



LUND
UNIVERSITY

International Master's Programme
Human Ecology: Culture, Power and Sustainability

Human Ecology Division
Department of Human Geography
Faculty of Social Sciences

Lund University

Author: Constanza Hepp

Supervisor: Yahia Mahmoud

Spring Term 2016

THE FOOD WASTE PARADOX FROM A CRITICAL DISCURSIVE PERSPECTIVE

Abstract

According to data by the Food and Agriculture Organization of the United Nations (FAO) one third of all food produced for human consumption goes to waste. This phenomenon is both normalized and socially obscured within a discursive regime that is materially sustained in the squander of natural resources, the most severe consequence of which is an overall threat to the life-support system of the planet. Following Fairclough's approach to Critical Discourse Analysis (CDA) this thesis identifies how FAO constructs its discourse on food waste and how it links to discursive and social practices that frame the problem of surplus and discarded food. The present critique is combined with an investigation on the interdiscursive and intertextual relationship between the FAO documents and language use within a group of volunteers from the Malmö based food-rescue initiative Rude Food. The findings point to the pervasiveness of the capitalist-economic discourse in the FAO documents and shifting orders of discourse within the members of the Rude Food project.

TABLE OF CONTENTS

Acknowledgements	iii
List of acronyms	iv
Introduction	1
Conceptual framework: key concepts and definitions	4
How and by whom is food waste defined?.....	4
The problem of quantification.....	6
Other important concepts	7
Literature review	8
Food and culture.....	9
Environmental impacts.....	13
Philosophical premises.....	15
Theory and method: Critical Discourse Analysis	17
A criticism to CDA.....	19
Analytical framework	19
Coding and Memoing.....	21
Focus group: Methodology.....	22
Discourse analysis: FAO documents.....	24
Text dimension.....	25
Discursive and social practice	28
Codes and themes.....	29
Intertextuality: Rude Food	32
Conclusion.....	36
References.....	40
Appendices	48
Appendix A.....	48
Appendix B.....	49
Appendix C.....	60
Appendix D	61

ACKNOWLEDGEMENTS

My gratitude goes out to the Swedish Institute who granted me a two-year scholarship that allowed me to conduct this research. I will be forever thankful for the opportunity. I would also like to thank my supervisor Yahia Mahmoud whose insightful comments inspired me in times of confusion.

I would like to express my gratitude to my friend Mercedes who first took me to Rude Food and to the amazing team of volunteers in that organization.

If I could put into words how fundamentally important was the support of Oscar throughout the writing period he would not be the ink but the fibres of the paper that hold everything together. Also, I am thankful to the Mossagården organic farm that provided a good balance of theoretical and practical work. And my dear mother, who taught me that food should never be tossed.

LIST OF ACRONYMS

CDA – Critical Discourse Analysis

EU – European Union

FAO – Food and Agriculture Organization of the United Nations

FSC – Food supply chain

FUSIONS – Food Use for Social Innovation by Optimising Waste Prevention Strategies

GHG – Greenhouse Gas

IFP – Industrial Food Production

IFS – Industrial Food System

UN – United Nations

WRAP – Waste and Resources Action Programme

WRI – World Resources Institute

WWII – World War II

INTRODUCTION

Lunchtime is over. It is a windy Friday afternoon and the canteen at the Orkanen building in Malmö Högskola is empty except for some personnel from the kitchen who are getting ready to clean up. They walk back and forth in white shirts and black pants. The salad buffet is the first thing you see when you come into this high-ceiling, wide, neat, fresh space. In that buffet area sit the leftovers of colourful and varied salads, available to pick as side dishes for the eaters that flood the place at lunchtime during the week. But every Friday, always at this time, the building becomes silent as people fold away into other kinds of activities reserved for other spaces. The canteen will be closed for the weekend and there is still food in the buffet... The leftovers are destined for the bin since they will not keep fresh until Monday. A couple of kilos of vegetables and grains going to the trashcan are the price to pay for the comforts of modern life: abundance, variety, orderly higher education and all the customs, morals and aesthetic standards ascribed to it.

Not far from there – near the busy commercial streets of downtown Malmö – is Davidshalls Torg a small cobblestone square with a vegetable stand that offers fresh fruits, vegetables, some flowers and plants. It is located in a fancy part of town; a kind of modest bourgeoisie ambient, an area that is orderly and fashionable. Therefore, very much in the spirit of cleanliness, the fruits that can be found in this vegetable stand – installed only in the sunny months of the year – are aesthetically aligned with the surroundings: clean and neat. All is correctly shaped. The leaves of the beetroot bundles are green and crisp. The cucumbers look like they must be crunchy and all are roughly the same size. These products are top quality, most of them brought from far away in a long chain of pack-store-transport to this final destination. But fruits and vegetables are not forever crisp and this tidy vegetable stall requires a detailed maintenance, a daily purge of the undesirable looking members. So as soon as the cucumbers start to get a little wrinkly on one end; when the leaves of the beetroot bundle wither; when the bananas have one too many brown spots, they are discarded. Again, that is the price of the aesthetically aligned, top-quality, first-class products available to the passer by.

The leftovers of a salad buffet and circumstantially discarded vegetables are two small examples of a much wider social and environmental problem. They are images that aid in illustrating the situational,

material existence of food surplus and discarded food. Edible food is tossed and lost for a variety of reasons, always specific to a time and place and constituted in cultural practices. Food intended for human consumption that is tossed and not eaten for whatever reason is never intrinsically waste but becomes waste. This is the topic of the present thesis.

Great abundance is part of the industrialized food system but it is lost or obscured as food makes its way through the supply chain and into human stomachs. All the while, natural resources are squandered and social inequalities sustained in a normalized manner. Why and how does this happen? The line of inquiry that I plan to follow is by placing attention on discourse. The aim of this thesis is to identify how the present discourses on food waste are constructed and the ways in which they produce and are reproduced by social practices. Consequently: how does the Food and Agriculture Organization of the United Nations (henceforth FAO) formulate the food waste category and its solutions? For this I will examine how the language use in two official FAO documents has a role in maintaining a particular social order through consolidating social practices that are in line with it. And further, what is the interdiscursive and intertextual relationship between the discursive formulation made by FAO and the discursive articulations made by the Malmö based, citizen-led, food rescue initiative Rude Food? And what does that relationship say about possible solutions? For this purpose two institutional FAO documents that address specifically the topic of food waste undergo a Critical Discourse Analysis (henceforth CDA) following Fairclough's three-dimensional model (Fairclough 1992; Fairclough 2010; Jørgensen and Phillips 2002; Wodak and Meyer 2001). That analysis is coupled with a revision of the Rude Food discourse through data obtained in a focus group discussion. By inquiring into differences and similarities in the discourses I plan to identify elements that can contribute to discursive and cultural change.

In the spirit of intellectual candour – and before we move any further – I disclose my position in relation to the phenomenon studied as an activist against food waste. For a period of one year – from April 2015 to the time of the present writing – I have been personally involved in Rude Food, the food rescue initiative that is part of this study. Rude Food¹ is a non-for profit, citizen led initiative set up in October 2014 in Malmö sharing the space with a commercial restaurant. The motivation of this group of volunteers is to find partners – businesses or such – who have food

¹ For all the practical information about the Rude Food project visit the webpage www.rudefood.se.

surplus but do not wish to see edible food go to the trash, organize the rescue on cargo bicycles, bring the food into the kitchen and prepare new dishes that are then sold – usually through catering – or donated. It is an act of re-circulation and awareness rising where discarded and marginalized material is brought back into the core of the mainstream so that people are confronted with it and hopefully pleasantly surprised by seeing discarded food in a new light. All this is done based on the work of volunteers, who in return get to take food home.

The problematic existence of food waste in western industrialized nations is of personal concern to me; a concern that coupled with observation and participation resulted in the present thesis topic. My academic interest in a deeper, discursive study of the issue sparked during activities with other members of the Rude Food team; talking about food waste and envisioning solutions. Therefore I defend an epistemology embodied in experience where dispassionate objectivity is an unreliable construct, only standpoint is possible and engagement is the best fuel for research (Haraway 1988). I defend a subjective position in research and chose to blur the distinction between subject and object of study by placing my activism and my scholarship in dialogue – an argument that I hope to support better in the section dedicated to philosophical premises.

Inspiration also comes from a view on food waste as yet another of capitalism's immense material waste sites, another externality, another by-product of large industrial processes. The taken-for-granted existence of food waste, its ambiguous definitions paired with the scale of its existence call for further examination considering the great pressure caused by wasteful depletion of natural resources in a warming planet. To think of the category of food waste as discursively produced and socially maintained is of particular importance in an industrialized capitalist setting, where food has undertaken the same process of commodification as many – if not all – other material sources of livelihood (Braun and Castree 2005; Stuart 2009). This particular commodity has some special characteristics such as being sensitive to the passing of time, degrading until exchange-value and human use-value is lost. Surplus food or food waste is materiality that shifted in its use-value for different reasons; it is found in different places and lands on the outskirts of modern social environment. Internalization and acceptance is created through discourse so the plan is to identify how the paradoxical existence of food waste has become naturalized and from there envision a way out.

As with all matters concerning human ecology, when tackling the problem of food surplus and food waste a wide range of factors come into place, all interrelated: economic, institutional social and environmental. Therefore it is an issue that must be addressed in a multi-disciplinary setting. Solutions are not straightforward, neutral or unquestionable. The present perspective aims to become a contribution by bringing attention to a complex topic with creative potential for change: when looking closely at food supplies there is the great potential to grasp that human lives are essentially interconnected and interdependent with natural and social environments. In this perspective, the problem of food waste is confronted by revising the discourse that produces it opening up a space to re-think it and bring light on some of the change needed by contributing to the collective creation of new horizons.

CONCEPTUAL FRAMEWORK: KEY CONCEPTS AND DEFINITIONS

In this section some formal definitions and clarifications will be provided so that a common understanding allows the reading to flow more naturally through this paper.

HOW AND BY WHOM IS FOOD WASTE DEFINED?

Misshaped vegetables. Ripe bananas. Soft tomatoes. Withering spinach. Eggs past the sell-by date. Carrot peels. Food scraps. What is food waste exactly? Does it refer to edible or not edible parts? Is it only spoiled food? Aesthetically unpleasant food? Food that cannot be sold for any given reason? The terms used to name the phenomenon of discarded surplus food differ and the variations are meaningful. It is different to say food loss, food waste and food surplus. A diversity of implications derived from formal – institutional – definitions are thrown in the mix and this must be sorted before moving on to the wider analysis. It is of relevance in order to frame the problem appropriately and set the basis for how the phenomenon will be named and understood throughout this thesis.

In academic literature although strict definitions are provided the frames for analysis are not standardized and reliability of global data is precarious (Parfitt et al. 2010; Östergren et al. 2014). Later on I will mention how the problem of quantification is relevant but the main issue is not whether the statistics available to assess the magnitude of the food waste problem globally are trustworthy or not. What is of interest here is how the definitions indicate culprits and sites for

action in different moments in the food supply chain (henceforth FSC), which is meaningful in the framing of solutions.

The institutional definition by FAO states that food waste is “the discarding or alternative (non-food) use of food that was fit for human consumption – by choice or after the food has been left to spoil or expire as a result of negligence” (FAO 2015a, 2). Another invested stakeholder that is relevant to bring into the definition of food waste is FUSIONS (Food Use for Social Innovation by Optimising Waste Prevention Strategies), an EU project funded by the European Commission Framework Programme 7 running from August 2012 to July 2016 (FUSIONS 2016). The most recent FUSIONS Food Waste Report defined food waste as “fractions of food and inedible parts of food removed from the food supply chain to be recovered or disposed” (Stenmark 2016, 7). Both perspectives are normative in different regards; while the FAO definition points to any non-human use of materials whose use-value was directed to human benefit, the latter points to both edible and inedible parts that after removal from the FSC are to be recovered.

The extent of the food waste problem was recently explored in a study by Gustavsson et al. (2011) commissioned by FAO, whose evidence supported the widespread estimate that “roughly one-third of food produced for human consumption is lost or wasted globally” (ibid., v). But in that account a different terminology is used, the text names food losses as “the decrease in edible food mass throughout the *part of the* supply chain that specifically leads to edible food for human consumption” and “food losses occurring at the end of the supply chain (retail and final consumption) are rather called food waste” (ibid., 2 italics in original).

The three definitions share a particular openness to interpretation: what is “fit for human consumption” (FAO 2015a, 2)? What is edible or inedible? Where do we locate carrot peels or very ripe bananas? What about those milk cartons that expire in two more days but are already in the dumpster behind the supermarket? The third definition (Gustavsson et al. 2011) is important because it opens up the body of terms used to pinpoint the phenomenon, it distinguishes food loss from food waste and says that waste is happening only in the selling and eating of food, a step in indicating responsibility. Nevertheless, none address the phenomenon appropriately. By these accounts food loss and food waste exist in an agentless realm of marginalized materiality; it is material simply lost,

removed, discarded or left to spoil losing its use or exchange-value to the point of neighbouring the common-sense definition of waste as “a superfluous and pointless nuisance” (O’Brien 1999, 281).

An adequate definition will have to be less ambiguous and include both the out-of-placedness of the material and the profile of an outcast whose use-value might still be intact. Therefore, it is inadequate to refer to discarded food as food waste. It is rather a food surplus. Food surplus refers to the fact that more is produced than eaten. By referring to it as food surplus – and not waste – it is possible to re-value its rejected materiality by returning it to the realm of its use-value: eating and sharing it. Both terms food waste and food surplus will be used interchangeably throughout this text but whenever the term food waste is used it is to be understood through my own definition as that surplus of food that has been excluded from human foodways for reasons unrelated to its use-value and rather determined by a failure to contribute to exchange-value. In this definition, the concept of foodways refers to the socially regulated patterns that determine what is considered food, how it is eaten and why (Guptill et al. 2013, 5).

THE PROBLEM OF QUANTIFICATION

Food waste resists objective quantification because it is not a given thing. The lack of a universal categorization to even quantify it is the first sample of how it is discursively created – in social practice – and not in relation to an objective material existence. Food is food, not waste. Where the line is drawn and it starts to be considered waste is a matter of social convention. In their recent evaluation of the food waste problem in Europe, Stenmark et al (2016) point precisely to a major difficulty in assessing quantitatively this problem given that the different definitions lead to different quantifications and results that are not comparable. Also, different studies use diverse methodologies; therefore it is a current institutional preoccupation to come up with a definitional framework. Both the FUSIONS project and the World Resources Institute (WRI) are currently in the process of developing a global food loss and waste protocol in an effort to create a standard that will allow for accountability by having consistent and comparable data, by providing “a set of accounting and reporting requirements, universally applicable definitions, as well as recommendations and guidance on quantification methods and data sources” (WRI 2015, 1).

The agreement on a definition and a methodology for quantification is of part of the international agenda given that food waste is included in the UN Sustainable Development Goals released in 2015.

Of the 17 points in that agenda the number 12.3 is “by 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses” (UN General Assembly 2015, 23; FAO 2015b, 4). Again, in this statement the retail and consumer levels are described as priority sites for reducing food waste, but if the phenomenon is inadequately understood or deceptively defined the chances of reaching such a goal could prove to be grim. Therefore an analysis as the one presented here is a case in point: it becomes imperative to understand better the apparently rebellious existence of food surplus, its discursive sources and social practices.

OTHER IMPORTANT CONCEPTS

The present writing aims to be a holistic, integrated approach where the social and the natural world are alive and in dialogue, they are seen not as separate entities but intimately intertwined – which is in line with a critical realist philosophical approach. In this, the concept of social metabolism is very relevant. To avoid going into a deeper discussion, it will suffice to say that social metabolism is to be understood as “the biophysical analysis of exchanges between society and nature” that “recognizes that such material exchanges are reciprocally linked to exclusively social factors” (González de Molina and Toledo 2014, 2-3). Therefore, this thesis is not an analysis attempting to quantify social metabolism in any way but simply admits that there is a material flow of energy linked to constantly shifting orders of discourse.

In such a conceptual framework a lot is borrowed from Marxist thought and in the same line it will also be relevant to use his distinction between use-value and exchange value, which is the recognition of two characteristics in material flows: the use-value is in the direct relationship between the person and the thing – in the case of food, its use-value is that it can be eaten and nutrition is obtained from it – and the exchange-value is a dimension unrelated to the physical existence of the thing and regards only its economic value as an object that can be exchanged for something else – for example, money (as explained in González de Molina and Toledo 2014, 96-97).

The last conceptual clarification that needs to take place before we move further is what is meant by the capitalist-economic discourse throughout this text. Again, I admit that although this category is largely derived from the Marxist critique it is not based on a deep understanding of Marx’s body of

work – that is why he is not quoted in the references – but rather the thought that derived from his observations.

The concern in this thesis is capitalism as both an economic system and an ideology. Later in the text there will be a further clarification on ideology as a discursive construction, but for now it is enough to say that ideology is to be understood as outlined in Fairclough: “constructions of meaning that contribute to the production, reproduction and transformation of relations of domination” (Jørgensen and Phillips 2002, 75).

Capitalism is understood as a “historically specific mode of social and economic organisation” (Andreucci and McDonough in D’Alisa et al. 2015, 59) with five main features (a) the means of production are concentrated (b) people have to exchange their labour for wages (c) the process of production creates commodities: “goods and services produced for sale, not immediate use” (ibid.) (d) it “relies on a monetary system for the production of money through bank credit” (ibid.) and exchange is coordinated in the market where prices are determined through competition and lastly, (e) the primary motivation in this system is to obtain profit therefore “in the absence of the expectation of profit, production will not be undertaken” (ibid.). What I call the capitalist-economic discourse is an ideology – in the sense of Fairclough – that contains all those essential elements.

Before moving into the section about philosophical premises, I would like to better outline my object of research through a literature review.

LITERATURE REVIEW

This thesis is concerned with food surplus as an environmental problem from a social – discursive – point of view with the aim to identify how the present discourses on food waste are constructed and how that links to social and discursive practices that shape and frame the problem of surplus and discarded food. In this scope, food, capitalism and culture are intimately related given that the commodification of the basic material nourishment that is food for humans is not innocuous to social relationships. This section will be dedicated to providing a general idea of how the relationships food-culture and food-capitalism have been explored in an academic context, weaving topics that I consider relevant starting points for the present problematization.

FOOD AND CULTURE

The main rules about eating are simple: If you do not eat you die; and no matter how large your dinner, you will soon be hungry again. Precisely because we must both eat and keep on eating, human beings have poured enormous effort into making food more than itself, so that it bears manifold meanings beyond its primary purpose of physical nutrition. (Visser 1991, 2)

Food is part of everyday life like the air we breathe. Whether a person has too much of it or lacks basic nutrition, food shapes and guides daily tasks as a blessing or a burden. Food is cultural heritage and an intimate part of social life in celebration, mourning, rite-of-passage, gift or deception. Geographic location, social position, gender, health and age are factors that determine eating habits but also where we are and whom we are with at the moment of eating influence what is considered food in the first place (Guptill et al. 2013, 2-3). The interest in these articulations can be grouped into the extensive area of social research denominated ‘the sociology of food and eating’. The wider field of interconnections is framed as ‘food studies’, which falls within the scope of human ecology as it intersects with environmental impacts, anthropogenic climate change in an industrialized society and institutional power.

Food has a physical dimension in itself with its own kind of impacts and significations – which I will explore in the next section, devoted to environmental impacts. However, there is the possibility to look at food as it relates instrumentally to human use-value in the physical-material dimension. From a nutritional and sociobiological perspective food is first a need for the “anatomical functioning of the human body” linked to habits and preferences (Lupton 1996, 6). It is fuel for the body where “it is assumed that humans choose certain foodstuffs to eat because they are programmed to ‘know’ that the foods are physiologically good for them” therefore it is a primordial necessity “guided by both genetic predispositions and culturally structured preferences” (ibid.). But eating is much more than the simple ingestion of food arising from a physiological need (Bentley 2012, 1-2). To humans eating is “a medium for social relationships: satisfaction of the most individual of needs becomes a means of creating community” (Visser 1991, ix) which can be accounted for as a need in itself. Accordingly, food is needed, produced, chosen and signified with “a thick layer of meaning [...] and the physiological dimension of food is inextricably intertwined with the symbolic – we cannot say where one begins and the other one ends” (Lupton 1996, 8).

