# Taste or Waste

*An Analysis of Barriers to Reducing Household Food Waste among Young Adults in Fredrikstad, Norway*

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# Abstract

This thesis sets out to investigate the factors that challenge a reduction of food waste within households of young adults in Norway. Food wastage is one of the biggest challenges to a sustainable food system, with massive implications for the environment, food security and economy. In Norway, national mappings reveal that young adults are the least concerned about food waste, and have also reduced their levels of food waste less than other age groups. By examining the factors challenging a reduction of household food waste, this thesis seeks to bring about an understanding of the structures and motivations driving food waste practices and perceptions within this group of consumers. The following question is posed to guide this study, supported by two sub-questions:

*What are the barriers to reducing household food waste among young adults?*

i. How do young adults perceive food waste and the argumentation used to reduce it?

ii. What are the structures driving food waste perceptions and practices among young adults?

The data for this study was collected through a qualitative research approach including a combination of conversations and semi-structured interviews, participant observation and self-reporting of food waste related practices in 20 households of families, couples and singles between 20 – 40 years of age in Fredrikstad, Norway. Findings are analyzed and discussed within the framework of modernity, social practice and cultural meanings. The barriers to reduce food waste among these consumers are connected to structural and contextual elements, knowledge and alienation, control mechanisms, modern expectations, and cultural meanings of food. Important constraints for food waste reduction within this group proved to be co-existing mentalities, a need for order, as well as deficient recognition of food waste as a conscious consumer effort and structures facilitating the habit of overconsumption. These constraints diminish the sense of consumer responsibility, leading to prioritizing of other close and distant concerns.

# Acknowledgements

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Elisabeth Riise Jenssen

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# List of Abbreviations

EU = European Union

FAO = The Food and Agricultural Organization of the United Nations

FIVH = Framtiden i våre hender (The Future in our Hands)

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

FW = Food waste

IFAD = The International Fund for Agricultural Development

IME = The Institution of Mechanical Engineers

KN = Kirkens Nødhjelp (Norwegian Church Aid)

MoU = Memorandum of Understanding

NGO = Non-governmental organization

NOK = Norwegian Kroner

NORAD = Norwegian Agency for Development Cooperation

NRK = Norsk Rikskringkasting (Norwegian Broadcasting)

NSD = Norwegian Social Science Data Collection Services

SP = Senterpartiet (The Centre Party)

SSB = Statistisk Sentralbyrå (Statistics Norway)

SUM = The Center for Development and the Environment

UN = The United Nations

UNEP = The United Nations Environment Programme

USD = US Dollars

VG = Verdens Gang

WFP = The World Food Programme

WHO = The World Health Organization

# 1. Introduction

## The Global Food Scandal

The world produces about four billion tons of food every year (Institution of Mechanical Engineers 2013: 2). Some estimates indicate that this is enough to feed 12 billion people (Framtiden i våre hender 2013). However, approximately one third of all food for human consumption produced globally, equaling roughly 1.3 billion tons of food, is lost or wasted each year (The Food and Agriculture Organization of the United Nations 2011a: 5). The reasons why so much food ends up in dumps rather than in people's stomachs vary between different parts of the world. The FAO (2013: 9) distinguishes between categories of food *loss* and *waste*, which combined is referred to as *food wastage.* In developing countries, *loss* of food is the main challenge. Food loss is defined by the FAO (2014a: 22) as "a decrease, at all stages of the food chain prior to the consumer level, in mass, of food that was originally intended for human consumption, regardless of the cause". Such causes are mainly the lack of financial, managerial and technical mechanisms for harvesting, storing and transporting food in poor societies (United Nations Environment Programme 2009).

When countries develop economically, the food wastage moves up the food chain (IME 2013: 2). Thus, in middle- and high-income countries, *waste* of food is the dominating problem. Food waste refers to "food appropriate for human consumption being discarded or left to spoil at consumer level, regardless of the cause" (FAO 2014a: 22). Altogether, consumers in rich countries waste close to 222 million tons of food annually, accounting for 30 - 50 % of all the food bought in these parts of the world (IME 2013: 2). According to the FAO (2014b), the direct economic cost of food wastage is approximately 750 billion USD each year. However, if all the economic, environmental and social costs were included, this amount would reach approximately 2.6 trillion USD (FAO 2014b). These levels of food wastage and their consequences for the environment, economy and global food security has among others been brought to

the public attention by food waste activist Tristam Stuart (2009), calling it the "the global food scandal".

## The Case of Young Norwegian Consumers

In Norway, approximately 361 000 tons of edible food, in total worth approximately 18 billion NOK[1] was wasted in 2013 (ForMat 2013b). This was found in the national mapping of the overall levels of food waste in Norway [2] between 2009 and 2013, which was presented in November 2013. In the Norwegian context, food waste is defined as "usable food that would or could have been eaten, but that due to various reasons are removed from the value chain"[3] (Hanssen and Møller 2013: 7). Excluded from these numbers are composted waste, food waste considered inedible (like peelings of fruit and potatoes), food waste given to animals and food washed down the drain (Hanssen and Møller 2013). The abovementioned report showed that there had been reductions within some categories and an increase within others, resulting in no significant change of the total amount of food waste (Hanssen and Møller 2013). An important reason for this persistence of food waste levels lies at the consumer level. Consumers are responsible for 70 % of the Norwegian food waste and every Norwegian throws away an average of 25 % of the food he or she buys (ForMat 2013a). This equals 46.3 kilos of food per person annually (Hanssen et al. 2013: 2). Moreover, a study by Siemens Home Appliances in 2013 showed that 22 % of Norwegians said they throw away food four to six times per week, only outdone by one percent by Swedish consumers, who waste the most among the Nordic countries[4] (Siemens 2013). The same study shows that the percentage of Norwegians who claim they feel guilty about wasting food is 67.5 %, the lowest of all the Nordic countries in the study (Siemens 2013).

[1] Approximately 2160 Euros. Currency of 8,39 (Nordea 2014)

[2] The primary sector and institutional households have not been a part of the ForMat mappings.

[3] Own translation of the Norwegian definition of "matsvinn": Matsvinn er nyttbar mat som skulle eller kunne ha vært spist, men som av ulike årsaker fjernes fra matens verdikjede.

[4] Iceland was not a part of the study.

A significant finding in the national food waste mapping was that consciousness about the problems of food waste, as well as actual food waste levels, seems to vary according to age (Hanssen and Møller 2013). People over the age of 40 most often stated to have become more conscious about the problem and said they had reduced their food waste. Families with small children, on the other hand, had the highest levels of food waste, shown both from survey answers and sample analysis of actual waste levels (Hanssen and Møller 2013). Overall, younger people had gained the least knowledge and concern of the problem, and also threw away the most, according to their own statements (Hanssen and Møller 2013). Regardless of household composition, young age was the key factor for higher levels of waste and lower levels of consciousness overall.

## Research Question

In order to attain a greater understanding of food waste perceptions and practices among this group of consumers, the main research question for this thesis is the following:

*What are the barriers to reducing household food waste among young adults*[5]?

To guide the research process, my main question is supported by two sub-questions:

i. How do young adults perceive food waste and the argumentation used to reduce it?

ii. What are the structures driving food waste perceptions and practices among young adults?

## Rationale

The impact of the total amounts of food waste for food security, economics and the environment is significant. First of all, the level of food waste is a major challenge to food security, defined by the World Health Organization (WHO 2013) as a situation where "all people at all times have access to sufficient, safe, nutritious food to maintain

[5] For the purpose of this thesis "young adults" are defined as people between 20 and 40 years of age, due to the similar categorizing of age groups in the food waste mappings by ForMat (Hanssen and Møller 2013).

a healthy and active life". While the world already produces enough food to feed the whole planet, 795 million people suffer from hunger worldwide (FAO et al. 2015). Moreover, it is estimated that the global population will increase to 9 billion by 2050, and that the global food production by then will have to increase by 60 - 70 % to ensure food security for all (FAO 2013). Eliminating wastage of food has the potential to provide between 60 - 100 % more food for consumption and thereby contribute massively to both current and future challenges to food security (IME 2013: 7).

Secondly, there are major environmental impacts related to food wastage. Natural resources such as water, land and energy are employed at a large scale in the production and distribution of food (United Nations Environment Programme 2009). Thus, by wasting such a significant share of what is produced, global food wastage is estimated to account for 3.3 Giga tons of CO2 equivalent, or 6 - 10 % of all anthropogenic greenhouse gas emissions. (FAO 2014a: 34). If food wastage was a country, it would be the third largest emitter of greenhouse gases in the world, following China and the United States (FAO 2013: 17). According to the FAO (2014a: 19), food wastage "tend to become a symbol of the inefficiency, unfairness and unsustainability of food systems", in light of economic, environmental and social concern. Reducing these levels of food wastage is therefore a major challenge to ensuring a sustainable food system, defined by the FAO (2014a: 31) as "a food system that ensures food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition of future generations are not compromised".

Norway is committed to international agreements for reducing climate gas emissions and environmental degradation both nationally and internationally. In line with the Kyoto Protocol, Norway is committed to reduce emissions of greenhouse gases equivalent to 30 per cent of its emissions by 2020 compared to 1990 (Regjeringen 2015c). By 2030, Norway is committed to reduce its emissions by at least 40 % compared to the 1990 level (Regjeringen 2015b). Moreover, global food security is one of the main priorities for Norwegian aid policy, emphasizing that this is a basic human right (The Norwegian Agency for Development Cooperation 2012).

The environmental impact of food wastage increases the further down the food chain a product is wasted, due to additional use of resources for processing, packaging,

distribution, transport, storage and cooking (FAO 2013). On average, consumer food waste is eight times more wasteful in terms of energy use than post-harvest food loss (Dobbs et al. 2011: 72). Food wasted by consumers in high-income countries at the end of this chain is therefore of major environmental importance. In that regard, ensuring a change of practice within the group of consumers that wastes the most food is critical for the overall reduction of food waste, as well as to meet the Norwegian goals within these areas. As noted by Hanssen and Møller (2013), if these attitudes and practices among the young continue to prevail, Norwegian food waste at the household level might increase in the coming years, despite promising tendencies among the older generations. Understanding what prevents a change of attitudes and practices within this group is therefore important in order to reduce the total amount of food waste. Lastly, creating social change among consumers through communicating sustainability and global solidarity has proven to be a challenge in many areas. Thus, a study like this can be beneficial to the research field of both the environment and development.

## Limitations and Clarifications

This thesis will not conduct an in-depth analysis of all the Norwegian initiatives to reduce the overall levels of food waste. This will rather be employed as one perspective in analyzing the perceptions of food waste as a problem, as well as the discussion of formal and informal control mechanisms. Furthermore, the analysis of the role of income and education levels was based on general information about the background and professions of my informants rather than a systematic mapping of specific income levels and education. I found this to be sufficient for the purpose of investigating the impact of these factors on food waste perceptions and practices. The discussion and conclusions of this thesis is also limited to the study of people between 20 and 40 years old. I initially considered conducting a comparative study of people over and under this age. However, in order to thoroughly investigate the dynamics of the consumers that allegedly waste the most and know and care the least about this issue, an in depth focus on this group was found most valuable. Nevertheless, studies on people over the age of 40 would be an interesting contribution to further understand the food waste behavior in of Norwegian households.

## Thesis Structure

My thesis is divided into eight chapters. In this introductory chapter, I have presented the problem and rationale for my project, as well as my focus area and research question. Chapter two presents the background of the research project, including key concepts and theory that will be used throughout the analysis sections. The third chapter focuses on the applied methodology of the study. There, my use of mixed ethnographic methods is described, in addition to the challenges I encountered throughout my work, and the ethical considerations I was faced with. From there, the fourth chapter will address my informants' own perspectives on food waste, as well as perceived challenges and own efforts to avoid it. The fifth chapter deals with food knowledge and the role of feelings in categorizing food and justifying food waste behavior. Chapter six investigates how my informants perceive the messages communicated by food waste reduction initiatives. Here, attitudes towards global food security and the environment, as well as the extent to which these influence their food waste attitudes and practices are explored. Following the analysis, chapter seven presents a discussion of my findings according to the main research question as well as the two supporting questions. Lastly, I present my conclusion in chapter eight. In the following, the background of this thesis will be further presented, addressing perspectives that function as a valuable starting point for answering my research questions, as well as presenting important concepts and theory for the analysis.

# 2. Background

In this chapter, I will introduce the background of this thesis. For the purpose of understanding the role of food within the framework of consumption research and policy, I will explore the responsibilities and expectations of modern food consumption. From there, theoretical concepts employed in the analysis and discussion sections of this thesis will be presented. However, I will begin by looking at the main policies and initiatives for food waste reduction in Norway, with emphasis on efforts by governmental and food industry actors.

## Policy and Initiatives for Food Waste Reduction

High levels of food waste have caught the attention of organizations, politicians and researchers around the world, leading to a range of efforts to address and overcome this problem. Since 2011, the FAO has been among the main coordinators of the Save Food Initiative, which goal is to encourage dialogue between industry, research, politics, and civil society on food losses as well as raising public awareness of the impact of food waste (FAO 2011b). Moreover, in 2012, the European Union (EU 2012) established the project FUSIONS (Food Use for Social Innovation by Optimising Waste Prevention Strategies). This initiative aims to harmonize the monitoring of food waste in Europe, deliver a Roadmap towards a Resource Efficient Europe and support the European Commission's target of a 50 % reduction of food waste and a 20 % reduction in the food chain's resource inputs by 2020 (EU 2012). In 2015, the Danish Agriculture & Food Council announced that there had been a 25 % decrease of food waste levels in Denmark (EU 2015), after significant efforts by the Danish NGO Stop Wasting Food in particular. In February 2016, France passed a law making it illegal for supermarkets to waste food, as a response to increasing focus on the high levels of food waste (Chrisafis 2016). Thus, the extent and impact of food wastage has retrieved widespread attention and positive results.

In Norway, one of the most prominent public initiatives has been the ForMat project. This project is a collaborative effort among some of the biggest actors within the food industry and food business, with the support of the Norwegian Government (Hanssen and Møller 2013). The goals of the ForMat project are to map the food waste situation and uncover changes during the project's lifespan; communicate results to contribute to a change of practice; and create networks of involved actors to ensure the development of new measures and continued attention on the issue. Its main goal has been to contribute to a 25 % reduction of the total amount of food wasted in Norway[6] from 2010 to 2015 (Hanssen and Møller 2013: 5). The final food waste levels for 2015, as well as a summary of the entire six year project, will be presented in 2016 (Stensgård and Hanssen 2015b). However, already in the report from 2013, the researchers of the project stated that they most likely would not succeed in reaching the 2015 goal, despite a number of improvements within several food sectors, as well as some positive tendencies among certain consumers groups (Hanssen and Møller 2013: 3).

An initiative that has gained significant attention is the food bank Matsentralen in Oslo. Since 2013, this food bank has received surplus food from producers and grocery stores which has been redistributed by NGOs to people in need (Matsentralen 2016). This initiative aims to alleviate hunger among people in need and fight food waste. In 2015, Matsentralen redistributed close to 800 tons of food, equaling 1.6 million meals. Furthermore, in May 2015, the Ministers of Climate and Environment, Agriculture and Food, Health, Fisheries and Consumption signed a Memorandum of Understanding (MoU) with representatives from the entire food industry (Regjeringen 2015a). This agreement intended to strengthen cooperation between public authorities and the actors of the food industry (including existing and additional actors in the ForMat cooperation) in order to reduce overall levels of food waste. The goal of this agreement is to build statistics and define indicators regarding the extent and challenges of food waste reduction, a process intended to lead to an agreement of specific goals for food waste reduction by the summer of 2016 (Regjeringen 2015a).

