be heard: the need for a more interdisciplinary approach, thus more collaboration with social ones, such as using a social practice ontology approach for household food waste (Schanes et al., 2018; Lombardi and Costantino (2021), who see untapped potential in the combination of both the waste pyramid approach as well as food supply chain together with social innovation models, to create a new pyramid. The potential is not exhausted.

Already cross-sectoral joint efforts are happening between governments, industry, and civil society, in line with the holistic approach that food waste demands (Spring et al., 2020). Yet the form their solutions take must be regarded critically. Technical innovations and recycling solutions alone are not enough and may also come to their limits when the individual, cultural, social, and political contexts stand in the way of their practical success. The framework and exploration of the current limits of the case study later will serve as an extension to the discourse and invite new considerations for tackling this ubiquitous narrative of waste. Still, food waste has come forward, and depending on the part of the chain or locus and cause of waste reduction, different disciplines have varying solutions at their forefront. Having gone briefly into how the relation between food waste and social sciences has played out, the last section is a case for the merits some of them bring to the table and have been used. Additionally, it mentions how SI could positively contribute to the picture. This orientation will help in the later exploration of propositions within this research by highlighting the relevant options, and what purpose they serve, improving current practices.

2.3 Prominent Social Science Approaches to Food Waste

Four domains in the social sciences are particularly interesting for their access to food systems, again keeping in mind the trans-disciplinarity of methods that are needed.

Social practice theories understand the everyday practices and habits of consumption behavior in which it is ingrained, connecting the process of eating with that of disposing (Yates, 2014). Such is for example research on the composition of and reasons for waste in shared student apartments, where living arrangements, age, and perceptions of responsibility appeared to have a significant impact on practices leading to waste (Ozanne et al., 2022). Through this type of framework, and especially social innovative practices, the forces and norms in smaller units like households or bigger ones as institutions can be taken into the equation and proactively used to redirect old practices.

The *political economy* approach was mentioned before. Unsurprisingly, as this is certainly a very prevalent entrance into food research, occupying itself for example with value chains and production networks (Alexander et al., 2013). Here we see the political and economic interests at play, the accompanying power dynamics, and market structures that allow or enforce certain behaviors in contexts of production, distribution, and consumption. With SI ideas, new economic opportunities considering labor and use of resources can be created that unfold in more sustainable ways. However, the debate within political economy research is not uncritical of the SI approach. Asking for the privatization of public services, market-based approaches, and smaller public budgets might thus be justified by the 'social' label that would supposedly indicate a primary concern with social impacts (Marques et al., 2018). However, this takeover of politics and business stakeholders, Marques et al. argue, can easily override the actual objective of dedicating to unmet needs. Grimm et al. (2013) also recognize how the SI's ambiguous understanding can lead to conflicting policies. As they put it, despite the argument that this form of active citizenship would be the neo-liberal way of putting the weight of state obligations on individuals, the state does matter here. Examples would be to provide examples or remove bureaucratic barriers.

Consumer behavior and decision-making shine light on the underlying psychological and behavioral aspects that determine choices and waste creation. Knowing the

attitudes and motivations that make food waste possible helps create effective interventions that tackle critical moments of consumers' conscious and unconscious decision-making process. Such studies highlight and categorize for example main behavioral characteristics of consumers, while advocating for the importance of continuous observation of influencing factors for public policies against food waste (dos Santos et al., 2022). In this instant, the psychological insights gained from research on it can benefit the adoption of SIs, whether it be how to involve people or overcome obstacles that stand in the way of implicating measures and education.

Lastly, *governance and policy perspectives* are huge stakeholders in both food loss and waste setups. Preventing surplus food production and its recovery and redistribution can be considered two main tasks of policy programs against food waste (Busetti, 2019). Institutions, regulations, and policies all structure and intervene in large-scale measures with it. Yet this is no straightforward task. Evans and Nagele (2018) point to the local, state, and federal levels which each have made attempts to mitigate waste levels. As they show, although the latter's state departments and agencies have the resources to conduct wide awareness campaigns or remove obstacles in the way of food donation via policies, such measures can and did still suffer from administrative obstacles, inconsistencies across states, ineffective communication or the opening of proverbial doors without giving enough incentives to enter. Analyzing government efforts, policies, and all stakeholders involved is thus one way to question current frameworks in place. Also, it produces suggestions for changes that allow less wasteful food chains and better allocation of priorities measures of waste prevention and management. Conversely, public policies themselves might be informed and adapted by integrated SI practices. As policy options often focus on attitudes, management capabilities, and logistics (Al-Obadi et al., 2022), innovative approaches might be promising to smooth the friction between theory and practice.

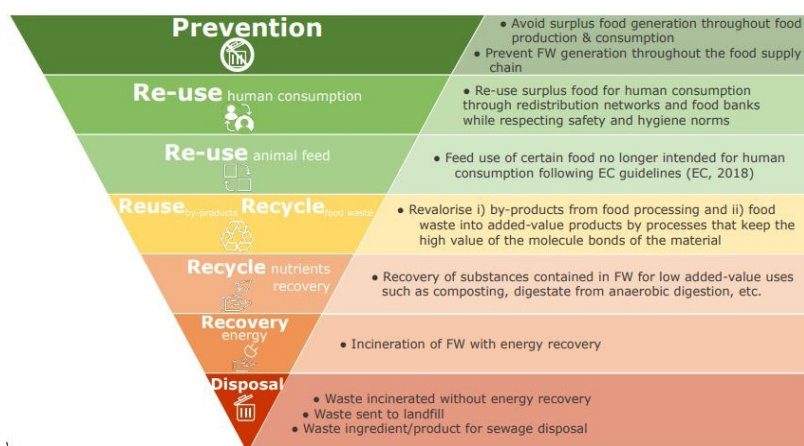
In short, social disciplines have gained acknowledgment when it comes to making valuable research contributions to food waste after suffering from a lack of interest and hesitation towards their applicability. However, much is still to be done to truly reach their potential as a lot of attention is still directed at engineering solutions in other fields. As shown, a combination of several approaches is necessary to holistically handle the problem, and social innovation can be an interesting way to enrich several of them.

3 Actors and Processes of Germany’s Fight Against Food Waste

3.1 The Waste Hierarchy Pyramid

To analyze if a framework can add something to the current food system, the basis of its subject should be laid out first to understand where one is coming from. This case study is based on Germany, which shares several features like safety regulations and standards with other European members, based on the General Food Law Regulation introduced by the European Parliament and the EU Council (2002). To review how the country is doing in the current context, it seemed plausible to compare its actions to a framework that was accepted by the EU itself to evaluate and order ways to deal with food waste. Waste hierarchy pyramids have become widely implemented frameworks to prioritize anti-waste measures, visualized as an inverted pyramid shape. The European Waste Hierarchy (EWH) as one of such, proposes a set of levels that orders anti-waste measures in order of most to least preferred, to minimize environmental harm from food waste management (Hultman and Corvellec, 2012).

Figure 1. Hierarchy for prioritization of food surplus, by-products, and food waste (FW) prevention strategies. Sanchez Lopez et al. (2020, p. 8)



The recap of the individual pyramid levels in Figure 1 is the EU’s own adapted version of the general waste hierarchy. Starting from the top, the most preferred option is the prevention of surplus food in the first place, followed by firstly by re-using it for human

consumption through redistribution and secondly by re-using it as animal feed. Only then as a fourth and fifth step does recycling into added-value and low added-value uses, like composting, come into play. Incineration with energy recovery comes second to last, finishing off with disposal without any energy recovery. Several countries have their own pyramids although they are usually very similar in their most and least preferred methods as Redlingshöfer et al. (2020) show with their comparison between the European waste hierarchy and the national ones of the Netherlands, France, the United Kingdom, and the United States.

Despite the general acknowledgment of these hierarchies, it could be more beneficial to regard the matter not as a question of waste management, but of resource management. This would acknowledge the need for a holistic view that incorporates the entire supply chain in working towards a true dedication to prevent waste in the first place (Bartl, 2011). Furthermore, there has been criticism of the effectiveness of their application. Redlingshöfer and colleagues (2020) see a mismatch between the theory of food waste hierarchies and their application, as illustrated by an apparent lack of actual prioritization of the highest-ranking measures like prevention over lower-ranking ones like recycling. This attempt to rather mitigate the consequences of produced waste, reflected in the number of end-of-chain solutions over preventing it, is also observable in Żmieńka's and Staniszewski's study review (2020). In the case of the EWH, the measures connected to the individual pyramid steps have been called into question as well (Priefer et al, 2016). The authors argue for policy mixes that include more compulsory preventative measures, to balance the currently highly 'soft' mix of measures like awareness campaigns and information platforms. While acknowledging these concerns, this work still resorts to this as a guiding principle of food waste reduction, for the sake of understanding how the country is dealing with the approach it subscribed itself to. This chapter attempts to link the most prominent actions in Germany to the hierarchic levels, hopefully providing an orientation to what extent and how well they are being implemented.

3.2 Federal Efforts

While there are policies like the European Common Agricultural Policy (CAP) that can indirectly impact food waste through sustainable farming practices and the introduction of innovative practices, food waste-targeting measures adapted to the country's

situation are more relevant here to target the underlying challenges. Following the United Nations SDGs, Germany should also halve its retail and household waste levels. As an EU member state, this was followed by the food waste reduction targets, to accelerate efforts and for goals until 2030. The Farm to Fork Strategy action plan later introduced in 2020 was then supposed to provide concrete and legally binding action proposals, including food loss and waste prevention (European Commission, 2020). Yet, Schebesta and Candel (2020) note that many objectives are not put into concrete action terms and that the strategy would need to genuinely include producers, retailers, and consumers more to reach the involvement and commitment this change needs.

One flagship force that certainly can stir development in this regard comes from the part of the government. The Federal Ministry for Food and Agriculture published a national strategy for food waste reduction, containing four pillars (BMEL, 2019). Research and digital transformation are one, with measures for both prevention i.e. through forecasting demands, and reuse for human consumption. Process optimization in the industry is another one, also with a focus on prevention via better forecasting. The remaining two, however, are especially interesting from a social point of view. One is dedicated to building a policy framework that also identifies current obstacles, such as the liability of food donations. Notable here is the formation of several dialogue forums that hold stakeholders of different parts of the industry and civil society. They report, via a national working group, back to the federal government and states working on the policy framework. The current lack of data and possibly conflicting goals that could benefit different levels of the waste hierarchy could thus be addressed better in the future. The last pillar is behavioral change. A prevention strategy used here is education and awareness development. The public is addressed on different levels to work towards a broader change in behavior. A major starting point for this was the 2012 launched *Zu gut für die Tonne!* campaign with an accompanying website. Although it targets the whole supply chain, the main goal is to sensitize consumers about food waste and the value of food through education, tips for proper storage and leftover use, events, and prizes for citizen projects. To that end, the BMEL additionally provided an app with information on food handling for quick access to information. Establishing training for food business operators and education in school projects and curricula is also an aim of this preventative involvement of all actors. Yet at this point, the intended final effect is still based largely on behavioral change made by the consumer. Given the identified large share of waste occurring at this stage,

focusing on this group makes sense. However, this relies largely on voluntary commitment and often conscious changes in behavior that require a reprogramming of perceptions and consequently, habits. Adversely, studies on German consumer attitudes point towards opposing forces. For example, in several cases there seems to be a gap between consumers' (positive) attitudes toward suboptimal foods and their willingness to pay for them (Puteri et al., 2022). Similarly, Barbe et al. (2017) found that 85% of study participants would support supermarkets relaxing their aesthetic standards but not paying the same price for fruits and vegetables with different flaws themselves. Consumers' trust in supermarkets that offer such 'misshaped' products was still somewhat uncertain, with a tendency to view it as a marketing strategy. Current moves against the negative consequences of this food culture are having difficulty truly reaching private households as well, the largest place of food waste in the chain.

More binding in comparison is the recently established pact between the Federal Ministry of Food and Agriculture and fourteen prominent members of wholesale and retail sellers (BMEL, 2023). This was introduced as a binding, but more immediate arrangement compared to attempting a change in legislation. Among its commitments are having at least one cooperation for redistribution, having food unfit for such be made into animal food, a catalog of optional ones to improve their intersection with customers and producers, and other measures that allow the flow of products to alternative destinations in case of excess or return items. While the document itself displays several pyramid levels of anti-food waste measures including prevention and reuse for both human and animal consumption, the feasibility has to be reviewed as well, according to the available resources. For example, there is no information about the regularity of the collaboration. As exemplified in interviews with German retailers, the time-sensitivity of some products was a limiting factor when food banks did not have enough staff to collect certain foods as quickly as needed, as was the time it took for the supermarket to sort them out (Hermsdorf et al., 2017). The extent to which the retailers engage to fulfil the commitments even as they have to report on them, lies in their own willingness and capacities to do so. Additionally, in case partners fail to provide data about their waste reduction, they still do have the chance to present 'plausible reasons' (p.8). Thorst case after enduring nonfulfillment would be a cancellation of the agreement. It seems the German governing body is very tentative about applying more firm measures and unavoidable changes that alter the shopping

and consuming experience in a significant way. The working groups are already a socially innovative step in the direction of inter-stakeholder cooperation and efficient problem-solving between conflicting actions. What seems to be a rather sparsely used opportunity though are inter-actorly exchanges for resources that are already available.

3.3 Retail

As another form of prevention, it is common to see products offered at a discount in German supermarkets that approach their 'best before' date. This concerns above all produced and packaged foods. The situation for fruits and vegetables is slightly different. They do not have a printed date, and the high cosmetic standards shoppers use as an indicator of quality and freshness often lead to waste (Canali et al., 2017; Göbel et al., 2015). Aschemann-Witzel et al. (2015) describe these safely edible, but by consumers undesirable perceived foods due to their visually or sensory deviating appearance or otherwise close or passed best-before date as 'suboptimal foods' (SF). Studies have shown that consumers generally avoid choosing SF and that it is difficult to motivate them toward behavior change (Rohm et al., 2017). This still shows, as few deviating fruits and vegetables are offered across retailers. Due to low availability and visibility in German stores, concerns about buying and consuming deviating products are unlikely to change and the familiarity with this kind of product is far from where it could be in the current retail sector. Germany is following the EU regulation No 543/2011 on marketing standards for fruits and vegetables, in which three different quality classes determine the kinds of flaws and deviations products may have as regards size, shape, and color for example. Naturally, stores want to upkeep their image of offering the best produce to their customers. Thus, retailers can act as a gatekeeper between production and consumer with what products they accept or reject and the expectations they uphold in their assortment, making SF likely the reason for a lot of food waste at retail stores (Hartmann et al., 2021). As Hartmann and colleagues propose, retailers have the opportunity to change perceptions of acceptable fruits and vegetables via consumer education, communication via positive framing, and availability of more SF to familiarize and normalize it. Yet this, they say, would still call for a change in macro-level structures via policymaking. Current efforts in retail however are not sufficiently active in applying prevention methods over more passive redistributive ones, as a study covering 85% of the German retail market by Winkler et

al. (2023) reveals. The retail sector has the influential position of linking producers and consumers and is thus essential for reducing food waste (Scholz et al., 2015).