As much as the human relationship with food is intimate (Visser 1991) it is also external, extensive and far-reaching. From a food studies perspective, food – as essential symbolic material – has been a driver of human history (Bentley 2012; Goodman and Redclift 1991; Visser 1991; Higman 2012; Guptill et al. 2013; Smil 2000): “throughout time, agricultural practices have facilitated a fundamental re-organization of human-nature relationships, discourses, and power structures [...] from the ability to live a sedentary life and support dense population centres to contributing to the decline and fall of civilizations” (Frye and Bruner 2012, 1). Simultaneously, food is the site where the nature/culture divide can be most successfully blurred. Food is both practice and “processes of metabolism and incorporation” (FitzSimmons and Goodman in Braun and Castree 2005, 194); both human labour and biophysical processes that lead to a “notion of shared corporeality [that] speaks explicitly to a more general insistence that ecology and social relations, the production and reproduction of nature and society, be located within a unified analytical frame” (ibid.).

Even though these dimensions are indivisible, it is possible to identify an illusory segregation introduced through industrialization. In general, from the great diversity produced by nature specific life forms were domesticated and cultivated by humans to provide bodily nourishment and energy through choice, selectivity, experimentation and preservation (Higman 2012, 1-31). In the industrialized setting such long process – that material relationship – is obscured; the environment and metabolic processes that bring those foodstuffs into existence are made invisible through a distance created by the mediation of the IFS that largely provides the ‘how’ for eaters in the Western world in relation to the food they eat everyday (Kneen 1993). It begs to be mentioned here that large-scale industrialization is a recent phenomenon. In a time frame of 100 years – powered by fossil fuels – modern agriculture allowed a thousandfold expansion of the carrying capacity of arable land to over 1000 people/km (Smil 2000, 3-4). Thusly, humans have evolved from “groups of overwhelmingly vegetarian foragers to the most numerous population of large, substantially carnivorous mammals on Earth” (ibid., 2). Then, “as the industrial food system evolved, direct production-consumption connections weakened and eaters were increasingly separated from farmers and their food. The separation resulted from a physical distancing that created an emotional and intellectual divide between people and their food” (Blay-Palmer 2008, 17-18). In this disconnection, food is provided for in massive industrial processes and rather than cultivated or cared for it is engineered (Ploeg 2008, 6).

Thusly, when talking about food we inevitably talk about agriculture (Petrini 2013), which in the current industrialized setting is controlled by transnational food corporations that “are profit-making machines” (Stuart 2009, 8) set up in a monopoly structure (McMichael 2009). Market power is held in corporate concentration meaning that “there are few corners of the food system untouched by agribusiness giants” (Patel 2007, 128). “Transnational corporations control 40 per cent of world trade in food, with twenty companies controlling the world coffee trade, six controlling 70 per cent of the wheat trade and one controlling 98 per cent of packed tea” (ibid., 125). It is important for this analysis to keep in mind that “these *structural forms* are neither automatic nor inevitable, but rather develop during particular periods during capitalist development” (Blay-Palmer 2008, 7 italics in original). The ensuing focus on exchange-value has implications for the food waste issue since transnational food corporations “may try to reduce waste as far as it affects profits, but once surplus has arisen most of them will not do anything other than throw it away – unless they can save significant amounts of money on disposal costs” (Stuart 2009, 8).

The various issues posed by the IFS have been exhaustively explored in academic writing (Smil 2000; Blay-Palmer 2008; Marsden and Morley 2014). Other relevant perspectives for this study are those of Patel (2007) and Petrini (2013) who embrace the social implications of the dominant agroindustry and Stuart (2009) being a serious investigative approach to the relationship between the industry and food waste.

One of the central arguments in Smil (2000) is that “nearly all assessments of long-term food prospects have been preoccupied with exploring the possibilities of increased supply instead of reducing waste along the whole food chain” (307). This attitude, along with the focus on exchange-value, is central to the food waste cause. The problems that are currently identified as causes for food waste within the supply chain can all be traced back to systemic problems that do not question the commodification food supply in the first place. There are problems of scale, transportation, infrastructure, packing, storage, marketing and social customs all derived from industrialization. The period following WWII is important in the consolidation of this current discourse about food production:

The creation of food standards paved the way for the post-WWII era shift to an emphasis on modern, sanitary food as embodied in Andy Warhol’s famous Fordist Campbell’s Soup tin. This period in North American food production valued

competence, scientific inquiry and the consolidation of mass-production. Efficiency and hygiene were of prime importance [...] Speed and efficiency were the bottom line as food was further transformed into a processed commodity, capitalizing on the view that food was fuel, and not a source of pleasure.
(Blay-Palmer 2008, 25-26)

The further categorization and standardization that comes forth with industrial production is only possible when people become consumers – not eaters or proximate producers (Blay-Palmer 2008, 7). As I have already established, this is how the table is set today in industrial societies and capitalist economies: “food is treated as a disposable commodity, disconnected from the social and environmental impact of its production” (Stuart 2009, xvi). The process of commodification “means that in our language and thinking we have to separate food from its function of providing nutrition, and in turn it instead into a means of making money. Food becomes *product* that has value only in so far as it can be traded in and speculated on” (Kneen 1993, 15 italics in original). When the shift is made to commodification, food is no longer appreciated for its use-value but merely its exchange-value, there comes into play the economic logic where it only matters to sell more, regardless of where that food actually ends up. A draconian logic that “is true throughout the supply chain where waste downstream translates to higher sales for anyone upstream” (Gunders 2012, 5). Thus, through industrialization and a focus on exchange-value efficiency, surplus is also promoted.

The formulation of quality standards for the marketing of food as a commodity is further detrimental. This is termed ‘out-grading’ where food is rejected for not meeting parameters exclusively centred on external aesthetic characteristics such as size, shape or shininess with no relation whatsoever to nutrition or use-value (Winkworth-Smith et al. 2015, 21) which is indicated as a cause of food waste in high-income countries (FAO 2015a; FAO 2015b). Furthermore, food as a commodity has its own kind of planned-obsolence in best-before, sell-by, use-by or expiration dates, a topic that deserves some attention as it is also mentioned as one of the causes of food waste in high-income countries (FAO 2015b). These labels found mostly in processed foods are a source of confusion to eaters as they are liable to describe two very different things: either the convenience of the manufacturer/retailer or food safety. In this regard, the terminology and legal frames are different depending on the country or region analysed thus the focus here will remain within the EU.

The EU terminology differentiates between best-before which “indicates the date until when the food retains its expected quality” and use-by that “indicates when the food can be eaten safely” (EU

n. d.). Therefore, food that is past its best-before date is still safe to eat, it should not be cause for illness and there is no reason to toss it other than “it might begin to lose its flavour and texture” (EU n. d.). On the other hand, the use-by marker should appear only in perishable foodstuffs such as meat or fish and once it has passed that date it is no longer safe to eat, placing the eater in a possible risky position in relation to health. The problem is that the meanings of these labels are too easily confused or too easily related to what Blay-Palmer describes as ‘food scares’ (2008) which are instrumental to the industry: “the food industry has used food scares as one of the rationale to increase the level of technology and control in the food chain” (ibid., 107).

From here it is possible to move onto the final section of the literature review, which provides a brief overview of the environmental impacts of industrial food production (henceforth IFP).

ENVIRONMENTAL IMPACTS

Food waste contributes directly to GHG emissions as food decomposes in landfills (Vermeulen et al. 2012) but that is only a small aspect of the environmental impact of foodstuffs that fail to reach human stomachs. The negative environmental impacts of IFP can be assessed in various ways with the triad water, land and energy being the most intensively used and through which most of the environmental degradation is taking place (Marsden and Morley 2014). Lundqvist et al. (2008) focuses particularly on the use of water, describing agriculture as “the largest human use of water” through a “wasteful” production process (ibid., 4). IFP also requires the intensive use of land, which presents multiple environmental problems such as soil degradation through erosion, loss of soil fertility, accumulation of toxicity from residues of agrochemicals and deforestation (Foresight 2011; Netting 1993).

The global IFS is highly dependent on fossil fuels, accounting for roughly 30% of the planet’s energy consumption (FAO 2011, iii) and 19%–29% of total global anthropogenic GHG emissions (ibid.; Vermeulen et al. 2012). The main GHGs involved in food production are carbon dioxide, methane and nitrous oxide (Carlsson-Kanyama and Gonzalez 2009) which are emitted in different proportions depending on the stage throughout the industrial chain – from the farm to the table – which in an industrialized system entail cultivation, refrigeration, distribution and retail just to name a few energy intensive stages (Garnett 2011; Vermeulen et al. 2012). Other mayor impacts of IFP on

the environment are related to overexploitation of fisheries, food processing, packing and transport (Ingram 2011).

Academic interest in the IFS and its consequences is far reaching. As we move from aspects linked to the use of natural resources; such as the threat of agrochemicals to biodiversity (Govinda 2014), to the human and social impacts; such as how pesticide exposure is harmful to human health (Alavanja and Hoppin 2004), it is possible to notice that the environmental and social are intimately related in any analysis of food – as we have seen – as the site of “metabolic incorporation between humans and nature” (FitzSimmons and Goodman in Braun and Castree 2005, 194). No matter how the impacts on ecosystems are presented they all have an associated social impact. Put simply in the case of water, the overexploitation of freshwater sources affects communities that live downstream (Lundqvist 2008) or more broadly the overall systemic violence entailed in the imposition of an agricultural “modernization” dependent on seeds, chemicals and machinery (Curtin 1999, 45-62) through which the stability and resilience of ecosystems is threatened (Netting 1993, 144), genetic diversity of seeds is lost and farmers are pressured to go into debt (Curtin 1999, 45-62).

The IFS is a giant, brutally unsustainable and deeply engrained that will have to undergo dramatic change because: “without change, the global food system will continue to degrade the environment and compromise the world’s capacity to produce food in the future, as well as contributing to climate change and the destruction of biodiversity” (Foresight 2011, 10). It is a system that is very evidently exceeding the biophysical limits (Rockström et al. 2009) of the planet and if climate change is to be curbed, the food system will have to look different, also because the relationship is – again – dialectical since “all aspects of food security are potentially affected by climate change” (Porter et al. 2014, 488).

This literature review aimed at demonstrating that food is much more than the source of nutrition vital for sustaining human lives; it is also a cultural cornerstone that is currently dominated by industry and operating under a logic that is unsustainable, surpassing the planetary boundaries (Rockström et al. 2009) that keep a balance on the environment. In this way, it becomes evident that when food is produced in such an unsustainable manner – that is not only intensively polluting and wasteful in its use of natural resources but also has dramatic social consequences – it is, in my opinion, absurd that one third of it never reaches human stomachs and simply goes to waste for

reasons unrelated to its use-value. Since the object of study has been sufficiently justified, before moving onto the theoretical and methodological segment it is time to briefly describe the philosophical premises that guide this work.

PHILOSOPHICAL PREMISES

This thesis takes the ontological assumptions of critical realism, a philosophical approach that recognizes the existence of a reality regardless of the human understanding of it. Considering that the object of this study is the discourse that creates the category of food waste –which entails the existence of a certain type of discarded material with environmental impacts– it is of great importance to maintain that distinction and argue that while doing a discourse analysis it is still possible – and in this case necessary – to avoid the reductionist assumption that everything is discourse.

Bhaskar's (1975) critical realism (CR) differentiates between transitive and intransitive objects of knowledge, where the former refers to the knowledge of things that changes over time and the latter the real things themselves that exist independently. With this distinction is possible to focus on the existing phenomena of a food surplus in the IFS and explore the underlying structures that bring it into existence as food waste. It follows that whatever results from this study will not be a claim on absolute truth – a social constructionist perspective – while still aiming at producing a knowledge that could provide an understanding within the transitive-discursive dimension.

In this stand, our access to reality is always through language (Jørgensen and Phillips 2002, 8-9) – as guided by a structuralist and post-structuralist linguistic philosophy – where “physical objects also exist, but they only gain meaning through discourse” (ibid.). This makes for a smooth link with the methodological approach given that in this sense CDA is not purely a semiotic analysis – not just focused on how meaning is intersubjectively produced – but equally concerned with meaning making and with context (Fairclough et al. 2002).

Another reason for applying CDA is because of its concern with the ideological effects of discursive practices i.e. how they contribute to the “creation and reproduction of unequal power relations between social groups”(Jørgensen and Phillips 2002, 63). In this sense, CDA borrows from Althusser

in making possible the statement that through the capitalist-economic discourse food eaters are interpellated as consumers, therefore they are ideological subjects to the consumer culture that interpellates them as such. The role of ideology is relevant to this investigation and the framework provided by discourse analysis is of particular use since the aim is precisely to examine how the language use of official FAO documents has a role in maintaining a particular social order though consolidating social practices that are in line with it. In this understanding “ideologies are constructions of practices from particular perspectives (and in that sense ‘one sided’) which ‘iron out’ the contradictions, dilemmas and antagonisms of practices in ways which accord with interests and projects of domination” (Chouliaraki and Fairclough 2000, 26). At the same time “ideologies are discursive constructions” (ibid.) that relate to a wider social practice therefore ideology relates to, shapes and constitutes the wider social practices. Although not in a deterministic way, because it is “through discursive practice – whereby people use language to produce and consume texts – that texts shape and are shaped by social practice” (Jørgensen and Phillips 2002, 69).

This thesis is not exempt from ideology as a discursive construction. In fact, the ideological stand is very much consciously present in the construction of the research object. As it was briefly outlined in the beginning, I take an activist research position with relevant epistemological consequences. As Karl Marx pointed out, philosophical inquiry has been more concerned with interpreting the world when the whole point is to change it (Marx in della Porta 2014, 449). In that line, an objective understanding of the food waste problem is not only impossible – from a standpoint epistemology – but also undesirable since the whole point is not to stop at interpreting the reality at hand but to change it. I realize that in opting for a normative and engaged scholarship I “face a constant tension between objectivity and subjectivity, detachment and full participation” (Milan in della Porta 2014, 449) but I follow Haraway and chose not to fall into the trap of the “god trick of seeing everything from nowhere” (1988, 581) and advocate for a feminist objectivity that means a situated knowledge (ibid.). Therefore the present thesis is a perspective embodied in activism – a kind of activist scholarship – that can be defined as “the production of knowledge and pedagogical practices through active engagements with, and in service of, progressive social movements” (Sudbury and Okazawa-Rey 2009, 3). It is a research situated and embodied mainly because “thinking and doing are not two separate things but intricately connected [...] we learned to conceptualize thinking apart from doing, an artificial separation, because in real life there is a constant interplay between the two”

(Omatsu in Sudbury and Okazawa-Rey 2009, 169), therefore it is only through engaged research that an objective situated knowledge is produced.

Before the analysis can take place I will describe in the following section the theoretical and methodological approach. Then, a brief look at the analytical framework – coding and memoing – will lead to the main course: the analysis itself.

THEORY AND METHOD: CRITICAL DISCOURSE ANALYSIS

The present thesis will embrace CDA, a methodological and theoretical approach that is heterogeneous in having many lines of thought, different conceptual understandings and varied empirical applications (Jørgensen and Phillips 2002; Titscher et al. 2000). The basic theoretical premises of CDA derive from the writings of Karl Marx, Louis Althusser, Antonio Gramsci and Michel Foucault (Titscher et al. 2000) among others. To specify and explain the intellectual currents where it draws from is besides the scope of this thesis, so it will suffice to say that CDA combines traditions and disciplines that make possible the analysis of language as a method to study social change (Fairclough 1992).

CDA is critical in that it is concerned with the asymmetries in power relations; where power is understood in the Foucauldian sense of power/knowledge which does not refer to “domination from outside but discipline in the continuous action of techniques which are built into the very capillaries of social life, and which have the effect of normalizing modern life” (Chouliaraki and Fairclough 2000, 90). Furthermore, CDA is critical because it seeks to amend injustice and inequality (Jørgensen and Phillips 2002, 77) by “analysing their sources and causes, resistance to them and possibilities of overcoming them” (Fairclough 2010, 231). The aim is to enact an explanatory critique – taking on Bhaskar’s concept – that generally entails (a) showing a problem (b) the obstacles in trying to solve it (c) the function it has in maintaining status-quo and (d) possible ways to solve it (Chouliaraki and Fairclough 2000, 33). Depending on the type of problem tackled the critique can either be transitive or intransitive: the former being focused on discursive constructions and the latter in the discursive dimension of practices (ibid.). The present analysis seeks an explanatory critique that is transitive by looking at how the category of food waste is discursively constructed and intransitive by its focus in the social practices surrounding it. That is why I follow Fairclough’s

approach, where there is a distinction between discursive and non-discursive or non-linguistic societal phenomena that sees discourse as “semiotic elements of social practices [...] in their articulation with other non-discursive moments” (Chouliaraki and Fairclough 2000, 38).

Additionally, it is relevant to study the food waste category through CDA because in it discourse is understood as a dialectical relationship between social practices and social structures: “discourse is a practice not just of representing the world, but of signifying the world, constituting and constructing the world in meaning” (Fairclough 1992, 64). Also, in Fairclough’s account CDA is relational, dialectical and transdisciplinary. “It is a relational form of research in the sense that its primary focus is not on entities or individuals (in which I include both things and persons) but on social relations [...] Discourse is not simply an entity we can define independently: we can only arrive at an understanding of it by analysing sets of relations” (Fairclough 2010, 3). So in this sense the analysis is dialectical since it is focused on the relationship between objects that are separate but not discrete “not fully separate in the sense that one excludes the other” (Fairclough 2010, 4). And given that such an analysis requires cutting “across conventional boundaries between disciplines (linguistic, politics sociology and so forth), CDA is an interdisciplinary form of analysis” that puts them into dialogue (ibid.).

Since the research questions for this thesis situates the analysis in the realm of solutions it can be defined as a positive critique; if a negative critique is one that analyses how “societies produce and perpetuate social wrongs” a positive critique is focused on “how people seek to remedy or mitigate” social wrongs further identifying “possibilities for righting or mitigating them” (Fairclough 2010, 7).

In referring to texts I follow Fairclough to mean “both written texts and transcripts of spoken interaction” (Fairclough 2010, 125) where “the semiotic dimension of events is *texts*” (Fairclough 2010, 232 italics in original). Particularly, there is interest in language as action and in dialectical relationship “with other facets of ‘the social’ (its ‘social context’) – it is socially shaped, but it is also socially shaping, or *constitutive*” (Fairclough 2010, 92 italics in original).

The present analysis takes two FAO documents for an example of the institutional aspect and also the discourse of the Rude Food volunteers for a view of the discourse in practice in an attempt to “explore the tension between these two sides of language use, the socially shaped and socially

constitutive” (Fairclough 2010, 92). Lastly, it is a fitting methodology for the research question and in line with how the object of research was outlined because CDA “seeks to understand how contemporary capitalism in some respects enables but in other respects prevents or limits human well-being and flourishing” (Fairclough 2010, 11).

A CRITICISM TO CDA

It is not the purpose of this thesis to dive deeply into the theoretical discussion; nevertheless some criticism deserves to be mentioned. A fair point is raised by Widdowson (in Wodak and Meyer 2001) that “CDA is an ideological interpretation and therefore not an analysis” (Wodak and Meyer 2001, 17) “a biased interpretation: in the first place it is prejudiced on the basis of some ideological commitment, and then it selects for analysis such texts that will support the preferred interpretation” (Widdowson in Wodak and Meyer 2001, 17). The reply to this criticism can be recognition to the case in point: that is the case given that CDA is openly exposing the researcher’s standpoint in seeking to better understand a particular social wrong (Wodak and Meyer 2001). From an activist research perspective, the critique is embraced: it is not possible to obtain an objective or unbiased perspective and more honesty and transparency is achieved when disclosing the researcher’s agenda, or standpoint (Haraway 1988) one that may as well be privileged when framed as a struggle. In this regard the standpoint is as follows: given the environmental impacts of the discursive formulation of the food waste category in text and social practice, in a warming planet dominated by a capitalist discourse it is imperative to disclose the ideological consequences of the food waste category.