Like the 2013 agreement of cooperation (Regjeringen 2013), this MoU focuses on increasing information to the public as an effort to reduce food waste among consumers

[6] The food waste within the primary sector and institutional households was not a part of the ForMat mappings.

(Regjeringen 2015a). No formal sanctions or incentives are proposed as tools for reduction. In November 2015, the Norwegian Parliament rejected a proposal from The Centre Party (SP) of establishing a goal of halving the overall amount of food wasted in Norway within ten years (Stortinget 2015). Additional proposals to implement legislation for food waste reduction have been presented by various actors within and outside the Parliament in the initial months of 2016. However, wasting food remains legally unsanctioned as of today. Moreover, these discussions on possible juridical regulations of food waste have largely focused on the bigger institutions and actors of the food chain, excluding consumer food waste beyond building knowledge and awareness.

As part of the ForMat project, the informational channel "Matvett" has communicated the extent and consequences of food wasted by Norwegian consumers (Matvett 2013). The average amount of food wasted per person each year[7] has been presented at events, on websites and social media, as well as through traditional national media. This initiative has also focused on communicating tips for how to make use of food that often goes to waste. An online newspaper search[8] on food waste and related topics reveals an extensive number of news articles on this topic in recent years. The year of 2013 marked a significant increase in the number of such articles. That was the year the first long term ForMat report was published, mapping the overall levels of food waste in Norway from 2009 to 2013 (Hanssen and Møller 2013). Furthermore, through initiatives like "Feast against Famine" and "Abandoned Food" a number of NGOs have served surplus food from grocery stores alongside information about the issue of food waste at public events around the country[9] (FIVH 2012; KN 2012) These initiatives illustrate the extent and variation of how this problem has been communicated in Norway. Knowing the substantial impact of consumer food waste and multiple initiatives to solve this problem, I turn to the question: Who is responsible for consumer food waste?

[7] See appendix E

[8] In the news search engine Retriever (2016)

[9] See appendix E

# Food Ethics

## Ethical Consumption

The most obvious answer to the question raised above might be that the actions of consumers are the responsibility of the consumers themselves. Norwegian society provides freedom to its citizens to consume what they please, with certain restrictions to age and within certain types of products. Consumers are also more or less free to waste food as they please. Nonetheless, contemporary expectations to what consumers buy and eat are many. Anthelme Brillat-Savarin's words from the 1826 piece *Physiologie du Gout, ou Meditations de Gastronomie Transcendante* (Brillat-Savarin 1826: 13) have become a classic in the discourse on the value of food beyond nutrition;

> "Dis-moi ce que tu manges, je te dirai ce que tu es." [Tell me what you eat and I will tell you who you are].

Initial interpretations of this statement were more of a cultural nature. However, in the context of modern society, food consumption has taken on a role of expressing various political and ethical identities, increasingly becoming a reflection of the global responsibility of consumers. These words by Marcella Hazan in *The Classic Italian Cookbook* (1973: 459) encompass the increasingly global perspective on food consumption in modern society:

> "What people do with food is an act that reveals how they construe the world."

Following the intensification of the industrial food system and establishment of mass consumption, the view of the consumer has largely shifted from acting out of pure nutritional necessity or cultural expression to becoming a powerful player both in economic and political terms (Kjærnes 2012). According to Coff (2006: 22), a new *food ethics* has developed, increasingly emphasizing the role and responsibility of the consumer as the driver of production and thus the catalyst of the negative consequences of the modern food system. Consumers are expected to not only take into consideration their own health, economy and personal virtues, but also a *global* responsibility. You are to choose the right food in the right stores at the right time and in the right quantity,

as well as transport it back home in the right way, without using plastic bags or carbon driven cars. And the list of ethical requirements goes on.

This way of considering the ethical consequences of one's consumption has been referred to as "sustainable", "political" and "green", among others. In this thesis, the term *ethical consumption* will be used, as this includes the considerations of moral responsibility both to oneself and the people close to you, as well as to global issues. In this thesis, *global issues* refer to environmental degradation and food insecurity. Harrison et al. (2005: 2) define ethical consumers as consumers who consider "the wellbeing of loved ones as well as wellbeing of people and the environment in a more global sense" when making purchasing decisions. I have found the responsibilities and priorities of both the close and the distant to be a valuable perspective, as my analysis will illustrate. Thus, for the purpose of this thesis, the term ethical consumption will be employed for behavior that takes into consideration global solidarity and environmental impact. *Conscious consumption* will also be employed for the same purpose throughout this study, as this term is commonly used in the Norwegian discourse on consumer responsibility.

## Ethical Wasting

Public waste management is subject to firm regulations in Norway. However, as mentioned above, how consumers handle waste in their own homes is largely left out of juridical and social control. Compared to other consumption practices, household waste has historically been seen as private and restricted for each individual to handle in their own way (Eriksen 2011). Chappells and Shove (1999: 277) argue that the modern household bin is more than an object containing unwanted disposals. It is an item with cultural, social and technical significance. The diversification of types of waste and expectations for recycling opens up for an active relationship to waste, which entails households making more judgment calls regarding this practice than before. In this process, different types of waste are given different value. For instance prioritizing to compost organic waste rather than rinsing of plastics. Moreover, this new perspective on waste increasingly links the household to society, adding new responsibilities and expectations. Chappells and Shove (1999: 278) note that:

> "Clear-cut boundaries of household responsibility are no longer to be found, a situation in sharp contrast to the time when standard dustbins and civic responsibility dictated the

> rules of domestic waste management. Nowadays, there are multiple 'rules' of wasting reflecting a diversity of quite localized regimes of waste management. Our bin stories also show how patterns of household responsibility are shaped by the specific objectives of waste utilities seeking to reinforce particular service networks […] the co-existence of multiple waste management strategies is creating new tensions between proponents of 'bottom-up' approaches which place environmental responsibility on the household, and those which centralize and mechanize operations, thus maintaining civic or at least collective responsibility."

Modern waste management systems have increased and diversified expectations towards modern consumers, linking the individual to society in new ways. Nonetheless, household waste remains somewhat of a non-topic, invisible and left out of social and public control (Eriksen 2011). The sense of privacy is also the case for consumer food waste, falling into a gap of responsibilities and priorities both at the policy and household level. Lastly, as waste is the unavoidable ending point of all consumer processes, it is also subject to many of the same drivers of consumption. These are perspectives that will be further investigated in my analysis.

## Challenging Consumer Choice

Despite the negative consequences of a number of consumer practices, the extensive responsibility placed on the consumer through the notion of ethical consumption does not take other important factors into consideration. According to Unni Kjærnes (2012), the perspective of neoclassical economic theory of consumers as the drivers of production, simply responding to their demand, fails to acknowledge the actual power dynamics of consumption. She argues that "consumer choice" is not independent or rationally based on personal values and desires, but is in fact a part of "a regulatory regime based on voluntarism, market solutions, and the State acting at a distance" (Kjærnes 2008). In modern society, the actors influencing consumption patterns range from the state to the market and entrusted expert institutions. Moreover, consumption is highly affected by social norms and expectations, and the context needs to be acknowledged as determinant of whether or not people's attitudes towards their global responsibility translate into ethical behavior (Kjærnes 2012). These perspectives on consumption, food and waste will be a theoretical basis for the analysis of this study. I will now present the combination of other theoretical tools that will be employed throughout this study in order to understand the challenges of food waste reduction in these households.

# Theoretical Concepts

Building on the consumption perspectives by Unni Kjærnes (2012), social practice theory will be employed to analyze the impact of materiality, sociality and habit for consumer food waste practices. In this regard, emphasis will be on the work by Pierre Bourdieu (1977), Marlyne Sahakian (2014) and Harold Wilhite (2013, 2014), providing tools to explore the components of practice in general terms, as well as in the context of modern consumption challenges. In order to analyze the role of context for food waste behavior and perceptions within this age group, I will apply theoretical perspectives of modernity, with special emphasis on the concepts of expert systems, risk and self-identity by Anthony Giddens (1984, 1991, 1992) and Ulrich Beck (1992). Furthermore, exploring the concepts of ideology and mentality enabled a better understanding of the views and practices of my informants. The work by Karen L. Syse (2009) on ideology and mentality and Olve Krange (2004) on challenges of modernity in a generational perspective was valuable for an understanding of conflicting concerns and priorities in the daily life of these households. Moreover, the human need for order and cleanliness theorized by Mary Douglas (1992) will be employed to understand people's relationship to and definitions of food and waste.

When analyzing challenges related to translation of messages and acknowledgement of global issues into personal responsibility and action, I turn to concepts of implicatory denial, filtering mechanisms and framing of messages, focusing on work by Kari Marie Norgaard (2011), Grégoire Wallenborn and Harold Wilhite (2014) and Mary Douglas (1992). In that context, perspectives on control mechanisms for behavior within modernity will be addressed (Beck 1992; Giddens 1991), as well as a brief exploration of consumer power and governmentality by Unni Kjærnes (2008, 2012) and Michel Foucault (1979, 1980). These theoretical concepts represent the main theoretical structure for the data analysis and discussions of this study. This study is not an in-depth analysis of policy or conceptualizations of power in the traditional sense. These policies and initiatives, as well as this conceptual framework, will rather be employed as analytical categories and tools in the analysis of my data. With this presentation of background and key concepts and theory, I now turn to the methodology of this study.

# 3. Methodology

In this chapter I will describe the combination of methods used to gather and analyze my data. From there I turn to a discussion on the methodological challenges I encountered throughout the process, as well as the ethical considerations I had to make when collecting and handling the relevant data. I will begin by discussing how studies on food and waste differ from other areas of consumption studies, as well as their contribution to this academic field.

## Studying Food and Waste

Consumption studies have gained momentum within many fields of research the past decades (Eriksen 2011: 7). However, the frames and premises for consumer studies are in many ways still being shaped, and research and policymaking regarding sustainable consumption specifically is a relatively new field of study (Sahakian and Wilhite 2014: 25). When it comes to research on food consumption, most studies have focused on actions like purchasing, cooking and eating, and the factors influencing these practices (Torjusen 2004: 28; Warde 1997: 180). Studying food is different from studying other types of commodities. Food is crucial for human existence, while also being socially, culturally and emotionally important (Miller and Deutsch 2009: 4). Jacobsen (2003: 16) argues that food is disconnected from its function as commodity and transformed into something edible first when entering the home and that food is a marker of social community and identity. As noted by Warde (1997: 180), consumption of food is temporary and less committing than other forms of consumption, while also being highly private and domestic. It is linked to self-identity and taboos in an even greater way than other commodities. Thus, the study of behavior related to food consumption is particularly reliant on informants trusting the researcher (Warde 1997: 180).

While the study of food is a private and sensitive field of research, household *waste* most definitely falls into the same category, as emphasized among other in the historical and cultural exploration of waste by Thomas Hylland Eriksen (2011). Chappells and

Shove (1999: 272) argue that the bin is not purely a functional object, but a marker of "the valuing of things, moralities of waste, symbolic significance, environmental responsibility, social organization and much more". Nonetheless, the practice of *wasting* food is often left out of what is perceived as consumption. Thus, it fails to be prioritized in the same way as other areas of consumption, despite of its extent and impact among consumers (Eriksen 2011). Wilhite (2013: 3) defines consumption as "the acquisition and use of things". While this definition usually ends its focus before the waste of food, I believe the *use* of food involves both eating and wasting it. Which one of these usages food will have is influenced by central elements in theories of consumption and human behavior (Warde 2005). Thus, studying food consumption needs to encompass the behavioral dynamics of all steps of the process, as it applies to consumers everywhere in different ways and its impact on sustainability and socio-economic issues is significant (Miller and Deutsch 2009). Studying the combination of food and waste - two delicate issues – is therefore a challenging, but important contribution to research on consumption.

# Litterature Review

As a background for this research project, I have attained information about the area of food wastage from various sources and studies. The statistics of global food wastage, as well as the impact it has on food security, the environment and the economy, were primarily retrieved from studies by the UN agencies FAO (2011a, 2011b, 2013, 2014a, 2014b; 2015) and UNEP (2009; 2013). These institutions' mappings of the state of the environment, food security and market mechanisms related to them provide updated statistics and analysis of food wastage and its areas of impact. Thus, these have been valuable as a knowledge base and guidance of relevant directions throughout the research process. Food waste reduction initiatives and developments in other countries, as well as international and inter-sectoral cooperation to overcome the problem, have functioned as a background for understanding the challenges facing Norwegian policies and initiatives within these areas. Studies performed by the Danish NGO Stop Wasting Food (SSM 2008), the British NGO Feedback (2014), the French movement Disco Soupe (2012) and the FUSION project by the EU (2012) have been explored for this

purpose. Many factors regarding the food system, policy and culture are distinctive for the countries of these different initiatives, and so it is not possible to compare the food waste reduction processes directly. However, the share of food wasted by consumers is relatively equal within European countries and many of the strategies to address food waste have had a similar approach (FAO 2014a). Thus, looking at the development of these initiatives, results and studies has been an asset for this research process.

To understand the Norwegian context of household food waste, the ForMat reports (Hanssen and Schakenda 2010; Hanssen and Møller 2013; Stensgård and Hanssen 2015a, 2015b), as well as complimentary conference notes and publications connected to this project (ForMat 2015; NHO 2013; Olafssøn 2012), have been the primary source of information. These reports have provided a qualitative overview of food categories, quantities and developments at all levels of the food chain, while the sections on consumer perceptions and behavior have been applied as a background for my own study. Reports by Siemens (2013) on food waste behavior and attitudes in the Nordic countries, as well as publications by the Norwegian environmental organization Framtiden i våre hender (FIVH 2013; Lindahl 2015), were employed for the same purpose. Lastly, the report on Norwegian food consumption patterns by Kjuus and Flaaten (2015) provided valuable information about the overall tendencies of Norwegian food consumption, as well as consumption practices that have been particularly explored as challenges for food waste reduction.

Legal documents concerning the introduction of food labeling systems in Norway have been investigated, accompanied by explanations from the Norwegian Food Safety Authority (Mattilsynet) and the Law Library at the University of Oslo (Mattilsynet 2012; Sosialdepartementet 1969, 1986). This has been valuable in analyzing the importance of expiration dates within this age group. Moreover, official documents on Government agreements and Parliament discussions and processes regarding food waste policy have been investigated to understand the context of consumer food waste reduction efforts (Regjeringen 2013, 2015a; Stortinget 2015). Furthermore, food waste reduction campaigns and initiatives by the communicational channel Matvett (2013), as well as those of Norwegian NGOs (FIVH 2012; Kirkens Nødhjelp 2012), have been investigated for the same purpose.

# A Qualitative Approach

For this research project, I used a constructivist approach and conducted a qualitative case study in the Norwegian city of Fredrikstad. Within qualitative research methods the goal is not to uncover universal truths about society, but rather attain a greater understanding of social phenomena (Thagaard 2009: 11). According to Moses and Knutsen (2007: 149), human behavior is not motivated by rational choice but is rather influenced by a range of socio-cultural elements that are difficult to measure in numbers. These social patterns change according to shifting contexts, making the study of societies and its citizens unpredictable (Moses and Knutsen 2007: 151). Although providing valuable information about a large sample of people, quantitative research methods have certain limitations to understanding important nuances of human behavior and perceptions. Hanssen and Møller (2013) note that respondents of surveys might not give honest answers, either from lack of insight in one's own situation or because of a wish to be in line with moral expectations. Survey questions are also characterized by a range of answers to choose from that might frame the mindset of the respondents (Repstad 1998: 65). These kinds of fixed answers are in their nature too narrow to absorb all the nuances of real life experiences and attitudes.