3.4 Surplus Food Redistribution

Working on a lower priority rank but none less important, surplus food redistribution (SFR) initiatives and anti-food waste movements cannot go unmentioned. Two prominent examples are the *foodsharing* movement and the volunteer-based organization *Tafel* which are politically and for the most part economically independent. Both receive the edible food retail or manufacturing companies cannot sell anymore and make it available for others, for free or at the *Tafel* at times against a little compensation. With over two thousand distribution points of the *Tafel* intended for people in need ('Zahlen und Fakten', January 2024), and over fourteen thousand co-operations that *foodsharing* has with shops to pick up food regularly ('Statistik', September 2023), they have saved tons of food hand-on years before the SDGs were introduced. In doing so, they take on the second most preferred action of food redistribution via reuse for human consumption from retailers and private origin that would have gone to waste. As security concerns, overstocking, aesthetic standards, and misguided 'best before' label understanding lead to preventative waste at both household and retail levels, this is fundamental in stepping in where prevention fails. Moreover, the anti-food waste movement that grew from dumpster diving to food sharing collectives made food saving more mainstream. This attracted the attention of some retailers and ultimately contributed to them making the sale of ugly fruits and vegetables a business (Gollnhofer and Boller, 2020). As the authors thus highlight: "market actors can induce change impulses that can then be transformed and adapted by other market actors." (p.135). In other words, the same task can be shared by different actors, whose goal can only be reached by the unique outcome of their mutual awareness and contribution.

As of right now, covering the logistics and coordination of such an immense coverage is costly, despite the collected food being donated. The *Tafel* even published a position paper to demand basic public funding from the government (Tafel Deutschland e.V., 2020). Partners and sponsors are a form of support, but more funding would be needed to increase the amount of food that can be saved and redistributed. Baglioni et al. (2017) considered the work of the *Tafel* in relation to the German policy framework.

They concluded that the food recovery and redistribution of such NGOs developed into a socially innovative activity that attempts to make up for limited public intervention or even policies that make their work more difficult, such as liability regulations. The Federal Ministry of Food and Agriculture has facilitated donations via tax reductions (O'Connor et al., 2014) and conducted the aforementioned education campaign. But Baglioni and colleagues again argue that collaboration between policymakers and non-profit actors is uncommon and rather restricted to the Federal government acting as a kind of promoter. Wahlen (2018) describes *foodsharing* as a collaborative consumption movement and stresses the relevance of seeing consumption as a social practice. The movement is not only cultural but also political, he states, as it brings awareness to regulations and practices like misleading expiry dates. Equally, it would change the food culture at large through individual-level action and the associated regulatory framework with it. Yet he stresses how such initiatives should be supported by consumer policy.

On a smaller level, the reuse of surplus food is also increasingly practiced through food sharing digital platforms in Italy and Germany (Pisoni et al., 2022). Those allow consumers and shops to connect with other consumers quickly and self-organize the handover of surplus food. The authors' survey confirmed that the logistical process and the limitedness of the service particularly in less well-covered areas is one of their biggest challenges when it comes to its growth. Some services in the prevention sector, like *Too Good To Go* or shipped food boxes of saved foods like *Sirplus*, do make a small profit. However, the rise of both non-profit and small-profit options for food saving stands as a largely governmentally independently driven movement that could grow more with its support. What emerges here is a contrast between the contribution, and self-organization these movements bring to the table and the support they receive from public bodies. Although prevention has the highest priority in fighting food waste, de facto the current food system relies massively on redistributive measures as well which comes with the pressure for constant availability of food items for retailers.

3.5 Takeaway

The recent focus on the consumer and food saving measures that precede lower value revalorization now seems to have surpassed the other waste pyramid levels of recycling, energy recovery, and below whose technical solutions were so present

before. On this note though, Liang Chun et al. (2022) compared the food production, consumption, and waste recycling among 27 European countries that practice food recycling to close the loop for a circular economy model in the years 2008 to 2016. They found Germany to be the most sustainable overall, next to Malta. Reutilizing energy that would be lost otherwise is certainly sensible. Nevertheless, is this only the necessary consequence of failed higher-level measures to curb food waste. It should be used as a net to let remaining non-edible items not fall through. Some reasons for waste in retail and the home are already clear as mentioned so far. Resource and legal struggles of food saver movements and volunteer organizations, the lack of consumer knowledge about how to efficiently shop, store, and prepare food, and the difficulty of campaigns to reach consumers who are not already seeking them out are some of them. The formerly mentioned criticism about the 'soft' preventative measures can also partially be made here, as, despite dedicated information campaigning and consumers' apparent agreement with the need to curb waste, the overwhelming part of it still occurs in the home. Implementing education about food and waste prevention into campaigns and future curricula can certainly be beneficial to widely reach younger generations and their families in turn, while valuable data gaps are filled by selective focus groups and research for future improvements. What seems to be unexhausted are collaborative and ready-to-implement pushes for the critical masses so that everyday consumers can make changes now, based on the research that is already available. Instead of integrating more of a systematic SI approach, many solutions target consumers as individuals. If the target of halving food waste should be achieved by 2030, it should be considered that even SI implementations would take time to bear fruit too, not to mention the proposals that are still being fed with data. At the bottom line, methods in Germany against food waste rightly prioritize prevention as the most desirable way forward. However, this chapter concludes that the way in which this is supposed to be achieved could benefit from a more interconnected approach that makes use of the actors' individual strengths to cancel out each other's weaknesses. Some of the efforts that are being made are partially obstructed by other actors in the food chain or rely heavily on their good intentions. Moreover, the retail sector specifically is rather attempting to keep up with the waste problem via redistribution but could benefit from more support on this front as well as preventative measures. The goal here is to find out how from a social perspective, collaboration can be fostered in

a way that produces better results from an environmental and human standpoint, depending on the freedoms and resources available.

4 What is in the Way? Food Waste and Participation

Reasons for consumer-related food waste have been researched extensively (Aschemann-Witzel et al., 2015; de Hooge et al., 2017; Principato et al., 2021). This study wants to investigate how the embedding of food saving opportunities and personal motivations affect participation, whether for primarily preventative measures or redistributive ones. It was of interest to understand the drive of food savers as well as crucial obstacles or ideas that prevent regular consumers who do not consider themselves part of a food saving movement (here also termed non-food savers) from engaging in food saving efforts. On the other hand, it captures what difficulties the already concerned and active food savers experience, despite the structures established thus far. This is not to say that non-food savers might not also occasionally engage in food-saving or waste-preventing behavior, such as freezing, giving away surplus food to the inner circle, or looking up how to best store an item. The separation is rather to distinguish between those consumers and the regularly and more intentionally engaged active food savers, who go out of their way to contribute to an anti-food waste movement. The aim is to find out how to make information or participation more attractive and accessible for different levels of familiarity with the matter. The results could provide a better-informed basis for later suggestions. Ultimately, how can the food economy be better embedded in society? This research thus draws on past research to understand reasons for waste and contributes to the existing body of knowledge by adding a perspective on personal and interpersonal reasons for waste pervading the German food economy, as well as a new approach to finding more interconnected solutions.

4.1 Methodology

Food is a basic commodity that every household needs, so waste can occur in every household. Thus, the interest was in a diverse set of consumers which might represent different interests and give insights into opinions and behaviors. It was opted into collecting data via an online survey that could be distributed independently of location and the often accompanying shared characteristics of participants such as age group or educational background. The questionnaire was designed on Google Forms and targeted participants with a residence in Germany. For this reason, it was written in German, consisting of a total of thirteen questions, including single- and multiple-

choice, ranking, and short answers. To receive answers from both food savers and non-food savers it was distributed on corresponding channels, using different non-probability sampling methods. For the former, this was the nationwide *foodsharing* forum only accessible to registered food savers. This form of homogeneous sampling focuses on their shared characteristic as a member of the platform and thus movement and was perceived as the most effective way to collect their responses. The questionnaire itself still provided the option to self-identify as belonging to this group or not, as participants otherwise active can come from outside this platform. For the non-food savers, study participants were on the one hand recruited from within the students' environment and extended via the snowball sampling method. This was further supplemented by a distribution on LinkedIn and on the online research platform SurveyCircle, a reciprocity-based survey distribution network (SurveyCircle, 2023). After gathering some basic demographic data, the participants were asked whether they are active in, or feel themselves belonging to any kind of food saving movement. The following part asked to provide information about their familiarity with different food saving opportunities for sharing and redistributing items, as well as possible motivations and obstacles for using them. This was then followed by questions regarding the sources of their storage knowledge and hypothetical behavior with different food labeling. The reason food turns into waste is often coupled with a lack of knowledge or misconceptions. If this is supposed to be addressed, knowledge must be inserted in a way that fits its society. Against this backdrop, they were invited to rate the attractiveness of different scenarios in which to receive tips against food waste. Self-identified food savers had the final opportunity to give their opinion on what they perceive is a barrier to the growth of the anti-food waste movement. In this manner, engaged voices with the same goal could point to their experience.

4.2 Results

Within December 2023, a total number of 184 responses were registered. After sighting the data, one was excluded due to the possibility of an incomplete understanding of the questions or residence outside Germany (open answer given in English). The following ratings and multi-choice answers in apostrophes are translations of the student from the German original questionnaire and serve an easier communication of the results. For non-food savers and food savers, an approximately

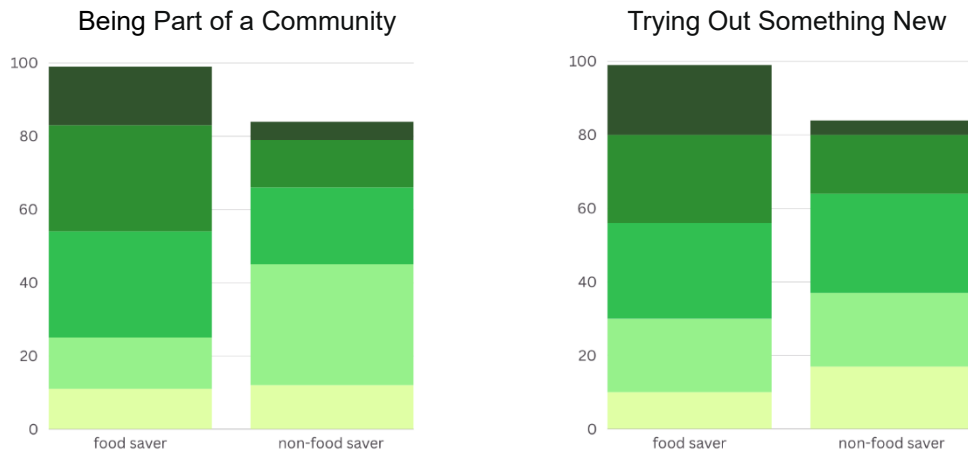
similar share of responses could be reached, with 45,9% to 54,1% respectively. While the age group of 25-34 years makes the biggest share of almost 37,7%, there are similar distributions for the other age brackets spanning from 18-24 in ten-year intervals up to the group of 65 years and higher, each making between 12% and 20% of the total responses. The self-identified gender distribution is with 141 female and 41 male respondents quite large, complete with one transgender participant. About one-third is made up of respondents studying or being in vocational training (36,1%) and another of full-time employees (33,3%). 23,5% work part-time, while about a quarter of those are named students or apprentices. Almost 5%, covering almost every age group, indicated to be without work.

Unsurprisingly, food savers were much more aware of opportunities for saving food in what they perceive as their vicinity. Vicinity as a term to indicate ease of access and effort to reach was specifically left to participants as it varies according to their methods of mobility and location of opportunities in relation to the rest of their city. Free or low-priced food pickup opportunities from retail stores and shops were known by all but ten food savers, while only about half of non-food savers did. Freely accessible sharing points of redistribution like sharing shelves and fridges were closely followed for food savers, which are a common instrument scattered throughout cities, especially in the *foodsharing* community but known only by 19% of the other group within their vicinity. Yet, the inverse was true for more managed social distribution points like the *Tafel*, which non-food savers knew more often. Noteworthy is that while 23 of them, more than a quarter, stated that they did not know whether there were any near them, there was no such uncertainty at all among the food savers. Understanding what motivates people to act might weigh up minor inconveniences. When asked to rate the significance of several appeals for using the sharing points, saving money, environmental awareness and the feeling of having done something good were emerging trends for high ratings for both groups (Figure 2). However, for the food saver group, the trend was more emphatic for the last two, less tangible aspects. Saving money and the possible convenience of open access pick up for free played a bigger role for the non-food savers. What is engaging to observe however, is that there is only a 7% difference between groups rating environmental awareness as 'rather relevant' or 'very relevant', which might be expected to be much higher for the food saver group. They did significantly more often choose it as most important, but both share this upper priority. This phenomenon is somewhat inverted next by the fact that the appeal of

saving money is also only varying 10% for these high evaluations, with an even larger share of food savers choosing 'very relevant', something that might be expected from consumers less attuned to the wider implications of the ulterior motives of food saving. The community and novelty aspect generally seemed to be of only medium importance, even more so for the latter group. After calling to mind some of these benefits, respondents estimated how likely it is they would use this kind of opportunity if it was available. The number of food savers increased the more likely they said they were, with around 68% indicating they already did. Non-food savers were a lot more dispersed in their opinion, still around 44% said they were either very likely or rather likely to make use of it.