ANALYTICAL FRAMEWORK

For the present analysis I will rely on Fairclough’s three-dimensional model (Fairclough 1992; Fairclough 2010; Jørgensen and Phillips 2002; Wodak and Meyer 2001). This framework provides a combination of theory and method precisely because its methodology is a reflection of different theoretical traditions. It calls for an interdisciplinary understanding of the social world through the very model that it proposes. This model is an analytical tool that allows investigating how a text is linked to wider social structures and practices. It describes three dimensions of language use that refer to three stages in the analysis.

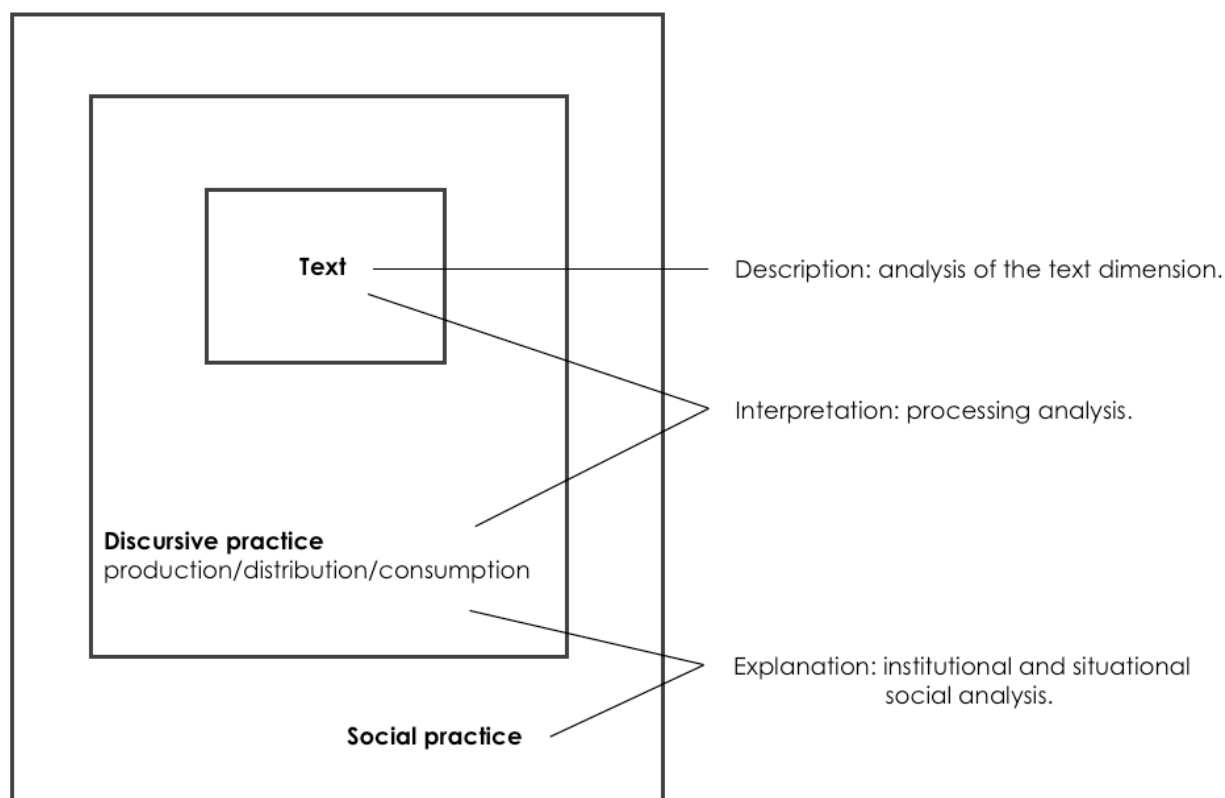


Figure 1: In Fairclough's three-dimensional model for CDA language is a communicative event that consists of these three overlapping dimensions (Fairclough 1992, 73; Titscher et al. 2000, 152; Jørgensen and Phillips 2002, 61).

The three stages are: first, the text as text (linguistic features); second, how the text is produced and consumed (discursive practices) and third the wider social practice (Jørgensen and Phillips 2002, 61). The boundaries between these different dimensions or layers of language use are not clear-cut; the distinction is made specifically for analytical purposes.

For the text-level of analysis Fairclough borrows from systemic functional linguistics (from Halliday in Wodak and Meyer 2001, 22) where language is analysed “as shaped (even in its grammar) by the social functions it as come to serve” (ibid.). The following dimension – the discursive practice – is the stage of “production, distribution and consumption of a text” (Fairclough 2010, 95) it is the site where a text is interpreted, therefore both the author and the receiver draw on other discourses. In the third dimension of analysis the text is more a discursive event that “relates to different levels of organization: the situation, the institutional context, the wider group or social context” where the questions of power and ideology are of interest (Titscher et al. 2000, 151). These three components or dimensions are first descriptive, then interpretative and lastly explanatory: “linguistic properties are described, the relationship between the productive and interpretative process of discursive

practice and text is interpreted, and the relationship between discursive and social practice is explained” (Fairclough in Titscher et al. 2000, 153).

Furthermore CDA is “the analysis of the dialectical relationships between semiosis (including language) and other elements of social practices” (Wodak and Meyer 2001, 22) with genres and styles being constituted by these semiotic aspects of social practices. In the level of social order the semiotic aspect is called order of discourse (ibid.). Specifically, orders of discourse refer to the “totality of discursive practices of an institution, and relations between them” (Fairclough 2010, 96) and “the sum of all genres and discourses which are in use within a specific social domain” (Jørgensen and Phillips 2002, 72); a genre – in turn – is the “use of language associated with a particular social activity” (Fairclough 2010, 96).

Using this framework I will analyse two publicly available institutional documents that take in issue the phenomenon of food waste – as communicative events in a wider social practice. Later, this analysis will provide the basis for a more case-specific interdiscursive analysis. In this analytical framework the concept of interdiscursivity is how genres and discourses are combined in a text (Titscher et al. 2000, 150). Interdiscursivity refers to the fact that a discourse is always composed of a variety of discourses showing the “seemingly limitless possibilities of creativity in discursive practice” (Fairclough 2010, 95) always subject to particular power relations or hegemonic struggles; where if “there is a relatively stable hegemony, the possibilities of creativity are likely to be tightly constrained”(ibid.). Intertextuality is an important related concept that is also relevant when studying social change – or how change can be possible. Intertextuality points to “how and individual text draws on elements and discourses of other texts” allowing for investigation of “both the reproduction of discourses whereby no new elements are introduced *and* discursive change through combinations of discourse” (Jørgensen and Phillips 2002, 7 italics in original). Thus, by analysing intertextuality the researcher can have “a historical view of texts as transforming the past – existing conventions, or prior texts – into the present” (Fairclough 2010, 95).

CODING AND MEMOING

For the analysis the data was coded and placed into themes to be able to identify patterns in a process guided by the research question. As it has been stated at the beginning of this section, CDA is an eclectic and flexible method that allows various empirical applications therefore in this case

codes were derived from the object of analysis. Specifically, for coding and memoing I use the model put forward by Miles and Hubermann (in Punch 2014) where coding is the process of labelling the data mainly in two levels: descriptive and inferential. The former is the level where the different parts of the text are labelled according to their content and the latter is a level of higher inference where units are more meaningful and are constructed by interpreting and connecting units in the descriptive level (ibid.). The last level – of highest inference – is the memoing stage that consists in the theorizing beyond the descriptive, a formulation with content that also identifies patterns.

Following this scheme, I let the data suggest the codes, label the text and then use those codes to read deeper into the structures of the discourse. Six codes were identified in all texts using the labels: commodification, community, action, aesthetics, normative and cyclical. The operationalization of these codes was based on the appearance of certain key words associated with them as follows:

LABEL	KEYWORDS
Commodification	Commercial, value, price, consumption, buy, system, industry, consumer, invest, productivity, efficiency
Community	Society, social, collective, together, cultural, collaboration
Action	Act, activist, change, do/cannot do, solution, promote, awareness, strategy, intervention
Aesthetics	Nice, ugly, size, shape, status, standard, quality
Normative	Good, bad, positive, negative, need, should best/worst
Cyclical	Flow, where it comes from and where it goes, invisible, away

FOCUS GROUP: METHODOLOGY

The material that will be used for the second part of the analysis – with emphasis on interdiscursivity and intertextuality – was obtained through a focus group with members of the Rude Food volunteer team. This method was selected because focus groups aid in understanding how meaning is constructed in a social context (Bryman 2012, 503). To be able to explore the construction of meaning in the social interaction of this particular group of food waste activists this research method – as a type of group interview – provides “a valuable insight into both social relations in general and the examination of processes and social dynamics in particular” (May 2011, 139) within a group of

activists that seek to bring awareness and take action to undo a social and environmental wrong. Also, the focus group was best for the purposes of this analysis as a way to allow “people to probe each other’s reasons for holding a certain view. This can be more interesting than the sometimes predictable question followed-by-answer approach of normal interviews” (Bryman 2012, 503).

The questionnaire for the focus group was elaborated in a semi-structured manner since the aim of it is not comparability or standardization but rather the encouragement of conversation, clarification and elaboration (May 2011, 134). I personally moderated the focus group and I found in myself the biggest weakness of the methodology: given my lack of experience as a researcher conducting focus groups I stayed very much within the boundaries of the questionnaire – available in Appendix C – and allowed for little flexibility and improvisation which could have made the conversation flow more freely from one theme to the next. In practice, the conversation did not drift off-topic for too long, which could have been beneficial since, as Bryman (2012, 508) points out “what may appear to be digressions may in fact reveal something of interest to the group participants”.

At the beginning of the focus group an explanation was given to the participants as to the purpose of the conversation and their anonymity was assured. Eight people participated in the focus group. They were all active volunteers in the Rude Food team as of April 2016. Also, at that date they were considered the *core team* because they were the most active, informed and motivated by the project. That was the criteria used for sampling: a natural grouping, i.e. a group of people that know each other to permit “discussions to be as natural as possible” (Bryman 2012, 510). Because of this, rapport was a given since all the participants of the focus group were familiar and friendly to each other. Nevertheless, the use of probes was incorporated in some questions to allow for the participants to feel comfortable and express themselves freely, which put simply is the wording of questions in a less-direct, more conditional form (May 2011, 142).

The focus group was conducted on the 13th of April 2016. It was a cloudy and windy day. We met in the home of one of the volunteers; a cosy one-bedroom apartment in Malmö. The sitting arrangement was in a circle, with a small table in the middle, which had water, fresh fruits and croissants – provided by me – where all could snack on while talking. It would have been perfect to provide fika from rescued food but a bitter time constrain did not allow for it. Regardless, I tried to create an environment as comfortable as possible in an effort to spark lively conversation. The focus

group lasted 1 hour and 16 minutes. I personally invited the eight participants; seven of them showed up in time and one of them was 15 minutes late – but participated actively afterwards.

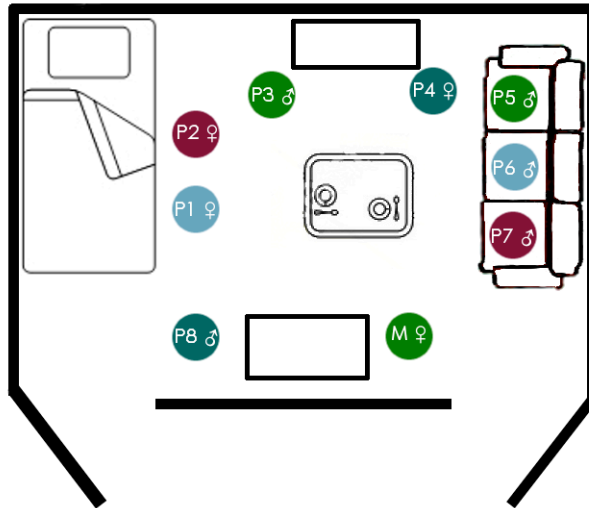


Figure 2: This was the sitting arrangement for the focus group in a one-bedroom apartment in Malmö. In the figure, the participants are identified with the letter P followed by a number, in the same manner as in the transcription found in Appendix D. The letter M is for the moderator. This image provides additional information about the gender distribution.

The conversation that took place in that occasion was recorded in an electronic device and transcribed. The result was a 15-page document that is the basis for the second part of the analysis. In that document I identified the keywords related to the codes and derived themes and patterns. The transcription of the conversation is available in the Appendix D, where the parts of the text that stood out for the analysis have been highlighted.

DISCOURSE ANALYSIS: FAO DOCUMENTS

This first part of the analysis is focused on two documents chosen in the interest of presenting an institutional discourse on food waste. They are two documents by FAO: “Global initiative on Food Loss and Waste Reduction” (2015a) derived from the Save Food Global Initiative on Food Loss and Waste Reduction by FAO – which was first launched in 2011 – and “Food wastage footprint & climate change” (2015b) that is more centred on the environmental consequences of food waste. Both documents are recent publications that can be considered within a pedagogic genre in the sense

that they offer comprehensive views of the problem from an institutional stand, making the link between food waste and the environmental issues that arise. Both texts can be found in Appendix A and B respectively.

During the process of selection of documents for this analysis I also considered documents by the EU project FUSIONS and the UK based NGO WRAP (Waste and Resources Action Programme), both of which also organize their discourse around food waste causes, impacts and solutions. But since both of those institutions collaborate with and are discursively subordinate to FAO, it made more sense to go to the wider, overarching institution for a view of the dominant discourse. I chose to start at the top of the discursive food chain, so to speak.

Next, I will break down the analysis as was previously described by referring to the dimension of the text itself, the discursive and social practices and then go from codes to higher inference patterns. In an effort to facilitate the reading, throughout the following section I will refer to the documents in a shortened manner: FAO 2015a will be cited as 2015a and FAO 2015b simply 2015b.

TEXT DIMENSION

We start by the surface of the texts following a structure of analysis suggested by Jäger (in Wodak and Meyer 2001, 55) where focus begins in graphics and moves onto headlines, units of meaning and themes. I will also make claims about modality, transitivity and nominalization. Nominalization is “whereby a noun stands for the process” (Jørgensen and Phillips 2002, 83); transitivity points to the relationship between verbs and the agency of objects and subjects (Fairclough 2010, 107) where the main concern is how processes are being referred to with the premise that the form has implications on where agency is located in the subject-object relationship (Jørgensen and Phillips 2002); and modality shows the degrees of affinity through auxiliary verbs – must, should – and the verbal tense, i.e. where present is categorical (Fairclough 1992).

The first statement of 2015a is a mouldy orange that occupies half of the cover page of the document, as shown in Figure 3. This image is a visual opening statement that places the concept of food waste and food loss within the realm of rotten, unhealthy, inedible food that may have been fit for human eaters but got spoiled over time, losing its exchange value and becoming waste material. This sets the stage for the whole document. In contrast, 2015b has a different type of visual allure,

GLOBAL INITIATIVE ON FOOD LOSS AND WASTE REDUCTION



Figure 3: Cover page of FAO 2015a.

with emphasis on graphs that convey rationally – with figures as convincing data – the severity of the issue at hand. In that case numbers are speaking as loud as words. The cover page of 2015b is shown in the right hand side of figure Figure 4.

The headlines in both documents follow the logic of first providing a definition of food waste and showing broadly the scenario by giving a global overview of the food waste problem. Both place at the beginning the differences between high and low-income countries. After the definitional sections, the documents go into describing the impacts and the actions that should be taken. Both documents display an ambivalent mood that is at the same time conciliatory – in emphasizing partnerships – and imperative i.e. actions should be taken by third parties. This is interestingly displayed in terms of transitivity: there is less affinity when referring to the causes of food waste in medium and high-

income countries, in those cases hedges are introduced such as “causes... relate mainly” or “may contribute” (2015a, 2). In contrast there is more affinity when referring to the causes in low-income countries. This is also reflected in the opening statements of 2015b that read: “in high income regions, volumes of wasted food are higher in the processing, distribution and consumption stage, whereas in low-income countries, food losses occur in the production and post-harvesting phases” (1). In the first part – in high-income regions – there is an effect of nominalization. While it does not absolve the site of responsibility, by virtue of how the sentence is structured puts more emphasis on the effect than on the site as agent. Meanwhile, in reference to low-income countries the culprit is much more directly identified as the site where food loss is occurring – “losses occur” (ibid.). Another interesting feature of transitivity is identifiable when referring to food safety and quality in 2015a. By saying that “standards can be applied in ways that remove food that is still safe” (2015a, 2) the effect of quality standards – like the sell-by dates – is placed in the conditional form “can be” (ibid.) ascribing a lesser degree of less responsibility to it. In this cluster of meaning there is an incorporation of a capitalist-economic discourse since the flaws are directly identified in the sites that have not achieved a full capitalist development – the low-income countries – while the culprit is more diffuse in high-income countries and particularly conditional in reference to market oriented priorities, like the quality standards.

Although the mood is ambivalent, the institutional voice in both FAO documents displays a high-affinity epistemic modality (Fairclough 2010) where its claims are presented as truth, objective facts in wording such as “there is no doubt” (2015a, 2). The institutional identity projected is within a pedagogic genre, providing definitions and facts that frame the phenomenon. The documents not only define what food waste is, they also indicate where it is occurring, point to responsible sites and to a correct course of action. In this sense the voice is normative; an order of discourse sedimented in commodification particularly visible when mentioning solutions and strategies. In this regard, 2015a claims “solutions and strategies focus on systemic improvements of the efficiency and sustainability of food supply chains” (4).

As we move into the examination of how actions are displayed we begin to overlap with social practice. Therefore, it is a good point to broaden the scope of analysis to the second and third stages – the discursive and social practice – which looks at how texts are produced, interpreted and used.

DISCURSIVE AND SOCIAL PRACTICE

In 2015a the interpellated actors are described as “people and companies, including consumers” (6) and also international organizations. In 2015b the audience is less easily identifiable, but it can be inferred that the document is intended for policy makers while steering them towards incentivising private investment in key areas and pointing to consumers as culprits – in high income countries. As discursive practice the texts are bringing in a capitalist-economic discourse by repeatedly (a) referring to food as a commodity or commodity groups (b) eaters are always consumers and (c) identifying the act of eating as a consumption phase or naming as consumption patterns the social interactions that entail the act of eating and sharing food. Some characteristics of this kind of language use are ordinary in everyday use and I will come back to it in the revision of intertextuality with the Rude Food discourse.

Also, in 2015a the types of actors interpellated are those who “will adopt food loss and waste reduction measures only if they are profitable or at least cost-effective” and “supports cost-effective and environmentally friendly reuse” (4). By placing first the “cost-effective” marker the emphasis is placed on the economic, profit-oriented aspect above the environment. Also, public action is subordinate to private action. On page 6 of 2015a the documents lists the “actions by food waste actors” that are needed to reduce food waste and food loss. Actions “require investments by the private sector” (ibid.) explicitly placing public action – both in the institutional sense and the agency of civil society – in a lesser degree of importance with the argument that “public organizations cannot themselves directly reduce food loss and waste, but they are indispensable” (ibid., 6). This is a confirmation of the embrace of capitalism as an ideology in the discursive construction of FAO: the private sector has all the capacity for action while the public is shackled, restrained to a mere backdrop.

In 2015b food wastage is described as a “missed opportunity for the economy” (1) and the impact measured in GHG emissions but valued in money: “the 2012 market value of food products lost or wasted was UDS 936 billion” (ibid.). Thus, there is further interdiscursivity with the capitalist-economic discourse by the choice of financial parameters to measure the effects. There is also interdiscursive relation with a marketing genre by the end of 2015a, when making an invitation to “private sector companies and civil society organizations” (7) to join the Save Food initiative it describes itself as a place where each organization is “contributing its greatest advantages” (ibid.), a

form of self-promotional element, listing the requirements to become a partner but placing in a more visible place the list of benefits.