## Ethnographic Fieldwork

In order to move beyond statistical findings and attain a deeper understanding of knowledge, perceptions and practices concerning food waste within this group, I used a combination of ethnographic methods. Ethnography is not one specific research method, but a collection of different methods used in the study of people, cultures, enterprises and phenomena in a natural setting (Miller and Deutsch 2009: 138). Literary, the word *ethnography* means "to write about other people", stemming from the original Greek terms ethnekos, meaning "other people", and graphein, meaning "to write" (Miller and Deutsch 2009: 138). Traditionally, ethnography refers to the study of other cultures. However, the term has been expanded to also include researchers looking at their own culture, as understanding our own behavior can be just as difficult as understanding that of foreign cultures. Through my fieldwork, I inductively gathered

empirical data and analyzed my findings in combination with related theories and existing research in the field, an approach described as fruitful by Moses and Knutsen (2007: 22).

According to Miller and Deutsch (2009: 140), ethnography is a particularly useful tool for studying behavior related to food, as it allows the researcher to better understand the social meaning of the ordinary activities of a person or a group. Thagaard (2009: 18) further emphasizes that a combination of approaches can be valuable to map and compare the phenomena of interest. Thus, in the attempts to answer the guiding questions of this thesis, I used a combination of conversations and semi-structured interviews, participant observation and self-reporting of a range of food practices performed by my informants over a one week period. This was particularly valuable to see the relationship between what my informants *said* and what they actually *did*. I will now present the combination of methods, starting with the recruitment of informants.

### Selecting and Recruiting Informants

As previously mentioned, qualitative research does not strive for statistical truths about society. However, a selection of informants that are relatively representative for people in the group of focus can make results from analysis of social phenomena more applicable to similar situations (Thagaard 2009: 18). When selecting informants, my main consideration was therefore twofold; 1) being able to recruit a diverse sample of informants between 20 and 40 years old living in households of different composition, and 2) overcoming the possible imbalances of consciousness among the informants due to the somewhat moral character of my topic. These primary criteria for informants were based on the abovementioned findings of Hanssen and Møller (2013) of the food waste levels and perceptions within this particular age group. The purpose of this selection was also to investigate whether having children living at home was a significant factor for food waste behavior, regardless of household size, age and occupation.

I considered conducting the study in Oslo and approach people or distribute information with a request for self-recruitment in public spaces. However, in doing so, I would run the risk of solely recruiting informants that were already conscious about food waste and thereby diminishing the possibility of examining the role of knowledge and concern

for these issues. Thus, my study was built on a convenience sample. This is a strategic sample that is often used in qualitative research, due to the challenges of recruiting informants that are suitable for the research question and willing to participate (Thagaard 2009: 56). I decided to conduct the study in the city of Fredrikstad. As this is my hometown, my network of contacts there is more diverse in terms of the abovementioned criteria for informants. Fredrikstad might also be more representative for communities in Norway at large, as capitals tend to distinguish themselves in terms of lifestyle and perspectives on global issues. I recruited ten people from households of families with small children, and ten people from households of single people and couples without children[10]. Among the informants living with a partner, five couples wanted to participate in the study together for various reasons, adding five co-informants to my sample.

In order to recruit these informants, I contacted acquaintances living in Fredrikstad and asked if they knew someone I did not personally know who might fit my criteria. In some cases, I contacted people directly after receiving the necessary information, while in other cases my acquaintances requested their participation on my behalf, depending on what my contacts considered to be appropriate. The response was better than I could have hoped for, and all the people that were asked agreed to participate. After starting out with 14 informants acquired through my own network, these initial informants helped me recruit the remaining informants through their social networks, a tool referred to by Thagaard (2009: 56) as the snowball method. Thus, applying this method worked well as a way of ensuring a relatively well-balanced sample. It also appeared as though the approval of a common acquaintance made my informants less skeptical of letting me into their homes and sharing their time and thoughts on such a private matter.

## In-depth Interviews

The primary source of data for my research was in-depth semi-structured interviews. Semi-structured interviews are a way of gaining information by preparing a guide with key topics and questions, while being flexible according to how each interview situation develops (Thagaard 2009: 89). For all my interviews I used an interview guide[11] mostly

[10] See appendix D

[11] See appendix A

consisting of open-ended questions. I had divided the questions into themes that I wanted my informants to touch upon at some point during the interview. I maintained this structure throughout my work, in order for my analysis to be as comparable as possible. Still, it was also important to be flexible, and I adjusted my plan so that the different informants could lead the conversation while I picked up on interesting leads with follow-up questions. This way, the interviews had a more natural flow which enabled new perspectives to arise that may not otherwise have been possible within a rigid question-answer format (Repstad 1998). The interview guide was revised and adjusted after each interview, as new elements arouse and needed to be included, and some questions and orders of them had to be reconsidered. This ensured a certain level of consistency throughout the interview process, and was helpful in assuring that I covered the topics found relevant for the questions and purpose of the study.

In the period from August-October 2013, I conducted 20 interviews, each lasting between one and two hours. All of them took place in the homes of my informants at different times of the day. In order to make time for our meetings in the busy schedules of my informants, I conducted breakfast, lunch and afternoon interviews, as well as occasionally finishing up and leaving people's homes right before they went to bed. I avoided weekends, as my intention was to investigate constraints to food waste reduction in everyday life. Hanssen and Møller (2013) note that studying food waste practices should be focused on days that reflects the most normal routines of the household, as people usually buy different types and quantities of food in relation to weekends and holidays. This was also the reason for taking a break from interviews in the time around and during the one week of autumn school break in the middle of my fieldwork. Syse (2001: 227) also underline the value of leaving and returning to the field in this way, enabling the ethnographer to gain perspective and reflect upon the information gathered, as well as revise plans and data that ensure the best material possible.

Due to the private and sensitive nature of food waste, I tried to avoid situations where the informants were tempted to answer and behave according to what they believed to be socially and morally acceptable rather than what reflected reality. One way of ensuring a relaxed and trusting atmosphere was to perform the interviews in the homes

of my informants. A familiar environment can make people more willing to openly share their perspectives. Being in the space where these practices occur in everyday life might also trigger narration and provide the researcher with a deeper understanding of the context and dynamics of household food waste, reflected in methodological experiences by Repstad (1998: 72) and Syse (2004: 326). The interview was the first time I met my informants[12]. Thus, introductions and small talk concerning their home and how we knew the person who put us in contact naturally softened the initial nervousness and created a more relaxed atmosphere. I also started each interview with questions on general matters such as occupation, household composition and hobbies, in order to get the conversation going, as well as getting an overview of the life and priorities of each informant. Questions on more complex issues were introduced at a point where my informants seemed to have become relatively comfortable, before attempting to end the conversation on a lighter note. This was important in order for my informants to leave the interview with a good feeling, a methodological consideration underlined by Repstad (1998: 76) and others.

According to Repstad (1998: 46), confirming body language and comments ensures a trusting space for the informants to share what they believe to be important, while clarifying follow-up questions stimulate more detailed information and descriptions. This is especially important when talking about behavior and attitudes connected to controversial topics and social norms. I found these techniques especially useful throughout my interviews. While maintaining a critical focus, this subtle encouragement was a valuable tool to overcome some initial hesitations to provide honest reflections and descriptions about the food waste practices of the household. Lastly, in order to avoid leading questions while still attaining specific information, I introduced some of the most sensitive questions by saying "Some people say that…" or "I have heard that…" and finishing with "What are your thoughts on the matter?" This created a good balance between being precise about what I was asking without steering my informants into answering in a way that otherwise would not have been natural to them.

[12] With the exception of two informants that I briefly met in social settings several years ago.

## Participant Observation

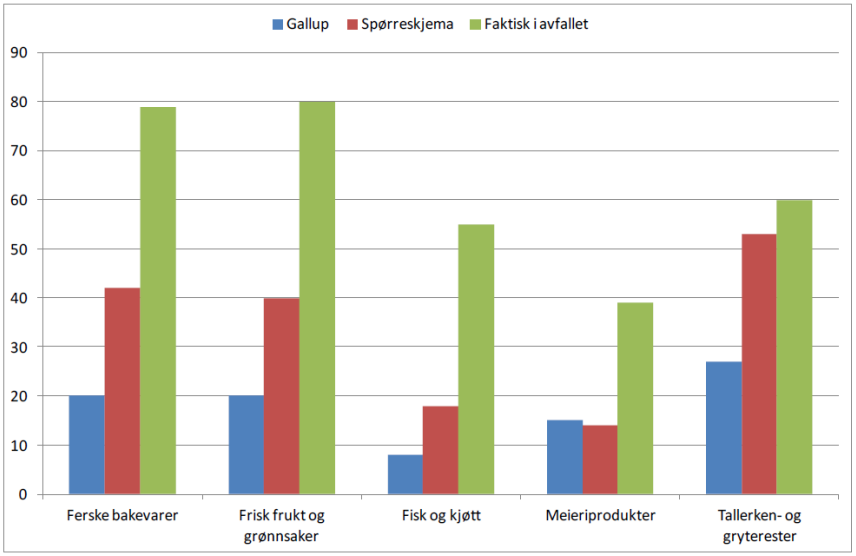
All of the interviews were performed in the kitchen or living rooms of my informants. This context was very suitable for talking about and observing various elements of their food consumption. According to Miller and Deutsch (2009: 147), participant observation is a good way to discover what the informants feel and experience while being in the setting which the researcher is trying to understand. The informants showed me the rooms where they kept, cooked and ate food, while describing their routines and systems around the house, as well as challenges and priorities they faced in everyday life. In addition to witnessing how my informants organized their household, I asked them to look in their refrigerators, freezers and cupboards, and tell me if there was anything there that they would throw out or something they may throw out. In doing so, I learned how they decided what to keep or waste, and be a part of the discussion leading up to food being wasted.

In addition to these observations, I had brought with me three apples, two slices of bread and a pot of yoghurt that had expired a few days prior to the interview. According to Hanssen and Møller (2013), these are among the types of food that consumers most often waste. Towards the last part of the interview, I took out these items one by one and asked the informant what they thought about them, if they would have kept or wasted it, and what their reasoning was for doing so. Due to the appearances of these foods, I was conscious about the order I presented them in, and how the element of comparison could influence their reasoning. For example, the apples I brought represented three different stages of appearance. One had been bought a couple of days prior to the interview and was what I considered to be perfectly good. The second one had a few flaws and the last one looked rather bad. I therefor chose to consistently start with the slightly flawed and end with the one I considered to be flawless. Good food and bad food are relative terms, as shown in the analysis chapters of this thesis. Nonetheless, presenting these different products was particularly helpful to trigger reflections on actual behavior in the cases where there was nothing in their kitchens that they said they would have wasted at that point. Combined with the general observations, this was also an interesting way of seeing how they talked about their own attitudes and practices compared with what they actually said and did when evaluating food in practice.

## Self-reporting of Food Consumption

In addition to the in-depth interviews and observation of practices, I asked my informants to track the food they wasted during the week following the interview, as well as some other routines related to their food consumption. Studies of food waste in Britain have shown that household self-reporting through surveys are often useless for uncovering the actual quantities of food wasted in households, as the respective consumers underestimated the amount of food they wasted by 30 times (Stuart 2009: 26). In a similar study in Spain, consumers estimated their food waste to 4 % of what they bought, while the actual number was 18 % (FAO 2014a: 47). Studies related to the ForMat project have uncovered similar inconsistencies for Norway. The table below illustrates findings from 2012 of inconsistencies between poll, questionnaire and sample analysis of food waste levels in Norwegian households (Olafssøn 2012).

*Figure 1 Inconsistencies of self-reporting and actual waste levels*[13]




Source: Olafssøn (2012).

Nonetheless, I believed informants tracking their own practices could be valuable for a number of reasons. First of all, although my goal was not to build any representative

[13] Blue line = Poll. Red = Questionnaire. Green = Actual waste levels. Categories: 1 = Freshly baked goods. 2 = Fresh fruits and vegetables. 3 = Fish and meat. 4 = Leftovers from plates and casseroles.

statistics, I hoped to get a rough estimate of how much food each household wasted per week. This was useful for seeking out patterns in the challenges different types of people and households faced. Thus, the practices they tracked did not have to be 100 % accurate and representative in order for it to be interesting for my analysis. These estimates also made it possible to compare the actual level of waste with the answers they gave in the interview. Moreover, as all of my informants claimed to waste "very little" in the interviews, studying how much that actually meant for each of them was an interesting observation in terms of own insight and comparability when studying household food waste behavior. Lastly, I wanted to investigate whether having to actively focus on their own practices made them look at it in a different way. This might uncover some surprises that the informants had not noticed or thought about during the interview.

To make the task as manageable as possible for my informants, and thereby hopefully encourage them to answer as detailed as possible, I handed out ready-made forms[14] for them to fill out. The period of tracking was also constricted to only one week. The informants were asked to state whether or not they felt that week was representative of a normal week, and if not, what made it unusual. When collecting the form at the end of that week, I asked them how much they felt our initial conversation and the tracking itself had influenced their behavior during that week. They were also asked if they had come across anything that had surprised them and if they wasted more, less or the same amount of food as they thought they did. I also asked if they had recognized any specific constraints to avoid wasting food during that week that they had not seen before and did not think about when asked during the interview. Although discussing food waste in the interview most likely increased their consciousness about the issue and their own practices during the following week, I decided that tracking routines prior to such an interview would have diminished the interesting aspect of how perceptions of one's own behavior can be different from reality, and how habits and other structures can have a stronger influence on behavior than actual knowledge and rational thought. Lastly, this gave me the chance to conduct follow-up interviews.

[14] See appendix C

## Follow-up Interviews

Handing out and picking up these forms naturally facilitated a second meeting and thus valuable follow-up interviews and conversations[15]. These meetings made it possible for me to include new perspectives that had come up and been included in the revised interview guide along the process. This is a valuable approach to ensure that all the important questions and areas are covered on a relatively equal basis (Repstad 1998: 15). Between the first and second time I met with the informants, interview transcriptions and field notes were revisited to prepare the most important follow-up questions for each interview. These were performed in an even more relaxed way than the main interviews, consisting of two to three follow-up questions in addition to a few standard questions I asked them all about the tracking they had done. These follow-up interviews all lasted between five to twenty minutes. Most of them were not recorded, as Repstad (1998: 51) notes that this can be more disturbing than helpful for such short interviews. This was also my own experience in these second meetings. Thus, I rather chose to write down key words and develop these thoughts and descriptions shortly after leaving the interview. Finally, filling the gaps from previous interviews in such a way and making sure I had asked the key questions to all the informants made it easier to enter the phase of analyzing the data.

## Analyzing Data

Analyzing qualitative data is a process where the different elements do not follow each other chronologically, but rather work together and are taken in during every step of the way (Repstad 1998: 97). From the moment I entered the field, the process of analyzing begun. Observations and interesting new perspectives to follow up on from each interview and meeting, as well as reoccurring themes and connections, were written down during and right after each interview before my memory was interrupted. Such temporary attempts of analysis contributed to the direction of my data collection, as well as laying the foundation for the work following the fieldwork.

After completing the fieldwork, the remaining interviews were transcribed and printed. I then started to examine, sort and cluster them manually. After initial attempts of using a

[15] A couple of informants were unable to meet me again, and therefore sent me the scanned form, as well as answers to questions I had sent to them via email.

digital analysis program, this manual categorization and analysis proved to be preferable. To create a system of information and categorization that would be easy to navigate in throughout the analysis, I used color-coding and created tables of the various themes. By starting off with the categories and tendencies from my initial analysis in the field, I could systematically read through the transcripts in search for more data supporting or challenging them, as well as new ones that appeared in the process. I was conscious not to separate parts and quotes from interviews too much from their contexts, as this could change their initial meaning. According to Repstad (1998: 101), this way of shifting between looking closely at the different parts of the data and stepping back to see the big picture is an important part of qualitative research, called *the hermeneutic circle*. Field notes, initial analysis and interview transcripts were revisited throughout the whole process of analyzing, theorizing and writing the thesis.