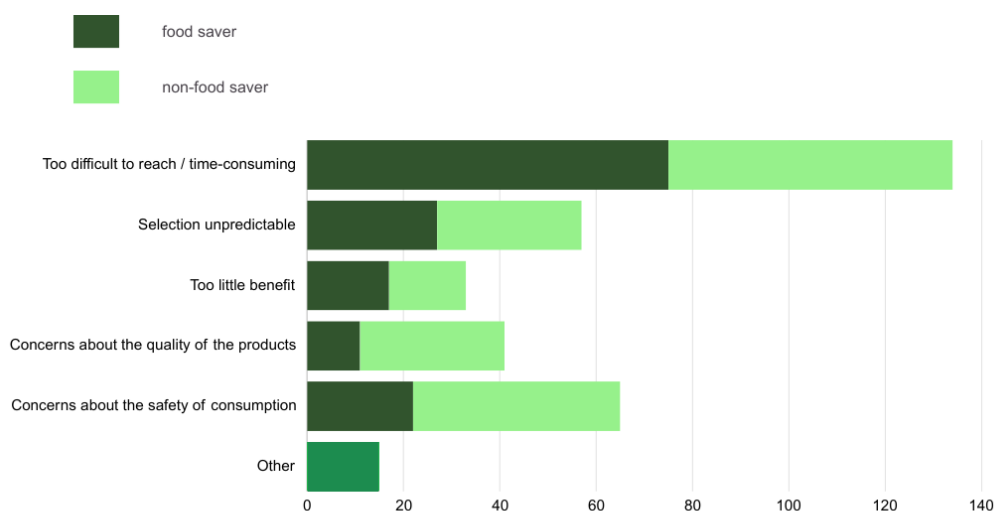
Figure 2: How relevant would you personally rate the following incentives for the aforementioned ways of food saving? Regardless of whether you have already taken advantage of them or not.
(1 - hardly relevant, 5 - very relevant)





The reasons why people would still refrain from their use, despite the appeals that they rated show how inconvenience would be a major issue (Figure 3). About 76% of food savers and 70% of non-food savers said that inconvenient-to-reach opportunities and the use being time-consuming would dissuade them. This is made difficult as well by the fact that about a third of all participants do not appreciate that the selection upon arrival is unpredictable. Food safety concerns are apparently still crucial to address. Many food savers are familiar with the processes and standards of sharing shelves and, as just indicated, already use them. Within their counter group, a little over half selected concerns for food safety as a factor that would keep respondents from using them, followed by 36% who doubt the food quality. Interesting is also that several non-food savers used the option 'other' to allude to a perception that free food would be preferable for people in need or financial difficulty. One participant said: "If supplies were offered for free, I would think that others maybe need this more" (translation of the student).

Figure 3: What factors could prevent you from taking advantage of such opportunities?



The following questions occupied themselves with knowledge about handling food and knowledge sources. Looking back on how the German labeling of the best-before date impacts shelf life within homes, 71% of respondents were rather open to testing a product, for example through smell, visual inspection, or taste before considering throwing it away if the label instead says 'Quality unchanged until'. This was only slightly surpassed by food savers, who on top were more likely to consume it without reservations. But there is more to handling food than assessing whether it is too late to consume or not, storing conditions being one example. Based on what do participants operate on? What can be observed here, is that educational campaigns have little to do with it. Around 63% of all participants said that their understanding of how to store food in an optimal and long-lasting manner has 'nothing' or 'little' to do with them, even more so for non-food savers who would be more important to be addressed. Social media scored a similarly low significance in their grasp of the matter, although responses were more mixed and displayed a higher tendency to indicate a 'little' to 'moderate' part of their understanding. The social environment surprisingly showed similar trends between them of being a mostly moderate source (39% overall), but closely followed by being based on this source 'a lot'. What seems to be present in any case are intuition and one's own research. The former is grounded 'a lot' in the understanding of how to best store food for about a third of non-food savers, only slightly surpassed by the other group, whilst a 'moderate' influence is even a bit more pronounced for non-food savers. Unsurprisingly, doing one's own research was rated

the highest for food savers overall. Remarkable is therefore that non-food savers, who are less knowledgeable and prone to behavior leading to waste, rely most on potentially misleading sources like their intuition and the people around them. Whilst the disparity between these sources and their own research is not huge, it still makes a relevant part of the participants' whole range of knowledge.

Knowing where to put information to fill existing gaps comes in handy then, where consumers are willing and able to pay attention to them. According to their own answers, the more closely integrated the tips are into how they go about their day anyway, the more attractive they seem. When asked to rate the attractiveness of different contexts to receive tips about food waste, having it on the product such as on the package printing itself was for both groups the most attractive option, with about 49% in total judging it as 'very appealing'. Yet for non-food savers, no option was so appealing that it received the biggest share in favor of this rating. Within product proximity in the supermarket was also taken rather positively, rating as 'rather appealing' for them and 'very appealing' for most food savers. Location-independent options such as social media or apps were, despite their supposed convenience, mostly leaning towards the middle of being 'rather unappealing' or 'rather appealing' for non-food savers. This was more the case for events online and in person (such as a brunch), which were not very popular with either group. 76% of non-food savers and 56% of food savers found this option 'unappealing' or 'rather unappealing'. Overall, the latter appear to be more generous with their rating, with a tendency to judge options more favorably. This is not to say that there is no dissatisfaction within and around the current state of food saving as a movement. The final open question for participants who are active in, or feel themselves belonging to a food saving movement, directly inquired about what they perceive as a barrier to its growth and to participation. In total, this received 77 feedbacks. Some answers, echoed again by several others in some way or another, were specific to foodsharing. Prominent kinds were of the type "low level of awareness", or "very long process of verification as a Foodsaver". Others were telling of what certain actors within the system faced in general. Eleven food savers complained about the expenditure of time, some others about the extra effort it takes, which are somewhat related in the sense that individuals have to make their resources available. Lack of enough participation in their own ranks and of the businesses was another repeating aspect. "Lack of commitment among large sections of the population", said one female food saver. "too few businesses participate", said another.

Some indication for the origin of this lack of cooperation on the business part was to be found in over ten comments, speaking about the legal regulations that either discourage by way of fear of possible liability issues or simply the extra work food pick-ups might pose to employees. “Businesses’ fear of consequences, disposing of food is legal”, summed up two parts of the same problem. “Legal requirements”, “legal obstacles”, or politics “working against it” are perceived obstacles that confirm the previously described experiences of SFR initiatives and can actively stifle a general openness to engage. Yet the softer frictions are felt as well. The “public perception of being a moocher” has a similar aftertaste as non-food savers’ previous reservations of taking free food as a reason that could prevent them from using sharing shelves and other freely accessible collective spaces. Price is taken as an indicator of value and for some an indicator of quality and at least safety. One young participant who uses *Too Good To Go* finds the reduced price more attractive, since “with free food [she] would always doubt the quality”.

4.3 Discussion

The survey aimed to explore and compare the perspectives of two distinct groups regarding food waste, with a particular focus on their engagement with food saving opportunities and their knowledge of food storage practices. The embedding of food saving opportunities and the context around information placement and source does seem to affect motivation. It does not come as unexpected that the group of food savers demonstrated a higher engagement with foodsharing opportunities and generally a more favorable disposition towards informing themselves about various anti-food waste measures, whether it be opportunities near them, new distribution channels for storage tips, or their research. Yet despite their higher orientation towards environmental concerns, they too encounter difficulties that prevent them from effectively using the movements’ momentum. Non-food savers also demonstrate a willingness to behave more sustainably, if understood as being informed about food storage or engaging in any of the possible food saving activities but may be deterred by unresolved real or imagined obstacles. The themes emerging from the insight into the data hopefully help identify what should characterize possible solutions. As a prime consideration, the fact that significantly more female food savers took part in the survey, very likely linked to their share in the foodsharing initiative itself, should be taken

indicative as a social phenomenon itself. Whether it is related to women being in touch with matters of food in their comparatively higher share of being in a caregiver role through cooking, or because of their high share in engagement in social or environmental movements (Gaard, 2017) can only be speculated here and is outside the scope of this work. It may, anyway, be worth not forgetting the caring role and security concerns that come with household meal preparation. Key themes that have been identified from the data can be summarized as roughly falling into categories of *uncertainty*, *preconception*, or *inconvenience*. The following part briefly looks at them individually.

4.3.1 *Uncertainty*

Uncertainty here means a state of not having an adequate amount of information about a situation in general or specifically to be able to make a confident decision. Foodsharers critically remark on the low awareness of food waste in Germany in general. Indeed, the scarce number of non-food savers knowing sharing shelves or other opportunities in their vicinity plus a quarter on top stating that they do not even know whether there are any suggests that they are not in their realm, not in the everyday reality where they could be perceived or become familiar. Willingness must not necessarily be the reason, since the claimed likelihood to try them was speaking for them if they were only there. Combining groups answering 'very likely', 'rather likely', and even 'not sure' if rightly motivated could be a powerful number. Being cumbersome to reach and both groups' perceived obstacle of unpredictability of the produce range reinforce themselves, a cost-benefit analysis on the losing side. The rather unquantifiable reasons of the feeling of having done something good and environmental awareness next to saving money stand for both groups. Still the by non-food savers more highly valued reason for the latter and finding it practical shrinks in the face of uncertainty of whether it is worth it.

When it comes to knowledge that weighs on how to live a lower wasteful food life, the roots are largely planted in consumers' most immediate surroundings. Educational campaigns might draw attention to the problem of food waste itself, but at least in this case had little to do with reaching the group that needs to hear it with practical help to implement it. What is tangible is their social environment as a moderate or considerable source on which to base storing behavior, sharing a dominant position with intuition. Participants claimed to have taken orientation from their social circles or based it on

what they considered suitable. The problem for both is that among non-food savers, this is often not especially reliable, as shown by the common reasons for food waste mentioned in chapter one. Surely much is done right as well, but there remains a slippery uncertainty about storage that is supplemented with information close at hand, information that is passed along from participants' social environment, or like intuition, requires no cultivation. To make a difference, addressing uncertainty would be more relevant for non-food savers.

4.3.2 *Preconception*

This part relates to insufficiently dependable ideas that can lead to a specific belief, negatively influencing a person to make them act in a way that might be different from how they would without it. Consumers consider the quality and role of saved food and partially fresh food. It seems like a number of respondents have difficulty getting rid of its image of being lower quality, where price especially seems to be a reassuring indicator. Paying brings the peace of mind of an unobjectionable product. Price was given as a specific reason for the insecurity, for non-food savers, doubts about the quality and even more so safety (about half of the group), would also keep them away. If in their mind free food is a reason to doubt quality and free or price-reduced food should be reserved for people in need, what happens is a personal distancing from this food category. It is likely not helping that many food saving opportunities remove information about origin. Whether collected from a supermarket or provided by an individual's household: the trust that comes with buying from retail adhering to certain standards or the guarantee of food being untouched by others when buying reduced food bags from *Too Good To Go* are aspects that can be missing with sharing spots. The relatively low share of food savers being concerned with food safety is rather fitting then. The spaces set up by foodsharing members have clear rules for what can be put into them, the responsibilities to follow for cleaning and sorting out what gets old. Still, it is a less controlled environment compared to retail food purchases. Preconceptions about standards and the assurance of quality and safety might be negatively affected by their idea of how food sharing opportunities work. It is this image of a decrease in value that has to be overcome. Thus, while results suggest that saving food is attractive to save money, making it entirely free can have an opposing effect.

At home, there is not this kind of inclination. Labeling seems to be rather well understood if the phrasing is indicating its relation to quality instead of safety, as was the example here with “quality unchanged until”, 75% would test food bearing expired labeling with their senses before considering throwing it away. This situation indicates that clearer distancing from dates’ relation to food safety (unless clearly indicated as with “to be consumed by” on easily perishable products like dairy products) would be helpful. On top of that, in such a household situation members know how long the product has been with them, if it has consistently been in a cool environment if needed, etc. Any kind of sharing hub can create gaps in the perceived traceability of the quality and safety assurance. Some of the points mentioned only refer to taking food, rather than providing surplus food from home. The problem is, that expiring foods often are already opened or leftovers, less suitable and likely to be taken by others. This serves as a reminder that this kind of redistribution alone only addresses part of the problem and requires more solutions. On the giving side, retail and producers deal with a similar fear of safety, but from a liability perspective, next to a cost-benefit one. Food donations must adhere to the German food safety legislation. For food donations, it is the food savers who take on the responsibility and liability (foodsharing: *Für Unternehmen*). Legal requirements of the state of food before the takeover and the fear of consequences still complicate the cooperation between food donors and the receivers or distributors. The perceived “low engagement of the businesses” that was mentioned time and again by food savers may vary from region to region but is not highly surprising.

4.3.3 *Inconvenience*

Lastly, a perceived inconvenience among groups shows itself in the time demands and effort that reaching food saving opportunities, learning about proper storage, or being part of a dedicated movement poses. Altruistic motivations or perceptions like environmental awareness or the feeling of having done something good go down as gain-motivated ones like saving money and being practical turn into counterarguments in their absence. Where food saving opportunities are not closely available, making detours with transportation methods might even decrease the money-saving factor. The various kinds of costs this can create make anti-food waste or food saving behavior seem more like a personal trade-off than a win. Joining one of the organized movements is one of the most visible forms of active participation in anti-food waste

measures. This however is connected to an amount of dedication that for the uninitiated non-food saver appears a bar set rather high. The tendency for both groups to prefer tips against food waste as suitably placed in their everyday life as possible is thus close at hand. Information on or close to products as on the product label in retailers applies directly to the person's situation in question. They were still more greeted by food savers, who would understandably welcome changes in favor of a higher awareness of the topic in broader society. Suggested events such as brunches or online meetups as the most time-consuming and least immediately applicable options were correspondingly the least popular ones. The observation that no option gathered a majority in being rated with the highest attractiveness for non-foo suggests a rather contained enthusiasm for being showered with more information to consider when buying groceries. Implementing any such measure should therefore be taken with delicate caution but is an opening for this group that only moderately researches information themselves.

The time and effort that retailers have to put into collaborations for food pickups were recognized and named here by food savers as a reason for contained participation. On the upside, it saves them container space and thus money for disposal services, since by the Regulation (EC) No 852/2004 on the hygiene of foodstuffs retailers are obligated to dispose of wastes in a hygienically and environmentally sound way. The work of sorting out what is usable and disposing of the rest is done by foodsharers for example, and bringing the food to its next destination is done by the Tafel as well. Still, it remains an extra step to establish and constantly uphold that collaboration, benefits might not be apparent immediately. The perceived administrative burden of organizing and documenting food donations can be off-putting, tax incentives to offset some of the costs associated with the process not matching the savings and ease of throwing it away. In a busy work environment with a constantly rotating stock, this fear of extra work, in the experience of food savers, prevents even the initiation of cooperation. As said before, retail is not among the biggest wasting links in the chain compared to others, but this work agrees with the point that it has an enormous opportunity to influence decision-making along the chain from producers to consumers as it presents the link between the two (Macfadyen et al., 2015).