Lastly, in regards to the dimension of social practice – where the discourse locates and manifests – it has an institutional profile. As for the place of production and exhibition of the documents, the “Save Food Initiative was launched by FAO and Messe Düsseldorf at the Interpack2011 trade fair for the packing and processing industry” (2015a, 5) and document 2015b was produced under the FAO’s Food Wastage Footprint (FWF) project. Among other things, the FWF project performed a full-cost accounting of the food waste problem applying a methodology that required the arbitrary exercise of assigning monetary value to the atmosphere or biodiversity, a framework that incorporates: “market based valuation of direct financial costs, non-market valuation of lost ecosystem goods and services, and well-being valuation to assess the social costs associated with natural resource degradation” (FAO 2014, 7). These characteristics show how the social practices related with the FAO discourse are intimately tied to the capitalist-economic discourse as an ideology that places value on money and profit above all else. Thusly, the social practices related to this discourse are market-based solutions, with emphasis on investments and strategies that value more efficient markets.

CODES AND THEMES

The identification of codes, as clusters of words or keywords and their meaning potential (Fairclough 1992, 185) aids in further disclosing the presence of the capitalist-economic discourse by which the food waste problem is described in the FAO documents. In this section I will analyse 2015a and 2015b page-by-page highlighting the main thematic features in relation to the codes defined in the coding and memoing section of the analytic framework.

After the cover page – whose image statements were already pointed out – the first section of 2015a in page 2, has a definitional theme with presence of the keywords within the codes of aesthetics and commodification. It is interesting that an element of the community code appears in the paragraph that points to the situation in low-income countries in a sentence that ascribes causality to social and cultural conditions referring to them as “often underlying causes of food loss” (2015a, 2). In the next paragraph, that points to the situation in medium and high-income countries the keywords found are those of the commodification code in a way that “human consumption” and “consumer

level” actions are the culprits by failing to “use food” (ibid.), which is a telling verb to embody commodification.



Figure 4: On the left hand side is an image of page 3 of the FAO document 2015a and on the right hand side is the cover page of 2015b. Both display the same bar graph depicting food waste as the third largest emitter of GHG in the world.

The next section in 2015a is focused on impacts and in it – besides the keywords for the commodification code – normative and aesthetics keywords are also found. Environmental impacts are coded as negative as are the effects on economic growth and food insecurity. The objects of the latter are “women farmers and young children in many developing countries” (2015a, 3) while the culprits of the former are consumers. Only in this section – page 3 – the same graph as in the cover page 2015b is displayed, which places food waste as the third highest GHG emitter in the world after China and the United States. This displays a thematic and conceptual difference with 2015b that is more focused on figures, as shown in Figure 4.

The following section in 2015a – page 4 – is action-coded. The focus is on strategy conveying that action should take place in partnerships with international organizations and actors of the FSC. The actors with agency within this strategy are “herders, farmers and fishers to global companies” interestingly excluding the social aspect, i.e. eaters and their customs. This is related to a contradiction in the discourse that is further revealed in the subsequent page. The action-coded strategic framework continues in page 5 and there the text also contains keywords for the commodification code but most importantly maintains the exclusion of a social dimension. When it does include the social dimension by referring to “collaboration and coordination” it is meant in a broader institutional frame that seeks to establish a “global partnership”. Here is where a contradictory logic stands out. There is an inconsistency with the initial-definitional statements of the document that frame the problem of food loss and waste as “heavily dependent on specific conditions” of the country or culture where it is situated. The discourse is therefore presenting a paradoxical strategy: it states the situational-material dependence of food waste but frames the strategy in a homogenizing manner through a flattening coordination effort where “everybody knows what is happening worldwide” (2015a, 5) – an impossible “god trick”, as Haraway (1988, 581) would have it. Page 6 is also action coded as it remains within the realm of strategy. Here its interesting to point out how prevailing the commodification-code keywords are present, in a way that markets, efficiency, consumption and involvement by the private sector are drivers for change. The last page, and its self-promotional theme of action has already been outlined.

Now we can move onto 2015b, a document that is harder to deconstruct using the same codes since its oriented towards a scientific-positivist, truth-claiming, data centred discourse – which is in line with 2015a in that it maintains an epistemic modality of high affinity but is more focused on figures. Nevertheless, from the first paragraph it incorporates markers from the commodification code. In the last lines of the first paragraph of page 1 – closing the first headline – the theme is the difference between high and low-income countries. As in 2015a there is mention of causality but in contrast to that document, in 2015b there are no social markers in this theme that could point to the role of the community. The sentences are nominalized with agentless verbs. In that section 2015b states that “the lack of infrastructure and lack of knowledge [...] favour food spoilage” (2015b, 1) in low-income countries while “aesthetic preferences and arbitrary sell-by dates are factors that contribute to food waste” in high-income countries (ibid.). Low-income countries are framed as lacking – by that being somehow inadequate and incomplete – which points to a contradicting relationship

between the problem and the sites for action. A better example of this is found in page 3 of 2015b where it goes to say: “per capita food wastage footprint on climate in high income countries is more than double that of low income countries”. Therefore, low-income countries are recognized as lesser culprits, so by that account they should be regarded as doing something right, not being lacking or inadequate. Nevertheless, in the next page – in a table with an authoritative scientific modality – 2015b points to “feasible food loss reduction ratios” (4) where a higher percentage of food loss reduction is adjudged to developing countries, so the lesser culprit is the site where more action is commanded.

Throughout 2015b the text incorporates many markers of the commodity code; it refers to food as commodity groups and “the consumption phase” (3) as the act of eating. But the commodification markets appear combined with normative or action codes. The following sentence incorporates normative and commodification markers in a telling way: “efforts to reduce GHG related to food wastage should focus on major climate hotspots commodities” (2). Since it talks about where the efforts *should* focus it is coded as normative and at the same time it refers to food as commodities, so it is a normative claim on the capitalist orientation. An example of the commodification and action markers together is: “investment in reducing post-harvest losses represent an important climate mitigation strategy” (4), whereby placing money in a certain site implies action.

INTERTEXTUALITY: RUDE FOOD

P3: I mean, it’s impossible to eliminate all food waste, right? Pretty much...

P4: Unless you have chickens and horses.

P3: Mmmh, that’s true... It depends on what you are eating as well...

P2: I think it’s possible but to do it in this world... Very hard.

P4: I think that’s the point. Industry and the economy the way it is, it’s probably not going to be eliminated. I think you need a different economic paradigm...

To bring this analysis to a more empowering arena – where social practices can be a source of cultural change and reinterpretation – the focus will now shift towards the text produced during the focus group with Rude Food volunteers. It will prove fruitful to see (a) how the FAO texts and the words spoken during the focus group relate intertextually and interdiscursively and (b) to account for the differences and similarities in the social practices where they manifest and locate. Note that throughout this section the texts that are between quotation marks were words or sentences spoken

markers for community are related to health and sharing while the keywords for commodification are found in negative phrasing such as: “I don’t want to buy things”.

When talking about definitions the participants described their understanding of food waste as “the opposite of food waste” making the difference between “actual food waste” meaning food that is spoiled versus “the food that is wasted that doesn’t have to be wasted”. They also mentioned it within an action coded category, speaking of food waste as something capable of “blurring dichotomies” and “something that needs to change”. The normative marker is also found in very pragmatic phrasing focused on use-value such as: “we are showing that it is food; it’s not good food, its not bad food, its food. You don’t have to label food as long as it’s not going to make you sick”.

As the discussion flowed to terminology – and the participants poured themselves glasses of water, ate pieces of fruit and croissant – they expressed the relevant semantic difference between naming food waste, food surplus or food loss with keywords within the normative code, arguing that the connotation it has is either positive or negative. Interestingly, one of the participants made a reference to the same image that is in the front page of FAO 2015a: “food waste for a lot of people creates this very negative image of mouldy oranges and that’s maybe not it” thus evidencing an interdiscursivity that is negotiating new meaning. Both in the FAO and in the Rude Food text the image of a mouldy orange entails a negative meaning but in the case of FAO it is used as an icon for what food waste looks like. In the Rude Food discourse this is not what food waste looks like – or rather its “maybe not it” – displaying a shift of meaning in the discursive practice. The kinds of images used by the Rude Food members to embody food waste are very different in this regard; appreciative of the use-value of foodstuffs that are still good, or that can be creatively modified and commonly enjoyed such as: “coffee ground brownies” or “old banana ice cream”.

Still discussing terminology with normative keywords the participants agreed that since the term food waste has a negative connotation it is important to keep using it within the Rude Food project given that it is a more provocative term that serves their purpose to educate, raise awareness and capture attention. The normative claim is that “waste is a bad thing” when talking about food and further “we are treating food disrespectfully”, thereby pointing to a need for change.

When asked about the causes of the phenomenon the culpable sites were often referred to with keywords from the commodification code such as “a very commercial lifestyle” or “to waste food because that is how they earn the most money”. In the same line the participants pointed to the market logic under which supermarkets operate and used the aesthetic marker to refer to food as status symbol. The point was raised that given the complexity of the issue it is difficult to recognize only one cause; they asked openly “how does one go about arriving at causality?” From there a new theme appeared that would keep coming back until the end of the conversation and it was named “the mind-set” related to action coded words, such as “that mind-set has to change in order for the supermarket to change in order for things to change”. In this regard there is an intertextual relation with the FAO discourse where action is mainly private and individual, but I will come back to that briefly.

As the discussion flowed towards the causes of food waste another recurring theme appeared when one of the members started to talk about the invisibility of waste in general: “you throw it away and [...] it’s just gone all of the sudden”. This type of wording is coded as cyclical, because it is referring to the awareness that food comes from somewhere and goes somewhere else. The reference to cycles was an important code in this part of the discussion often expressed in normative terms such as “people don’t understand where our food comes from anymore”.

When the conversation moved to impacts, these were recognized as intertwined and there was some disagreement. In analysing the discussion with Rude Food members it can be noted that a different order of discourse is being negotiated. Although it is hardly homogeneous, the members of the group do express a common concern for the social aspects of food waste. The community marker was interestingly present in the part of the conversation about impacts; the environmental impacts were tangentially mentioned but those related to social consequences were agreed upon as the most negative: “we are not growing it, we are not trading it, we are not cooking together and so both the environmental and social are seen in both those aspects”. Also, commodification in itself was referred to as a harmful impact where “food as a cultural signifier being arrested by industry via harmful impact that is not seen as a site for public involvement”. The harmful impact was also described with keywords from the cyclical code as a lack of awareness that “creates a further disconnect between ourselves and the system that we are a part of [...] you don’t see the energy that you are taking in and the energy that you are giving out as one flow”.

There is intertextuality between the discourse of Rude Food and the FAO documents. A similarity to the FAO discourse can be identified in that eaters are also referred to as consumers – which is normalized in common language use: a consumer is at the same time one who participates in the market economy by purchasing foodstuffs with money and an eater. Buying and eating are one and the same. Consequently, the starting point of action is described by Rude Food members as individual “with people, with their mind-set to just change and see things differently”.

The difference between the discourses is in the strategy and the subjects with agency. In Rude Food the reduction of food waste is framed as something possible, through the negotiation of new meanings and the imperative re-valuation of discarded materiality. For Rude Food the path towards a solution is: “coming together and working with it, deliberating, not only through language but also through action”. The theme of action was present throughout, which makes sense since the conversation was with a group of activists. But when asked by the end what kind of action they thought possible – reduce, mitigate or eliminate food waste – that was when the very telling dialogue that opened up this section took place.

CONCLUSION

The ultimate condition of production is therefore the reproduction of the conditions of production. (Althusser 2001, 85)

During the final two months of the writing process for this thesis I lived and worked in an organic farm in Skåne. Every week – along with the others who lived there – I participated in the process of putting together boxes of fruits and vegetables that two days later were delivered to people’s homes. They consisted of all organic mostly European produce for which the eaters paid good money. Our main job – besides making sure that all boxes weighed roughly the same – was selecting and picking apart the ugly items. We were instructed that one small brown spot was enough cause for dismissal. So those pears or apples or whatnot had to be placed in a separate bin, to the delight of the pigs and goats. Since the discarded produce went to the animals – and oftentimes to us, who were living in the farm – in a way nothing was truly lost or wasted. But the question kept circling my mind: were we creating food waste? Absolutely, mainly by participating in the perpetuation of those strict aesthetic standards that dictate that to obtain our money’s worth we must ingest food that looks perfect.

How does food become waste through discourse? That was the wider research problem taken up by this thesis. The aim was to identify how FAO formulates the food waste category and its solutions; more specifically how the language use in two documents by that institution has a role in maintaining a particular social order through consolidating social practices that are in line with it. From there, the second part of the analysis aimed to understand the interdiscursive and intertextual relationship between the discourses on food waste by FAO and the discursive articulations made by the Rude Food volunteers. And what does that relationship say about possible solutions? I will briefly revise the findings and leave to the very end the last part of the research question.

I have established that food waste is more accurately a food surplus, not waste. Food surplus is edible food that could remain in human foodways but in an industrialized system dominated by a capitalist ideology turns into discarded materiality; it is displaced once it has lost – or has been forced to lose – its exchange-value, disregarding its use-value. Thusly, I have put forward my own definition of food waste as: food surplus that has been excluded from human foodways for reasons unrelated to its use-value and rather determined by a failure to contribute to exchange-value.

CDA provided a flexible method and a fitting theory to explore the discursive dimension of food waste. Through examination of the language use in two FAO documents I have shown that the site of the food chain where loss occurs is framed differently whether in high or low-income countries, and regardless of this being a fact or not there is a relevant semantic distinction. In the latter the finger is pointed to the earlier stages in the production chain as the place where food loss is actually occurring; language is more direct. Whereas in the former causes are mentioned in more conditional terms, with hedges introduced to lessen affinity. What this entails – in terms of transitivity – is a different placement of agency, which is relevant because it supports the argument of how the FAO discourse embraces capitalistic ideology through a truth modality.

FAO (2015a) makes a visual opening statement with a mouldy orange on its cover, thus placing the topic of food waste in the realm of decayed, rancid material devoid of both use and exchange-value. This is contrasting with the way the Rude Food volunteer group face the issue, in their use of language there is a shift of meaning towards recognition of the use-value of food waste. Although in the Rude Food discourse food waste is also something negative that should not exist, the poster child image is not a mouldy orange, it is rather a brownie made from used coffee grounds.

Both FAO texts bring in a capitalist-economic discourse by referring matter-of-factly to food as commodities and eaters as consumers. While there is intertextual relation in this regard with the discourse of the Rude Food volunteers, this analysis also identified an interdiscursivity that is negotiating new meaning. The consolidated social practices that are in line with the FAO discourse are sedimented in commodification, and while the Rude Food discourse retains some traces of it, they provide different images and shifting normative claims that point to the possibility of social change.

In this thesis food waste is considered a contradiction of terms that perpetuates a social disconnection with environmental cycles and is sustained on a capitalist discourse centred on monetary profit and resource exploitation. Only in that kind of understanding it makes sense that “food is engineered” (Ploeg 2008, 6) and commodified. As it was outlined in the literature review, commodification entails a social detachment from the biophysical-metabolic processes that bring food into existence obscuring the “notion of shared corporeality” (FitzSimmons and Goodman in Braun and Castree 2005, 194) that ought to prevail when environmental concerns are raised. By disregarding the need of a “unified analytical frame” (ibid.) and appreciating food solely as a commodity – where exchange-value is the only source of value – the systemic change required to address the problem at the root cause is obscured.

Furthermore, paradoxical formulations have been pointed out in the FAO discourse. The most relevant is the proposition of a contradictory course of action that on the one hand acknowledges the situated material existence of food waste and at the same times advocates for the implementation of a flattening strategy; a worldwide coordinated effort that would require heavy homogenization which is detrimental to the purpose of reducing food waste, let alone eliminate it altogether. In contrast, I have demonstrated that Rude Food volunteers support a holistic approach, one that recognizes the cyclical quality of food as materiality that comes from somewhere and goes somewhere else to serve a purpose. A purpose that may or may not bring about a monetary profit but whose use-value is far beyond – it is cultural. In this regard there is a radical market logic sustained in a capitalist ideology that is contested in the Rude Food discourse. The capitalist logic says “the retail price of any item is two or three times the cost price, which means that it is better to waste two of each product than lose even just one sale” (Stuart 2009, 17) the Rude Food volunteers pragmatically say “it’s food anyways!”

Thus, the problem of food surplus becoming waste is highly complex. No matter the source, wherever food waste is defined and discussed confusing entanglements of causes and effects complicate the scene. What I have hoped to point out is that food is never waste, it becomes waste in discourse and social practice; much more through discourse than through its material vulnerability to the passing of time.

When thinking about related problems I encountered different areas where further research on food waste could be conducted. The most intriguing in relation to discourse would be to compare how different food rescue initiatives coincide or contradict in their discursive practices – say food banks vs. dumpster divers. Also, a historical revision on how food waste has been sustained and portrayed through institutional discourses would be pertinent to understand its historical consideration – i. g. particularly interesting is the discourse on food waste during the world wars. In terms of policy making, an integral quantitative and qualitative analysis on the impacts of citizen led food rescue initiatives could provide evidence to show the importance of supporting those kinds of initiatives through policy making and a more economically-centered analysis could dive deeper into the existence of food waste within an economic paradigm sustained in Gross Domestic Product growth.

In conclusion, what does all this say about possible solutions? That engagement with food waste is a site for discursive transformation and social change; that possible solutions are to be found in shifting orders of discourse, in social practices that challenge systemic structures, which is the case of the Rude Food initiative. While the FAO documents point to systemic improvements the Rude Food discourse is negotiating new meanings that go in the direction of appreciation of the use-value of food above its exchange-value. Only from there it is possible to envision a way out that has more to do with conviviality, with the act of sharing, with a means of nurturing the body and satisfying the need for enriching social relationships, all at the same time. When these values are placed above all else a systemic change is inevitable.

REFERENCES

- Alavanja, Michael C. R., and Jane A. Hoppin. 2004. Health Effects of Chronic Pesticide Exposure: Cancer and Neurotoxicity. *Annual Review Of Public Health* 25, no. 1: 155-197
- Althusser, Louis. 2001. *Lenin and philosophy, and other essays*. New York: Monthly Review Press.
- Bentley, Amy, ed. 2012. *A cultural history of food in the modern age*. Vol. 6 of *A cultural history of food*, eds. Fabio Parasecoli and Martin Bruegel. London: Berg.
- Bhandari, Govinda. 2014. An overview of agrochemicals and their effects on environment in Nepal. *Applied Ecology and Environmental Sciences* 2, no. 2: 66-73.
- Bhaskar, Roy. 1975. *A Realist Theory of Science*. London: Verso.
- Blay-Palmer, Alison. 2008. *Food fears: From industrial to sustainable food systems*. Aldershot, England; Burlington, USA: Ashgate.
- Braun, Bruce, and Noel Castree, eds. 2005. *Remaking reality: nature at the millenium*. London: Routledge.
- Carlsson-Kanyama, Annika, and Alejandro D. González. 2009. Potential contributions of food consumption patterns to climate change. *The American journal of clinical nutrition* 89, no. 5: 1704S-1709S.
- Chouliaraki, Lilie and Norman Fairclough. 2000. *Discourse in Late Modernity*. Edinburgh: Edinburgh University Press.
- Curtin, Deane. 1999. *Chinagounder's Challenge: The question of ecological citizenship*. Bloomington: Indiana University Press.

D'Alisa, Giacomo, Federico Demaria, and Giorgos Kallis, eds. 2015. *Degrowth: A vocabulary for a new era*. London: Routledge.

European Commission. N.d. Best before and Use by dates on food packing: Understand them right to prevent food waste and save money. Available at:
http://ec.europa.eu/food/safety/food_waste/library/docs/best_before_en.pdf
[Accessed: March 2016]

Fairclough, Norman. 1992. *Discourse and social change*. Cambridge: Polity.

Fairclough, Norman. 2010. *Critical Discourse Analysis: The Critical Study of Language*. 2nd ed. Harlow: Pearson Education Limited.

Fairclough, Norman, Bob Jessop and Andrew Sayer. 2002. Critical Realism and Semiosis. *Aletheia* 5, 1: 2-10.