## Methodological Challenges

In all types of fieldwork, the presence of the researcher can influence the gathered data in various ways (Miller and Deutsch 2009: 148; Repstad 1998: 56; Syse 2001: 228). Thus, I had to be aware of how my conceptions and prejudices could influence my focus. According to Shove et al. (1998), no research is neutral. However, one must strive for an environment where the opinions of the researcher influence the answers of the informants as little as possible. As I have previously worked with NGOs addressing the problem of food waste among consumers through campaigns and events, I had to be particularly aware of my bias in the research situation. Thus, throughout the process of phrasing and asking questions, as well as through my general behavior when interacting with my informants, I tried to be as objective as possible. This included being aware of my reactions (including comments and body language) to my informants' replies and avoiding scenarios where my informants felt judged in any way.

Furthermore, as my informants knew that I was a student at the Centre for Development and the Environment (SUM), some might have been eager to express a greater consciousness about the environment and global issues than what normally would be the case. Repstad (1998: 41) stresses that openness and honesty by the researcher

motivates people to share information more openly. Thus, by admitting that I also waste food and that one of the reasons for my research was to understand my own behavior, it seemed like my informants felt more relaxed to share their perspectives openly. In the cases where I interviewed couples, I had to be aware of the presence of their partner influencing their answer. This was especially a concern when talking about moral issues. However, as these interviews lasted a while longer than the others and it seemed like the presence of their partner made most of them relatively comfortable with the situation, I found the discussions that developed in these settings very fruitful.

Despite my success of retrieving informants, this approach also posed a challenge for my sample. Although I specified the preferred criteria of informants when requesting help to reach informants, sending the snowball in several directions resulted in an imbalance of the types of informants who were willing to participate. Single living women were seldom suggested for participation, and on a couple of occasions those who had been introduced as living on their own were in fact living with a child or a partner. Refusing these informants at this stage did not seem appropriate, and so I had to be particularly focused on balancing the sample at the final stages. Despite a slight bias of couples and men living on their own, I believe the representation from the various categories I wanted to investigate was sufficient. To ensure a strengthening of these perspectives, questions about comparison with previous life stages were emphasized.

Doing ethnographic fieldwork within my own culture, my own age group and on a topic that concerns my everyday life was also a challenge. In order to notice structures that could be important for my research, I followed the approach noted by Thagaard (2009: 79) of taking a step back and be analytical of things I often take for granted. Gathering the data in my hometown enabled me to more easily get in contact with a diverse group of informants. However, I had to be aware of the fact that a smaller community, where the link between the informants and myself, as well as common acquaintances or knowledge of my family and friends, could influence my informants' wish to come across in a specific way. By making use of the abovementioned methodological tools, I believe I was able to overcome these challenges and ensure empirical data that reflected reality to the greatest possible extent.

Lastly, the interviews were conducted in Norwegian and so the quotes and key terms stemming from the interviews are my own translations. Certain words have complex cultural meanings connected to them and are therefore challenging to translate. Having statements and messages translated by a middleman may change or add to initial meanings, seeing as such a translation rests on the translator's own background and understanding. My main priority was therefore to translate my informants' statements in a way that respected their meanings in the specific context rather than a direct conversion of words. In cases where English words or expressions were inadequate to cover the entire cultural meaning of certain Norwegian words and expressions, the Norwegian terms are indicated with a more thorough explanation in footnotes.

## Ethical Considerations

As discussed in the beginning of this chapter, what we eat and what we waste are two of the most private areas in people's lives. Thus, I had to show respect for the informants who had let me into their homes and given me so much of their time and thoughts. I also had to make sure to handle the information I received carefully. First of all, I had my project proposal approved by SUM. I also reported my project to the Norwegian Social Science Data Collection Services (NSD), which approved my plan of how I was to properly manage the gathered information. Moreover, I asked my informants to sign a form of informed consent[16] before starting each interview. This document described the intention of my study, explained that participation was voluntary and that they were free to answer the questions they wanted and withdraw from the study at any time. It also underlined that their identities would be kept anonymous and that any information they provided was to be handled exclusively by me. Throughout this thesis, the informants are given fictive names to keep their identities from being revealed. A system of codes indicating the age, gender and household composition was added to these fictive names. This system of codes is explained in appendix D. All data, including field notes, transcripts and recordings, is to be deleted at the end of the study. Throughout the entire process, I was also conscious of the balance between maintaining the dignity of my

[16] See appendix B

informants, while still analyzing and discussing my findings critically, a methodological consideration stressed by Syse (2001) among others.

In this chapter I have outlined my choice of methods, discussed the methodological challenges I encountered, and the ethical issues that had to be taken into consideration throughout the research process. With this presentation of background, theory and methodology, I now turn to the analysis sections of this thesis. I will start off by looking at how my informants viewed food waste and their efforts and challenges to avoid it in everyday life.

# 4. “You Just Don’t Waste Food”

In this chapter, I will start off by looking at the role of ideology, mentality and context for how young adults perceive food waste. From there, the structures influencing food waste behavior at the household level will be addressed, including materiality, sociality and habit. Furthermore, I will explore the extent to which age itself is determinant for food waste behavior, compared to the importance of different types of household compositions and socio-economic position. Lastly, informants’ own initiatives and motivations for food waste reduction will be examined. However, I will start off by looking at how the informants themselves perceived the issue of household food waste.

Nearly all my informants said that wasting food was principally wrong. They knew that far too much food is thrown out and emphasized how they themselves do not waste food. However, explaining *why* food waste is such a bad thing turned out to be more challenging. The immediate reason given by most of them was that “you just don’t waste food” and that it was “unnecessary”. It simply did not feel right to them. One informant explained this sense of meaninglessness of wasting food in this way:

> “I don’t really know why. It’s as if food is the most unnecessary thing you can throw away. All other things have to be thrown away at some point, no matter how good you are at taking care of and reusing it. You can’t avoid it. Whilst with food, eating it is its natural ending point. So wasting it is totally unnecessary.” (Monica, WC30).

The extent to which informants believed food waste was bad varied across my sample, but they all shared the basic principle that food should not be wasted. Eating what you had was explained as a virtue and all of them claimed to be uncomfortable with being associated with splurging. However, the interviews, observations and tracking of food waste behavior showed that food was wasted to some extent in all the households of my study. Why is it that these principles and practices regarding food waste largely did not coincide? In an attempt to answer this question, I turn to an examination of ideology and mentality.

## Ideology and Mentality

Ideology and mentality are difficult concepts to clearly define and so are the boundaries between them. In everyday life, these words are often used to describe the same thing; our mindset and the principles that are important for how we think and act. However, the difference between the two is valuable in order to understand why my informants' food waste principles in various degrees diverted from their actions. According to Syse (2009: 59), *ideologies* are explicitly formulated by experts and consciously taught as principles to follow within a group. Thus, when ideologies change, they do so rapidly. However, ideologies are based in our thoughts and concepts, while not necessarily engaging with how people actually act within a material and social context (Sahakian and Wilhite 2014: 29). Within these contexts, our actual perceptions and priorities are shaped and slowly form our *mentalities*. Unlike ideologies, these are implicit and subconsciously learned through practices that are considered proper within a specific culture. They include "norms, ways of conduct, behaviour-patterns, and perceptions" (Syse 2009: 59). In short; ideology is the way people themselves or other people believe one *ought to* think, while mentality is the way they actually think (Syse 2009: 58).

The construction and transmission of ideologies is closely linked to socialization (Baxter 2005: 111). As noted by Frønes (2006: 24), socialization is "a process in which children develop as unique individuals, and at the same time become part of a certain society and culture". All of these young adults in Fredrikstad had to some degree been explicitly and repeatedly taught while growing up that wasting food was improper behavior. During the conversations, the widespread ideology expressed by this group was that food waste was bad, that people waste too much and that they themselves did not waste any food. Two narratives seemed to have been dominant in the socialization process materializing and transferring this ideology; one of past hardship and the other of poor children starving in Africa. The challenges connected to these narratives will now be examined.

## Old Narratives and New Context

According to Syse (2009: 70), "narratives set the standard for respectability" within a culture. In her study on cultural aspects of land use in Scotland, she discusses how narratives shape the ideals and virtues of new generations (Syse 2009). For these farmers, manual labor and hard work were old virtues that remained important in the face of the modern context. Despite new kinds of equipment and more administrative tasks making modern farming life less physically straining, the ideology of labor as a virtue worked alongside the mentalities of the new generation of farmers. In the case of household food waste, this dual concern for old virtues of frugality and hard work on the one hand and consciousness of realities of the modern context on the other created a complex view of this issue within this age group. None of my informants had ever experienced or feared that they would not have enough food to eat, although some had experienced more difficult financial circumstances while growing up than others. All of them had been told stories of food shortage in "the olden days" and believed that food was not to be taken for granted. This idea was explained as having been "built into their system" from childhood, as a virtue "sticking to their backs".

Being able to avoid food waste was presented as a talent mostly found among the older generation. All my informants consistently used the term "good"[17] to describe people who avoided more or less all food waste and managed to use everything they had. This was seen as requiring significant efforts and hard work. Thus, the stories of past hardship and food shortage created an ideology of food waste being principally wrong and avoiding it as admirable behavior. On the other hand, there was a widespread sense of looking at this ideology and food waste consciousness in a somewhat humorous and critical way. This "irrational" discomfort of wasting food in a modern Norwegian context of food abundance might reflect a co-existence of different mentalities within the same person at the same time, a scenario depicted by Goff et al. (1978: 256). Many expressed a genuine respect for their grandparents' ability to avoid food waste, but also saw it as something that did not belong in today's society. Words like "extreme",

[17]Own translation of the Norwegian word "flink", a characteristic referring to a combination of being good, skilled, dutiful and proper.

"exaggerated" and "hysterical" were commonly used about their efforts to avoid wasting food:

> [Why is it that you don't want to waste food?]
>
> "Yeah [Laughter]. Hm, I don't know. I guess I was taught not to waste food. My mother doesn't waste anything, you know. And my grandmother does not throw away anything at all. It was simply… Even if the red pepper had gotten to the point where you could squeeze… yeah, no, you still have to eat it! [Laughter]. So I'm sure I have that with me from there." (Bente, WC33)

Thus, despite immediately expressing that food waste was principally wrong, discussing it further revealed that new mentalities no longer matched this ideology in real life. In modern Norwegian society, food *abundance* rather than shortage is the norm. As opposed to previous generations, the majority of Norwegians today can afford to waste food. Thus, the context within which these narratives are meant to fit has simply changed too much for these stories to be perceived as relevant. According to Giddens (1992: 35), old traditions take part in the modern context, shaping people's behavior and perceptions. "[…] traditions can be justified, but only in the light of knowledge which is not itself authenticated by tradition" (Giddens 1992: 38). The systems of modernity are reflexively reproduced, constantly challenged by new knowledge, thought and action. In the case of food waste perceptions among my informants, the new knowledge and experience of food abundance had reduced the relevance of these old narratives of avoiding food waste out of personal economic concern. This duality of mentalities was widespread within these households, referring to the balance between feelings, knowledge and traditions perceived as irrelevant within the same line of thought:

> "It's a no-no to waste food. And not everyone has food. Uhm. But I do laugh a little bit of them [parents in law who do not waste anything]. I admit that. But it's a good hearted laugh." (Ane, WC20)

All the informants had heard the argument "Eat your food. Think about the poor children in Africa" at some point of their childhood. However, although they expressed consciousness about the fact that not everyone in the world has enough to eat, this was viewed as an irrelevant principle in all the households of my study. Those who *did* think about it quickly emphasized that it was irrational. "You cannot send your leftovers to Africa anyway" was a repeatedly stated reason. The link between their own food waste and people starving in Africa had been reduced to a principle of global solidarity or an old fashioned and somewhat problematic way of making children eat. This will be

further discussed in chapter 6. Nevertheless, the persistence of this ideology seemed to raise the threshold for wasting food for some informants. It seemed like one foot was planted in the past and the other in the present, with certain mentalities governing feelings of guilt. Their practices, however, were largely formed by other mentalities closely linked to and shaped by modern structures. In practice, new concerns and priorities of daily life had in many cases taken over. This informant explained a balancing act between different mentalities, expressed by many:

> "[…] But in a way, it means that we don't have enough food to feed everyone in the world. That's probably a thought that goes through my head. Because it's sort of an automated thought. And you have been taught, there's culture in, not to waste food. And there's culture in finishing your food. Does it bother me personally? Hardly. I don't think so. But it's more of a learned thought. And that's about upbringing. That you've been taught to always finish your food. I've been taught to always finish what you've served yourself with and that you shouldn't waste food. It's almost as if you've been taught that it's better to sit around the table and overeat to finish everything. "Take that last pork chop" "Take those potatoes". "Just a little bit more". You know what I mean? And then everyone just swells out. Instead of throwing it in the bin. And in a way, you know, whether you eat it or throw it in the bin is really the same thing. I mean, the consumption of food is equally high in the world. So I don't really think I feel any guilt about it. And if I think that ["Think about the poor children in Africa"], and if I say that out loud, then it's more automated". (Johannes, MC29)

Despite this feeling of irrationality in the face of new concerns, a number of informants still seemed to feel a need to excuse themselves for having wasted food[18]. During the conversations, many of them repeatedly made comments like "Oh, now I feel horrible", "I know. It's bad" or "I seem like the worst person ever now", when explaining how, why and how much food they wasted. However, there were differences in the ways many spoke about wasting food during the conversations and how they felt and talked about it in practice. By comparing the conversations and observations of how food was evaluated and handled, it seemed like thinking and talking about food waste sparked more feelings of guilt and apologies than when actually throwing food away. For the most part, comments in these situations were made in a more humorous tone, with jokes about how it was such bad timing that I came to "check up on them" on that particular day and that they would get a bad note in my book. Some also made fun of how wasting food *should* have made them feel bad, although it did not. Paradoxically, a concern for starving people still seemed to be perceived as what *ought to* be their reason for disliking food waste:

[18] This could also be a result of them knowing my interest in the topic as a researcher.

> "I think about the money, really. But then again, I also think that... Or, what can I say? I think of people lacking food and those things, so… No, I don't really know. I don't think that much about that, really. To be honest. It's… If I throw away a potato, I don't think that [laughing] someone who's poor could have eaten it, for example. Even though I probably should." (Monica, WC30)

These differing mentalities can explain this divergence of values and practices concerning food waste. While my informants *expressed* a concern, they largely *acted* differently. Syse (2009: 65) notes that mentality and practice influence one another in a reciprocal way, changing what is perceived as normality. By doing differently, we start thinking differently. Investigating the dynamics of practice might bring us closer to an understanding of the food waste mentalities within this group and further on the challenges of changing both of them. Thus, I will now continue onto the role of practices, as well as the factors that shape them. Which elements structure the modern context within which young adults live, think and act?

## Social Practice

Conventional economic theory is based on an assumption that people's actions are a result of rational considerations of potential risk and profit leading to a conscious choice (Sahakian and Wilhite 2014: 28). However, supporters of *social practice theory* question this notion, arguing that it ignores the impact of structures and bodily history on human practices (Bourdieu 1977; Sahakian and Wilhite 2014; Wallenborn and Wilhite 2014). Central to social practice theory is *habitus*, referred to as "systems of durable, transposable dispositions" (Bourdieu 1977: 72). These dispositions for thought and action compose the system from which all new experiences are perceived. Moreover, these experiences are then absorbed into the habitus, reshaping the dispositions for how we perceive and act from then on (Sahakian and Wilhite 2014: 27). This forms a dynamic relationship between the habitus and practice. In addition to physical practices, the cognitive, including ideology and beliefs, forms the background knowledge of the habitus (Sahakian and Wilhite 2014: 29). Furthermore, people's interaction with materiality also shapes these dispositions. Thus, human behavior is not the result of rational or strategic choice, but rather a product of a socially constituted system of cognitive and motivating structures where practices are produced by and

reproduce these structures (Bourdieu 1977: 76). What are the structures that form and shape the predispositions for the practice of wasting food, despite people more or less wishing to do differently?