4.4 Takeaway

What remains is the takeaway that consumers do seem to like the idea of saving food, there is a willingness that could come to use if the conditions are right. Both motivations to act in accordance with what seems ethically right and those of utility can be strong drivers, but for non-food savers the barriers presented here present a risk of drowning them out, leading to inaction. Some of them, like the difficulty of accessibility and time management, are very practical, while others are the results of misconceptions. Food savers might display more favorable dispositions towards possible changes and proactive non-waste practices if given the chance, but of course it should be noted that in real numbers, they are the minority. The non-food savers, who do not have this topic on their agenda as much, tend to rely on the information they already have or would prefer, such that is most convenient to them. In the end, it becomes apparent how going low waste can be a complex labyrinth of conflicting responsibilities, priorities, and resource allocation. The positive individual psychological and household benefits like environmental awareness and saving money that are motivators of using food redistribution opportunities are often underpinned by the very real demands and restrictions of everyday life that can make engagement seem like a losing cost-benefit calculation. Concerns that are still attached to 'second class' food items that are one step below the first choice level of supermarket shelves prevent both retailers and consumers from making a difference. Food handling knowledge, specifically storage, is streaked by one's social environment and personal judgment, and to acquire more, low effort ways seem preferred. Three keywords that describe what stands in the way in several contexts are thus: uncertainty, preconception, and inconvenience. The first is mainly a testament for consumer's lack of knowledge concerning ways against food handling and food saving opportunities. The second reveals the what established opinions about saved food, donation liabilities, food safety and security stand in the way of better practice. Finally, the last one demonstrates how different kinds of obstacles, like the perceived time and effort it takes to be an educated consumer, using redistribution opportunities, or finding ways to pass on food, can prevent engagement despite positive intentions. Food savers, who through their engagement and sensitization to the topic are more active even when at times their personal benefits are low, can move past some of what deters the non-food savers.

What is needed then? This survey made the distinction between food savers and non-food savers to better understand some motivations, where they fail, and how it relates

to how waste prevention is placed in the food system. On the bottom line, the number of food savers is not enough to make enough of a change, and they are facing their own limits as well. If being a food saver looks like it means investing time into pick-ups or other activities when most respondents judge issues of time and inconvenience among the major obstacles, it is difficult to bring this crucial topic into the middle of society. The whole idea of being a 'food saver' should not hinge on membership in a movement but made possible through better practice that is integrable into the life of the average person. Possibly, the term food saver might not need to exist at all, if we want to move from such identity politics to changing behaviors and environments in which they are normal and inviting. The way the food economy is currently set in society does not sufficiently discourage waste and incentivize better practices. Environmental trade-offs have to become an act of added benefit instead. The goal is not to make everyone use sharing opportunities but to make different paths toward decreasing waste possible in the first place. If we are to try "changing food waste-related practices instead of changing individual consumers" (Sutinen, 2022, p.264), and normalize them as suggested in this paper, we might tap into unused potential. And importantly, in doing so not leave preventative measures behind.

4.5 Limitations

The gathered insights will have to be taken with a grain of salt. Limitations mainly pertain to the pool of participants. Both in number and in diversity, the sampling is naturally not all-encompassing in terms of representativeness due to reasons of accessibility. The distribution online via foodsharing is diversified geographically and in terms of age, but due to the significantly higher share of women on the platform, this also shows in the collected data. At the time of writing, the number of self-identified female food savers on the foodsharing website is 105.719 out of 151.922 (statistics of the nationwide forum), so unsurprisingly the gender distribution is not equally divided in this group. As for the group of non-food savers, the participants gathered via SurveyCircle are more likely to have an academic background themselves, as many use the network to distribute their own research. While this does not necessarily translate into knowledge about this particular sustainability issue, let alone have it put into practice, it has to be considered for reasons of representativeness. Likewise, the age group of 65 and above is likely less active online than their counterparts and more

difficult to reach. Thus, more research would have to be done to get a more complete picture of barriers and possible openings for facilitators in the German food system. The student also acknowledges that the scope of the research was merely an introduction to possible applications of the questions posed here. With this in mind, it is time to move on to an understanding of economic organization in *The Great Transformation* and why it might be worth consulting.

5 'The Great Transformation' in a Food Waste Context

5.1 Polanyi and the Economy

Now that the situation has been outlined, the focus will be on how to move forward based on those observations. The starting point as of now, despite many improvements concerning the German anti-food waste measures, is a critique concerning the effectiveness of the waste hierarchy's implementation, as well as the isolated role of various stakeholders. The basic concept that will be used later comes from a work by the sociologist and political economist Karl Polanyi, whose work was influential in fields like economic anthropology and economic sociology. Three principles of economic organization that are alternative to those based on profit-seeking are introduced here to understand why and how they can be applied today and serve as a groundwork to reimagine relationships in the food system. His most well-known book *The Great Transformation* (reference 1957, first edition 1944) takes on the topic of social disruption during the transformation to a market economy. Within the cadre of history, he illustrates his point that the economy is fundamentally embedded in social relationships and that their non-economic motives are necessary to consider to understand the economic system. Polanyi sees a 'double movement' of opposing forces in the modern market society. It is composed on the one hand the disembedding force of the free market and its potentially detrimental effect on society through its self-interest. On the other, there is the reembedding one, a countermovement striving towards social protection (p.132). This task of protection was usually the interest of some part of the community, which often is lying in the hands of the government, although Polanyi also mentions the protective power of cultural institutions (p.72). The guiding forces of restriction or guidance through a placement of societal values serve to counterbalance the potentially destructive effects of the liberal market, whose commodification of labor, land, and money could lead to inequalities. He argues that new moves of integration, as in efforts by society or the state to organize and regulate economic activities in a more deliberate manner, should be met by one that increases the freedom of the individual and reinforces their rights in society. Applied today, integrative moves might be regulations or interventions in the market to achieve specific social or economic goals.

The book dedicated a good part to explaining the transformative nature of a state of householding units, marked by self-sufficiency and localized exchanges, to a socially disembedded market economy. The work has since then been scrutinized several times over the years and reevaluated. Critics say the text is marked by contradictions and tensions, for example in his unresolved definition of the 'economic', the 'social' and their relationship (Hodgson, 2017), or Polanyi's too narrow view of the term 'economic', limited to material gain (Booth, 1994). In Block's (2003) prominent reinterpretation, he approaches some of these contradictions, which for example places some meaning on Polanyi's changing relationship to Marxist terms over the course of finishing the book and time pressures. Moreover, Polanyi ostensibly grasped but not yet elaborated on the 'always embedded market economy', meaning its necessary embeddedness in restricting structures like law, politics, and morality (p.297), despite his explanation of its later disembeddedness. In doing so, later more in-depth, Block and Somers (2014) try to extricate what they think the work got right. This has been starkly critiqued as well (Lacher, 2019), labeling this reinterpretation untenable, more based on outer circumstances around the book than its content. So although the inseparability of society and economy is being agreed on, their exact relationship is disputed. Gemici (2008) went so far as to label the connection as embeddedness insufficient, and that rather economic activities were social in the first place. According to this view, new paradigmatic approaches are needed altogether.

But still, for questions of globalization, market structures, and sustainability, it has been consulted anew. Heads point to a current new great transformation in a time of social-ecological transformation (Novy, 2022). Zaman (2014) considered the book's methodology of using theory to explain historical events and by the response to them defining the future, as one major quality. This plays into the other, which is indicating a path towards peace and freedom threatened by unchecked pursuit of wealth which can be taken on with a consensus on the goal supported by institutions that put it into action. In other words, his faith in politics and economic democratization might just be needed right now against an often antidemocratic laissez-faire approach (Peck, 2016). This is about dealing with a *food economy*, whose organization is supposed to be less waste-prone. The book in question also describes ways of economic organization predating the market economy that arose with the Industrial Revolution. These are *reciprocity*, *redistribution*, and *householding*, which can also be present in society as a

mix. Apart from the sources mentioned in the descriptions, the following elaboration is based on the original work.

5.2 Reciprocity, Redistribution and Householding

The first one here is called *reciprocity* and is vital in organizing the distribution of goods and services. Reciprocity is a principle through which their mutual exchange can take place between individuals or groups. Due to the social obligations of each actor and the security that comes with this social agreement, a continuation of exchanges is guaranteed. No hoarding or bartering is necessary, as making a profit is not the intention of these interactions. What seems like a trade of valuable objects is the mere cadre of reciprocal social behavior. The fact that this does not require to be administered and made note of in written form is accounted for both reciprocity and redistribution by institutional patterns. For reciprocity, this would be symmetry. More precisely, the mutual exchange might take place between a number of matches between individual relations, thus simplifying to keep the balance of reciprocal acts. There is an anticipated give-and-take extending into the future, which allows for trust and cooperation to be established. Yet, the author gave no examples of large-scale reciprocity, which Hodgson (2017) for example sees as problematic. Reciprocity, hanging largely on reputations and face-to-face interactions, would hardly stand the pressures of modern complex and large societies. This point is not insignificant, if one wants to apply such a principle to even a subcategory of widely circulating objects such as food items.

Redistribution is a principle that allows for the transfer of resources to be equally distributed and inequalities moderated, so that individual and community needs can be satisfied. Often this is done through an intermediary like a central authority, group, or institution. The institutional pattern for this principle is thus centrality. If resources are channeled through the central figure, a functioning storage system emerges as vital. It collects the resources and may store them safely, in order to redistribute them then accordingly. It is argued, equally for the other two principles, that the economic system cannot be separated from social and political contexts, visible again in how the mechanism tends to orient itself to social norms and obligations. With the organization by a not purely profit-driven force like the government, economic mechanisms like taxation for public services for the collection and distribution of wealth and goods

should ensure public welfare across society. This counterbalance to the laissez-faire of a liberal market would demonstrate the important role that non-economic considerations play in economic activities, ensuring other motives are present that are vital for a social society in the sense of the word. It should be noted that redistribution is not automatically democratic though, as the central figure of redistribution can also distribute it in such a way as to increase its power. It is described as especially effective in ever larger territories and varied produce, so as to connect the spatially dispersed producers. Polanyi's description of the government's hand in regulating markets, attending to social and economic justice however, can be found in a number of political discourses (Bärnthaler et al., 2023; Cioffi et al., 2022; Sandbrook, 2011).

Householding is a principle of social organization that was prevalent in traditional societies. Mainly self-sufficient living units (may those be as small as households or as big as a small settlement) produce, store, and consume what they need by and for themselves through agriculture, crafts, and local exchanges. The social relations within the closed group bring together what is needed and thus sustain themselves. Economic activities are thus deeply part of everyday relations, as the goods produced are also intended for the immediate groups' use. The act of storing and sharing resources within social relations reinforces communal ties and promotes 'social sustainability', being grounded in mutual dependency and functionality that regulates supportive interaction Laamanen et al. (2018, p.1222). It is indeed easy to see how the ability to store and share resources in such functional solidarity helps in stabilizing the community, developing a sense of responsibility, and balancing out fluctuations. So again, there is no primary motive of personal gain, but that of the unit, whatever the ties of that closed unit are. The kind of ties such as family or settlement is not relevant here, nor the size of the group, as satisfying its wants and needs is. This principle was later abandoned for market provision and household units became largely dependent on purchasing from it. It becomes apparent how these three principles are mediated by individual motives like status and the strive for social cohesion. In our current society markets are part of the economy, a way of economic organization that cannot purely on householding or reciprocity anymore. However, the "fact that markets cannot exist on their own (except, apparently, in the orthodox economic imagination) calls attention to their interrelationships with other forms of coordination, like state regulation or household systems, or reciprocity and redistribution in the Polanyian lingo." (Peck, 2013, p.1542). If we take the idea of the double movement into the picture, protection

against negative consequences of the commodification of food for example through institutions and alternative ways of economic organization should be examined for their usefulness. Fittingly, Lacher (2019) acknowledges that under our much bigger challenge of the climate crisis, *The Great Transformation* should be only carefully applied and does not offer a complete answer. It could, however, provide input of radical imagining for this greater transformation we will have to go through.

5.3 Why This Perspective?

This approach was chosen, since on one side it underscores the social dimension of an economy (and within it food economies) while offering alternatives to the prevalent, and on the other points towards the opposing forces within the same system, trying to both serve its people via a liberal market and protect them from it. But can this be applied to the food economy specifically? While this approach is conceptual, it bases itself on food waste to illustrate its point on how a socio-cultural strategy applied to a problem of the food economy might look like. The term ‘food economy’ as a whole describes the chain from the early production stage to the consumer (Kinsey, 2001), the focus here is on the retail sector and households for reasons of impact.

The parallels between the accustomed and expected abundance of the food system and the simultaneous need to ensure both food safety and the stop of waste are apparent. Food waste as connected to consumption and thus food culture is indeed deeply embedded in social context, while at the same time being exposed to the market that makes this consumption possible. Social considerations for a low-waste food economy today equally benefit our society which faces many problems addressed by several SDGs, as mentioned earlier. At the same time, this framework offers an opening into principles of the socially embedded act of eating that shape that very system. This will also be interesting in light of the attitude-behavior gap that was mentioned in the survey results. The Western (specifically German) food culture and the abundant availability of highly standardized food products create a market feedback that in turn reinforces this food culture. If the food system too is leaning on how we organize society, then we need to use the characteristic resources of its actors in a way that makes this system better. In fact, the High Level Panel of Experts on Food Security and Nutrition enumerated similar points (Timmermans et al., 2014). Meso-level causes of FLW should be considered, among which coordination and

communication between food chain actors, inadequate infrastructure, and lack of support for investment and innovation are prominent. This is in line with the argument that solutions should transgress organizational, sectoral, as well as disciplinary boundaries to have a broad effect on the whole of society's awareness (Zhao et al., 2023) and that bringing innovative social relationships together with already prevalent elements can be a convincing way to deal with food waste (Huang and Tsai, 2021). We know now that it is sometimes not the intention of actors that is the problem, but obstacles that arise from the simple act of consumption and the complex act of passing of food from one actor to another. In this environment, storage and the relationships that predate its conditions play a crucial role.