FAO. 2015a. Global initiative on Food Loss and Waste Reduction. Available at:
<http://www.fao.org/3/a-i4068e.pdf> [Accessed: March 2016]

FAO. 2015b. Food wastage footprint & climate change. Available at:
<http://www.fao.org/3/a-bb144e.pdf> [Accessed: March 2016]

FAO. 2014. Food wastage footprint: Full cost accounting. Available at:
<http://www.fao.org/3/a-i3991e.pdf> [Accessed: April 2016]

FAO. 2011. Energy Smart Food for People and Climate: Issue paper. Rome: FAO.

Foresight. 2011. *The Future of Food and Farming: Final Project Report*. London: The Government Office for Science.

Frye, Joshua J. and Michael S. Bruner, eds. 2012. *The rhetoric of food: discourse, materiality, and power*. New York: Routledge.

- FUSIONS. 2016. About Fusions. EU FUSIONS. Available at:
<http://www.eu-fusions.org/index.php/about-fusions> [Accessed March-April 2016]
- Garnett, Tara. 2011. Where are the best opportunities for reducing greenhouse gas emissions in the food system (including the food chain)? *Food Policy* 36, no. Supplement 1: S23-S32.
- González de Molina, Manuel and Víctor M. Toledo. 2014. *The Social Metabolism: A Socio-Ecological Theory of Historical Change*. New York: Springer.
- Goodman, David and Michael Redclift. 1991. *Refashioning Nature: Food, Ecology and Culture*. London: Routledge.
- Gunders, Dana. 2012. Wasted: How America is losing up to 40 percent of its food from farm to fork to landfill. Natural Resources Defense Council. Available at:
<https://www.nrdc.org/sites/default/files/wasted-food-IP.pdf> [Accessed: March 2016]
- Guptill, Amy E., Betsy Lucal, and Denise A. Copelton. 2013. *Food & society: Principles and paradoxes*. Cambridge: Polity
- Gustavsson, Jenny, Christel Cederberg, Ulf Sonesson, Robert van Otterdijk and Alexandre Meybeck. 2011. Global Food Losses and Food Waste: Extent, Causes and Prevention, Rome: Food and Agriculture Organisation of the United Nations. Available at:
<http://www.fao.org/docrep/014/mb060e/mb060e.pdf> [Accessed: March 2016]
- Haraway, Donna. 1988. Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective. *Feminist Studies*, 14, no. 3 (Autumn): 575-599.
- Hale, Charles R. 2008. *Engaging Contradictions: Theory, Politics, and Methods of Activist Scholarship*. eScholarship: University of California.
- Higman, B. W. 2012. *How food made history*. Chichester, UK: Wiley-Blackwell.

- Ingram, John. 2011. A food systems approach to researching food security and its interactions with global environmental change. *Food Security* 3, no. 4: 417.
- Jørgensen, Marianne W., and Louise Phillips. 2002. *Discourse analysis as theory and method*. London: Sage.
- Kennedy, Greg. 2007. *An Ontology of Trash: The disposable and its problematic nature*. Albany: State University of New York Press.
- Kneen, Brewster. 1993. *From land to mouth*. 2nd ed. Toronto: University of Toronto Press.
- Lundqvist, Jan, Charlotte de Fraiture and David Molden. 2008. Saving water: from field to fork - curbing losses and wastage in the food chain. Stockholm International Water Institute (SIWI) Policy Brief. Huddinge: Stockholm International Water Institute. Available at: http://www.unwater.org/downloads/Paper_13_Field_to_Fork.pdf [Accessed: March 2016]
- Lupton, Deborah. 1996. *Food, the Body and the Self*. London: Sage Publications.
- McMichael, Philip. 2009. A food regime analysis of the 'world food crisis'. *Agriculture and human values* 26, no. 4: 281-295.
- Marsden, Terry, and Adrian Morley, eds. 2014. *Sustainable food systems: building a new paradigm*. London: Routledge.
- May, Tim. 2011. *Social Research: Issues, Methods and Process*. 4th ed. Berkshire: Open University Press.
- Naples, Nancy A. 2003. *Feminism and Method: Ethnography, Discourse Analysis, and Activist Research*. New York: Routledge.
- Netting, Robert McC. 1993. *Smallholders, householders: Farm families and the ecology of intensive, sustainable agriculture*. Stanford: Stanford University Press.

- Nixon, Ron. 2015. Food waste is becoming serious economic and environmental issue, report says. *The New York Times*. February 25. Available at: <http://www.nytimes.com/2015/02/26/us/food-waste-is-becoming-serious-economic-and-environmental-issue-report-says.html> [Accessed: March 2016]
- O'Brien, Martin. 1999. Rubbish Values: Reflections on the Political Economy of Waste. *Science As Culture* 8, no. 3: 269.
- Oxfam. 2013. Behind the brands: Food justice and the 'Big 10' food and beverage companies. Available at: <https://www.oxfam.org/sites/www.oxfam.org/files/bp166-behind-the-brands-260213-en.pdf> [Accessed: May 2016]
- Parafitt, Julian, Mark Barthel and Sarah Macnaughton. 2010. Food waste within food supply chains: quantification and potential for change to 2050. *Philosophical Transactions: Biological Sciences* 365, 3065-3081.
- Patel, Raj. 2007. *Stuffed and starved: The hidden battle for the world food system*. [ePub version] New York: Melville House Publishing.
- Petrini, Carlo. 2013. *Slow food nation: Why our food should be good, clean and fair*. [ePub version] Bra, Italy: Rizzoli ex Libris.
- Porter, John R., Liyong Xie, Andrew J. Challinor, Kevern Cochrane, S. Mark Howden, Muhammad Mohsin Iqbal, David B. Lobell, and Maria Isabel Travasso. 2014. Food security and Food Production Systems. In *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. 485-533. Cambridge: Cambridge University Press.
- Punch, Keith F. 2014. *Introduction to social research: Quantitative and qualitative approaches*. 3rd ed. London: Sage.

Rockström, Johan, Will Steffen, Kevin Noone, Åsa Persson, F. Stuart Chapin, Eric F. Lambin, Timothy M. Lenton, Marten Scheffer, Carl Folke, Hans Joachim Schellnhuber, Björn Nykvist, Cynthia A. De Wit, Terry Hughes, Sander van der Leeuw, Henning Rodhe, Sverker Sörlin, Peter K. Snyder, Robert Costanza, Uno Svedin, Malin Falkenmark, Louise Karlberg, Robert W. Corell, Victoria J. Fabry, James Hansen, Brian Walker, Diana Liverman, Katherine Richardson, Paul Crutzen, Jonathan A. Foley. 2009. A safe operating space for humanity. *Nature*, 461 no. 7263: 472-475.

Salleh, Ariel. 2010. From metabolic rift to “metabolic value”: Reflections on environmental sociology and the alternative globalization movement. *Organization & Environment* 23, no. 2: 205-219.

Stenmark, Åsa, Carl Jensen, Tom Quested and Graham Moates. 2016. Estimates of European food waste levels. FUSIONS EU project. Stockholm. Available at: <http://www.eu-fusions.org/phocadownload/Publications/Estimates%20of%20European%20food%20waste%20levels.pdf> [Accessed: March 2016]

Smil, Vaclav. 2000. *Feeding the world: A challenge for the twenty-first century*. Cambridge: MIT Press.

Stuart, Tristram. 2009. *Waste: Uncovering the global food scandal*. London: Penguin Books.

Sjöström, Cheryl. 2015. *Food for naught: The politics of food in agricultural modernization for African smallholder food security*. PhD diss., Lund University, Faculty of Social Sciences, Centre for Sustainability Studies (LUCSUS). Lund: Media-Tryck.

Sudbury, Julia and Margo Okazawa-Rey, eds. 2009. *Activist Scholarship: Antiracism, Feminism and Social Change*. Boulder: Paradigm.

Titscher, Stefan, Michael Meyer, Ruth Wodak and Eva Vetter. 2000. *Methods of Text and Discourse Analysis*. London: Sage Publications.

- United Nations General Assembly. 2015. Draft outcome document of the United Nations summit for the adoption of the post-2015 development agenda. Available at:
http://www.un.org/ga/search/view_doc.asp?symbol=A/69/L.85&Lang=E
[Accessed: May 2016]
- Vermeulen, Sonja J., Bruce M. Campbell, and John S. Ingram. 2012. Climate Change and Food Systems. *Annual Review Of Environment & Resources* 37: 195-222.
- Visser, Margaret. 1991. *The rituals of dinner: The origins, evolution, eccentricities, and meaning of table manners*. Harmondsworth: Penguin Books.
- Ploeg, Jan Douwe van der. 2008. *The new peasantries: Struggles for autonomy and sustainability in an era of empire and globalization*. London: Earthscan.
- Wilkinson, Richard, and Kate Pickett. 2010. *The spirit level: Why greater equality makes societies stronger*. New York: Bloomsbury Press
- Winkworth-Smith, Charles G., Wyn Morgan, and Tim J. Foster. 2015. The impact of reducing food loss in the global cold chain: Final report. University of Nottingham. Available at:
http://naturalleader.com/wp-content/uploads/2016/04/UTC-Nottingham-Report_3-30_FINAL.pdf [Accessed: May 2016].
- WRAP. 2015. Strategies to achieve economic and environmental gains by reducing food waste. Available at: http://2014.newclimateeconomy.report/wp-content/uploads/2015/02/WRAP-NCE_Economic-environmental-gains-food-waste.pdf [Accessed: March 2016].
- WRI. 2015. Opportunity to Review the Food Loss & Waste (FLW) Protocol Accounting and Reporting Standard. Available at:
http://www.wri.org/sites/default/files/uploads/FLW_Protocol_Standard_Review_Overview_March_20_2015.pdf [Accessed: March 2016]
- Wodak, Ruth and Michael Meyer. 2001. *Methods of Critical Discourse Analysis*. London: Sage.

Östergren, Karin, Jenny Gustavsson, Hilke Bos-Brouwers, Toine Timmermans, Ole Hansen, Hanne Møller, Gina Anderson, Clementine O'Connor, Han Soethoudt, Tom Quested, Sophie Easteal, Alessandro Politano, Cecilia Bellettato, Massimo Canali, Luca Falasconi, Silvia Gaiani, Matteo Vittuari, Felicitas Schneider, Graham Moates, Keith Waldron and Barbara Redlingshöfer. 2014. FUSIONS definitional framework for food waste: Full report. EU Fusions. Available at: <http://www.eu-fusions.org/phocadownload/Publications/FUSIONS%20Definitional%20Framework%20for%20Food%20Waste%202014.pdf>
[Accessed: April 2016]

APPENDICES

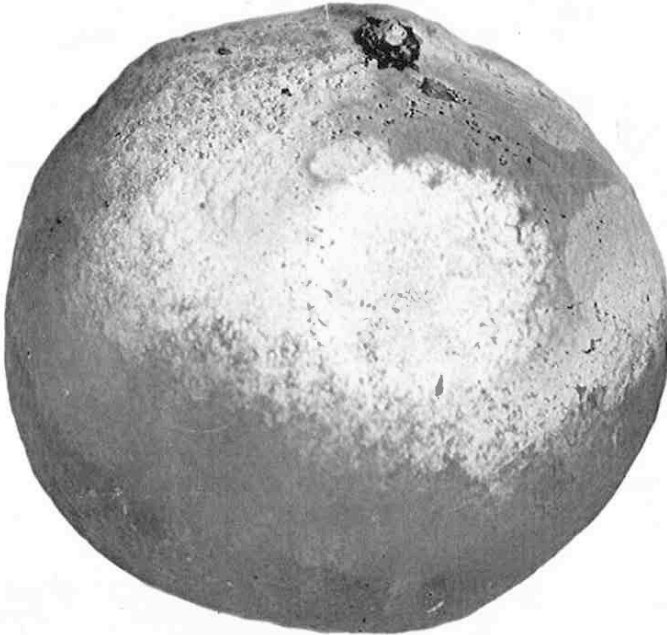
APPENDIX A



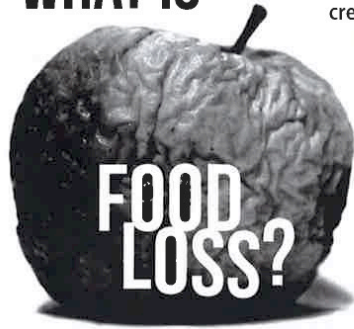
Food and Agriculture
Organization of the
United Nations



**GLOBAL INITIATIVE ON FOOD LOSS
AND WASTE REDUCTION**



WHAT IS



Food loss is defined as "the decrease in quantity or quality of food" and are the agricultural or fisheries products intended for human consumption that are ultimately not eaten by people or that have incurred a reduction in quality reflected in their nutritional value, economic value or food safety.



death
consumed

An important part of food loss is "food waste", which refers to the discarding or alternative (non-food) use of food that was fit for human consumption – by choice or after the food has been left to spoil or expire as a result of negligence.

FOOD LOSS AND WASTE LEVELS ARE HIGH AND DEPEND ON SPECIFIC CONDITIONS

Accurate estimations of the magnitude of losses and waste are lacking, particularly in developing countries. Nevertheless, there is no doubt that food loss and waste remain unacceptably high.

situations/
material

- Studies commissioned by FAO estimated yearly global food loss and waste by quantity at roughly 30 percent of cereals, 40–50 percent of root crops, fruits and vegetables, 20 percent of oilseeds, meat and dairy products, and 35 percent of fish.
- Food loss and waste are heavily dependent on the specific conditions and local situation in a given country or culture.

consumed

In **low-income countries** food loss results from wide-ranging managerial and technical limitations in harvesting techniques, storage, transportation, processing, cooling facilities, infrastructure, packaging and marketing systems. The main sectors of concern are small- and medium-scale fisheries, agricultural production and processing. Social and cultural conditions – such as the different productive and social roles that men and women play at different stages of the value chain – are also often underlying causes of food loss. In rural settings, while women are often the main actors in agriculture, post-harvest handling and marketing, social barriers may block their involvement in other stages of the chain. The difficulties that women face in obtaining access to and benefits from resources, services, jobs and income-generating activities affect their productivity and efficiency in food production, and can lead to food loss.

consumed

consumed

The causes of food waste in **medium- and high-income countries** relate mainly to consumer behaviour and the policies and regulations put in place to address other sectorial priorities. For example, agricultural subsidies may contribute to the production of surplus quantities of farm crops, of which at least a proportion is lost or wasted. Food safety and quality standards can be applied in ways that remove food that is still safe for human consumption from the food supply chain. At the consumer level, inadequate planning of purchases and failure to use food before its expiry date also lead to avoidable food waste.

consumed

GLOBAL INITIATIVE ON FOOD LOSS AND WASTE REDUCTION



THE IMPACTS OF FOOD LOSS AND WASTE ARE MULTIFACETED

normative
learned
learned

Food loss and waste have **negative environmental impacts** because of the water, land, energy and other natural resources used to produce food that **no one consumes**. The size of the impact increases with the level of processing and refining of the food products, and the stage (upstream or downstream) in the food supply chain at which the food is lost or wasted. Generally, lower losses are associated with higher efficiency in the food supply, and eventually with more effective recycling of resources, lower storage needs, shorter transport distances, and less energy use. However, solutions for reducing losses often lead to increased use of energy, especially for the preservation of food products. Obviously, from the environmental point of view, the negative impacts of measures to reduce food loss and waste should be lower than the benefits.

The non-productive use of natural resources such as land and water that results from food loss and waste has repercussions on hunger and poverty alleviation, nutrition, income generation and economic growth. In the subsistence farming systems of poor smallholder producers, quantitative

losses result directly in less food being available, and therefore contribute to **food insecurity**. Women farmers and young children in many developing countries are particularly likely to suffer this impact, as they often have less access than other groups to appropriate technologies, infrastructure, storage facilities and markets.

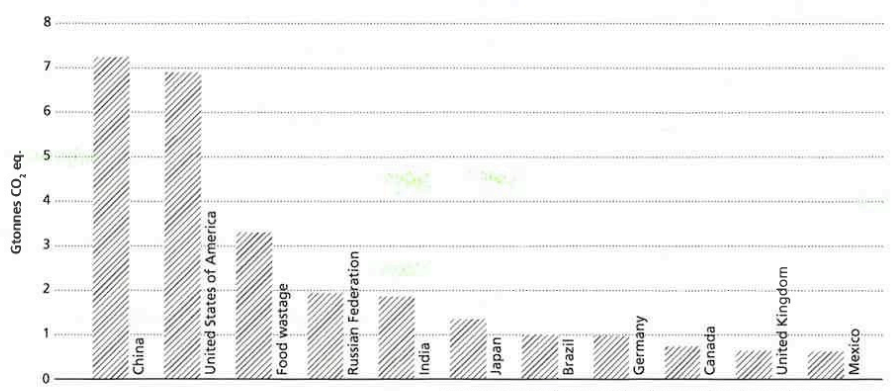
Qualitative food loss may cause **reduced nutritional status**, while **low-quality** products may also be unsafe because of their adverse effects on the health, well-being and productivity of consumers.

Food loss represents a loss of **economic value** for actors in the food production and supply chains. The value of food lost or wasted annually at the global level is estimated at **US\$ 1 trillion**. Today's food supply chains are increasingly globalized, with certain food items being produced, processed and consumed in very different parts of the world. Food commodities traded on international markets and wasted in one part of the world could affect **food availability and prices** in other parts.

deStatis
learned
learned



TOP TEN GLOBAL GREENHOUSE GAS-EMITTING COUNTRIES VERSUS FOOD LOSS AND WASTE, 2005



Source: WRI. 2012. Climate Analysis Indicators Tool. Available at: <http://cait.wri.org>

■ GLOBAL INITIATIVE ON FOOD LOSS AND WASTE REDUCTION

4



STRATEGIES FOR REDUCING FOOD LOSS AND WASTE

action

IN A GLOBALIZED WORLD

caused in another part. Solutions and strategies focus on systemic improvements of the efficiency and sustainability of food supply chains. From an economic point of view, supply chain actors will adopt food loss and waste reduction measures only if they are profitable or at least cost-effective. Differences in the productive and social roles of men and women actors in supply chains must also be acknowledged and addressed.

action
covered

Addressing food waste: the issue of food waste is high on the political agenda in industrialized countries. Food waste is expected to constitute a growing problem in developing countries given the changes that food systems in these countries are undergoing because of such factors as rapid urbanization, expansion of supermarket chains, and changes in diets and lifestyles. The strategy therefore addresses food waste reduction taking into consideration the need for unique approaches and interventions that differ from those for tackling losses.

covered

The Save Food Initiative gives priority to interventions that prevent food loss and waste from occurring in the first place, followed by interventions that can lead to reduced loss and waste. The initiative also supports cost-effective and environmentally friendly reuse (such as for animal feed) and recycling (as compost) of lost and wasted food.

action

action

repro

Because of the magnitude and complexity of the food loss and waste problem, FAO recognizes the need to undertake action in partnership with other regional and international organizations, and with food chain actors ranging from herders, farmers and fishers to global companies. Partnerships are equally important in mobilizing the resources required for action.

action

The approach to reducing food loss and waste is embedded in the broader concept of promoting sustainable food systems, which encompasses sustainable food production on the one hand, and sustainable diets and consumption (such as through the reduction of food waste) on the other. Measures for reducing food loss and waste have to be environmentally sustainable and should foster food and nutrition security.

policy

The integrated food supply chain approach takes into account the possibility that food loss and waste in one part of the chain are

GLOBAL INITIATIVE ON FOOD LOSS AND WASTE REDUCTION

action

THE GLOBAL INITIATIVE ON FOOD LOSS AND WASTE REDUCTION IS A PROMINENT OUTPUT OF FAO'S NEW STRATEGIC FRAMEWORK



Because of the need for a multidisciplinary approach, the programme is supported by the FAO divisions involved in agricultural and fisheries production, processing and marketing; consumer protection and nutrition; natural resources; economic and policy development and social protection; statistics; and communications and partnerships.

commercial

no social

The Save Food Initiative was launched by FAO and Messe Düsseldorf at the Interpack2011 trade fair for the packaging and processing industry, held in Düsseldorf, Germany. The global programme rests on four main pillars:

discussing practice production

Collaboration and coordination of worldwide initiatives on food loss and waste reduction: Save Food has established a global partnership of public and private sector organizations and companies that are active in the fight against food loss and waste. To develop, plan and implement interventions and use resources efficiently, it is essential that all initiatives are well coordinated, so that everybody knows what is happening worldwide, information, problems and solutions are shared, and methodologies, strategies and approaches are harmonized.

said

normalize flaten

Awareness raising on the impact of, and solutions for, food loss and waste: This will be achieved through a global communication and media campaign, the dissemination of findings and results from the Save Food Initiative, and the organization of regional Save Food congresses.

action

Research on policy, strategy and programme development for food loss and waste reduction: This includes a series of national and regional field studies to analyse the causes of, and viable solutions for food loss. The Save Food Initiative also conducts studies on the socio-economic impacts of food loss and waste, and the political and regulatory framework that affects food loss and waste.

conced

Support to projects for piloting and implementing food loss reduction strategies by the private and public sectors.