## Habit

To answer this question, I will address the three agentive pillars of practices; the things we use and surround ourselves with, the social context we live within and the history embedded in our bodies (Sahakian and Wilhite 2014: 28). Firstly, I turn to the dynamics of habit. From a practice theory perspective, the irrationality of practice is the result of the dispositions made up of social and material structures, as well as the very repetition of these practices (Sahakian and Wilhite 2014). Reckwitz (2002: 249) defines a practice as "a routinized type of behavior which consists of several elements, interconnected to one another: forms of bodily activities, "things" and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge". The routinization of these practices into habits anchors this behavior in our dispositions. Shove et al. (2012: 103) define habits as practices that are "recurrently and consistently reproduced by suitably committed practitioners". Habits have *agency* over our future actions, defined by Ortner (1989) as "the capability or power to be the source and originator of acts". Throughout the conversations with my informants, many of them said they believed several of their everyday routines in fact did not make any sense. Some were also somewhat taken by surprise when either noticing or having pointed out to them routines that might influence their food waste throughout our meetings. Most of them laughed at their own behavior a number of times during our conversations, saying that they could not really explain why they did many of the things they did. They were simply referred to as bad habits that were hard to break.

By repeatedly wasting food, the experience of this practice is embedded into our habitus. This further reshapes our dispositions for how we act and think about food waste, and therefor also our experience of wasting food from then on. As noted by Shove et al. (2012: 109), there is "no reason to suppose that people can be released from the grip of habitual practices by consciousness raising or by bringing taken-for-granted arrangements into view". Knowing logically that something is irrational behavior is not

sufficient to change it. Wallenborn and Wilhite (2014: 61) stress the importance of "bodily knowledge", developed through repeating a particular practice. Like training to make the best instinctive decisions during a football match, habits train our bodies into a behavior perceived as natural. Thus, it is by *doing* that the body learns what to do from then on, without conscious recognition of rationality.

Repeating a practice that initially produces discomfort also shapes our dispositions for how we feel about performing it from then on (Sahakian and Wilhite 2014). This was also the case for wasting food. Some of my informants claimed that they previously felt guiltier about wasting food. However, the majority of them said to have come to terms with three notions; 1) that food waste was hard to avoid, 2) that others wasted more than them, and 3) that their waste was not significant enough to generate personal guilt. The agency of repeatedly wasting food seemed to have led to a reshaping of the views on, as well as the very practice of wasting food. Thus, when wasting food – and especially without believing to have a good enough reason not to do so – this habit in itself reduces the discomfort people initially feel towards it. One informant explained this feeling of "automated waste" like this:

> "It depends a bit on the quantity of it. Big amounts of food.. uhm…make me feel that conscience a little bit. And then I often think "I shouldn't have bought that much" or "I shouldn't have bought this, because we don't eat that anyway". And that makes me think that we don't need to buy that again. But that little wasting… Those small sips of milk or that cream that's a little bit bad, where there's only a third of it left or something? Those things I don't think I give that any thought, really? It's sort of just completely automated." (Johannes, MC29)

For some of my informants, the reshaping of food waste views and practices in the household partly stemmed from experiences with wasting a lot when working in various institutions. These informants spoke of themselves as having become "immune" to wasting the little food they did at home after repeatedly throwing large quantities over a period of time as part of their work. This habit of large scale waste in institutions rapidly shaped their feelings about wasting. They had come to terms with wasting a lot and distanced themselves from having any influence over it at work. Comparing these large amounts with the smaller amounts wasted at home also provided a relief of responsibility. One informant explained how working in various institutions where she repeatedly wasted a lot of food had influenced her as such:

> "Throwing that much food out [while working at a retirement home] has made me immune against feeling bad about food waste. The little I waste here at home will never compare to that" […] I worked in a hospital kitchen when I was young, when I was in high school. And there I had to throw a lot of food out, since the threshold for that was very low in a hospital. Everything had to be fresh all the time. I was 18 years old then. So maybe that took away the feeling of guilt? [Laughing]. And since then it has been like: "Oh well, this is so much less than in the hospitals anyway"." (Hilde, WF36)

Repeatedly wasting what was seen as small quantities thus affected how the informants felt about it. However, importance of quantity for feelings about wasting food seemed to vary between perception and practice. This will be further discussed in chapter five. Furthermore, the way food was chosen at the grocery store was also highly influenced by routine. Norwegian consumers are to a large extent driven by habit when shopping for food. Recent studies on consumption patterns have shown that only three out of ten consumers bought something new the last time they shopped for food (Kjuus and Flaaten 2015: 38). This seemed to be prevalent also among the households in my study. Most of the informants explained how they usually went through the grocery store picking up the products they know they usually buy, largely driven by routine rather than doing a conscious weighing of actual needs or experience of waste since last shopping trip. Several of those who wrote a shopping list explained how also this was mostly based on what they usually buy, rather than considering what they actually thought they needed. One informant explained it like this:

> "I guess I could have just used the same list every time we go food shopping, since I end up writing the same things on there anyway. I know what we usually buy and write that down before we go there, just to not forget anything in the chaos of the store. You have to be efficient and not go back and forth so much when you have two small kids with you who easily get bored." (Andrea, WF23)

Although several informants *did* write and bring shopping lists to the grocery store, this was in many cases a tool for continuation of existing shopping habits, rather than a conscious strategy to align purchases with needs.

## Materiality

In addition to habits reproducing and reinforcing themselves, the context of these practices and the things they involve also influence consumer food waste. According to Wilhite (2013: 66), *things* influence our practices by carrying predispositions for action. Technologies are not context-neutral, but have built-in *scripts* for action beyond the

planned design of the product (Wallenborn and Wilhite 2014: 29). This forms a set of dispositions that shape, as well as are shaped by, the practices from which these things distribute agency. In a reciprocal relationship, users of technology are continuously making and remaking "normal" use through repeating practices. Things do not have any impact on routines by merely existing. It is from the moment users start to interact with them that agency to shape practice is distributed to them (Sahakian and Wilhite 2014: 29). Thus, the impact of things and technology is to a greater extent a result of how the users interact with them. In that process, these things define and uphold a conventional way of life (Shove 2003: 203). Dispositions for the way we consume food and other types of energy intensive products and services are highly affected by the agency of infrastructure and technology (Sahakian and Wilhite 2014: 29). Despite my informants' ideal notion that food should not be wasted, a number of material structures and things in their everyday lives were presented as making it impossible for them to avoid it. These will be examined in the following sections.

## Price, Time and Availability

In Norway, studies of consumer behavior have shown that price is a significant factor when people determine what food to buy (Kjuus and Flaaten 2015: 38). The average percentage of Norwegians' income spent on food has decreased from 40 % in 1958 to 11.4 % in 2012 (SSB 2013). Thus, the combination of high incomes and low costs of food has been presented as a main reason for the high levels of consumer food waste in Western countries. According to calculations from 2014, an average Norwegian household could save up to 10 000 NOK[19] each year by simply halving their food waste (VG 2014). The economic perspective was also a part of the conversations about why my informants wasted food. Some referred to wasting food as throwing money out the window. However, when discussing motivations and challenges regarding food waste, other reasons seemed to weigh heavier. One informant expressed it like this: "I know it [not wasting food] would have saved me of both time and money. But I guess it isn't worth it then?" (Andrea, WF23).

Most of the informants did say that keeping food costs at a low level was a high priority for them. However, the amount of food they wasted was not seen as significant enough

[19] This equals approximately 1047 Euros (Nordea 2014)

to be viewed as a loss to their personal economy. Thus, arguments of economic benefits from reducing household food waste did not have any significant impact on this group. Price did, however, influence food waste levels in some ways. In all of the households, particularly expensive food was less likely to go to waste than cheaper food. This was reflected in both the conversations, observations and tracking of the food wasted throughout one week. Cheaper food, like bread and pasta, was more often thrown out than more expensive products, like some kinds of meat or special types of vegetables. This was the case for informants in all income groups. Moreover, those who were most conscious about keeping food expenditures low were also among the ones who wasted the most. Thus, low food prices relative to the average income was a material structure leading more food to be bought than what was eaten within these households.

The accessibility of food was also an important material driver of consumer food waste. Norway has one of the highest consumer supermarket ratios in Europe, with 0.8 supermarkets per 1000 citizens (Kjuus and Flaaten 2015: 30). Norwegian consumers visit a grocery store 3.4 times per week on average (Kjuus and Flaaten 2015: 3). Families with small children spend the most money per visit, while single people spend the least (Kjuus and Flaaten 2015: 3). Although none of my informants enjoyed shopping for food and wished they went to the supermarket less frequently, having food stores so close by[20] had created a habit among the majority of my informants of stopping by them on a daily basis. Among the families and couples, these decisions on what to eat were often made over the phone, without any of them being home to go through the kitchen for an overview of actual needs. The single people of the study also largely decided their meal on the way home, basing the shopping on memory rather than shopping lists of needs. This often created insecurities of whether or not they already had some of the "essential" ingredients at home and more food being bought than necessary. The households where this occurred on a regular basis ended up throwing out these kinds of foods more often. This lack of planning and overview of one's food supply has also been underlined as a contributor to household food waste by other studies on food waste behavior (Hanssen and Møller 2013).

[20] All my informants had supermarkets within a distance of 20 minutes by car. Most of them within 5 minutes.

Like many consumers in Fredrikstad, several of my informants travelled the short distance to Sweden[21] to shop for cheaper food. A study comparing prices on various commodities in the Nordic countries from 2015 showed that food costs 28 % less in Sweden than in Norway (Ormseth 2015). Independent of household composition, most of the people who went food shopping in Sweden did so once or twice a month to "fill up their food stock". Moreover, many of those who stated to save on food expenditures by shopping in large quantities once a week or once a month seemed to not account for the frequent shopping in local grocery stores. By tracking food consumption routines, many of those who in the initial interviews had stated to shop for food in this way were surprised to see that they actually stopped by the grocery store to get "that little extra something" nearly every day. Thus, the availability and agency of local supermarkets had also created an unconscious routine of shopping more often than what was both needed and wanted by the consumers themselves. This subconscious routine of "extra shopping" is a challenge to the impact of food waste reduction messages communicating the benefit of weekly food purchases. If you believe you are in fact shopping once a week, while actually shopping several times a week, these kinds of messages are not perceived as relevant.

Lack of time was underlined by all of the families as making it difficult to prioritize planning, buying and preparing food as well as avoiding to waste it. In most households the goal was to be able to plan better and be relieved from the hassle of coming up with what to eat the same day and having to go to the store every day. Nonetheless, "actually finding the time to plan better" was not prioritized among other activities of their busy schedules. Informants in various types of households had tried to implement a system of shopping lists and more structured shopping routines. However, most of them had quickly returned to the frequent list-free shopping, as sticking to the familiar was easier. When the practice of shopping every day is routinized, this reshapes the dispositions for *normal behavior*. Thus, despite a wish to consume differently, agency over practice had been distributed to the supermarkets through consumption itself, shaping the habit of its users. This interdependent relationship between availability of food and the habit of

[21] The Swedish supermarkets frequently visited by these consumers are located approximately 30 minutes from the city center of Fredrikstad.

shopping itself had raised the threshold for introducing routines of planning meals, writing lists that reflect actual needs and shopping for several days at a time. Thus, the communicated benefits of fewer shopping trips were acknowledged, but the agency of food availability remains a large threshold for change.

### Packaging

Studies have shown that food packaging greatly contributes to food staying fresh and undamaged longer. Thus, despite the environmental impact of plastics and other materials, packaging is a vital contribution to food waste reduction at several levels of the food chain (ForMat 2015). Nonetheless, unsuitable sizes of packages have shown to be a contributing factor for household food waste (Hanssen and Møller 2013). Among the households visited in Fredrikstad, sizes of meals were largely decided by what was in a package rather than what the informants knew they would actually eat, regardless of household composition. For families, the average sized package was often too small. Buying several packages then regularly resulted in leftovers. Couples and single, on the other hand, stated that packages in general were too big for them to finish in time. Creating package sizes suitable for all types of households and all types of preferences is close to an impossible task. However, the way many of my informants had adjusted their shopping and cooking to types and sizes of packaging reflected a reciprocal relationship between an increasingly busy lifestyle where food was given less thought and planning on one hand, and package types and sizes meeting and reinforcing this need on the other. In this process, agency to decide on both the type and size of the meal is distributed from the consumer onto the package itself.

With the development of the industrial food system, standard packaging for food has become the norm to ensure food safety and efficiency. Choosing the number of cold cuts or the amount of minced meat you want and need at the butcher is rather an exception than the conventional way of consuming in modern society. In addition to the relatively cheaper price of larger products, familiarity with the products was key to why unsuitable package sizes where repeatedly chosen by my informants. This loyalty to familiar packages is also reflected in the study by Kjuus and Flaaten (2015). Although many of them wished to cook more food from scratch, more or less ready-made dinner alternatives were widespread for the daily cooking in these households. Buying one

package of minced meat, a glass of pasta sauce and a package of spaghetti ensured a complete and familiar meal, although experience might have shown that these packages repeatedly produced leftovers. Several of those who did not mention this as a contributor to their food waste during the first interview said that they had been surprised by how influential these packages actually were when being asked to focus on it. A number of them had also been surprised by how often they threw out a certain type of food, without having noticed this before. Thus, the routinized consumption of unsuitable package sizes was for many a habit. Combined with familiarity and ease of these packages in a high-pace modern lifestyle, the agency of packaging is embedded in the habitus, further reproducing this practice.

### Objects and Appliances of the Household

Technology has led to a revolution in the diversity and amounts of food we buy, store and eat. Shove (2003: 201) notes that "contemporary convenience devices help users to manage daily schedules and co-ordinate social interaction in time and space". Innovation within kitchen appliances has enabled a "beating [of] the seasons", with refrigerators and freezers functioning as "time machines for food" (Shove 2003). They are a result of, as well as drivers of, the high pace and spontaneity of the modern lifestyle. Like for packaging, these technical innovations worked both as preventers and drivers of food waste in my own study. Appliances left unused have no agency over practices and conventions simply by existing. However, from the moment we start using them agency is distributed onto them, structuring our future food consumption in multiple ways. Thus, by repeatedly using things, consumers establish, reproduce and stabilize what is perceived as normal behavior (Shove 2003: 204).

Material structures were also important for the food waste practices in my study. Firstly, "always having done it that way" was the most common reason both for how they transported food home from the grocery store as well as where it was kept in the home. The lifespan of food is reduced if being exposed to wrong temperatures at some point of the storage and transportation process (Hanssen and Møller 2013: 22). Although the most recent ForMat report showed a reduction of this problem from 2009 to 2014, this is still a contributor to food going to waste in Norwegian households (Stensgård and Hanssen 2015a: 42). Very few of my informants had thought about the most suitable

temperature for various types of food before being asked, besides placing frozen food in the freezer and most of the fresh foods in the refrigerator. Both what was kept on the counter and where food was stored in the refrigerator was largely determined by habit and tradition, while the temperature of the refrigerator and freezer most often was set according to the standard settings.

For the refrigerator in particular, tall sauces, cartons and cans that had been opened were often placed in the refrigerator door, to keep it from falling over. However, people did not look in the shelves of the door if they did not have a specific purpose to do so, as this was outside of their main view. Moreover, the middle shelves often contained products like butter, eggs and cold cuts. These were also the most used products, therefore kept as accessible as possible. The habit of placing the least used products - often being opened and least durable - in the least visible places posed a challenge to avoid food going bad. Larger refrigerators decreased the risk of food "getting lost", allowing for more open space and overview. However, as mentioned, the *use* of the objects is fundamental for their agency over practice. Bigger refrigerators also enable the storage of more food, possibly leading to larger quantities getting lost and later wasted. Lastly, the refrigerator also facilitated a postponing of food waste, which will be developed further in chapter five.