Considering all this, which central questions should be addressed? To answer how the aforementioned framework could help rethinking part of Germany's food chain we thus ask: Which actors play a particularly important role for each principle? How could a translation of these three socially embedded principles into a food waste context help address specific problems in the retail and household stages of the food chain? Lastly, through which actions might change be achieved? Although according to Polanyi not all three principles are necessarily present within an economic system, they will be explored individually for their applicability. Before this application, the suggestions will be informed by the empirical data gathered from the questionnaire. Its results, combined with the framework and the identification of loopholes from the literature review, will provide ground for ideas for change.

6 Recontextualizing the Food System

6.1 The Framework Transfer

Before jumping directly into the three principles, it is worthwhile acknowledging some complicating tensions within the food system. How the food economy, and thus questions of waste, are implanted in social life is indeed visible considering the findings before. The need to understand non-economic motives to understand this system becomes visible in some examples. Food being a commodity, money of course plays a role to a significant extent. Respondents did not without reason choose saving money as a major incentive to practice food saving. Yet there is a limit to economic incentivization. When it comes to retail, there is the fear of additional work when collaborating for redistribution, and also worry about liability consequences. Buying deviating produce at a discount would save money, as would using food sharing spots and minimizing waste by having a developed food storage knowledge to lengthen shelf life. In reality, the circumstances and preconceptions around these, arising from the relationships with people seen and unseen, decide in favor of another reality. The portion of storage knowledge that is pulled from people's social environment for example, independently of its correctness, effectively reinforces practices that are already in circulation. The relationships between retail and food savers are formalized with a signed document but in the end, a leap of faith towards a self-organized group of people to be always available for food pick-ups. Then there are the relationships between people who do not see each other: Between those who provide saved food or transport it and those who take it home. Who can provide the trust that it is safe, that it is of good quality? This no-contact relationship, this distance characteristic among actors within the food system that influences the perception of foods is working fine with new retail products where trust comes from market pressures of quality and the social protection through safety legislation. For self-organized non-profit efforts, this is much harder.

A kind of double movement of disembedding and re-embedding forces can easily be observed in the food economy as well. The mutually reinforcing practice of retailers offering uniform produce, upholding unrealistic standards, and shoppers coming to expect them is in turn has become a competition-driven commodification of food to an unjustifiable extent. With the continuous availability and competing prices, replacement is relatively easy in case of mispurchase or the slightest safety doubt. And the re-

embedding force of social protection? Effectively, this is working on different levels. Naturally, the Food, Commodities and Feed Code (LFGB) regulates food safety and traceability (2005). They act primarily as consumer protection while leaving the producers and retailers to negotiate the appearance of their fresh produce and the latest best-before date. When it goes beyond health and into the realm of social protection from the effects of the climate crisis, effectively from itself due to growing resource miscalculation and environmental damage mentioned in chapter one, the importance of food systems has been acknowledged. Yet it remains somewhat of a contained invitation from the government. According to the framework used here, new moves of integration in society that are anti-food waste should meet those that increase individual freedom and rights. Thus far, they might have allowed food saving measures through donations, and incentives through information provision and campaigns. But if consumers are not free to choose deviating produce or access sorted out retail products in a reasonably accessible way for the reasons mentioned before, one is left with a kind of 'soft freedom' that relies on a consumer who is more interested and active in preventing waste than is the case. If measures of the food system that deal with waste prevention and food redistribution are more firmly embedded in society and become more interwoven with the public food culture, more ideas and practices can be facilitated or automated. Decision fatigue could be lowered and opportunities to learn could occur more easily. Some practices are indeed an extra step compared to mindlessly accumulating and replacing because it is easy. But this is another reason why normalizing alternatives and ultimately, creating social norms concerning waste management can influence individuals to reduce their own waste levels (Geislar, 2017; Hamerman et al., 2018). What might an application of the following three principles thus suggest?

6.2 Redistribution

6.2.1 Recontextualization

Recontextualizing these ways of economic organization for change will have to involve finding a meaning of these terms first. To get the obvious out of the way, there is no central figure that collects all food produce to redistribute it among the population in

the organization of the German food system. There is no central storage unit, as the act of storing from the time of production to transportation up to being displayed for purchase in retail is in the hands of several actors, though heavily regulated by national and EU law. If at first one takes the literal distribution of food commodities, retail seems to be the main agent of this principle. Yet this does not really fit in the Polanyian sense. Yes, the resources that are the products from producers are channeled to it and through it to consumers (in the best case). A functioning storage system must regulate the estimation of demands, use-by dates, and seasonal items. But the sector clearly has financial motives as a top priority, it is not aiming to ensure social and economic justice and does not offer its product in a way that ensures equality of access. Also, retail is not a coherent force of centrality. Chains, private businesses, and all kinds of sellers compete among themselves, massively spread out geographically and in their business model (i.e. wholefood shop with a focus on organic produce or unpackaged food).

Considering different sets of distributable resources in contrast seems more fitting. The government and governing parties as stakeholders with a diverse set of valuable kinds of resources like authority, credibility by association or affiliation, and attention, it can be argued that the redistribution of such resources to alter the circumstances of storage, food redistribution, and food culture could have relevant impacts for waste prevention. It can be agreed that redirecting money the state makes by tax collection into worthwhile activities by other non-state stakeholders is also a form of redistribution with the aim of increasing the well-being of citizens. However other, more socially ingrained ones like credibility and attention, are also packed with potential. In the basic assumption that the state acts for the good of its citizens, affiliation and a spotlight from the government must be preceded by a certain level of scrutiny, easing uncertainty about legitimacy and a certain quality of a project, resource, or experience. As central authority, it is the government that inherits, at least officially, the role of a caretaker of public welfare that is supposed to protect its people. As a not purely profit-driven actor with a social responsibility by design of its function, orientation at social obligations to best allocate its resources is apparent. Contemporary efforts have been described, from campaigning over tax incentives to focus groups. What is argued here, is not the lack of acknowledgment for this social obligation, but rather the ineffectiveness of either the use of resources or the resource redistribution that holds back other actors in retail and households from improving their anti-food waste practices and better

supporting, facilitating and legitimizing other stakeholders' efforts within the food system. Rather than food, the aforementioned other resources available to the role of the redistributor might be used in other places. In the case of preventing food waste, the non-economic interest in protecting planet and people that the government usually takes on to adhere to the norm of responsible behavior apparently did not cover this role adequately in the eyes of civil society. Thus we saw how it was partially taken on by citizen engagement and formed initiatives and movements. They attempted to act upon the lack of prevention by establishing routes of redistribution of food themselves. However, by themselves, they are not able to act entirely as hoped without adequate support. This is one reason why the exploration of collaboration through other kinds of redistribution can be so interesting. That way, the government has the decisive opportunity to relieve key barriers to action and change some conditions around food practices. In the light of the double movement for new integrations in society accompanied by increased individual freedom, the government particularly holds the power to open doors. The definiteness that comes with truly transparent and advantageous food regulations and better incentives can instead lend security and ease indecision for individual and organized behaviors. It is thus time to see what that can imply in detail.

6.2.2 Clarify Labeling

Policies and regulations play a crucial role in shaping the food economy. Interventions reflect societal values, priorities, and power dynamics. They should not only be aspiring but also reflect an understanding of people's actual awareness and behavior and adjust accordingly. By mandating clear and accurate labeling practices, governments can ensure accurate access to information about the quality and safety of food products. This empowers consumers to make informed choices and reduces the chance of food waste due to misunderstandings. The confusion about the best-before date has been under critical analysis before (Newsome et al., 2014). While guaranteeing that a product retains its specific features under the right storage such as taste, look, and color until the specified date (Regulation (EU) No. 1169/2011), it is often still perfectly safe to consume. This is different from the use-by date, which is a definite orientation for sensitive and easily spoiling products made with meat and dairy for example. The regulatory power of governmental policy is a chance to tackle

preconceptions related to the sensitive topic of health and well-being. In German, the wording for 'best before' is 'mindestens haltbar bis', which roughly translates into 'lasting at least until'. The English phrasing might be more reminiscent of the quality (best), while the German one uses phrasing reminiscent of spoilage. This possibly gives a false impression about how long a product is safe to be non-perishing instead of long it is holding ('halten') its specific features. A more unambiguous wording could help here to better indicate the optimal quality as guaranteed by the producer instead of a health risk, as indicated by 'use-by dates'. Possible phrasings might for example be 'Qualität unverändert bis' (quality unchanged until) as used in the survey. This at least has led to a majority of respondents answering they would use their senses first to judge a food item, a good way for skill development and becoming more flexible. To redistribute the power of decision-making even more towards the public, suggestions could be gathered and voted for in public discourse. This would also draw further attention to the practice of overcautiousness leading to food waste. If a dimension of storage concerns the rational prevention of waste, then indicators for better results with changed storing design (as packaging design is), should be taken into consideration.

6.2.3 Reframe Aesthetic Standards

For a start, the false connection between the aesthetic standards of specifically fruit and vegetables and quality is a misconception to untangle that needs to pass through both retailers and consumers. Selling it for a lower price as an incentive can negatively impact farmers, who receive less money for virtually the same work going into a product (Turner, 2019). For retailers to accept produce deviating in size, shape, and color, they will want to make sure it is going to be sold. To this end, the normalization of these variations plays a major role in reaching an acceptance that makes consumers buy such items. A higher redistribution of incentives or obligations towards retailers would be beneficial. First of all, those who buy all, including deviating, produce could profit from tax or other benefits. Otherwise, retail could be obligated to accept a certain percentage of odd-looking produce, where the price goes by weight to ensure a fair correspondence. By using its decision-making power to allow this market window to open, the state would distribute some freedom back to the farmers who are less restricted by the uniformity standards and consumers, who, with the right support, can give new impulses for demand. Though this would likely need other education

interventions to increase its acceptance among shoppers, it could help in pushing retailers to open up their range of acceptability. Only after this happens, consumers can follow. The hard change of selling deviating fruits and vegetables alongside their standardized counterparts instead of as a lesser version could likely first lead to an increase in waste as consumer resistance to sustainability interventions sometimes does (Gonzalez-Arcos et al., 2021). Yet as the authors of that study ascertain, consumer behavior that is decided by social practices beyond individual motivations could be met by well-designed interventions that take certain considerations before, such as new meanings introduced or other practices that might be affected. This would increase security on the side of farmers that they will not sit on their produce while enabling stores to keep the expenses on par. Any incentive should also at least meet the price for dumping food. This would require keeping track of donations so as to be able to equalize per weight donated with disposed food. Instead of using the resources of the government like decision-making power and collected finances to plan their own campaigns, they can be used to give more of a push to other actors. The credibility and trust that the government inherits as an official institution can be used much more effectively by distributing educational resources that reframe the narrative of deviating produce as normal in everyday environments. The double encounter of both the changing standards of what normal produce can look like, and the possibly bit by bit consciously taken-in information in a quick decision environment uses acceptance via familiarization. Although storage is in this case not handled by the government, its conditions can be influenced by way of presentation conditions. Reintroducing previously rejected food items into the food system would thus be a preventative strategy that would affect the chain from production up to the household stage.

6.2.4 Interventions at Moments and in Places of Decision-Making

Retail is special in being the locus of decision-making and attention of consumers. The BMEL launched information campaigns before, but with little spill-over at least into practical knowledge about storage, according to the data gathered here, although this could significantly increase foods' shelf life. In the eye of the observation that overbuying is a major reason leading to waste, increasing the time consumers have to use up a product through proper storage could have a positive impact. Information on the preferences of consumers revealed a wish for incorporation into locations most

adapted to the situation of the person, i.e. in their supermarket near the food in question, or rather on the product itself. On some packaging, this is partly already the case, as with annotations like 'keep cool', 'protect from direct light', or 'store at room temperature'. Other highly helpful tips, such as storing certain vegetables in containers of cold water in the fridge to keep them fresh for longer or where to put sensitive products in the fridge are impractical to squeeze as well onto packaging and might as well be drowned out by the rest of the print. SFR initiatives though have expertise they could share but lack reach. In collaboration with the government, posters could be created for relevant food groups to combine both. Framing the shopping experiences from a waste perspective should in the best case improve food practices before waste becomes an issue and in the worst give ideas for what to do with old rests. In the bread aisle, on fruit labels, over meat sections, and other perishable items, supermarkets could create novelty by displaying changing tips, hacks, and recommendations. Appealing to shoppers by invoking a sense of smart storing, and keeping the movement ongoing. For a change, nudges against overshopping could be added as well. Notes such as "Did you know that bread is one of the most commonly overbought items?" could target decisive moments. The benefits that both sides could reap are not about gain: The initiatives get to come out of their lack of recognition while bringing in a sense of coming from within society instead of top-down. Retailers can improve their reputation by acting for the same reason that would inspire consumers to try food saving: environmental awareness.

Improve Surplus Food Redistribution and Retail Collaboration

Despite individual cases of support from the Federal Ministry of Food and Agriculture or the Federal Ministry of Education and Research, SFR initiatives are rather under the pressure of finding sponsors or bearing the expenses for food collections, such as gas, themselves. Reflecting some of the calls of German initiatives from Chapter 2, studies highlighted SFR initiatives' obstacles and needs towards a scaled food redistribution for human consumption. Administrative demands, poor resources, and lacking support through policies were identified as limiting factors (Davies and McGeever, 2023). Specifically, "more supportive policies around liability and traceability, fiscal incentives and levies" (p.220), were named. This was confirmed by the study respondents. What the central figure in the strategy of redistribution can do in this case is support their

financial needs for example by grants that SFR initiatives can apply for, so that the organizational costs can be covered. Generally, the attractiveness of SFR initiatives and the collaborations between them and food providers could be improved. On the one hand, the often perceived burden of donating has to be on par or better surpass disposal, when it comes to costs, but also the effort it takes to make better decisions. On the other, the reassurance that retailers get from having a collaboration approved and supported by the federation can help convince food providers of the legislative soundness of the undertaking. Examples of this might be a document issued by the Federal Ministry of Food and Agriculture that summarizes regulations, benefits and contact information for questions in a nutshell. SFR initiatives could bring this with them when approaching providers and reduce unhelpful preconceptions. The distribution of information from the government is differently received than from other stakeholders. If both financial and non-financial resources can be distributed to elevate the cost-benefit calculation of food providers and give the impression of being a safe bet, both ends can be met. The topic of affiliation can even expand into the retail stores themselves. The meeting of food provision and food redistribution could be more connected by displaying collaboration in-store to bring SFR more into the public eye, generate new volunteers or users, and further foster the normalization of food saving as a still necessary part of the food system. It has to be recognized that the work of picking up and transporting food to its final destination will likely still rely heavily on volunteers or parties outside the retail store. This problem can be encountered partly by integrating another detail into food saving with the help of redistributive power. Adding to the suggestion of a matching food redistribution hub, the price of gas could be refunded by the BUND, against proof of the food pickup like the signature of corresponding retailers or a QR code to be scanned, connected to the hub website. This could be an incentive for retail-matched institutions, an idea explored within the chapter on reciprocity, to organize pickups themselves.