THE GLOBAL INITIATIVE DEVELOPS REGIONAL PROGRAMMES AND SUPPORTS NATIONAL IMPLEMENTATION

Because the causes of food loss and waste vary in different parts of the world, the Save Food Initiative takes a regional approach, developing strategies adjusted to the specific needs of regions, subregions and countries. Collaboration with regional partners is essential.

The Save Food regions are:

- The European Union
- North America and Australia
- Japan and the Republic of Korea
- Eastern Europe and Central Asia
- North Africa and the Near East
- Sub-Saharan Africa
- South and East Asia and the Pacific
- Latin America and the Caribbean

4

The actors – the people and companies, including consumers – involved in food supply chains need to **change** their management practices, technologies and behaviour to reduce loss and waste.

action

The main areas of **action** are:

- improved production planning, aligned with **markets**;
- promotion of resource-**efficient** production and processing practices;
- improved preservation and packing technologies;
- improved transportation and logistics management;
- enhanced consciousness of purchasing and **consumption** habits;
- ensuring that all chain actors, including women and small producers, receive a fair share of the benefits.

Commit

In general, these actions require **investments** by the private sector.

ACTION BY FOOD CHAIN ACTORS IS REQUIRED TO REDUCE FOOD LOSS AND WASTE

Public organizations cannot themselves directly reduce food loss and waste, but they are indispensable in facilitating action from the private sector through:

action

- creation of a policy and institutional enabling environment;
- creation of a favourable **investment** climate;
- **awareness** raising and advocacy;
- development of partnerships and alliances;
- support to innovative products and processes;
- capacity development at the supply chain and institutional levels.

Commit

PUBLIC ACTION IS REQUIRED TO SUPPORT SUPPLY CHAIN INTERVENTIONS

FAO's Save Food Initiative is supported by other United Nations organizations, particularly the World Food Programme (WFP), the International Fund for Agricultural Development (IFAD) and the United Nations Environment Programme (UNEP). These organizations work together under the vision of the United Nations Secretary-General's **Zero Hunger Challenge**, which has as its fifth element "zero loss or waste of food".

www.un.org/en/zerohunger

ZERO HUNGER CHALLENGE

- ZERO** stunted children less than 2 years
- 100%** access to adequate food all year round
- ALL** food systems are sustainable
- 100%** increase in smallholder productivity and income
- ZERO** loss or waste of food

HUNGER CAN BE ELIMINATED IN OUR LIFETIMES

▪ GLOBAL INITIATIVE ON FOOD LOSS AND WASTE REDUCTION

7



JOIN THE SAVE FOOD NETWORK AND COMMUNITIES OF PRACTICE

Community
Sector
Sector

The Save Food Initiative seeks and invites private sector companies and civil society organizations from all over the world to join its network of partners. Save Food promotes collaboration among partners, with each organization contributing its greatest advantages and all complementing each other.

Within the network, interactive Communities of Practice are created where partners share and discuss problems and solutions in different sectors, subsectors and regions.

self-promotion

The criteria for becoming a Save Food partner are:

1. Active involvement in reducing food loss and/or food waste.
2. Commercial (private) companies or associations that are active in one or more stages of the food supply chain (production, processing, wholesale, retail, restaurant/catering) or that directly provide goods or services to other actors in the chain (research, input supply, including packaging, management, training, consultancy). Commercial companies, their associations and service providers to commercial companies, are asked to pay a yearly contribution. These funds will be used to support specific activities of the Save Food Initiative such as field studies, publicity and congresses.
3. Non-profit organizations (international development organizations, universities, non-governmental organizations, national institutions, government departments, cooperatives or developing country associations) supporting actors in or development of the food supply chain.

Being a partner has benefits:

- Access to information from and networking with other Save Food partners worldwide.
- Technical advice and support from FAO and Save Food for programmes to reduce food loss and waste.
- Links to projects, studies, suppliers and users of services, consultancies, materials, technologies, etc. in the area of food loss and waste reduction.
- Use of the Save Food Initiative logo.
- A regular newsletter to which partners can contribute articles on their own initiatives.

Partners' contributions to the Save Food Initiative can include:

Community

1. Sharing information and providing access to other networks related to food loss and/or food waste.
2. Promoting the Save Food Initiative by including the Save Food link on their Web sites.
3. Supporting or contributing to Save Food activities and shaping the Save Food programme.
4. Sponsoring Save Food activities.

To join the Save Food Partnership Network please visit our Web site:
<http://www.fao.org/save-food/get-involved>

• GLOBAL INITIATIVE ON FOOD LOSS AND WASTE REDUCTION



FAO Headquarters

SAVE FOOD: Global Initiative on Food Loss and Waste Reduction

Food and Agriculture Organization of the United Nations (FAO)

Viale delle Terme di Caracalla

00153 Rome, Italy

www.fao.org/save-food

Save-Food@fao.org

+39 06 5705 3674



Regional and Liaison Offices

Regional Office for Europe and Central Asia (REU)

Budapest, Hungary

FAO-RO-Europe@fao.org

Regional Office for the Near East and North Africa (RNE)

Cairo, Egypt

FAO-RNE@fao.org

<http://neareast.fao.org>

Regional Office for Africa (RAF)

Accra, Ghana

FAO-RAF@fao.org

Regional Office for Asia and the Pacific (RAP)

Bangkok, Thailand

FAO-RAP@fao.org

www.savefood.net

Regional Office for Latin America and the Caribbean (RLC)

Santiago, Chile

RLC-save-food@fao.org

Liaison Office with the European Union (LOB)

Brussels, Belgium

FAO-LOB@fao.org

Liaison Office for North America (LOW)

Washington DC, USA

FAOLOW@fao.org

Liaison Office in Japan (LOJ)

Yokohama, Japan

FAO-LOJ@fao.org

© FAO 2015

Cover photo:

Wasted orange – ©A.Termignone

Other photos:

Wasted apple – ©Koray

Food waste for a worm bin – ©J.Bloom

Rotten tomatoes – ©N.Bravais

Trash bin – ©N.Saltmarsh

Produce to be composted – ©J.Bloom

Tomato vendors – ©FAO/G.Napolitano

Grain storage in metal silo – ©FAO/D.Mejia-Lorio

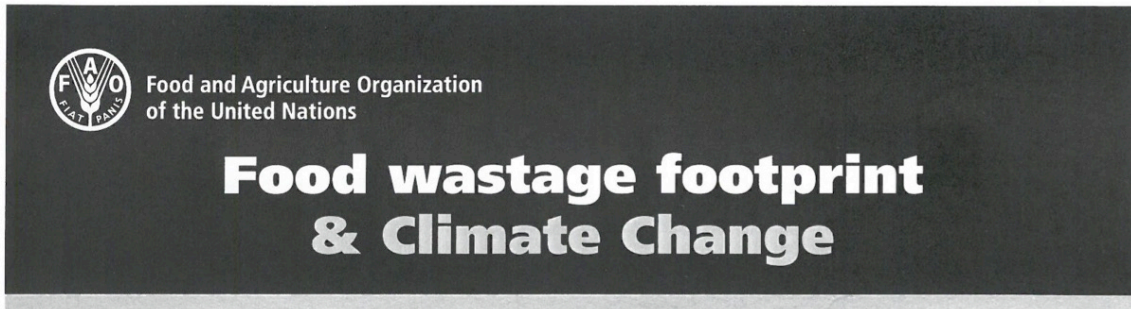
Small metal grain silo – ©FAO/D.Mejia-Lorio



14068E/209.15

Scan the QR codes with your smartphone to visit web pages and download documents.

APPENDIX B



Global food loss and waste

The 2011 FAO assessment of global food losses and waste (1) estimated that each year, one-third of all food produced in the world for human consumption never reached the consumer's table. This not only means a missed opportunity for the economy and food security, but also a waste of all the natural resources used for growing, processing, packaging, transporting and marketing food.

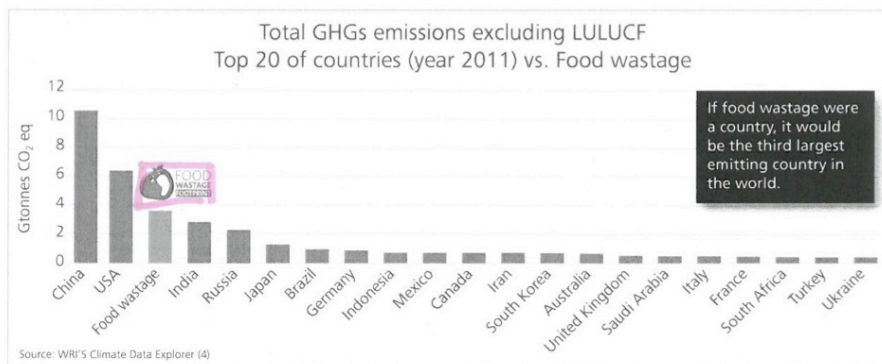
Through an extensive literature search, the 2011 assessment of food waste volumes gathered weight ratios of food losses and waste for different regions of the world, different commodity groups and different steps of the supply chain. These ratios were applied to regional food mass flows of FAO's Food Balance Sheets for the year 2007.

Food wastage arises at all stages of the food supply chains for a variety of reasons that are very much dependent on the local conditions within each country. At a global level, a pattern is clearly visible; in high income regions, volumes of wasted food are higher in the processing, distribution and consumption stages, whereas in low-income countries, food losses occur in the production and post-harvesting phases.

In low income countries, the lack of infrastructure and lack of knowledge on proper storage and food handling, combined with unfavourable climatic conditions, favour food spoilage. In higher income countries, aesthetic preferences and arbitrary sell-by dates are factors that contribute to food waste.

Carbon footprint of global food wastage

FAO quantified the food wastage footprint on natural resources (2), most notably its carbon footprint. Carbon footprint calculations – based on the 2011 assessment of food wastage volumes (1) and emissions factors taken from Life Cycle Assessment studies – were estimated at 3.3 GtCO₂ eq for 2007 (excluding land use change). Using the most recent Food Balance Sheets (2011) this figure is updated to 3.6 GtCO₂ eq (see figure below), which does not include the 0.8GtCO₂ eq of deforestation and managed organic soils associated with the food wastage (3). Thus the total carbon footprint of food wastage, including land use change, is around 4.4 GtCO₂ eq per year.



Source: WRI's Climate Data Explorer (4)

Global food loss and waste generate annually 4.4 GtCO₂ eq, or about 8% of total anthropogenic GHG emissions (5). This means that the contribution of food wastage emissions to global warming is almost equivalent (87%) to global road transport emissions (6).

The 2012 market value of food products lost or wasted was USD 936 billion; that is in the range of the GDP of countries such as Indonesia or the Netherlands. Using FAO methodology and estimates (3), the total cost of GHG emissions from global food wastage is USD 411 billion.

scientific mode

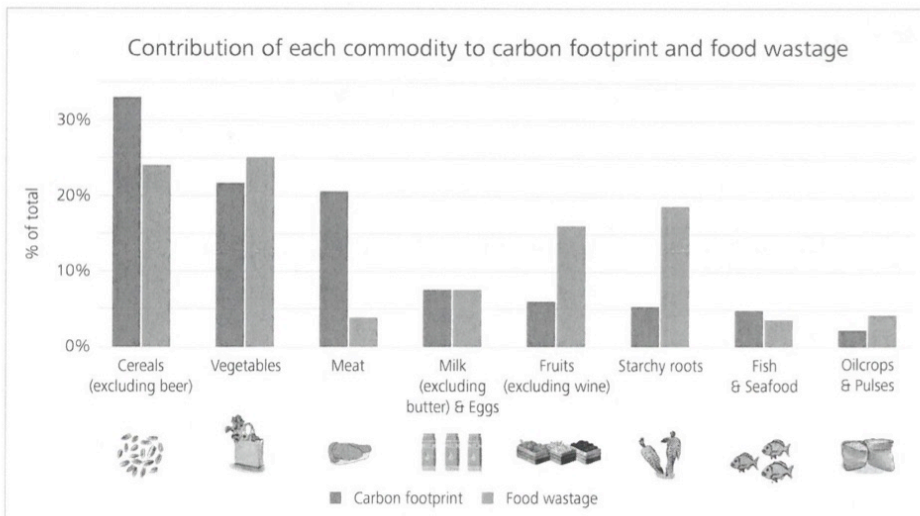
Carbon footprint intensities

The carbon footprint of a food product is the total amount of GHG emitted throughout its lifecycle, expressed in kilograms of CO₂-equivalents.

GHG emissions of the production phase (including all agricultural inputs, machinery, livestock, soils) and successive phases (such as processing, transportation, preparation of food, waste disposal) are all included in this calculation.

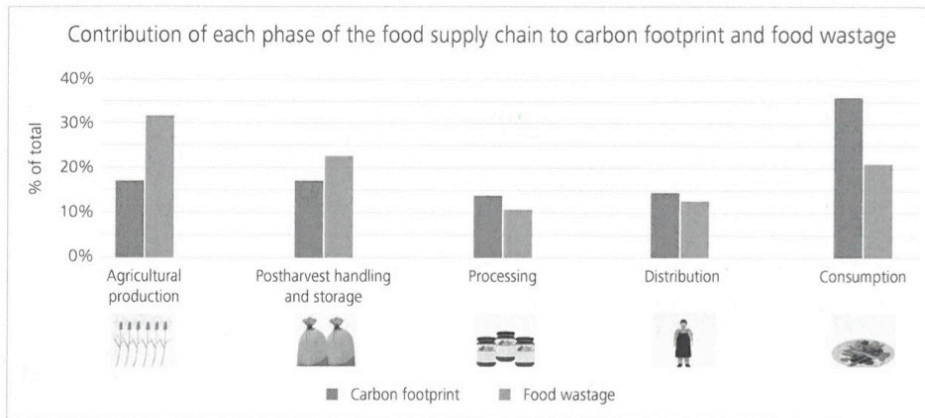
Thus, one kg of wheat, or one kg of beef, have different carbon footprints, since their life cycles are different, emitting specific types and varying amount of greenhouse gases.

Products hold different carbon intensities. For example, vegetable production in Europe is more carbon-intensive than vegetable production in Industrialized and Southeast Asia, as Europe uses more carbon-intensive means of production, such as artificially heated greenhouses. Inversely, cereal production in Asia is more carbon intensive than cereal production in Europe due to the difference in the type of cereal grown: rice on average has higher impact factors than wheat. Rice is a CH₄ emitting crop because of the decomposition of organic matter in paddy fields (1 kg of CH₄ is the equivalent of 25 kg of CO₂).



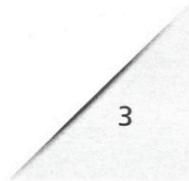
Despite meat being a relatively low contributor to global food waste in terms of volumes (less than 5% of total food waste) it has a significant impact on climate change, contributing to over 20% of the carbon footprint of total food waste (see chart above). This is because meat carbon footprint includes the emissions from producing a kilogram of meat (e.g. the methane emitted by ruminants), the emissions related to feed provision (e.g. the fertilizer used for the production of feed) and emissions from manure management. Thus, efforts to reduce GHG related to food waste should focus on major climate hotspots commodities, such as meat and cereals.

The highest carbon footprint of waste occurs at the **consumption phase** (37% of total), whereas consumption only accounts for 22% of total food waste. This is because one kilogram of food that is wasted further along the supply chain will have a higher carbon intensity than at earlier stages.



The further along the chain the food loss occurs, the more carbon intensive is the waste. For example, a single tomato spoiled at the harvesting stage will have a lower carbon footprint than tomato sauce wasted at the retail store, since the harvesting, transportation and processing accumulates additional greenhouse gases along the supply chain.

On a global average, per capita food waste footprint on climate in high income countries is more than double that of low income countries, due to wasteful food distribution and **consumption patterns** in high income countries.



Food waste reduction scenario and climate change mitigation

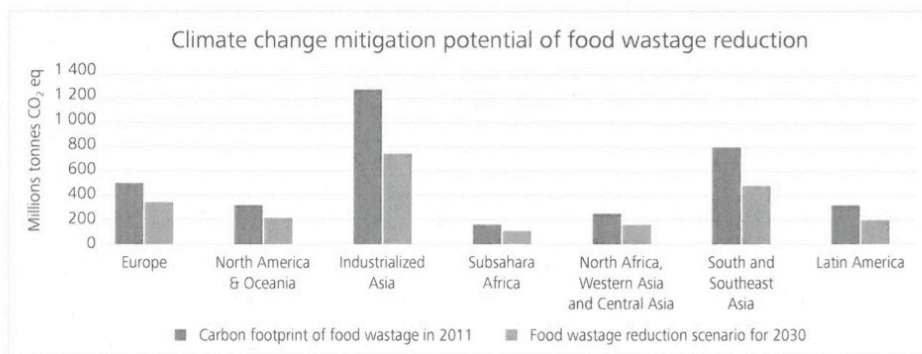
United Nations Sustainable Development Goal 12 (SDG 12) on “Ensuring sustainable consumption and production patterns” includes a specific food waste reduction target: “by 2030, to halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses”.

The SDG 12 target of 50% food waste reduction is hereby combined with assumptions on **feasible food loss reduction ratios**, for each **commodity group**, in order to calculate a possible scenario.

Assumptions for food waste reduction ratios achievable by 2030
Phases “Agricultural production” and “Processing”
<ul style="list-style-type: none"> • 5% reduction of 2011 food waste in developed countries • 15% reduction of 2011 food waste in developing countries (a larger progress margin is assumed for developing countries)
Phase “Post-harvest handling and storage”
<ul style="list-style-type: none"> • 5% reduction of 2011 of food waste in developed countries • 54% reduction of 2011 food waste in developing countries (reduction estimated to be needed to reach the average percentage of waste observed in developed countries for most commodity groups)
Phases “Distribution” and “Consumption”
<ul style="list-style-type: none"> • 50% reduction of 2011 food waste amounts in all regions

The proposed scenario would lead to a reduction of the carbon footprint of food waste by 38%, or 1.4 GtCO₂ eq per year (see chart below); this would be **equivalent to the GHG emissions of the Japanese economy**. Considering that post-harvest handling reductions are feasible in developing countries through improvements in their food systems (e.g. adopting improved technologies, better handling practices, efficient markets), **investment in reducing post-harvest losses represent an important climate mitigation strategy**.

Despite data and modelling uncertainties, the magnitude of the figures above suggest that a reduction of food losses and waste at global, regional and national levels would have a substantial positive effect on societal resources and in particular, climate change.



References

- (1) FAO, 2011. Global Food Losses and Food Waste. Extent, Causes and Prevention.
- (2) FAO, 2013. Food Waste Footprint: Impacts on Natural Resources, Summary Report.
- (3) FAO, 2014. Food Waste Footprint: Full-Cost Accounting, Final Report.
- (4) CAIT, 2015. Climate Data Explorer. World Resources Institute.
- (5) EC, JRC/PBL, 2012 Emission Database for Global Atmospheric Research, version 4.2.
- (6) IPCC, 2014 Fifth Assessment Report. Chapter 8: Transportation.



<http://www.fao.org/nr/sustainability/food-loss-and-waste>

bb144e/1/11.15

APPENDIX C

Focus Group Questions/Script

Thank you for coming, this focus group is part of the research I am conducting for my thesis.

I am writing about food waste, food surplus and food loss and that's what I would like to put forward as the main topic of conversation today, these categories.