The freezer was also an essential appliance for the practices of my informants. Like the refrigerator, the freezer had a double function as both a driver and inhibitor of food waste. On one side, the freezer enabled a desired variation of meals, not having to eat the same food several days in a row. However, it also presented certain thresholds to take food back out and eat it, as well as making food "disappear":

> "Sometimes we are good at putting it in the freezer. But we are not so good at taking it out of it again. If we are to use leftovers, we have to use them while they are relatively fresh. Because taking out a box of leftovers from the freezer is a bit of a threshold when we could just make something new." (Petter, MF37)

This point was stressed by many throughout our conversations. Although the food could be stored for a long time in the freezer, this also made it less tempting to eat. While functioning as a "time machine", it also created a mental image of frozen food being old, regardless of how long it had actually been stored. Mental categorization of food will be further discussed in chapter five. However, the traditional freezers with one big

storage space and a lid to open from the top more often contributed to food *"disappearing"* and going to waste. The new kind of freezer with drawers, on the other hand, greatly helped the process of keeping track of what food they actually had. Moreover, while the modern freezers most often were a part of the kitchen space, the traditional ones were often placed in another part of the house. Among the owners of traditional freezers, this was widely mentioned as a challenge to using and eating what was there, like for this informant who had her freezer placed in the basement:

> "Just knowing that you have to walk down those stairs to get to it feels like a threshold to not just using the new that you just bought or buying something new at the supermarket on your way home." (Ane, WC20)

The freezer is a good example of distributed agency onto material structures. Within a relatively short time since its introduction to private households, the freezer has become a standardized household appliance in high income countries (Shove and Southerton 2000). In Norway, the freezer entered individual households in the 1960's, as a result of massive campaigns targeting housewives with messages of its benefits for health, convenience and modern way of life, as well as the economic incentive of down payment systems (Amundsen 2011). Furthermore, the introduction of the freezer has contributed to the construction and maintenance of the industrial food system, as well as the demands of a high pace modern lifestyle (Shove 2003: 202). Thus, the normalization of the freezer has contributed to an overconsumption and further on an increase of household food waste, when used in a certain way.

Microwave ovens were also important tools to eat leftovers that largely felt like a hassle to make use of in these households. For many of the informants, this was critical for them making the effort of finishing leftovers, either reheating it as a proper meal or as small snacks in between meals. Thus, microwave ovens contributed to the spontaneity of the modern lifestyle and reduced the need for planning. Some informants spoke about blenders and juice machines being helpful to make use of food that would have otherwise gone to waste. This was particularly the case for fruit and vegetables. However, some believed these appliances might have actually increased their food waste, since it had made them buy more fruit and vegetables than before. As the use of the juicers and blenders failed to keep up with this increase in purchase, more food tended to go to waste. Furthermore, using a compost system distributed agency onto the

compost bin and influenced the food waste of my informants. The environmental benefits of it made these consumers feel better about throwing food away and contributed to a lowering of the threshold for when food could be wasted in many cases.

The dual contribution of these things and structures as both preventing and driving food waste touches upon the same challenges of material agency referred to by Sahakian and Wilhite (2014: 37) as "the rebound effect". Although new appliances are more energy efficient than before, the fact that they are bigger, that we buy more of them than before and that we are more prone to using them more when knowing the reduced economic and environmental cost, reduces or erases the overall environmental benefits of these innovations. Thus, how we use things and how a certain type of usage is perceived as normality is more important than the actual technological sustainability of a product in itself (Shove 2003). Certain material things make food stay fresher for longer and provide a better overview of purchased food, like modern refrigerators and freezers. Others help make use of food that otherwise would have been wasted, like microwaves and juicers. However, they also contribute to more food being bought and stored, as well as creating the notion that food in fridges and freezers last forever, until they are suddenly viewed as too old. In addition to these material structures driving food waste, sociality was also influential for the food waste practices in these households. This will be examined in the following section.

## Sociality

Concern for convention and complying with expected behavior within a social context is also an important pillar of practice. Giddens (1984: 25) argues that "the structural properties of social systems are both medium and outcome of the practices they recursively organize". These social structures of rules and norms that govern behavior are not permanent. They are created and recreated through a constant flow of feedback between the actors and the context within which they act, called the *double hermeneutic* (Giddens 1984: 25). The social norms influencing our practices change constantly through interaction and renegotiation with bodily experiences and the material world. Furthermore, how we consume food in particular, from purchasing to eating or wasting, is highly social (Warde 1997). Few of my informants said to have given any conscious

thought to how much food other people wasted or how they viewed food waste. Nonetheless, the following conversations unveiled a set of unspoken social norms that appeared to influence the food waste behavior and views of my informants in various ways. Such collective tacit knowledge is gained through negotiation with social conventions, as opposed to somatic tacit knowledge that is linked to our automatic and unexplainable practices (Wallenborn and Wilhite 2014: 59). According to Bourdieu (1977: 164), these tacitly accepted and unspoken social rules and values contribute to the production and stability of practices.

A general perception among my informants was that they wasted was less or around average of most people their age, regardless of the actual level of food wasted in their own household. All the informants said to have never thought about the food waste attitudes and behavior of other people. How people dealt with their food was seen as a private matter for every household to mind for themselves. However, the discussions that followed shed light on a number of subconsciously working social norms and perspectives regarding this practice. The reason seemed to be the perceived norm among young adults that in principal food should not go to waste, but that it was something everyone did and that it therefore was not such a big deal: "I guess it's closer to the norm that people shove what's left down the bin than the opposite?" (Johannes, MC29). The same informant later returned to how he perceived the food waste norms of among his friends:

> "In that case [if people make a point out of not wasting food in social settings] it is more like something you just say briefly after we've eaten and… And the moment we start to throw something away. That maybe someone then says "Oh, we shouldn't waste that much food. "No, I agree. My oh my, the poor children in Africa". And then we just continue. Like a comment. Taught to say." (Johannes, MC29)

Those who were uncomfortable with wasting food said they were hesitant about pointing that out to others in situations where food would be wasted. While they would keep the leftovers if they were alone, many felt uncomfortable with voicing this opinion to others. Although food has several social connotations, the kitchen space was seen as a highly private sphere where different considerations could be conflicting if the social aspect was added to it. The informants often did not view keeping leftovers as a negative thing in itself. However, context seemed to make the situation a bit different.

> "If they [guests] have kind of already gotten started with shoving it down the bin, then… Then I think I feel like it's a bit lame to say: "Hey, wait a second! I'm just going to... [Laughing] I'm going to keep that" Then it's maybe… yeah, two potatoes or something, which is rather cheap and all that. So it might be about.. That… That I sort of don't want to seem stingy, I guess. But then again, if it were me, then I wouldn't have thrown it out. So it gets to me, although I don't show it on the outside." (Toril, WC28)

> "Then [Seeing people waste a lot of food] I kind of feel like we are so different that I don't see the point in taking on the discussion or pointing it out to them. Then I just think, ok, these people are not, or they have another attitude to this than I do. It's not easy to do anything about that sometimes. But I am… I do state my opinion about it, that I find it strange. That it's not dangerous. That it's as good as anything else." (Kristian, MS28)

While discussing how others viewed about food waste, giving the impression of being unorganized came up as a part of why some hesitated to waste food in front of others. For a number of the women in my study, having a lot of leftovers or having to waste food was perceived as giving the impression of not being in control of things. When discussing the level of food waste among their friends, whether people were organized and "proper" or not was a widespread reason for believing certain people wasted more than others. Without having discussed it, one informant said there were certain friends of hers whom she could not imagine having a lot of bad food sitting around, as they were perceived as organized in other areas. Another woman explained it like this:

> "But if I, to make room for a cake in the fridge, have to throw away a pile of leftovers that were in there [while guests were in the room]. Then I think I would have felt more uncomfortable with it, in terms of... That people sort of could see that I had a lot of leftovers and that I'm considering throwing them out. Or that I give a bad impression of having a lot of bad food standing around. Not because people then might be skeptical of the food I'm serving. But that it might give an impression of us as people who are kind of not in control of things." (Karin, WC31)

The way several informants spoke about how much other people waste also uncovered some social norms. Like for older people, the term "good" was widely used to express an admiration of people their own age who or were able to avoid wasting food. Thus, in some ways this was seen as a virtue. Moreover, in terms of wasting food before it had gone bad, the words "hysterical" and "extreme*"* were by several of them employed about themselves with a certain degree of shame as to knowing it was wrong. However, these people also used the same terms when speaking about people who wasted very little or no food at all, framing this as not being ideal either. A few of my informants had friends who were particularly concerned with not wasting food and had become

known for it. After talking about how the group of friends found the efforts of one such friend a bit funny, one mother said:

> "No, it's just fascinating, that's all. That she is able to do it. It's not anything negative. We make jokes about it. Like: You'll take that with you, right? [After cabin trips or common dinners etc.]. It can... We laugh about it. She thinks it's bad to waste that much food. So she says something about it. But I think she feels a bit like... It's almost as if she wants to take it home with her. But that almost seems a bit… rude, you know? Or what can I say? Yeah, I think she holds herself back. I think she can feel like that sometimes. That it can seem a bit stingy, in a way? That you're supposed to use all the leftovers instead of making something new. That she can feel a bit bad about that. That she really hopes someone else takes it with them, I think. So that she doesn't have to waste it and that she doesn't always have to be the one who takes it home." (Siri, WF38)

Expressing a wish to keep all kinds of leftovers and being "extreme" in their efforts to avoid food waste was widely mentioned as something that could make them appear stingy and old fashioned: "And it feels kind of private, in a way. That you're not supposed to offend… That it can seem a bit stingy and old fashioned, you know." (Karin, WC31). This was mentioned in a number of households:

> "If we had had some friends over, a couple, then I wouldn't have asked them to take leftovers home with them, for example. I wouldn't do that. It's just not something you do[22]. "You don't think I can afford it, do you?" Maybe it's a bit stingy to save leftovers." (Maren, WF35)

The social norms related to wasting food were thus implicit, but highly influential in shaping perceptions and practices within these households.

## Household Dynamics

Drawing a definite line between habit, materiality and sociality is impossible with regards to their agency over practices. The presented agency of habit, materiality and sociality was influential in combination and in various ways within all the households of the study. Nor is it possible to outline a template for what causes all young adults to waste food. Age was a basic component of my rationale and approach, and the balance between persistent ideologies and new mentalities indicate some reasons for the higher levels of food waste within this group. However, household composition and lifestyle related to it were in several regards more influential for food waste practices than young

[22] Own translation of the Norwegian term "tar seg ikke ut", referring to behavior that would be frowned upon, conflicting with social expectations and does not give a good impression.

age in itself. Thus, the following sections present an analysis of the importance of household composition for food waste perceptions and practices. These structures became clear through conversations about their current lifestyle, as well as stories about how their views and practices had changed over the years and through transitions from living in one type of household to another. Although the informants of these three categories did not share all the same perspectives and challenges for food waste reduction, a number of factors formed a relatively clear pattern of challenges connected to the household composition in particular. These will be presented in the following.

### The Singles

Informants living by themselves had a more spontaneous lifestyle than the couples and families in the study. This also reflected their food consumption and the waste it produced in various ways. Spontaneously changing dinner plans and suddenly going on weekend trips led to some food occasionally going bad. This was made clear both in the conversations and the tracking of food practices. However, the consumption routines of the majority of the singles led to less food going to waste in these types of households than the others. Although other factors were important for many of the single informants, the meal was often considered more as a necessity rather than a cultural and social ritual. Many of them stated to enjoy cooking, but mostly when doing it with or for others.

Single people, and especially single men, were more prone to put together a meal from the food they had, rather than being concerned with appearance, composition or variety from day to day. Furthermore, people living by themselves seemed to calculate more or less the right amount of food for each meal. If having miscalculated, they were more likely to eat that little extra to finish up and if that was too much, few of them were opposed to eating the same thing several days in a row. The exception was for a few single informants who more or less exclusively based their meals on the size of the packages. These had gotten used to these producing the same amount of leftovers every time, and saw it as limiting their spontaneity to have to find a purpose for these leftovers. As opposed to the norm among the couples and families, this group was also more receptive to cook larger portions for the purpose of eating over several days.

Ultimately, bearing responsibility only for themselves relieved the singles from many of the cultural and social expectations the couples and families were confronted with.

### The Couples

When transitioning from living alone to living with a partner, routines related to food consumption changed in a number of ways. Sharing a household with a partner naturally required taking some time to get to know how much their partner eat, as well as somehow adjusting to the other person's habits. This allegedly led to some initial miscalculation of food. However, a number of subconscious practices were also introduced when the household went from having one to two members. First of all, the meal became a central element in the project of creating a proper home, with all the required material, cultural and social elements. In this process, the meal was given value beyond nutrition and personal preferences of taste, and spurred a goal of more variation of meals from day to day. These additional cultural meanings and expectations emerging in this "nest-building" process were most often found among women, as will be further discussed in the section addressing gender in chapter five.

Moving in with a partner also introduced new material and cultural elements to the meal. When living and cooking on their own, they simply served themselves directly from the pots and pans, not thinking about creating a certain frame around the meal. Living as a couple introduced a habit of setting the table and making use of material components such as serving plates and bowls. The amount of food cooked was then usually either determined by the size of the packages or what would look best in these plates and bowls. When these sizes did not match the amount of food that would actually be eaten, more food was wasted than before. Politeness towards the partner was also given as a reason for ending up with leftovers more often in these households. When serving oneself, there was a tendency of ensuring that the partner would get what he or she wanted, as well as hesitating to take the last pieces on the serving trays. While they previously ended up with rather eating a little more than what they actually wanted to prevent "unpractical leftovers", this did not feel natural when eating with a partner. If all was eaten, several of these informants expressed a concern that the other had not gotten enough to eat although not expressing it. These were unspoken concerns that several of the couples said led to small amounts of food usually being left over.

Some stated to have a significantly higher threshold for wasting food prior to moving in with a partner. Learning how the other person wasted more quickly had led to a lowering of the boundaries for what they were comfortable about wasting. As the new level of wasting became a habit, this further adjusted how they felt about wasting, establishing a new norm. This way of adjusting principles and practices to those of their partner was more common for women than men. Compared to when they were living alone, having food left over seemed to be an acceptable consequence of meals in a proper home. Thus, the mentalities regarding leftovers had been shaped to the new context of a two person household. Sharing a household also created a blurred sense of responsibility for eating food before it went bad. For example, if one of them bought something, the other one tended to not have an overview of the food they had or when it had been purchased, as well as not feeling that it was for him or her to eat. Additionally, if there were leftovers or something else seen as not tempting to either of them, leaving it there for the other to "get rid of" or just waiting for it to go bad often led to food being wasted more often than when they were the only ones responsible for the purchased food. Moreover, not having any clear thoughts of what had been eaten by the other also created a greater sense of buying something "just in case" they had run out of it.

Many of the couples seemed to be in somewhat of a limbo between creating certain frames for the home on the one side and limited responsibilities on the other. They were committed to sharing and building a home and in that regard protecting the cultural value of the meal. However, this was to some extent accompanied by a continued spontaneous lifestyle, free of many of the responsibilities and predictable structures of the families. This made planning for what to buy and when to eat the leftovers more difficult for couples than for families, who largely had a much stricter weekly schedule. This middle way between single life and family life seemed to create these particular challenging to avoid wasting food.