6.2.5 Centralize Resource Hubs

This suggestion dives further into the institutional pattern of centrality. For a quick connection and information distribution a website hub is a method to suggest itself. The BMEL has launched the *Zu gut für die Tonne* website to address specifically citizens, providing tips for at home, information materials, and the opportunity to submit

projects or participate in yearly awareness weeks. So if not for special occasions, the average person has little reason to visit it, except if curious enough. If the pattern of centrality were developed though, this website could serve for much more. One idea that falls under the category of reciprocity is the suggestion expanded below to connect citizens to share via groups of their habitual institutional environments. The website or an accompanying app could be the trusted basis on which places could register themselves. What is distributed then is equal access to free food saving opportunities. In this case and possibly in some of the others, redistribution would facilitate the functionality of reciprocity.

6.2.6 Reframe the Narrative of Saved Food

Something that has necessarily to be considered, is the quality and safety concern with saved and redistributed food, as the preconceptions emerging from the data responses showed. The idea that receivers are 'dumped' with food of questionable quality should be addressed before. Partnerships with foodsharing and the Tafel could elevate the whole arrangement, as they have with their political independence, no-profit orientation, and familiar name another air of expertise and credibility. For this, the already existing website could serve as a central point for information distribution, videos, etc., with the option to advertise it on other online channels. It is not the intention to make all the redistribution for human consumption services the responsibility of volunteer-based activities. Yet the reality is that they themselves have established a massive network of cooperation with food providers and modes of redistribution, and it would be much easier to build on it. This redistribution of resources facilitates and legitimizes efforts that should have an effect on both preventative measures and redistributive ones for human consumption, thus covering the two most preferred ways of fighting against waste.

6.3 Reciprocity

6.3.1 *Recontextualization*

Bringing prevention and destigmatization to the forefront is highly connected to retail and consumer practices and education, with the amount of waste occurring in these stages of the food chain. With the average consumer's relatively little contact with the anti-food waste movement, it could be helpful to bring a change in behavior in the form of advanced reciprocity, reframing notions of food quality and advantageousness, and grounding the issue of waste into the personal narrative. Although redistribution for human consumption is only the second most preferred level of the anti-food waste pyramid, it can be an introduction to the wider implications and necessary steps of prevention. The goal of *foodsharing* is, fittingly, to make itself redundant ('Vision & Mission'). What is considered important here, is to bring solutions out of the focus groups and into broadly implementable acts of everyday life. It is to initiate a point of contact for consumers who would normally not seek out ways of engagement by themselves or who feel like they have little time to go out of their way to food sharing points. From a social point of view, access is also an important point, as not all have the spare time or mobility means to participate in or benefit from free surplus food exchange. How can reciprocity be understood in this context? When speaking about the redistribution of food, the situation is not the same across different types of relationships. Acts of reciprocity between households would look different from those between a household and a retailer, beginning with what is the object of their exchange. What positive exchange can happen between actors? The most obvious answer is of course food. This, however, only applies mostly to a consumer-to-consumer case. We need to look at the needs of each stakeholder when it comes to food waste to understand what a positive lasting relationship can look like. So again, we might have to look further than the obvious object of interest. Not always can it be food for food. Any relationship involving a retailer might first suggest just a giver and a taker. Plus, we remember the survey participants' concerns about shared food, unsureness rooted in lack of information. At publicly accessible sharing shelves, no face-to-face interactions with donors give hints about the reliability of 'rejected' food that are so crucial for establishing that trust in the social agreement on the continuation of a mutually advantageous exchange. And what kind of people make use of this offer?

How does it fit with one's own ideas about how one makes use of the food system, from a social standing perspective? The way that storage conditions of such intermittent places contain non-economic obstacles, they might under different conditions turn into incentives. Reciprocity can be an exchange of goods as well as services. Taking private donations now for giving one's own donations tomorrow relies on the principle that they will be reciprocated. Not all households have the same amount of surplus to share of course. So for sharing shelves and the like, the variability of amount and variance can only not be taken as grave if the aspect of coming out on top for personal gain is not in the very foreground of the interaction. Exchanges between food donors and consumers are difficult to equate, as the form of their exchange is not based on things easily comparable.

We thus extend the term of reciprocity here too beyond food and add a distinction. Building on Cashdan's example (1985), Osti (2016) positions reciprocity opposite to storage. Resources can move among actors instead of being conserved in one place. Storing as an act becomes a network task, circling resources rather than fixing them to their storage space but allowing solidary exchange instead. Although the example for food security lends itself well to demonstrate the advantage of shared provisions in the face of adversities, in today's context food is being redistributed not to help with shortcomings but with overabundance. Yes, many people with financial difficulties are benefiting from social initiatives like the Tafel, but otherwise is it really food in the first place that is the object of reciprocity? Both the giver and receiver side should be considered. Food donors, private and corporate, want to get rid of their items. The former suffer from a feeling of guilt when throwing away food (Parizeau et al., 2014; McCarthy and Liu, 2017), and according to the findings here would be encouraged by the feeling of environmental awareness as the feeling of having done something good to make use of food saving opportunities. They are alleviated of what is so often their own shortcomings that lead to waste. The same goes for using shared food, topped with their other perceived benefit of saving money. Thus both sides would benefit from acting according to the social norm of responsible consumer behavior. Participating retail stores instead can harness a positive reputation and, if better supported, do not need to decide between lucrative business practice or sustainable practice. In short, food is only the traveling commodity through which reciprocity manifests itself.

Former motives for reciprocity as protecting against unfortune are replaced by soft benefits rooted in a sense of acting in accordance with positively coded behavior within

the food system. In a well-accessible reciprocity system, the benefit extends twofold for consumers, offering both a place to relieve them of their surplus and to benefit from other people's and other provider's surplus. Storing becomes a network, a community practice. For this, there should be high levels of trust in the social agreement that a continued, beneficial exchange will take place: because it is agreed that food has value beyond its market value, and because this does not clash with handing it out freely and safely. After highlighting the three big obstacles uncertainty, preconception, and inconvenience, the goal here is thus to reduce these where possible and improve opportunities for reciprocity in a food sharing context.

As suggested, properly scaling this principle can benefit from the support of redistribution. Without better resource distribution, the relationships between retailers or food providers and food savers are restricted by the amount of resources that both can muster together. Polanyi talks of the protective power of cultural institutions. They may be defined as public places of learning that collect and preserve objects and knowledge of value, freely accessible to those who seek it (Carr, 2003). While SFR initiatives are not cultural institutions in the typical sense of being distinct places or holding collections of cultural value, they do share several of the same intentions. This includes raising awareness and educating about the consequences of food waste, situating it in our food culture, and upholding social values that act as a moral compass for acceptable behavior to guide economic activities that align with the long-term well-being of staying within planetary boundaries. On top, they are grounded in a close-to-life matter of every citizen (food) and in everyday activities that come with handling and to consuming it. The social innovation solutions that can come out of it are significant and some of them that are set up so far can serve as inspiration.

The idea is to have sharing and storing points for donations not, as so often now the case, out in the open or near community spaces, but in establishments people have a connection with and are visited by them regularly or often. Workplaces, kindergartens, places of worship, clubs, etc. can be worked with in different ways and thus offer chances for several reasons. Here are two ways they could be used.

6.3.2 Direct Match Between Retailers and Establishments

In the spirit of the institutional pattern of symmetry, reciprocal relationships could be taken up between a giver and receiver of similar size so that the receiver is not dealing

with an insurmountable surplus themselves. To pick up on the suggestion briefly mentioned in the part of redistribution, the hub for this activity could be organized by the government, or more conveniently, integrated into the already existing *Zu gut für die Tonne* website. This does not stand in competition with existing food sharing collaborations like *foodsharing* or the *Tafel*, but is thought of rather as complementary to already existing collaborations. A similar suggestion has already been made by (Soma et al., 2020), where social innovation groups proposed an app to match vendors with food community organizations. This could be similar, with special attention to the symmetry of size, so as not to overload the receiving community and fit the pickup load to the workforce doing it. The numerous collaborations existing so far with the food redistribution initiatives have already valuable data about the regular and seasonal surplus amounts through experience. Not only this knowledge but also the one surrounding saved food has to accompany changes. Food safety and completely acceptable quality where it applies must be made crystal clear to beneficiaries. This could otherwise backfire on the institutions and damage their reputation. Here the experience of certain SFR initiatives with food redistribution and storage for sharing purposes comes in handy. Sharing points where the collected food is brought to and how to look after it (such as removing old foods or keeping it clean) could be formally introduced by a food saver of the area. In learning about how to better store dry food and where fridges are available, chilled food, food labeling, and its proper meaning can be addressed on the side too. Similar to the BMEL's suggestion of training food operators on waste in Chapter 2, this food handling for personal use could also translate into the home. The following care from people of the institutions could alternate among them, invoking a sense of responsibility that is reciprocated to them by the next person in charge in the future. This is the most classic example of reciprocity, in its most face-to-face version in a society in which anyone belongs to many groups at the same time. These initiatives work largely because of the many volunteers, having arranged a significant workload. This way, some tasks similar to those of the volunteers would naturally be part of one's usual social localities. The development of a positive relationship between the redistribute force of the government and the reciprocal one on lower levels of organization could be a chance, based on the currently perceived shortcomings by food savers and non-food savers. Such a match dealing with surplus food can at the same time address the formerly expressed idea that it is to be kept for people in need and secondly, ideas about safety,

quality, and usability. Using or rearranging structures and relationships that are already available quickens implementation and pools resources like trust, workforce, and experience. The reputational win that businesses can record by displaying their collaborations is an added benefit for successful collaborations. This example of matching donors and institutions builds on establishing a direct and trusting relationship that can reduce the reputational risk perceived by some donors (Buseti, 2019). In case SFR initiatives decide to help with the pickup where this is difficult to organize for the institution, knowing them, the final beneficiary, increases the willingness of volunteers and retailers to cooperate (Lombardi, 2020).

6.3.3 Sharing Points for Private Surplus Connecting Groups Based on Places of Interest

foodsharing has the concept of food baskets, in which individuals can put their home surplus on the website for others to be claimed and picked up. This is a similar concept, only more interconnected. Here, the website or accompanying app like for the suggestion above could provide a virtual map in which establishments with visible sharing points enter themselves. Individuals who regularly or easily visit these places, such as for work or leisure reasons, could join a registered group connected to this space. Posts about what individuals have available to hand out could be automatically listed in all of the joined groups of each individual. Once another person 'claims' the item(s), the notified giver will simply bring it to the sharing spot where it can be marked to be picked up by the receiver until a specified time (which can respect the timely needs of the food itself). As some sensitive products with milk, egg, or various meat cannot be accepted by food redistribution initiatives for safety risks, private exchanges can offer a way out of liability risks and pose a quickly organized exchange. Animal products use up enormous amounts of resources while also leaving environmental impacts like GHG emissions, eutrophication, and acidification, considerably exceeding those of vegetable substitutes (Poore and Nemecek, 2018). The reduction of animal product demand because of fewer replacement purchases owed to waste is thus not to be ignored. Some benefits have already been named, additional ones are: Firstly, it solves the problem of rural areas where access to the movement and sharing opportunities is sparse and far in between. It tethers the spots saving to the people, so to speak. Secondly, the aspect of uncertainty of whether it is worth checking on it is

mitigated, since the effort of going there is almost null. Rather, uncertainty can become curiosity. The probability that items will be picked up quicker is higher as well if the exposure to more people with a connection to the place is larger. As mentioned before, reciprocity is difficult to organize on a big scale and traditionally backed by reputation and face-to-face interactions. Here part of the familiarity comes from a shared environment that both sides frequent and a personalized sub-group for each person that limits the overall number of interactions also locally.

6.4 Householding

6.4.1 Recontextualization

The last principle is a little particular, as this was the one later replaced by the market economy. Though householding units exist today, householding as a means of producing, locally exchanging, and using up own provisions largely ceased to be applicable. Departing from this definition, householding hardly applies seamlessly, but the principle can be split between two acts of which only the latter is relevant. The first, with the storing intention to ultimately sell, is the producer or retailer. The second one is the household, reduced to storing for consumption. What still applies is the idea of the economy being immersed in social relationships and the attempt to safeguard one's social assets and standing. The irrelevance of the household size and kind of tie remains also the same. They may vary from single person to large families or shared apartments. Householding units on the consumer side are relatively small now, the average German household in 2022 consisted of two people only (German Federal Statistical Office *Destatis*, 2022). Of the noted 40.903 households of 2022, a significant number of 16.707 consisted of one person. Nevertheless, the closest activity that producing now comes close to in households would be purchasing, which rather reminds of Polanyi's description of the change to a market economy. Social relations that govern them are now reduced to self-serving preferences and purchasing power in single-person households. In multi-person households, it may equally be the problem of whether purchased food by any individual is intended to serve the whole household, as may not be the case in flats for example. Purchasing behavior in households may also vary a lot, depending on who supplies what. Even for in everyday

relations grounded in reciprocity, some household units might be in less well-covered areas, be less flexible with mobility, or not particularly connected with many establishments. It is therefore indispensable to turn the attention to anti-food waste measures that can be employed by the households themselves. This study does not see the opposition of reciprocity and storage as mutually exclusive for creating a solution but, just as the three economic principles can be present as a mix, seeks to fill each other's gaps by helping itself from the parts of householding that are still applicable.