The time frame I have in my mind is one hour (one hour and a half) for this conversation, maybe a bit more but not too long.

Since you are volunteers from Rude Food it's highly possible that you have thought about these things before, if not, that's also good because this can be a space to discuss and make up your minds, no right or wrong. I would like for you to express your opinions and share your thoughts, that's what I'm looking for so I hope you can feel comfortable and share. Also, keep in mind that it would be best for everyone to talk good for everyone to talk, if you have something longer to say that's fine but try to keep it short and leave space for everyone to talk. I am recording, but your opinions will be anonymous.

We will talk about this category of food waste, how do we understand it, how do we relate to it. How do you as Rudefoodies, as people, as eaters (because we eat). So we will start with simple, general questions and then move into deeper, more normative aspects.

- Descriptive questions (rapport). Tell me, shortly one of your personal motivations to volunteer in Rude Food.
- There is a category of food that is referred to as food waste. What do you think that means? When we say food waste, what do we mean?
- Some people might think that it's not very different to say food waste, food loss or food surplus. Do you think there is a difference? And if so, is it relevant? Does it matter how we name the phenomenon?
- Is there a more adequate way to refer to the phenomenon? How can we define it?
- What do you think are the causes of the squander of edible food?
- Depending on the focus, impacts can be viewed in different ways: they are often listed in different (broad) categories as social, economic or environmental. Which kind of impact do you think is more harmful?
- Related to environmental impact of specific products, what do you think is the type of food we should put more effort into rescuing?
- Actions to reduce food waste, or discarded food, can be either public or private. Where do you see more potential for finding solutions?
- Reduce, mitigate or eliminate? Which do you think is possible and why is it important?

APPENDIX D

Focus group with Rude Food volunteers - Transcription

The following is a transcription of the focus group discussion. The participants are identified in the text as P1, P2, P3, P4, P5, P6, P7 and P8. The interventions by the moderator (me) are marked in bold so that they can be easily identified in the text.

BEGINING OF TRANSCRIPTION

M: Let's get started so we can actually have an hour, an hour 15 minutes for the conversation, hopefully not much longer than that also because P4 has to leave so that's actually good, that we have to keep track of time. So... Thank you so much for coming! I appreciate it very much, your opinion, your thoughts are very valuable for the research that I'm doing... I'm writing my Master's thesis on food waste, food surplus and food loss and you as part of the Rude Food team are super valuable, yeah, I just really want to pick your brains about these things... So, the conversation today, the main topic I would like for it to be about these things, about these categories: food waste, food surplus, food loss, what do they mean to us; us Rudefoodies, us people, us eaters. There is no right or wrong answer, that's really important, like, we'll start with simple general questions and then go deeper into more normative aspects but I just want your thoughts, I don't need the formal definition of anything I want you to say what you think, so no right or wrong. If you haven't really made up your mind about things, all the better, let's have a discussion about it and maybe you make up your minds as we go along.

Since we are keeping track of time, if you have something that is a bit longer to say that's fine but just try to keep it shorter so that everyone actually has a chance to talk. I appreciate everyone's opinion and everyone's opinion is super valid, just keep track of time a little bit as you go along. I am recording but the opinions will be anonymous, so feel free. So we can get started! We will start with this category of food waste, how do we understand it, but first I would like for you to tell me, very, very shortly one of your personal motivations to be a volunteer in Rude Food. And you can take turns, spontaneously start talking, go in order, however you feel is best. So, personal motivations to be a volunteer in Rude Food.

P6: I'll just start. Em. I don't want to go to the supermarket and buy something when I know that there is food which is thrown out. So I'll rather take it.

P2: Yeah, I agree. For me it's a lot about the environment, too. When things are being thrown away I don't want to buy stuff so that more is produced.

P3: I think in my case it was more about studying the system, like the food distribution and consumption. So I studied food deserts and then I read some books, I'm sure you've probably read them as well, by Michael Pollan who talks a lot about food culture in the United States and how terrible it is there in terms of what type of crop is growing and why it's growing. So that was my motivation to get involved in Rude Food.

P4: Mine is also about the food and bringing awareness to food that is thrown away from our groceries and restaurants and things but it's also about being a part of the community and working for an organization for the people by the people.

P7: I agree with a lot of that but also, except for the environmental issues and stuff, it's also from an interest of **how suboptimal the food market is**, like, **how bad the industry works**. I mean, if a third is thrown away that means that we don't have to produce that third, basically, and that's fascinating how it can be that bad. So that's the economist's view...

(Smiles and quiet laughs)

P5: Yeah, I agree and I think it stands in a really stark **contrast with the overall efficiency gains** that we see all over the world particularly in terms of technology and this overall advancement everywhere, apart from food it often seems... **For me personally food culture is kind of a reflection of the health of a society**. And I feel... I've experienced this throughout my life that in both positive and negative ways that if a place had unhealthy and **wasteful food culture** that that would somehow be reflected in, sort of, the health of the people around you both in terms of their physical health but also the **social relations** and the kind of, **social capital** that people have. So engaging with that and trying to do something about **inefficiencies** but also **injustices** that are built into wasting stuff while other people are hungry, basically... Doing something with a vastly greater scheme in mind.

P1: Yea, for me it was the affected connection to **food as material** and how we as part of the materiality of things that are consumed and produced can think about it as material and act on it.

M: Super, thank you. So we as Rudefoodies work with this category of food waste. When we say this, when we say food waste, what does that mean to you? And this is what I was saying earlier that there is no right or wrong, you can if you want to go to forma definitions but more than anything what comes into your mind when we say food waste, what do you think that is referring to?

P1: Again for me it's an interesting... It offers an interesting opportunity or plot, to **blur the dichotomies** between that which we think we know of, as experts, and that which we can act upon.

P7: It can almost be like a gold mine. Like dumpster diving... Food waste becomes the opposite... Because, my first thing that I would think of is food as this really great thing, like the food we are eating right now. Uhm. And waste as something really bad. But, like dumpster diving, that's like trashon. Or the Nordic Organic Food Fair, that was like Christmas Eve.

(Laughs)

P2: Better! ...

P7: Yeah, so, **by rescuing food it's completely the opposite...** of like, **food waste**, I think it's a really bad thing but then rescuing food becomes, yeah, like Christmas Eve.

P3: To echo what the rest have been talking about I think for me **food waste is lost opportunity**, I mean, it's something it's just ridiculous how the system, how fucked up it is so... It's just **something that totally needs to change** for me, so... Yeah.

P2: Yeah, for me it's something that I would love not to exist. Like... Of course there is always going to be a little food waste but the amount of food waste we have now... And for me food waste is, like, **the food that is wasted that doesn't have to be wasted**. Like, there are some avocado peel... Mmmh, maybe you could use it for something but maybe not to eat... So that's not like food waste for me, but waste for me is what is being wasted that didn't have to be wasted.

P6: The first bell that rings in my head is the fridge of my Mom. She would always buy too much food and would always throw something. All the time. It's impossible to, sort of, help her or teach her to do better. And that drives me crazy and when I think of food waste I always think of that example and how I can change it.

P7: Buy her a smaller fridge!

(Laughs)

P6: (Laughing) Cut her electricity...

P5: Yeah I think in a similar sense... What I used to associate with food waste and still today see as being associated with food waste in the wider society is food that has some arbitrary date or that is left on a plate when you are full and, you know, you want to leave the restaurant and it just ends up being thrown away. While, now I think particularly in engaging through this project food waste for me has become more defined in terms of actually food you can't eat anymore. Because it's bad and if you would eat it you would get bad as well. So I think there are these two categories, one, like, **the label of food waste and then actual food waste**.

(Silence)

M: Cool. Thank you. So still referring to different categories. Some people say it's not so different to refer to this phenomenon as food waste, or food loss or food surplus. Do you think that it's different how we name it? And, do you think it's referring to different things and do you think it makes a difference?

Generally: Yeah, yes.

P5: Definitely. I think that we create the reality we live in through the language we speak, though the words we use. The same thing can be described in a thousand different ways using a thousand different words and the kind of words we use will frame the way we perceive that thing. Including food. We've had this discussion about food waste or food surplus... Just **the connotation that it has, positive or negative** or kind of neutral already makes a huge difference in the way you perceive the material existence of this thing, however you call it. So, yeah. Definitely, I would say.

P6: It's been a question in Rude Food also very often how do we present what we are doing because we've said that **food waste for a lot of people creates this very negative image of mouldy oranges and that's maybe not it**... So, when I read about the topic food surplus was often referred to and also for

a lot of companies who try to improve their, like CSR, they would often use surplus as a more positive word for what they are doing or not doing. It makes a big difference I think.

P2: Yeah you can kind of tell at Rude Food when you say food waste people go *ugh* (unpleasant noise/face) but if you say surplus they go *oh, yeah* (smiley/pleasant face). Like it's... what people associate with waste is bad, but that's just because people have bad associations with food waste but if you say... **Yeah, it makes a big difference what you say when people ask.**

P4: I think when we are talking about the organizations that are our partners, when you say *oh they have food surplus* - this also goes with the positive/negative thing – *oh they have food surplus* it doesn't sound as bad for them: *oh we just have some extra food*. But **if you say they have food waste, they are wasting food, then it holds them**... Well I don't know, I guess it depends on their conscience, but if... **maybe a little more accountable** and the reality of the situation that they are actually wasting food, so I think as far as that goes it can also have an impact on the organizations that are wasting or having a surplus.

P2: That's true...

P1: The terms carry or offer an interesting premise for language materiality and representation because stakeholders have a say in how... in what terms to use to represent what actions and therefore build kinships or relationships accordingly and therefore it offers an interesting premise to get empirical. When we were... Ah... Labelling ourselves... When Rude Food was labelling itself *Sweden's first food waste catering service* then it was seen...

--- Interruption P8 arrives 15 minutes late. Moderator gets up to open the door but indicates with hand signals that the conversation should keep going.

P1: Ok... We were seen as a bunch of dumpster divers... (P6 laughs). And then when we were at Malmöfestivalen was the first time I heard, like, a voice of authority come in and say *do you really need to use that word waste? Can you not use surplus?* And it was from our... You were there (points to P2) at the food inspection from Miljöförvaltningen...

P2: Ah, yeah, yeah.

P1: And she didn't say it like that... she said: *can you think about using that word?* That word. (General laughs). Because it also happened to be that the board was two sided - the English and the Swedish side - and the English side said Sweden's first food waste catering service and the other side said Sveriges första...

P7: Matsvinn...

P1: Matsvinn... Ah... And matsvinn means different from waste.

P7: Yeah, surplus, yeah... In Swedish *matavfall* is food waste and *matsvinn*... But basically it's... I think the only reason why we used food surplus in Swedish was because that's the general term, so if you open up a newspaper it's going to say *matsvinn* but that's both surplus and waste in the same category quite often.

P1 to P8: We are three questions in...

P8: Ah, ok, so shall I contribute or... Listen?

M: Yes! Yes please! So we are talking about, uhm, we started by these different categories and the last question that I just asked everyone was if it makes a difference to say food waste, food surplus or food loss when we refer to this phenomenon. How do we feel about using one term or the other. And if there is any difference.

P8: I think there is a big difference because language is the most integral part of it, how you describe something creates feelings, creates emotions, creates linked memories so the word waste versus the word surplus gets different connotations and I think the word surplus food is more positive, waste is kind of, everyone has this thing of throw it away, it's waste, it's to be discarded. Whereas, food that has been rescued is not really waste. Its just semantics at the end of it but I think it makes a difference to certain people.

P3: I think it depends if you are promoting or educating. If you are educating you can use waste, like, don't waste, waste is a bad thing. But if you are promoting something, no one wants to internalize waste, right? No one wants to eat it so I think that's where you have to be careful with it. I think.

P1: And if you start to go deep into who is using which term, then at least amongst the policy makers they have very definite ideas of what to call waste, the thing that... Or what categories of food to term waste, loss and surplus and they have their own interests in building those silos... What is interesting is that in building these terms silos are created and then that sort of trickles down into action, so what can be seen as an active resistance is in blurring these categories because that is not the only one I, the guys, the policy makes who create these categories... Theirs is only one I, the so-called expert I. But it need not be the way that things are actually now... Because all of these actions are in a plane of uncertainty no matter how language is used to create a certain sense of sureness. And for me a way to deal with this uncertainty is through, sort of, collective action. Coming together and working with it, deliberating, not only through language but also through action.

M: Yes, I want to get to the point of possible solutions; we will go deeper into that. But we are... To sum up, we are agreeing that it does make a difference how we refer to it. And some of you already mentioned how it would be best. You hinted it already, but just if you could say it again, what is our preferred term as activists, as eaters concerned with this phenomenon.

P6: For me very clearly food waste because it has a very strong connotation, it catches attention and you normally always have the time for two more added sentences to explain what we actually refer to. So, food that would otherwise go to waste or whatever, in whatever context, but food waste is for sure the best term in my eyes.

P4: I agree with P6. Because I think it just... You know, like you said (pointing to P3) you don't want to internalize the waste in the food but it brings the emotion and it's going to catch their attention more than surplus and I think it also brings awareness to the actual waste more than the surplus because I think the surplus glosses over the whole waste part of it.

P7: This is very interesting because actually, I mean... The Swedish term matsvinn: svinn means loss but it refers to unnecessary loss. So in Swedish surplus food would be överskottmat so we are actually... I hadn't thought of this before, but like, in Swedish we are using two different waste terms whereas in English we would divide into waste or a surplus production. Uhm... I hadn't thought of it...

P4: So it's more defined for it really, I guess...

P7: Yeah, no but I was just going to say no, that **I would prefer surplus food**. And then I realized that when I speak Swedish I am on the waste side of things only I do not use the waste word I use the unnecessary waste word. So, yes I will agree with you.

(Smiles all around)

P8: I think I agree with what P6 said and I think what P2 said about whether you are educating or bringing awareness I think waste brings the awareness because it creates a reaction, like, I am wasting. Am I a waster? But the surplus is part of the explanation and that comes after someone's attention has been grabbed, I think, so if it's to get someone's attention and hopefully get them to understand exactly but it requires more sentences, if it's just waste on it's own it's not... It's too broad. But I think it's a good way to get someone's attention and then get into the surplus that would have been wasted.

P2: Yeah, I agree. **I like using food waste because I want people to hear it**. Yes it's food waste! And to see it and hear just says that they need to understand that food is being wasted. You sugar it, kind of, if you say surplus. Yeah, I don't know. **I want people to be aware**.

P7: But it's interesting because we have never actually used... Some other initiatives in other places in Europe use the word rescued, so it's rescued food. But we never talk about it as such... I mean, mmh you are the food rescue team (pointing to P5)...

P6: But we have said räddade mat...

P7: Yep, yes... (clears throat) oh well...

P2: Yeah, but when you say räddade mat to people that are buying the food they are like: *saved from what?* (General laughs and agreement).

P4: Yeah, it's still an explanation coming behind it whether it's rescued or waste.

P2: ... A bad owner or what? (General laughs).

P5: I think the importance of the word waste also points to the wider aspect of scarcity. That this is a phenomenon that is connected to some kind of problem. If there was an absolute abundance of food and there wasn't actually any issue around it then maybe it wouldn't really matter anyways but I think part of the reason why a lot of us, or at least I engage in it is because while **there is an abundance in some places, at least enough to have surplus, it doesn't exist elsewhere** and so doing something about the abundance or the wastefulness in one place can also draw attention to the issue of there not being enough in a different place. I think that **the word waste in itself is a**

problematization, it shows that there is an issue whereas surplus... A surplus is something good. If you have a surplus at the end of the month of your money that's a good thing. And in a way, of course, you can frame it as a good thing but if you only frame it that way then it's easy to forget that we actually have to do this because something else is going wrong. And not the other way around.

P1: There are two notions that play here. That of adapting earth and earth as... Not limitless, where the resources are limited. And approaches to these are... Which notion one stands with it also tells on one's sort of, actions and beliefs and use of language and I'd like to think that at least consciously or unconsciously **us within Rude Food fall on the resources are limited faction**. And when we do that we cannot but take this activist stance. Because that's how... It's not only us taking the activist stance but also, sort of, policy makers who need to work with this idea of ok, resources are limited, how do we make the most of what we have? Which is not to say that unaware or unconscious consumers, or people who ask rescued from what, are on the other side of the earth as an adapting body. But... Allowing for these two notions to creep into consciousness helps us to, sort of, blur distinctions of rigid structures... And when I say rigid structures I mean the way we think about the environment, the way we think about economy, and the way we think... Even the idea of the collective, all comes into the blur, so to say, and that is a helpful mobilization.

(5 seconds of silence)

M: So we are kind of agreeing that the food waste category is more adequate because its more provocative (general nods) because we are pointing to something that is wrong that people need to be aware of. Now – and this is a huge question but just point to what first comes up to mind or what you think it's most important – what do you think are the causes of this phenomenon of food waste existing in the amount that it exists... Yeah, what do you think is the cause of it?

P6: I think it's because we live in a privileged society and in a very commercial lifestyle where the only thing that counts it's economic benefit and with economic benefit you try to, em, yeah, sort of earn money and what turns out to earn money best is **to waste food because that is how they earn most money**. If it wouldn't be the case they wouldn't waste so much food, or we wouldn't waste so much food. But it's for sure wealth. Like, the largest reason of all of it must be wealth because, if we would not have had so much money in our pockets, at home, we wouldn't throw out stuff in our fridge, we wouldn't buy too much, we wouldn't do this and that because we could just not afford it, because we would just simply die of not having enough food. And in earlier times we didn't have so much food waste. **And in earlier times no one cared about how the potato looked like because the potato was a potato and it fed and this is the only reason why we have a relationship with the potato, it feeds us**. And nowadays people don't understand this anymore and, but, I think the overall reason in wealth.

M: And when you say wealth you mean money...

P6: I mean money. And if you look into countries where the GDP is much much much much lower, even some countries in Africa for example, I think that you can see that there is also much much much less food waste. But that's just what I assume, I don't know if it's factual.

M: There are studies that say that (smiles).

P7: I would like to blame a lot of it on supermarkets. I mean, this is coming from the same way of being sceptical to the capitalist system within the food industry... When you walk into the store you always walk into the fresh fruits and bread, so they are setting the stage. So the claim is that me as I customer I don't want the bad apple or the banana with the brown spots but they are using the fruits in order to set the stage for like: our store is fresh and clean, buy stuff. So, that's part of it. So those two categories are fresh produce and they are at the beginning and that's what's setting the stage and that's also the huge losses, that's where they throw the most things away. But then on top of that they keep growing bigger and bigger and bigger. And I don't think it's us as consumers that requires to choose from ten different kinds or varieties of potatoes, I mean, I might go between a firm one and a more mealy one but I don't need ten. Just judging Swedish food stores: in the sixties it used be 4,000 items, I think, and the big ones now like ICA Maxi I think its like 40,000 items. And that creates food loss. It's even when they introduce, like, organic milk. Then you have two milk types. Then you will have food loss in both categories. So the more different kinds of categories of milk you have... I'm not saying that organic is bad, but it will be more. And finally, why the food store is the culprit: it's all about the fight for shelve space in there. Being a small producer of food you can't even get in there because the food store and the big food industry are in cahoots with each other. So just these really weird, like, try this new biscuit with the taste of fermented fish and banana. And people will buy it, no one will like it but people will buy it. But it's not actually about that biscuit. It's about the brand taking up huge space because: look at our new biscuit! And people will buy it and throw it away, and they know that from the start. But instead of buying advertisement they are product developing but not because the product will be there but because they need the shelve space in order for me to see their brand to buy my cookies from them. So these are some ways that I look at it from the industry perspective... And also the two-for-one thing. Buy in bulk, that creates food waste in households... And going down, in primary production if a potato is too small or too big the distributor won't take it because they say that the food store don't want it because you are not going to buy it because you want all your potatoes to be the same size when you boil them so that they are all ready at the same time. I'm not sure that's the case. But that's what the distributor tells the primary producer. Blaming you.