### The Families

The family meal included an additional set of cultural and social purposes to what was already important among the couples. Creating a firm routine and an atmosphere around the meal where all the family members could calm down and spend time together was a priority or a goal for all the families in the study. For most of the families, everyday life

was talked about as one big effort of "managing the family business" of activities, considerations and a stressful schedule. Having children naturally introduced a new set of responsibilities and decreasing spontaneity, further leading to a change of food consumption routines. Moreover, unpredictable eating patterns among the children allegedly made it close to impossible to entirely avoid wasting food.

These changes of food waste perceptions were not solely driven by practical challenges. Many of my informants stated to be particularly concerned with setting a good example through their food practices when having children, teaching them good manners and etiquette. However, building a positive and healthy relationship with food was often seen as more important. As in the case of some couples, several of the parents had adjusted a number of principles that previously governed their food waste behavior. Many of the ethical consumers had come to terms with a number of old virtues no longer being possible to abide after having children, among them the principle of not wasting food. This ultimately contributed to the overall higher levels of food waste within the families of my study compared to the other types of households, regardless of how they viewed this before. The sense of global responsibility seemed to decrease with each step of increasing the size of the household. With this, an increase of the level of food waste also seemed to follow. This is also reflected in the findings by Hanssen and Møller (2013: 4), of levels of food waste increasing with the size of the households. These changes pose a challenge to food waste reduction efforts, as many of those who originally felt bad about and largely avoided wasting food felt less and less bad concerned and guilty about this practice. This will be further addressed in chapter six.

### Predictability and Pragmatism

Based on the conversations and tracking of household food waste, the overall image of the different types of households was that singles, and particularly men, wasted the least, couples wasted more and families wasted the most. Systemized food routines regarding planning, shopping and preparing seemed to produce less food waste. These informants generally had a better overview of their food, rarely bought more than planned and managed to produce fewer leftovers than those who were less systematic. However, the families who had introduced these systems also had certain routines that increased their food waste levels compared to those who were more spontaneous. First

of all, the threshold for throwing something out was generally lower for the people with stricter systems. It seemed as if having found a system that had prevented the previous levels of stress had led them to stick to the system "no matter what". This made these consumers less pragmatic about changing dinner plans or adjusting the day they went shopping according to what was already in the refrigerator. Lastly, this newly found order seemed to have provided these informants with a sense of having reduced their food waste greatly compared to their unorganized days. This had further removed the sense of guilt over wasting the food they did, regardless of the amount.

The more spontaneous informants had more difficulties keeping track of the food they had, leading to some of it "disappearing" and going bad. They were also more prone to buying more than they actually could finish in time for it not to go bad. However, these informants seemed to have a lower threshold of using and reusing food in different ways, as they rarely had to consider existing food plans. This led to more creativity in the way meals came about; using more of what originally would not have fit in. Thus, improved systems and structure, as well as the feelings of content connected to these improvements, led to lower levels of food waste within some areas. However, this also justified food waste within other areas. Some of the gains of less food waste from having a more organized everyday life were swallowed by the need to organize. Nonetheless, the structured consumers avoided many of the situations that forced the spontaneous consumers to be creative, like leftovers and having too much food stored at once. Thus, the benefits of a planned food system seemed to precede those of the more pragmatic consumers.

### Income and Education

In addition to looking at household composition and age, I also examined the importance education level and type of profession for food waste practices and perceptions throughout the interviews. As mentioned above, I did not include question on accurate income level in the interviews. An overview of the educational level and type of profession was seen as sufficient for the purpose of this analysis. The analysis of these factors is rather based on the average income and social position of the professions represented in my sample. Education level and type of profession seemed to influence food waste perceptions and practices only in limited ways. The people who had

introduced strict systems for their food consumption all had higher levels of education and professions with a relatively high income. However, such rigidness also led to an increase of the "systematic waste" of these households. The households where the informants had a relatively high income were generally more concerned with global issues and had introduced a number of conscious consumer practices. This did, however, not have any significant impact on the view and priority of food waste reduction as a conscious consumer behavior. Some of the informants with lower levels of income and education spoke about how limited financial possibilities when growing up made them particularly concerned with respecting food and not wasting it. Thus, although these factors did not indicate a significant difference in levels of waste, people of lower income and educational levels more often expressed to feel guilty about wasting food. Overall, from the conversations, observations, and self-reporting of food waste routines, these factors were insignificant to the levels of food waste.

## Reshaping Dispositions

As with practices themselves, materiality, sociality and habit are structured by and structure the things, norms and practices in an ongoing reshaping of dispositions (Bourdieu 1977: 90). Thus, the complexity of the habitus is a challenging, but important analytical tool for understanding human behavior. Wilhite (2013) notes that consumer practices in affluent societies have become energy and material intensive, as well as deeply resistant to change. This includes how we move, how we clean ourselves and the things around us, as well as how we consume food. Thus, by exclusively focusing on awareness building through information we are underestimating the knowledge embedded in our bodies from previous practices (Sahakian and Wilhite 2014: 29).

One reason why it is difficult to know how to create a change in behavior among others is that the motivation for actions is not known to the one performing it (Krange 2004: 65). Sahakian and Wilhite (2014: 31) stress the need to actively and repeatedly perform the wanted practices to ensure that these practices are embodied into our habitus and lead to positive behavioral change. "[…] significant changes in practice will be more likely to come through participation in practices than by exposure to arguments for or

images of new practices [, while such participation also can lead to] a body-close understanding and demystification of the consequences [of that practice]" (Wallenborn and Wilhite 2014: 61). Making people repeat the practice of *not* wasting food is somewhat of a challenge. However, a tracking of the sort that was performed in this study might make consumers focus on the habits generating food waste in their household. Working through existing motivations and incentives that unintendedly reduce the level of food waste in many of these households might be another way of embodying the knowledge of avoiding food waste among these consumers. Now, I will turn to food waste reduction measures initiated by the informants themselves and the motivation behind them.

## Consumer Initiatives and Motivation

Despite the abovementioned structures challenging a reduction of food waste in the households of this study, several informants had actively changed certain routines in order to avoid wasting food. For example, two of the families had consciously decided changed to prioritize food more in their daily lives. They had previously more or less followed the abovementioned habits of choosing, shopping and preparing food close to every day. However, the subsequent stress of these family life routines had caused them to introduce a new system. These families now normally planned their weekly menu, wrote a shopping list and bought all the food they needed once a week. To make this planning as easy as possible, they had also organized a system of recipes that made it easier to quickly compose a menu and list, and avoid falling back into old ways.

A common trait for the families who had managed to implement these lasting changes was an overall dedication to structure and sticking to a system. The benefits and challenges of such rigidness for food waste reduction will be further discussed in the following chapter. However, these families seemed to produce less dinner-related food waste than those who shopped for food on a daily basis without a real overview and a shopping list reflecting actual needs. Other families had made smaller changes to their food shopping, like introducing a phone application enabling household members to more easily produce and share a shopping list that reflected actual needs. This was also

presented as a contribution to less food being wasted than before. Moreover, a few of the single informants actively chose smaller packages as a result of seeing how much they repeatedly wasted, despite preferring the larger and relatively cheaper packages.

Several informants of all kinds of households had also made conscious changes to how they stored fruits and vegetables. The bottom drawer of the refrigerator, in most cases used to store fruits and vegetables, was repeatedly mentioned as a challenge to avoid food waste. When asked why this food was stored there, some mentioned that this part of the refrigerator was cooler and therefor kept the food fresher. However, most of them said that this was simply how this had always been stored, both by themselves and by their parents when they were kids. One young man expressed great frustration about this drawer, where he normally kept his vegetables. After repeatedly seeing them go bad long before what he believed to be their normal lifespan, he had renamed it "The Drawer of Death". His solution was to move the drawer one level up in the refrigerator. This had made a big difference, allegedly due to the greatly improved circulation of air through the space where the vegetables now were. Other informants had also made active changes with regards to this bottom drawer. These included putting fruits and vegetables in a sealed box with a lid at the bottom of the refrigerator and keeping as much air out as possible. Others had moved them to the top shelves, where it was warmer, or kept them apart in two separate drawers.

One informant had realized that bananas and tomatoes went bad quickly and attracted flies if kept on the kitchen counter, while the taste and quality of them seemed to deteriorate faster if they were kept in the refrigerator. Her solution was to put bananas and tomatoes in a wine cabinet, where the temperature was around twelve degrees Celsius. This seemingly contributed greatly to wasting less bananas and tomatoes than before. Some informants had made a habit out of putting the first layer of the lettuce in ice-cold water to revitalize this soggy part that they earlier automatically threw away. Others had also started doing this for carrots and other vegetables. All the people behind these initiatives were convinced that their solution had contributed to them wasting less. Interestingly, many of them were different and some directly conflicting in their reasoning. This indicates that although some of these changes contributed to food staying fresh for longer, others did not have a direct impact on the lifespan of the food

alone. The contribution of these innovations might rather have been that they made the consumers consciously *focus* on their food and waste. The people who had done these changes had obviously focused on figuring out why this food went bad quicker than they would expect and how they could prevent it. Thus, increased attention towards these types of food might have been more important for the food being eaten in time rather than the innovations in themselves.

Thus, some had noticed their food waste practices and made active changes to them. What was the motivation for making these kinds of changes and sticking to them? For the families changing their system of food consumption, the motivation was most often to reduce the level of stress related to daily planning and shopping. Moreover, the focus on and changes regarding fruits and vegetables had come from discussing and sharing advice with others about the discovery of this valued food going bad faster than expected. The purpose of buying juicers had not initially been to reduce their waste of fruit and vegetables, but improving one's health or having a greater variety of juices than what could be bought in the store. A key element in this regard was learning about these tips and tricks from someone they personally knew and that the changes did not seem too difficult to implement. Overall, there seemed to be two common traits for most of these initiatives. One was that food waste reduction was an unintended positive side effect of something with another main purpose. Additional examples of such unintended side effects will be discussed in the following chapters. The other important trait was that the initiative came from a personal acquaintance, not through a public or impersonal channel. This seemed to make it easier to picture this as applicable in one's own life as well, as opposed to distant advice seeming too complicated to implement. Thus, working alongside these existing motivations to engage change might be a valuable strategy to change practices.

## Summarizing Remarks

Persistence of traditional ideology within a modern context seemed to have formed a set of conflicting mentalities among these young adults. The mentality of food waste not actually having any impact on food shortage, beyond that of principle, poses a challenge

to food waste reduction in practice. Although one cannot send leftovers to Africa, food wasted by Western consumers has a major impact on global market mechanisms and access to food, as mentioned in the introduction of this thesis (FAO 2014a) The only hunger-related argument my informants had perceived about consumer food waste was the one of hungry African children, seen as old fashioned and irrelevant. This rejected, while still dominating, narrative poses a challenge to the acknowledgment of other messages about the extensive impact consumer food waste has on food security.

When combined with the agency of materiality, sociality and habit of this context, these multiple mentalities consciously and subconsciously inhibit a reduction of household food waste within these households. Although we feel uncomfortable wasting food, the routinization of this practice is justified by the abovementioned agency of habit, materiality and socialization. The findings of different types of households facing different challenges to avoid food waste also indicate that "young adults" cannot be regarded as a common group with common reasons for wasting food. Changing the practice of household food waste is particularly challenging when so many aspects of it are related to habits and the norms connected to them are largely unspoken. Thus, there is a need to address, understand and reshape dispositions related to the three pillars that are deeply embedded in them. By making actors aware of their habits, this increases the possibility to change them. By speaking the unspoken norms, one opens up for the possibility for them to be questioned. I will now turn to how my informants related to their food and the specific mechanisms at play for food to be judged as inedible. How do knowledge and feelings influence the way young adults view and value food?

# 5. Knowing Food

In order to decide whether the food in front of you would be harmful to eat or not, you have to know the signs and indications separating safe and unsafe food. Most of my informants initially said that they believed evaluating food was a manageable task and that they were relatively comfortable with knowing what to waste and what to keep. However, throughout the conversations and observations, trusting *only* their senses to evaluate food safety proved to be a challenge to some degree for the majority of them. None of them could recall having been explicitly taught how to see, smell or taste the difference between good and bad food. Some said they might have learned about it in school or at home when growing up, but that they could not recall any of it. This informant expressed this insecurity when asked what would make it easier to avoid some of the food waste in the household:

> "More competency in evaluating the quality of food. That's definitely the case for me. If I kind of knew for certain where those limits actually go, then… When that package of ham actually is not good anymore, you know. Those kinds of things. To be honest, I feel like that's the main challenge." (Jon, MC28)

Senses alone were rarely decisive, but employed in combination with other tools. This uncertainty concerning one's personal senses seemed to be an important driver for food waste within these households. Thus, the dynamics of knowledge and trust concerning food are the basis for the questions I raise in this chapter; how did my informants evaluate food and to what extent do these approaches and use of tools inhibit a reduction of food waste within these households?

## Expiration Dates

Labeling expiration dates on food products was implemented as a general law in Norway in 1969 (Sosialdepartementet 1969)[23]. The initial system of expiration dates

[23] According to the Law Library at the University of Oslo, special rules might have been at work in certain sectors prior to these common regulations. However, these legal documents are the first to explicitly articulate these types of labeling as part of the general regulations on food safety in Norway. The Norwegian Food Safety Authority (Mattilsynet) was not able to give any additional information regarding when these systems of food labeling were officially introduced as requirements beyond these regulations (Forskrifter).

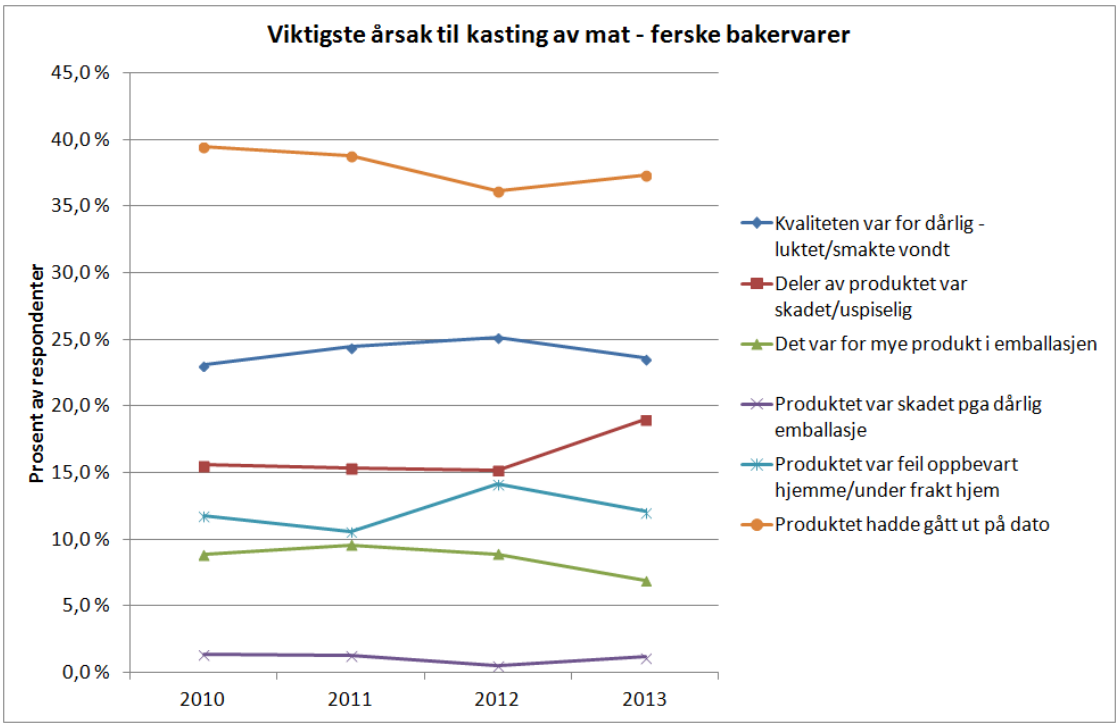
referred to the label *Use by*[24] This label is to appear on products that are easily perishable and that can rapidly cause health risks to consumers (Mattilsynet 2012). Meat, fish and seafood are some of the most common examples of such products. Today, these products cannot be sold after their expiration dates and must also include information about how they should be stored in the best way. The label *Best Before*[25] was introduced in 1986 (Sosialdepartementet 1986). Most food products sold in Norway today have this type of label and are often safe to eat far beyond the marked date of expiry. This label is not an indication of safety, but a guarantee from the producer of how long the product can be expected to maintain the same quality and appearance as it had when it was new (Mattilsynet 2012). Thus, these products may be sold beyond their expiration dates, but the seller then assumes responsible for not selling products that pose health threats to consumers.