Instead of trying to break this principle small enough until it fits the postmodern context, it seems more promising to look at the features that are still relevant, which are storing and consumption conditions for householding needs. The way that the provision management of food is under the shaping force of social ties in everyday relations of households surely negotiates its conditions. Self-sufficiency has been largely given up, and yet it is more difficult to enter this private space without permission to insert incentives for waste-reducing practices. From the characteristics of organization through householding excluding the production aspect, education and skills development are relevant to automate better practice at home for the households themselves. Moreover, the local exchanges can still be improved, if the meaning of what a living unit can mean today is open to reinterpret. While self-sufficiency is neither realistic nor wanted, it is possible to imitate the character of in-group organization to some extent.

6.4.2 Personalize the Education Experience

The reason for education transfer to consumers is easily apparent. Good practice starts with being in the know of where one stands and where room for improvement is. When it comes to cooling for example, the study of Wucher et al. (2020) of German consumer storage behavior demonstrated an overestimation of people's own knowledge and abilities, contained sensitivity in food storage as well as failure to adhere to food-specific storage requirements. Storage knowledge based on intuition or social circles as expressed by non-food savers, which may be not optimal, can lead to a continuing road of suboptimal practice. The approach that was chosen here was not to rely on the self-identification of being a food saver but to focus mainly on enabling and inviting positive practice in society on various levels.

One way to address this would be by speaking to the appeal of a food practice being practical and helpful, valued by many participants here. To this end, it should fit the person in question and benefit the fulfillment of a perceived need. A proposal would be to create an online test, which could be placed on the BMEL's *Zu gut für die Tonne* website. Via convenience and gamification, this could boost the likely contained enthusiasm for only vaguely food waste-concerned consumers and only moderate preference for online media as a learning tool. Such a test would ask questions about shopping-, and storing behavior and common types and reasons for waste. The result would sort participants into different types of consumption styles plus their own shortcomings when dealing with food purchase and utilization. If done properly, such a test could take on the task of properly identifying the largest pitfalls that would make the largest difference and directly linking the parts of the site with corresponding tips (such as using leftovers or extending shelf life). Assigning participants 'their' character type is a more memorable and engaging type of education, tailored to them. Additionally, it could invite them to try challenges in everyday life, suitable for the goal and person in question (is it a care role that cooks? Is it someone doing the shopping?). The overall point is to bring a fresh push of interest and motivation to engage with the topic and give the most personally helpful resource at hand instead of overburdening consumers with a feeling of having to dramatically change all their household habits.

6.4.3 *Building Inter-Household Sharing Pathways*

The second focus point are exchanges within the living unit, a community-based network. Householding as defined in *The Great Transformation* refers to a mode of economic organization in which production and distribution are integrated within the household unit. While this suggests self-sufficiency at the household level, it doesn't necessarily imply complete isolation, there can still be local exchanges between local householding units. In order to foster a culture of efficient food use and communal support, particularly within urban areas where individuals often reside in multi-apartment buildings, building administration or managers can play a pivotal role (alternatively its inhabitants with the approval of said administration). One effective strategy is the establishment of a digital communication platform, such as a chat group (easy to enter via smartphone with barcode, displayed visibly in the building complex), exclusively for the inhabitants of the building. This platform serves as a virtual space

where residents can easily connect and engage with one another, facilitating local exchanges of various resources, including food. Through this platform, individuals can share information about surplus food items they may have, such as leftovers from meals or items to get rid of before a longer absence, and offer them to fellow residents who may be in need or interested. By encouraging such local exchanges within the building community, the platform not only promotes the efficient utilization of resources and reduces food waste but also fosters a sense of comradery and mutual support among residents. It strengthens social connections within the building, cultivating a living environment where individuals actively participate in an effort to enhance the well-being of the community. Plus, this more informal network based on mutual benevolence is relying on trust and is free of legal requirements, which facilitates the exchange of opened or home-cooked goods, which again fall out of the range of donatable goods for SFR initiatives. For such an idea to reach enough people requires a multi-faceted approach that leverages various communication channels, networks, and partnerships. This is not just relevant to this point. Whether it is television advertising, social media, or collaborations with relevant organizations, information on resource redistribution should be placed where they address a problem, i.e. food handling tips in retail, storage, or redistribution tips at home, where they can be instantly put to action. They could nudge in the right direction by highlighting the incentives rated highly by both participant groups and addressing perceived barriers before they would lead to a dismissal of the opportunity.

6.4.4 Packaging Barcodes as Knowledge Storers

How does new knowledge and practice come into the home, the most private and uncontrollable environment for other stakeholders? Many ways that are already accessible, like the storage recommendations for individual food items in the *Zu gut für die Tonne* app, require the individual's proactive behavior to look up the solution and are based on the condition that one downloaded the app. Storing conditions are not only about how to make food last the longest but also include packaging design and the way food is presented, especially in the store.

As already mentioned, there is often little space to print best storing practices, recommendations, or ideas for the reuse of rests. Knowledge should be counted as a resource if householding should still mean a household has everything it needs to

function well. Although there may not be a centralized food register for every product being sold in Germany, regulatory measures on the EU level keep track of food labeling (EU Regulation No. 1169/2011). An act of double movement could be the requirement for food producers to put the barcode of their product on a register. Here it could simply be put under a subcategory of the general product type, like apple, milk, whole-grain bread, etc. When a consumer scans the code with their phone camera, they could be led directly to the website part of this general food item of *Zu gut für die Tonne*, where corresponding storage tips and leftover recipes already exist. The centralization of government efforts to this source could make it more memorable. This would both address the insecurity about good practice as well as alleviate the ‘inconvenience’ of the extra steps of downloading the app and finding the item manually.

7 Conclusion

This work attempted to take a look at the current food waste situation in Germany and identify openings for change towards curbing waste levels, as needed for social and above all environmental protection. By reviewing the literature on the matter and distributing a survey about food saving, food knowledge, and different scenarios, the motives of what was here called food savers and non-food savers, became apparent. By grouping various obstacles of anti-waste behavior under the themes of uncertainty, predisposition, and inconvenience, a basis for which ones exist was established. What the results showed lent itself well to analysis within the frame of Polanyi's exploration of the social embeddedness of the economy and different ways of economic organization. The problem of food waste is recognized and a double movement is supposed to balance out negative market influences, but ever-higher standards in food appearance do little in ways of encouraging education on better practice with such easy replaceability. Applying this framework revealed chances to combine actors' individual roles more favorably, the roles of the government, SFR initiatives, and also consumers were prominent. Nevertheless, this recontextualization also includes challenges, as a more and more simultaneous individualistic and interconnected society results in individuals holding many social roles at once. This also changes the complexity of storage, now being subjected to more changes of location between and within the food chain links.

Redistribution from the perspective of government action suggests that so far there might have been commitment, but not very well directed, towards its own projects. By redistributing resources inherent in this position of authority, credibility, and a certain quality, other efforts in society against food waste can be supported and facilitated. The propositions attempted to use a legal framework and redirect resources for soft measures and can be summarized as clarifying labeling, reframing aesthetic produce standards, placing interventions at moments of decision-making, improving SFR and retail collaboration, reframing the narrative of saved food, and centralizing resource hubs. Reciprocity focused more on food redistribution but it could offer an introduction for non-food savers to get more in touch with the topic and bring it into everyday life, ultimately more care towards prevention in the first place. Direct matches between retailers and establishments and sharing points for home surplus connecting groups based on their points of interest were some examples of how this could look. This

principle even benefits from redistribution, when it comes to implementing structures of reciprocity in the first place by introducing resources from the government or SFR initiatives for example. Householding is rather tricky to pin down for this context, as production is no longer within the household and individuals are not just part of one group but many. By looking for ways to enter this rather closed structure, the possibilities of personalizing the education experience, building digital inter-household sharing pathways, and packaging barcodes as knowledge storers emerged. These strategies should do several things: they fight misconceptions around food quality while grounding waste more conveniently within eyesight in the social life of consumers. They support food redistribution for human consumption and thereby sensitize citizens while also allowing information transfer, tackling both prevention and redistribution of the anti-food waste pyramid. Finally, they lower the initial engagement energy by turning obstacles into their opposites and thereby, incentives. In that sense, the question of whether a recontextualization of Polanyi's work in a food waste context helps to address food waste in the German retail and household part of the food redistribution chain can be affirmed. In the end, it has to be acknowledged though that all principles have to be adapted to modern demands of food systems and in some scenarios do not fit perfectly. While it is necessary to concede that none of the principles alone is enough, there lies potential in all of them to varying degrees and for different purposes. There may well be more examples of how to implement their transfer into a food system context, the ones named here are by no means exhaustive. Still, they hopefully convey the general idea and how the recognition of social structures can positively direct the approach to more waste-aware food cultures like in the case of Germany here.

This thesis contributes to the search for implementations by adding to the currently explored paths of regulations, retail involvement, and consumer education. However, it does so in a way that respects the benefit and even need to better organize the visible and invisible resources available. By linking the food economy to its social environment from a waste angle, it allowed a rare look into how we could access this problem by lowering each other's obstacles. It seems promising for future work to further expand the list of how applied principles translate into concrete action. Since the proposals were the results of a framework application, it might certainly be interesting to examine the feedback results based on these proposals in return. It stands to see if changes, whether these or others, are applied with the urgency that

the state of our relationship with food demands. Food waste has consequences beyond food, and to strive for a good livelihood in the future, we must take account of the consequences of consumption now.

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Appendix

Appendix A: Survey and Results

Wie geht es ohne? Umfrage zu Lebensmittelverschwendung

In Deutschland werden pro Jahr rund 11 Millionen Tonnen an Lebensmitteln weggeworfen, der größte Teil davon in privaten Haushalten. Dieser kurze Fragebogen dreht sich um Lebensmittelverschwendung und die Frage, welche Rahmenbedingungen und Veränderungen ihre Prävention erleichtern können.

Das Ausfüllen der Umfrage dauert ca. fünf Minuten. Sie ist Teil meiner Masterarbeit im Studiengang *Local Development*, die Auswertung aller Daten bleibt jedoch komplett anonym und dient nur zu Forschungszwecken.

Vielen Dank im Voraus für deine Teilnahme!

Altersgruppe

<input type="radio"/> 18 - 24	36 (19,7%)
<input type="radio"/> 25 - 34	69 (37,7%)
<input type="radio"/> 35 - 44	29 (15,8%)
<input type="radio"/> 45 - 54	26 (14,2%)
<input type="radio"/> 55 - 64	21 (11,5%)
<input type="radio"/> 65 und älter	2 (1,1%)
<input type="radio"/> Keine Angabe	0 (0%)

Geschlecht

<input type="radio"/> Weiblich	141 (77%)
<input type="radio"/> männlich	41 (22,4)
<input type="radio"/> non-binar	0 (0%)
<input type="radio"/> Keine Angabe	0 (0%)
<input type="radio"/> Weitere	1 (0,5)
<input type="radio"/> transgender	

Was beschreibt deinen aktuellen Lebensumstand?

<input type="radio"/> Ausbildung / Studium	66 (36,1%)
<input type="radio"/> Vollzeitarbeit	61 (33,3%)
<input type="radio"/> Teilzeitarbeit	43 (23,5)
<input type="radio"/> Ohne Arbeitsverhältnis	9 (4,9%)
<input type="radio"/> In Rente	5 (2,7%)
<input type="radio"/> Keine Angabe	3 (1,6%)
<input type="radio"/> Weitere:	9 (4,5%)
– Teilzeitarbeit und Minijob	
– Minijob	
– Elternzeit	
– Mutter von 4 Kindern und 2 Pflegekindern. Also voll Berufstätig	
– freiberuflich und ehrenamtlich tätig	
– Privatier	
– Krankenstand	
– Teilzeitstudium M.Sc. Klinische Psychologie und Psychologische Empowerment	

Bist du aktiv in einer Initiative oder Bewegung der Lebensmittelrettung, oder fühlst du dich ihr zugehörig?

<input type="radio"/> Ja	99 (54,1%)
<input type="radio"/> Nein	84 (45,9%)

Kennst du gut erreichbare Möglichkeiten der Lebensmittelrettung in deiner Nähe?

<input type="radio"/> Ja, kostenlose/vergünstigte Abholung von Supermärkten oder Shops	128 (69,9%)
<input type="radio"/> Ja, Sammelstellen zum Abgeben/Mitnehmen (z. B. Verteiler-Regale und -Kühlschränke)	99 (54,1)
<input type="radio"/> Ja, soziale Verteilerstellen (z. B. die Tafel)	79 (43,2%)
<input type="radio"/> Nein, ich habe trotz Suche keine gefunden	7 (3,8%)
<input type="radio"/> Weiß ich nicht	23 (12,6%)
<input type="radio"/> Weitere: (offene Antwort)	10 (5,1%)
– TooGoodToGo (3)	

- Landwirte, die Überschüssiges abgeben
- whatsapp Gruppen
- Ich kenne viele in der Stadt, aber nicht in der Nähe meines Wohnorts
- Jede Menge Foodsharer Kollegen
- Nein
- App: To good to go
- food sharing gruppen

Als wie bedeutend würdest du folgende Anreize für die genannten Wegen der Lebensmittelrettung für dich persönlich beurteilen?

Unabhängig davon, ob du diese bereits wahrgenommen hast oder nicht.