P6: Just to quickly add up on this. When you dumpster dive its also a lot niche products you can find, I have the feeling, like these very exotic fruits or maybe chilli boxes or whatever and this is because, I think that the supermarkets wants to have everything in the store even though they won't sell all of that. But if the consumer wants to go shopping into one store and if he can't find it in that store then he will go to the other store who has everything and will only shop in that store. So there is a correlation. But I wouldn't agree with P7 that it's the industry I still think it's in general wealth. It comes back to the individual's money and if you have money it correlates with your food waste.

P1: If you look at the reports from the Swedish Environmental Protection Agency that did a two or three year both at the farming, industry, retail and household level they say that it's households that produce the highest, that are the culprits. And it's an interesting thing because on the one hand it asks about causality but on the other hand how does one pin point causality? Because the word that is out there is coming from the Environmental Protection Agency and if you read their reports they say oh but these figures are working in the American context so we shall, because we see Sweden also as a wealthy nation we shall say it's the same for us, this kind of correlation making is accepted as fact. And, ok, that's how numbers appear. And ok, fine, if households are the root place, where it takes place, its not necessarily pinpointing causality. Therefore these numbers are not helpful. Therefore these reports are not helpful in that sense. And so then how does one go about arriving at causality? And also to ask oneself, so what if we do arrive at the correct point of causality, how does

that then help take action? It would be the next, sort of, point. So for me what has been helpful is to think about, sort of, communities of resilience versus, sort of, attention economy. So, us as participants in an attention economy and how does then one build communities of resilience by building, by making... Used coffee ground brownies and putting it into the mainstream and saying: that's a brownie, thank you. Or, old banana ice cream and saying: this is also an ice cream, thank you. So this kind of form shifting; moving things from the edge, marginalized, into so-called mainstream... Did I move away to the next section?

M: Yeah, a little bit. I want to finish by having a conversation about actions... But, when you move away to talking about actions are you referring to the causes as a social phenomenon?

P1: Yeah, and therefore the reports are not helpful. What has been helpful is seeing things like what your mother does with her fridge (pointing to P6) looking into the dustbins... That's why I say materiality and everyday action, so this sort of ethnographic outlook is, I think, more helpful in reading the situation. Therefore the dumpster diving movement is interesting not as a movement but in terms of how P6 describes, what actually shows up in the dumpsters because that is a better indicator of what is being wasted rather than kilos.

P4: And jumping on what you both have said, I think we have constructed this idea about how our food should look, and how our food should be shaped, and you know, the aesthetics of it and then if you walked into someone's house and they had this fruit that was all bruised and stuff and if you were in, say, a big mansion, it might be seen as a status too. You see every day in food in restaurants; the restaurants don't serve tailed fish so they throw it away. It's a status symbol; it's part of this class. Somehow we have constructed what food should look like and should be and we are internalizing it and not defining ourselves by our hearts and our souls and our community and our people but by materialistic things... And then also coming back to it as food as part of that material to define ourselves as... I don't want to say better because I don't believe that but what they think might be a higher class.

P2: Yeah, I totally agree. I think it's a lot about the mind-set of people that we kind of see wasting food as a status thing... An indicator that you have money: I'll just throw it away because I can buy a new one...

P4: It's not something we are proud of though, that's the weird thing...

P2: Yeah! Exactly, exactly. But I feel that some people are...

P4: Yeah!

P2: And I feel that mind-set has to change in order for the supermarket to change, in order for things to change.

P4: And it trickles down to other countries, you come to countries that aren't as far as the economic status is, developing, whatever you want to call it. Even sometimes they are like: no, no, no have this one instead, it looks better. And you are thinking it's food anyways! I just want to eat it, you know? It doesn't matter. But it's trickling down from the West into other countries and that's even worse.

P2: Yeah, that's why I love what Rude Food is doing because we are showing people food waste again. And we are showing that it is food: it's not good food, it's not bad food, it's food. You don't have to label food as long as it's not going to make you sick, it's food.

P8: I think it's a combination of different factors but I would point my finger at the capitalist mind-set that created this forced obsolescence mind-set of *there is a new one, throw it away*. That whole thing of away... Where is away? That awareness of the consumer of where things have come from and where they go to has been narrowed to just buy something new, don't worry about where food comes from, don't worry about that. It's here in the shop. Just buy it, eat it, if you don't like it throw it away. That concept of away is part of the bigger problem. I remember when my son learned that köttbullar comes from actual animals. That awareness creates an impact in him and I think that's the kind of awareness that needs to be brought and that's what we are trying to do. It came from somewhere, it spends a lot of time travelling, a lot of resources, a lot of people's energy, a lot of pollution, all of this stuff to get here and you take one bite of it and you throw it away... That whole process... People aren't aware and that awareness is being dumbed down by the need for increased profits which makes the supermarket set up all fresh and it must look like this and then creating that perception because you are being told... I was amazed when I first moved here from South Africa when I walked into the supermarkets the tomatoes and everything they just look plastic, they looked unreal...

P7: They taste plastic to me! (Laughs all around).

P2: (Laughing) Don't start with the tomatoes again!

P8: It's just unreal how neat and clean everything was. I mean, obviously all the best fruits and vegetables are being exported from there so the tomatoes had bruises and all of that. So when I came into the supermarket here, wow, it looked like a picture. It looked like those plastic set-ups where everything is in its place and when you start to see that all the time it becomes what you expect. And that awareness can be different. There is this analogy I read somewhere about kids who speak two different languages, how they are more open to other things because they know that a word for cow can be many things. Many things can mean the same thing. And given the different perspective, many different foods are food but not just the food that you buy and it must look like this, my son and I have had battles over bananas but now he eats bananas if he sees a bruise on the side he knows that it's still ok possibly on the inside, the bruise might be superficial but it's about having those conversations and you can't have those conversations if no one is doing what we are trying to do by bringing that awareness and say, ok, it comes here, this is where it goes, what is your role in this? And your pickiness adds to it, you are a waster by picking this way.

P3: I just want to add, I think that the thing that allows this lack of awareness and the focus on aesthetics in food has a lot to do with the relatively cheap costs of producing food, which has, you know, a number of factors. There is automation, monopolization, subsidization, all these things allows incredibly cheap productions of cash crops which then are pushed on markets. So corn, for example, is used to produce sugar which is used in everything, all these niche products that you were talking about. So I think you can't forget to look at that side of it as well, the production side, and the fact that food which is the most valuable thing we have is actually incredibly cheap. Or very, very cheap, and it should be. It should be free, really. And there is this weird thing, we place such a low value on it that we are throwing it away, it's just so weird that way...

P6: I want to add to what P8 said. We have a saying in German that says people don't see the forest anymore because of all of the trees. And I'm going to make a very strong comparison, so we have growing right wing and racism in Europe and I always say if everyone would go, have a trip in school and go to a concentration camp I don't think we would have any problem of racism anymore in Europe and I've been there two years ago and it's a very crazy experience and I want to relate it to, everyone should also do a trip to a farm and to a slaughterhouse in school because people don't understand where our food comes from anymore and if they would understand they would know how much energy, time, money, resources go into an apple, a strawberry, I mean there is hundreds of litres of water going into a kilo of strawberries and if you would know how its produced you would not waste it that easy anymore... And it's a quite an easy fix to do a trip with school.

P5: Yeah, and the other side of it is everything that happens after you throw it away, to go to a dump site to see the amounts of waste and both on a local but also on a global level that it is so invisible for us. You just throw it away and you don't really think about it and then, you know, somebody picks it up or not, whatever, it's just gone all of the sudden; you don't really care about it and then it ends up somewhere on a dump. I think it's very invisible both as a global phenomenon but also locally where this whole thing ends up. I was last year for the first time at the Vasyd dump site and it's crazy! It's so big, I had no idea! I never thought about it before, where all the waste is ending up and the smell that's going on and there is an entire new biosphere that has been created around it. All kinds of animals living there, wow, you have no idea about it! I was shocked, I don't know... So I think it's also the invisibility not only of the production process but also what happens afterwards. But otherwise I agree, I think it's a mind-set thing, you said the capitalist logic (points to P8) and I agree with that. On the one hand the commodification of everything, that we quantify everything, we put a price tag on everything and in that way you can compare this and that and you say, well, throwing this away is cheaper than doing that and so logically I throw this away. Whether this actually makes sense or not is a completely different question. And what also comes with it is that we don't have time anymore, because there is always something else that is more profitable or in general lifestyles are getting more and more fast paced so there is very little time for thought around food in general, the way we make food, produce it but also prepare it, eat it, throw it away and so on. Which is also engrained in the speed that comes with a very... I don't want to call it capitalist mind-set but with this commodification of every day life. So I think it's the mind-set but also the invisibility.

M: Super. We are really good on time and I have just a couple more questions... So I want to talk about impacts, first and then finish by talking about actions, which is what we do in Rude Food. Regarding impacts, when we talk about this phenomenon and depending on the focus that we take, depending on our perspective we can point to different impacts. Because impacts can be said as: the social impacts of food waste, the economic impacts, the environmental impacts. Which do you think is the most harmful type of impact that this phenomenon has?

P6: Of food waste?

M: (Nods).

P5: I find it really hard to answer this question because all the different aspects are so intertwined that an environmental aspect has to have a social aspect, an impact somehow. I wouldn't say they are exactly the same but in practice they are often the same that in areas that are most hit by

environmental degradation are usually the most gentrified areas... I find it hard to answer that question.

P1: I would think one case would be that of food as a cultural signifier being arrested by industry via harmful impact that is not seen as a site for public involvement and a site for public intervention as part of the everyday act, rather it is why don't the policy makers do something about this, or you dumpster divers why are you doing it this way why can't they do it that way. So it's seen as something outside of everyday doability. I think that could be seen as one harmful way that food waste is being thought about.

P6: If we say we have like 30% of food waste in Western societies... If we think about cutting this 30%, lets say we cut this, it doesn't mean that we have to stop producing that 30% but we can also redistribute it and by redistribution it means that we can bring it to places where this food is needed but it can also be paid for and that could also lower the price in general because if you throw the 30% the calculation of what you sell it is already in that you throw 30% so a farmer sells a kilo of potatoes and he know that 30 grams he will have to throw. So the very easy impact is I think is that it would lower the prices on food and it would make it more accessible. So it's all together: environmental, social. And this is the easy calculation; it's how I would explain it to children, it sort of sums all of the aspects together.

P3: I'm not sure that cheaper food is a solution though. Again, it kind of cheapens the value of food as well. I think it's a very tricky balance you have to find... I think we are in a grey area right now because I think the cheaper food gets the most likely that people are going to throw it away. In a country of abundance. So I think you have to find that middle ground somewhere, it's really difficult...

P4: But then there is this idea that the more expensive the food is, the better it is. It's the status thing again, you know? It's like, when you have a product whether it be food or yoga someone's like, oh we'll make it higher because then they know it's of value. That's a really silly notion that we've constructed. I think that mind-set is coming into what you are saying (pointing to P3) right? I think that has to be changed because that's not true.

P3: Yeah, that's what I mean I think we are in a grey area that needs to be solved.

P8: The harmful impact... The lack of awareness creates a further disconnect between ourselves and the system that we are a part of: the nature. Because when you don't see the energy that you are taking in and the energy that you are giving out as one flow, when you disconnect the being, *I have no contribution, my waste doesn't do anything for the environment*. It creates the opportunity for corporations and this system, this virtual system that is not objective. Food is objective reality; everything else that is driving us is virtual. We are giving more and more power to the virtual and disconnecting ourselves from both. And I think this not being able to see the chain and work with it and say, well it's not up to the GMO companies to create seedless fruits or to create fruits that look perfect, it's up to us to decide what we want and what is good for us. And our consumption, throwing away creates the need for pesticides and all of these things that create more food so that we can keep up with this self-fulfilling prophecy. That's where the harm is coming, that we are disconnecting and we are allowing ourselves to give our power and our energy away which is also going to make us slaves to these corporations. They are brainwashing us into this thought pattern and we are accepting it and we are teaching our kids and it's just perpetuating. That's the biggest harm that I see, the lack of awareness.

P2: I agree, it creates this world where we are **treating food disrespectfully** and we are creating this world where people are just buying and buying and buying and it's a kind of harmful world.

P4: It's environmental on that level and then also **the social part comes in that we are not interacting with each other over our social, our community over food. We are not growing it, we are not trading it, we are not cooking together and so both the environmental and social are seen in both those aspects. Our relationships are based on economy and money now, which is not proving to be great for our communities.**

M: Ok, so... On that same note about communities and things that we can do. The actions to reduce food waste can be framed very broadly as public or private; this is the way that they are referred to. Where do you see more potential for solutions?

P2: **I think maybe you have to start with the private. With people, with their mind-set to just change and see things differently and then I think that's what's going to change the supermarkets, if we ask for other things.**

P5: I think the market in general reflects very much what people are demanding at least as things are right now. When we see an injustice happening, oh an iPhone is produced by 5 year olds that are being paid 2 cents or what not, then we tend to demand justice, as if we weren't a part of it. With the economy it's a lot like that. You have to stop contributing in the sense that you don't buy these kinds of products anymore and get vocal about it. With politics it works in a very similar way, a politician is nothing else than a product and the party is the producer, then they have their commercials and what not and you vote for them it's the same thing as buying the product and choosing it in a market. So they are a reflection of what people want, the kind of sentiments that are popular in the population, you see that with the right wing parties now so if people get right wing sentiments then all of the sudden parties react to it and so on. **So I think that both politics and the economy is a reflection of individuals, of people, so I think it has to start in the smallest unit of the private with everybody in themselves changing something yourself, with yourself rather than demanding it from somebody else either private or public, no matter if it's corporations or politicians.**

P6: When MTV stopped showing music videos and the audience would have stopped watching MTV I'm sure MTV would have put music videos back on. And I think it's as simple as that. We have the alternatives and as a private individual I am also part of the public so we have the choice, we know that we can go to Mossagården and come shop there and they don't throw out any potato, they sell everything because they know that the customer appreciates it and Mossagården know that they don't want to throw a potato which is ugly, in what sense you can call a potato ugly? It has no sexual meaning! (General laughs) So I think that private is the public and it's just **a matter of awareness and active choice.**

P7: **The consumer is lazy and an idiot. (General laughs)** no, but... I come from a wealthy community in Sweden that is about one meter over sea level and every second house has an SUV. And these are people with climate anxiety and they shop organic and they are recycling everything and then they go to Thailand twice a year. And they drive an SUV even though they are going to be the first ones who get flooded by climate change. So, the consumer is lazy and stupid. Lazy in the sense, like, going to Mossagården or doing research of what they are buying isn't really happening and they are stupid as to... Yeah, do recycling, that's going to help the climate compared to buying a car that takes twice the

amount of gas for the same speed. So they think they are doing good, but they are not. So I would go, the first solution is a public one and it's raising the waste management cost for food stores up to what it would actually cost, so they are paying somewhere around 8 kronor a kilo now, and for a store that maybe is turning over a million a day, that's nothing... The students who did a survey in food stores in Malmö a couple of months ago they were told, no that costs too much in labour so we throw it away, so they do not donate because it costs too much... In order for them to start selling the perfect tomatoes and the bruised ones, when that happens that's when the cost of throwing it away starts to become what it actually costs to produce that food. That would be the first thing... It's like the market solution to the French law, instead of banning it you are just making it less costly to sort it and give it away than throwing it away.

P8: I think it can't be public and private because to a large extent private is run by individuals, public is made up of individuals and it has to start at the individual level and I think we are getting so used to all the isms: racism, sexism all these isms that rule us come from us pointing fingers at someone else for problems that we are creating or are part of individually. There is a saying: you point at someone that you think is pointing back at you. When a racist person is blaming other people for issues they are not empathetic to their involvement at the whole thing, its external. With everything, its always external: the government must do this, the companies must do its all external because of the lack of awareness internally, when you have awareness and you put yourself into the system then you become conscious, and that's why the consumer is stupid because they are not conscious of their impact, they are not conscious of their role that if I do this and we justify it then we get these friends and family and whoever and the system around us to justify us, the status-quo will continue because everyone is doing it and this is the way to do it. And if I break out of it someone might say something, or I might feel out of place. If I eat this food, if you see me reaching for the apple that is bruised they might think that I'm some vagabond. All these fears and things that go on that aren't real. Because we are externalizing our thought, outsourcing our thought to other people, and they say: this is what it must look like, ok, I'll buy into it. There is no consciousness of your individual role in the whole thing. And I think that's where its public the public in the individual level is awareness, becomes pressure on the individuals who run the legal entities that demand profits that create the system. So I think... Individual... Public... Impact.

P1: It is problematic to have this dichotomy of the public and the private. Simply because there are set in opposition to one another. And that is very problematic, both for defining status-quo and for action to take place because one then cannot think out of the totalizing imaginaries that these oppositionalities create. So I wonder if it's possible to change the figuration or to restructure it.

M: Ok. Last question! When we talk about possible actions and possible solutions there is usually three things that are said about food waste you can reduce it, mitigate it or eliminate it. Which do you think is possible?

P6: I don't know the second word. What is mitigate?

M: Mitigate is like... Sort of putting cushions on it to make the impacts less...

P3: Yeah, it's just lowering the impact.

P6: Ok.

M: So, reducing food waste, mitigating food waste or eliminating food waste, which do you think is possible?

P6: Reducing.

P5: Yeah.

P2: Yeah.

P3: I mean, it's impossible to eliminate all food waste, right? Pretty much...

P4: Unless you have chickens and horses.

P3: Mmmh, that's true... It depends on what you are eating as well...

P2: I think it's possible but to do it in this world... Very hard.

P4: I think that's the point. Industry and the economy the way it is, it's probably not going to be eliminated. I think you need a different economic paradigm...

P3: I just mean it sort of in the philosophical sense, because there is food waste here, no one is going to eat these crumbs probably, right? I just mean using the word *eliminate food waste*, you need to be careful with that because there is always going to be something that is thrown out.

P7: There is not going to be a P3 running after people...

(Loud general laughs)

P2: Yeah, is it still wasted if it goes to bugs? Or chickens...

P4: No! I don't think so!

P2: ... or biofuel from it? Is it wasted then?

P5: Uuuh, define waste.

P7: There is the waste pyramid. If you think of a pyramid that is upside down and the further up you are, the better energy wise going into production of food. So the best thing you can do is to reduce or eliminate. But let's just say that we have food waste, the best thing to do from research perspective is to reduce. The next best thing, when it comes to food, is to redistribute it to people and the one after that is making it feed for animals and below that you'll have biogas and below that you'll have burn it to make energy for heat and disposal is the worst thing you can do. And its big on top because it good and its small down there because its bad. So, you want to reduce. What Rude Food is doing there is not as efficient as if there was no food waste to begin with because we use energy when we transport. And giving it to insects, so we can feed insects to chickens, that's even less efficient. So it's better to reduce than to redistribute.

P5: That's mitigation now?

P7: No, no. This is a different thing. It's not as good to give to animals as to reduce. From a research perspective.

P5: Right, but the food waste already exists at the point that you are talking about.

P7: Yeah, exactly.

P5: In that sense, or am I getting this wrong? I would say that everything you just said is mitigation. If you deal with it in a way that it has the least harmful impact or that you still make the best out of it

P7: Yeah, ok. You are right.

P5: I think that reducing would be, for example, a restaurant saying you pay a ten euro deposit on your plate, if there is waste on your plate, you don't get your deposit back. So people don't waste it in the first place. That would be a way to reduce. That follows that there is a larger tax on waste or whatever. Basically incentivizing it through the system as we have it now. Because everything depends on money now making it less profitable to waste. Or making it more expensive to waste. Creating the incentive that they don't waste in the first place. I agree with P6 I would also say reduce. Also in order to be taken seriously. I see food waste as one of the topics of what we call the left and I think one of the problems of the left is that it's often talking too big over their heads, too utopian, and not being taken seriously by the people who are actually in decision making positions. So, I think also we are back to the whole wording of things and semantics, its very important to frame it the right way and I think reducing needs to be the first target. Even though we might have in the back of our head that we want to eliminate it.

P8: I'll say it's a chain. Reduce, maintain or mitigate and then work towards eliminating as much as we can. So reduce would be the first intervention.

END OF TRANSCRIPTION

After a couple of seconds of silence the meeting was closed by the moderator with a heartfelt thank you to all the participants, who stuck around for another couple more minutes after the recording device was turned off.