(1 - kaum relevant, 5 - sehr relevant)

<p style="text-align: center;">Geld sparen</p> <p style="text-align: center;">Stimmen</p> <ul style="list-style-type: none"> <input type="radio"/> 1 8 (4,3%) <input type="radio"/> 2 16 (8,7%) <input type="radio"/> 3 37 (20,2%) <input type="radio"/> 4 55 (30,0%) <input type="radio"/> 5 67 (36,6%) 	<p style="text-align: center;">Es ist praktisch/Hilfreich</p> <p style="text-align: center;">Stimmen</p> <ul style="list-style-type: none"> <input type="radio"/> 1 8 (4,3%) <input type="radio"/> 2 23 (12,5%) <input type="radio"/> 3 42 (22,9%) <input type="radio"/> 4 73 (39,8%) <input type="radio"/> 5 37 (20,2%)
<p style="text-align: center;">Das Gefühl, etwas Gutes getan zu haben</p> <p style="text-align: center;">Stimmen</p> <ul style="list-style-type: none"> <input type="radio"/> 1 7 (3,8%) <input type="radio"/> 2 6 (3,2%) <input type="radio"/> 3 23 (12,5%) <input type="radio"/> 4 61 (33,3%) <input type="radio"/> 5 86 (46,9%) 	<p style="text-align: center;">Umweltbewusstsein</p> <p style="text-align: center;">Stimmen</p> <ul style="list-style-type: none"> <input type="radio"/> 1 7 (3,8%) <input type="radio"/> 2 5 (2,7%) <input type="radio"/> 3 13 (7,1%) <input type="radio"/> 4 45 (24,5%) <input type="radio"/> 5 113 (61,7%)
<p style="text-align: center;">Teil einer Gemeinschaft zu sein</p> <p style="text-align: center;">Stimmen</p> <ul style="list-style-type: none"> <input type="radio"/> 1 23 (12,5%) <input type="radio"/> 2 47 (25,6%) <input type="radio"/> 3 50 (27,3%) <input type="radio"/> 4 42 (22,9%) <input type="radio"/> 5 21 (11,4%) 	<p style="text-align: center;">Neues ausprobieren zu können</p> <p style="text-align: center;">Stimmen</p> <ul style="list-style-type: none"> <input type="radio"/> 1 27 (14,7%) <input type="radio"/> 2 40 (21,8%) <input type="radio"/> 3 53 (28,9%) <input type="radio"/> 4 40 (21,8%) <input type="radio"/> 5 23 (12,5%)

Wie wahrscheinlich ist es, dass du Anlaufstellen zum kostenlosen Teilen und Mitnehmen von Lebensmitteln wie Obst, Gemüse, oder ungeöffnete Produkte durch öffentlich zugängliche Teiler-Regale und -Kühlschränke in deiner Nähe wahrnehmen würdest?

<input type="radio"/> Ich nehme sie war	72 (39,3%)
<input type="radio"/> Sehr wahrscheinlich	33 (18%)
<input type="radio"/> Eher wahrscheinlich	35 (19,1%)
<input type="radio"/> Nicht sicher	16 (8,7%)
<input type="radio"/> Eher unwahrscheinlich	19 (10,4%)
<input type="radio"/> Unwahrscheinlich	8 (4,4%)

Welche Faktoren könnten dich davon abhalten, derartige Angebote wahrzunehmen?

<input type="radio"/> Zu umständlich erreichbar / zeitaufwendig	134 (73,2%)
<input type="radio"/> Auswahl unvorhersehbar	57 (31,1%)
<input type="radio"/> Zu geringer Nutzen	33 (18%)
<input type="radio"/> Bedenken bzgl. Qualität der Produkte	41 (22,4)
<input type="radio"/> Bedenken bzgl. Sicherheit des Verzehrs	65 (35,5%)
<input type="radio"/> Weitere: (offene Antwort)	15 (7,5%)
<input type="checkbox"/> nichts	
<input type="checkbox"/> lieber für bedürftige Menschen lassen	
<input type="checkbox"/> andere haben es nötiger	
<input type="checkbox"/> Immer die gleichen Leute, die den Fairteiler leerräumen, sobald er befüllt wird.	
<input type="checkbox"/> Sorge manipulierter Lebensmittel	
<input type="checkbox"/> Wenn ich nichts brauche, hole ich es nicht	
<input type="checkbox"/> Schlechter Hygienestatus	
<input type="checkbox"/> Schlechter Hygienestatus	
<input type="checkbox"/> Keine	
<input type="checkbox"/> (leer)	
<input type="checkbox"/> zu enge Öffnungszeiten	
<input type="checkbox"/> Sozialkontaktvermeidung	
<input type="checkbox"/> Ich weiß nichts von solchen Angeboten in meiner Nähe	
<input type="checkbox"/> Kostenlose Artikel sind für Menschen, die sie auch kostenlos benötigen. Ich nutze Gelegenheiten, bei denen man etwas zahlt.	
<input type="checkbox"/> Bei kostenlosen Angeboten würde ich denken, dass Andere dies vielleicht mehr benötigen	

Zurück nach Hause: Wie würdest du mit Lebensmitteln umgehen, die das Datum mit der Kennzeichnung 'Qualität unverändert bis' gerade überschritten haben?

<input type="radio"/> Entsorgen	4 (2,2%)
<input type="radio"/> Kommt auf das Lebensmittel an	22 (12%)
<input type="radio"/> Testen (Geruch, Optik, Geschmack) und danach entscheiden	138 (75,4%)
<input type="radio"/> Ohne Bedenken verzehren	19 (10,4%)

Wie sehr ist dein Verständnis davon, wie man am besten/langanhaltend Lebensmittel lagert, auf folgenden Informationsquellen basiert?

soziales Umfeld		Eigenrecherche	
	Stimmen		Stimmen
<input type="radio"/> Gar nicht	9 (4,9%)	<input type="radio"/> Gar nicht	2 (1%)
<input type="radio"/> Wenig	41 (22,4%)	<input type="radio"/> Wenig	20 (10,9%)
<input type="radio"/> Mäßig	72 (39,9%)	<input type="radio"/> Mäßig	71 (38,7%)
<input type="radio"/> Sehr	61 (33,3%)	<input type="radio"/> Sehr	90 (49,2%)
	Stimmen		Stimmen
<input type="radio"/> Gar nicht	8 (4,3%)	<input type="radio"/> Gar nicht	44 (24,0%)
<input type="radio"/> Wenig	32 (17,4%)	<input type="radio"/> Wenig	71 (38,7%)
<input type="radio"/> Mäßig	78 (42,6%)	<input type="radio"/> Mäßig	47 (25,6%)
<input type="radio"/> Sehr	65 (35,5%)	<input type="radio"/> Sehr	21 (11,4%)
Soziale Medien, die ich verfolge			
	Stimmen		
<input type="radio"/> Gar nicht	58 (31,6%)		
<input type="radio"/> Wenig	63 (34,4%)		
<input type="radio"/> Mäßig	49 (26,7%)		
<input type="radio"/> Sehr	13 (7,1%)		

**Wie ansprechend bewertest du diese Kontexte, um Tipps gegen Lebensmittelverschwendung zu erfahren?
(1 - kaum ansprechend; 4 - sehr ansprechend)**

<p>Beim Einkaufen (z. B. in Produktnähe)</p> <p style="text-align: center;">Stimmen</p> <p><input type="radio"/> 1 15 (8,1%)</p> <p><input type="radio"/> 2 26 (14,2%)</p> <p><input type="radio"/> 3 77 (42,0%)</p> <p><input type="radio"/> 4 65 (35,5%)</p>	<p>Auf den Produkten (z. B. mehr Infos auf dem Verpackungsdruck)</p> <p style="text-align: center;">Stimmen</p> <p><input type="radio"/> 1 11 (6,0%)</p> <p><input type="radio"/> 2 29 (15,8%)</p> <p><input type="radio"/> 3 54 (29,5%)</p> <p><input type="radio"/> 4 89 (48,6%)</p>
<p>Ortsunabhängig (z. B. durch soziale Medien, Apps)</p> <p style="text-align: center;">Stimmen</p> <p><input type="radio"/> 1 22 (12,0%)</p> <p><input type="radio"/> 2 61 (33,3%)</p> <p><input type="radio"/> 3 67 (36,6%)</p> <p><input type="radio"/> 4 33 (18,0%)</p>	<p>Bei Events/Veranstaltungen (z. B. Brunch, Online- Treffen)</p> <p style="text-align: center;">Stimmen</p> <p><input type="radio"/> 1 50 (27,3%)</p> <p><input type="radio"/> 2 69 (37,7%)</p> <p><input type="radio"/> 3 40 (21,8%)</p> <p><input type="radio"/> 4 24 (13,1%)</p>

Falls du aktiv in einer Initiative oder Bewegung gegen Lebensmittelverschwendung bist oder dich ihr zugehörig fühlst (andernfalls überspringen):

**Was empfindest du aktuell als Barriere an ihrer Teilnahme oder ihres Wachstums?
(offene Frage)**

- Tafel
- Gesetzliche Regelungen, wie Haftungsfragen etc.
- Nicht zu wissen, wie ich in meiner Stadt aktiv werden kann
- Nichts
- Engagement in weiten Teilen der Bevölkerung
- Zu wenig Interessierte, die ehrlich und uneigennützig aktiv sein wollen.
- Mangel an engagierten Mitgliedern
- Politische Rahmenbedingungen für Handel. Unverkäufliches, aber Essbares wegwerfen gehört verboten.
- Viele wissen nicht, was Foodsharing bedeutet und welches Potenzial es bietet
- Zu wenig Betriebe machen mit
- Geringe Teilnahme der Betriebe
- Furcht der Geschäfte vor Konsequenzen, Lebensmittel entsorgen ist legal
- Geringer Bekanntheitsgrad
- Wachsende Hierarchien und Konkurrenzgedanken / Konfliktpotentiale
- Falsche Gründe, sich zu engagieren (Eigennutz mancher Akteure)
- Höhrer ar

- Betriebe müssen Mehrarbeit leisten dadurch
- Dass es einige gibt, die alles alleine beanspruchen wollen. Herrisches Denken, Betriebe /Politik die entgegen arbeiten.
- Sprachbarriere, Fehlender Zugang zum www
- zu wenig Möglichkeiten, große Mengen an geretteten Lebensmitteln weiterzuverteilen; Zeitprobleme
- Ich glaube es gibt ein Problem zwischen wie viele Foodsaver in welchen Bezirken sind und welche Märkte etc. diese Leute abdecken können/möchten. Auch ist Foodsharing (soweit ich weiß) nur freiwillig und daher kann viel Privat dazwischen kommen.
- Alle Märkte spenden bereits bzw. andere weigern sich
- Mangel an Freiwilligen, Teilnahme kostet sehr viel, oft unvorhersehbar viel Zeit und Anstrengung
- Foodsharing: Wenig offene Betriebe, hauptsächlich Backwaren, sehr langer Prozess zur Verifizierung als Foodsaver
- foodsharing: der Einstieg für Neue ist hier sehr schwierig und braucht echt Durchhaltevermögen.
- Sehr viel Regeln innerhalb der Bewegung (Kettenbetriebe dürfen nur unter Umständen angesprochen werden), Viele Firmen haben Angst vor rechtlichen Konsequenzen falls Lebensmittel nicht mehr genießbar sind
- Bei großen Unternehmen Bedenken zur Haftung im Qualitätsmanagement und Angst vor Mehraufwand, bei Foodsavern steht Eigenbedarf manchmal an erster Stelle
- Viele Menschen die überall abholen & anderen somit keine Chance lassen
- Gesetzliche Vorgaben
- Problem: Zeitaufwand und große Mengen
- Zeit
- dass ich kein Auto habe
- Das eigentliche Ziel geht verloren und immer mehr Menschen machen es, um nur Geld zu sparen
- Rechtliche Hürden, finanzielle Mittel
- Teilnahme: Schriftsprache/deutsche Sprache. Wachstum: Menschen, die Orgaaufgaben übernehmen
- Gar nichts
- Viele wissen es einfach nicht, dass es diese Möglichkeit gibt oder sind zu festgefahren ("ich will genau dieses Brot und heute genau das und das Essen...")
- Das es politisch kein Gesetz gibt, das Lebensmittelverschwendung verbietet (z. B. Wie in Frankreich), da Unternehmen somit keinen/kaum einen Anreiz haben dem Problem entgegenzuwirken.
- wenig bekannt
- Vereinbarkeit Beruf-Familien -> Zeit für Abholung
- Zu weite Anfahrtsweg, man wird in Betriebe nicht aufgenommen, wenn man nicht am Ort wohnt, Abholzeiten während der Arbeitszeit
- Den Willen der Menschen ihre Zeit dafür zu finden
- Nix
- Die künstliche Hierarchie, im Ehrenamt immer schwierig
- Machtgeklügel
- Es geht doch eher um die Reduktion. Je mehr wir wachsen (müssen) desto mehr Bedarf besteht. Foodsharing war mal eine Umweltorganisation.
- Sprachbarrieren
- zu viel Interpretation und Projektion, statt Fragen; dadurch starken Machtmissbrauch beim Genehmigen oder Ablehnen / zu wenig Teilnahme an wertschätzender Kommunikation, GfK, Konsensieren, usw zum Erlernen und Anwenden = Konflikte weit vorher schon vermeiden!
- Ich verstehe die Frage glaube ich nicht richtig, ich bin aktiv dabei
- Öffentliche Wahrnehmung als Schnorrer
- Zu wenig Betriebe nehmen teil

- interne Bürokratie, Unübersichtlichkeit mancher Infos
- Die Leute, die dort mitmachen, sind die Engagierten, die häufig auch viele andere (soziale/ökologische) Projekte haben. Dementsprechend fehlen oft Zeit und Ressourcen, weil sie zwischen diesen Initiativen aufgeteilt werden.
- Bin aktiv bei foodsharing
- Keine Bereitschaft bei großen Ketten zur Zusammenarbeit/ sie haben Bedenken oder Angst vor Umsatzverlust / mehr Vorgaben der Politik notwendig, da freiwillig kaum einer was "verschenkt" - Stichwort Entsorgungsverbot
- Zeitaufwand
- zu wenig kooperationswillige Betriebe und zu "strenges" Gesundheitsamt
- Die Leute sind zu faul, was für die Umwelt zu tun.
- Organisatorische Abläufe
- Durch die derzeitigen Lebensmittelpreise wollen die Leute alles behalten und sind nicht bereit auch zu engagieren
- Das langsame voran gehen bis sich ein neuer Bezirk gründet
- Zeitaufwand bis man verifiziert ist
- Es fehlt (wie immer im Ehrenamt) an Personen, die Verantwortung übernehmen.
- Aufwand
- Angst vor Wegnahme der Bedürftigen
- Diese Links-Grün versiffte Sozial- und Ökoideologie, das ist zum Kotzen und Menschen erhöhen ihren Selbstwert
- Viele retten Lebensmittel nur für sich. Für Infoveranstaltungen finden sich immer nur wenige, die helfen.
- Faulheit
- Zu wenig Zeit
- Too good to go app (noch ungenutzt, da wenig verbreitet in Region und daher wenig Angebot)

Vielen Dank für deinen Beitrag!

Wenn du magst, kannst du die Umfrage gerne in deinem Umfeld teilen.

Bei Rückfragen gib hier eine E-Mail-Adresse an. Du wirst dann so bald wie möglich kontaktiert.