In the 2013 study by ForMat, expiration dates were presented as the main reason why food was wasted at the household level (Hanssen and Møller 2013: 36). This has contributed to discussions of whether the current labeling system needs to be changed in order to bring consumer food waste statistics down (Dobbs et al. 2011: 154; Hanssen and Møller 2013). The same study uncovered that while expiration dates remain the primary reason for household food waste, this percentage has gone down in recent years. Meanwhile, there has been an increase in the percentage of people who know the difference between the two types of labeling. This has led to optimism and hope that increased knowledge will reduce food waste among consumers.

[24] "Siste forbruksdag" in Norwegian

[25] "Best før" in Norwegian

*Figure 2 Primary reason for wasting food – freshly baked goods*[26]




Source: Hanssen and Møller (2013: 36)

The findings by ForMat were to some extent confirmed when looking at the impact of expiration dates in my own study. Most of my informants underlined how it was important to look, smell and taste before throwing food away. There was also a relatively widespread understanding of the differences between these two types of labeling. However, expiration dates seemed to be a dominant tool for evaluating food quality and safety for most of them. Some expressed this view quite bluntly: "There's a reason the dates are there. I panic over those dates." (Karianne, WC22).

One mother also spoke about the dates as the most important factor for her to waste food, although indicating that she felt "a little extreme":

> "I guess I get caught up in those dates. To be honest. And the thought of the package having been opened. I'm never sure how long it can be kept after opening, really. Because that doesn't always say on the packaging. The date only says something about it before opening. But, yes, I generally think there's a reason why the dates that are there." (Siri, WF38)

[26] Own translation of title: "Most important reason to waste food – freshly baked goods". Orange line: "The product has expired". Other food groups showed the same tendencies, with expiration dates as main reason for household food waste.

## Alienation and Risk

Anthony Giddens (1992: 79) argues that one of the most important aspects of modern society is the distribution of daily tasks onto external institutions. People are increasingly distanced from processes that previously were a part of everyday life. This is also the case for food. While most Norwegians previously had a close connection to the origin of their food, either as farmers or members of a farming community, the majority of Norwegians today no longer have the same connection to the origin of their food. In traditional societies, both the production and consumption of food were constrained by natural boundaries and local seasons. However, technological innovations within farming, transportation and storage have liberated food production and consumption from its natural dependence on time and space. Our food can now be harvested and transported from the other side of the world and then be stored for a long time before being consumed. Today, more or less all types of food are available regardless of season while the processes and costs of food production are largely unknown to the consumer.

The availability and relatively low cost of food for Norwegian consumers increase this liquidity and high-pace that Warde (1997: 180) points to as particular for consumption of food as a commodity. This has reshaped consumption patterns and perceptions of food. In my own study, several informants said that they were more hesitant to wasting food they themselves or someone they knew had grown, compared to what they had bought at the grocery store. Furthermore, the difficulties in trusting their senses to evaluate food were influenced by various elements of industrially packed food. For instance, one informant explained how she found meat particularly challenging to assess by using her senses:

> ”[…] because I think meat smells really strange anyway. So I can’t really tell if it smells bad strange or just normal strange. So then I think it’s better to just not eat it.” (Ane, WC20)

Industrially produced and packaged foods contain chemicals to extend the quality and shelf life. For industrially vacuum packaged meat, the smell is fairly strong and can lead to a misperception among consumers of these products having gone bad (Matportalen 2005). These additives intervene in the natural process of food degradation on which

people's evaluation of food traditionally was based. Thus, such efforts to prolong the lifespan of food in the modern food system contribute to a distancing of the consumer from knowing how good and bad food is supposed to look and smell. Other informants expressed a general distrust of industrial food. This was a result of having experienced what they saw as unnatural durability of certain types of food and knowing that there were components in this type of food of which they did not know the biological consequences. These concerns did not only come from ethical consumers, but also from consumers who had not acted upon their concern.

This consumer distance from production contributed to a reduction of trust in one's own ability to evaluate safe food and increased the sense of risk related to food. Alienation and delegation of tasks to modern systems is a consequence of the increased level and diversity of risks within modernity. Beck (1992) describes this new step of modernity as the *risk society*. With the general increase and more equal distribution of wealth, class struggles which upheld the social institutions of the industrial society have been replaced by new and universal risks (Beck 1992). Several aspects of risk society influencing the perception and reaction to information will be discussed in chapter six. However, Giddens (1992) also stresses the impact of risk within modernity, increasing the role of impersonal institutions of experts.

## Trust and Expert Systems

The increased sense of risk creates an increased need to trust those who tell us how to protect ourselves from them. As a response, many of the processes of daily life have been entrusted *expert systems* (Giddens 1992: 83). Expert systems are "systems of technical accomplishment or professional expertise that organize large areas of the material and social environments in which we live today" (Giddens 1992: 27). Whereas trust has traditionally been built over a relatively long period of time and through face-to-face acquaintances, trust in these abstract systems develops without any encounters between the people and the experts. When undergoing surgery, the patient does not necessarily need to have the medical knowledge about or even have met the medical staff that will perform the procedure. Still, the trust is strong enough for the patient to entrust the abstract and impersonal system with her life. In this way, expert systems are

disembedding mechanisms, removing social relations from the local contexts upon which trust was traditionally built and maintained (Giddens 1992: 28).

When it comes to food, this delegation of trust largely involves both the production and evaluation of the quality and safety of what we eat. Determining whether food was safe or unsafe was traditionally a task based on the senses, knowledge and experiences of the consumer. With the introduction and institutionalization of expiration dates in modern society, the evaluation of food safety is shifted from the individuals to the experts. As noted by Giddens (1992), expert systems produce the surroundings modern people live within. In this process people's perceptions are shaped and new types of risks appear (Krange 2004: 24). Thus, by entrusting expert systems with the previously personal task of evaluating the safety of food, consumers run the risk of these systems failing and imposing a threat to people's health. Like the patient putting her life in the hands of an unknown surgeon, the consumer is putting his health in the hands of the system that has evaluated the expected life span of the product. This happens without the consumer having any personal knowledge of or relationship to the people responsible for them.

According to Giddens (1992: 90), trust in abstract systems within modernity is "routinely incorporated into the continuity of day-to-day activities and are to a large extent enforced by the intrinsic circumstances of life" rather than a result of a conscious commitment to them. Roos et al. (2010) stress the role of trust in facilitating habits that function as protective mechanisms in the face of uncertainty. Simultaneously, these daily routines are crucial for the very establishment of this trust (Roos et al. 2010: 24). Thus, habits of trusting food labels in daily life are a result of, as well as a mechanism continuously forming the habitus in the face of the risks of food, reshaping how we perceive future experiences of evaluating food. Furthermore, Giddens (1992: 89) argues that trust is only needed in cases where people lack knowledge. By repeatedly interacting with date labels, the knowledge and ability to determine the safety of food ourselves is reduced, while the trust in the abstract system is strengthened every time we follow them. In a self-enforcing circle of delegating tasks and trust to such external institutions, we are making ourselves reliant on the expiration dates to ensure our own feeling of safety and thus further reducing the trust in our own capability to perform this task.

While the more limitedly used label *Use by* has been employed in Norway since 1969, the label *Best before* was introduced as late as 1986 (Sosialdepartementet 1969, 1986). The former refers to food safety rather than taste and appearance and is advised to be followed more strictly than the latter (Mattilsynet 2012). Although intended as a guarantee for taste rather than a rule for safety, the *Best before* label is largely playing the same role as a final cutoff for use among consumers today, as is reflected in the findings of the ForMat study (Hanssen and Møller 2013). The relative consistency of the *Use by* label with actual safety of food might have contributed to a legitimization of these expiration dates in evaluating food when they were first introduced. As these this expert system gained legitimacy, this task was increasingly distributed to them and the consumers' trust in their senses was equally reduced. When the *Best before* label was introduced, it seems to have been included in an already legitimized system of experts evaluating food. The following was one of many informants who explained how these dates were highly influential when growing up:

> "I think the fact that we have been raised with that date.. I mean.. It's sort of a.. A truth. I think that has... I think many have grown up hearing that, if the date is passed, it's passed. Then you can't use it. And so that has become the truth to follow" (Maren, WF35)

Thus, expiration dates did also seem to play a role among people over 40 years old. However, most people above that age have experienced a time when date labeling was less common. Moreover, when they *did* occur on products, they were marked with *Use by* and thus matched what consumers themselves knew to be correct to a larger degree. Older generations are more closely linked to a time when this evaluation of food safety was not yet distributed to experts at all, but kept as a basic task of consumers. In the modern context of people below the age of 40, where most products are marked with a date of expiry, this initial trust to the legitimized *Use by* dates seems to have been distributed to both types of labels. They are largely perceived as one common system of experts, institutionalized and maintained by the reduced trust in the consumers' ability to perform this task themselves. This study has not set out to investigate food waste perceptions and practices among people above the age of 40. Thus, this remains a hypothesis based on the historical timeline of these different labels and my informants' stories of their parents' perceptions of them. A similar exploration of food waste

perceptions and practices among older generations would therefore be a valuable contribution to this field of study.

## Numbers and Words

Expiration dates did not only play a role among those who explicitly stated to use them as their final cutoff before wasting food. Many of those who understood the difference between the two types of labels did not consistently apply this knowledge in practice. Many of them referred to dairy products like milk and cream as the products they were most concerned about eating after the expiration date, while stating that these had the label *Use by.* In most cases, dairy products have the *Best before* label, meaning that they are not necessarily harmful to eat or drink when the date is passed. Meat products, on the other hand, which most often have the *Use by* label, were often talked about as having the *Best Before* label. Many did not mind eating these products beyond the expiration date if they believed it looked, smelled and tasted alright. The exceptions were fish and chicken, which most of my informants were hesitant to eating beyond the expiration date. This mother's view on dairy and meat products reflects the impact of dates and the confusion of the labeling differences among many informants:

> "I know that it [the date] has to be there. Of course I look if it has expired or not. But if I'm eating a piece of salami that expired yesterday, I don't mind that much. But I don't drink milk that has expired the day before. I feel like I'm stricter with dairy products. But I don't let anything that has expired stay in the refrigerator. Then I throw it out." (Andrea, WF23)

One reason for this inconsistency between theoretical knowledge and practical behavior seemed to be that the wording in front of the actual date of expiration was rarely looked at. The numbers themselves were most often the only information catching their attention. When pointing this out after noticing this tendency in the majority of my interviews, close to everyone replied that they actually did not think about or look at the words in front of the numbers:

> "Yes, I know that "Use by" means "not recommended after", and that "Best before"… well, that's there because they have to set a date, I guess. So if it says "Best before", I barely think about it."(Ane, WC20)

After discussing these date labels for a few minutes she continued: "But I guess I don't look at the difference that much. I don't remember what it says on the different types of

food, for example." (Ane, WC20). This was a common trait in many of the households. Thus, knowing this difference seemed to have no significant impact on people's actual food waste behavior. Furthermore, as I was observing my informants look through their refrigerators for food they might want to waste, expiration dates were to many the main reason for wasting food, regardless of how they had spoken about it during the prior conversations. This informant, who after having stated to rarely consider expiration dates, and especially not for dairy products, said the following while throwing out a box of cream:

> "But for example with boxes of cream, that is where you're not really able to pay attention to the dates very well. So that is maybe something I could check right now [checking date, which is almost two weeks overdue]. Yeah, there you go. That is a while ago now, so I think I'm going to throw that out now. Let's see [opens the box]. Nothing has happened to it. But it's a dairy product that has passed the date by that much. So that one I would throw away. So I will do that now. [Throws it away]." (Toril, WC28)

This finding is interesting in light of the positive tendencies found by ForMat on acknowledgment of date differences. The increase in knowledge regarding these different meanings could be an important step towards reducing consumer food waste. However, when not employed in practice, increasing information and knowledge about these differences alone is insufficient to create change. This inconsistent interaction with expiration date labels seemed to reflect a more or less subconscious conflict of trust, knowledge and experience. Most of the informants stated to know that these dates did not always reflect the actual safety of a product. However, expiration dates remained the entrusted authority protecting them from possible dangers of food and structuring their practices.

The only time individuals question the expertise of these systems is at *access points* (Giddens 1992: 83). Access points are where the unknown experts become known through experiencing their limitations. Several of my informants had experienced food having gone bad prior to the date of expiry, while other products having been perfectly fine to eat beyond expiration. These kinds of experiences, combined with hearing from acquaintances about the inaccuracy of date labels, had led to a widespread conception of being pragmatic regarding these labels. Trust in the expertise of date labeling seemed to represent a duality between the informants' own experiences of food being safe to eat beyond the expiration date, and a feeling of the dates having the final say in cases of

doubt. Expiration dates remained the strongest driver for wasting food in most of these households. However, experiences at access points where these dates did not reflect the true safety of food had created an ambivalent relationship to them. These labels rather seemed to be one tool among many, used in complex systems of knowledge, practice and feelings. I will now turn to these additional tools employed in deciding whether to save or waste food within these households.

# Feelings and Justification

Anthony Giddens (1992: 92) argues that feeling secure is an emotional rather than a cognitive phenomenon, based in our sub-consciousness. As no knowledge is 100 % certain, we have learned to base our trust on feelings rather than cognitive rationality in some of the most basic aspects of life. This is a result of what Giddens refers to as *basic trust*, gained from experiences of trusting the reliability of close caretakers in childhood (1992: 94). This basic trust lays at the core of all other trust in personal relations, but also in expert systems further on in life. The importance of feelings in entrusting people and structures of our surroundings may explain why taste and feelings rather than a belief that the food was a threat to their health were stronger reasons for my informants' decisions to waste food in practice. Combined with the discomfort of wasting food, this seemed to have resulted in a more or less conscious justification for wasting the food they did. Here, various ways of distinguishing between good and bad food was important to food being wasted or kept and how my informants felt about it.

## Good Food and Bad Food

Although many stated to know and think that expiration dates did not have to be followed strictly, these still seemed to be the most tangible way of justifying a desire to throw out food that already was unwanted for other reasons. When coming across small packages of sauce in his refrigerator door, this informant who throughout the interview had stressed how he did not care about date labeling said the following: "I'm sure this has expired. And I don't see any reason for why it should be kept here." (Simon, MS36). Prior to this comment, his first reaction to the small leftover sauces in the

refrigerator was that they were not something he wanted to keep there. If they had expired, this seemed to give a clear justification for him to place it in the category of bad food. Several informants expressed the same way of using dates as a way of supporting the already existing wish to throw something out, like this young mother: "If it's expired and I don't like it, I throw it out." (Andrea, WF23).

These labels also influenced the way people spoke about good and bad food. The term "expired" was widely used to describe all food considered to have gone bad and that should be thrown out. Interestingly, this was widely employed regarding bread, fruits and vegetables, as well as leftovers stored in the refrigerator, none of which had any label of expiry at all. The following exemplifies how the term "expired" was used as equivalent to "gone bad", both by people who knew the differences of labeling and those who did not:

> "Spices don't expire." (Monica, WC30)
>
> "They [carrots] don't expire that easily." (Petter, MF37)
>
> "My sense of smell is very good. I can smell if something has expired."(Andrea, WF23)
>
> [While talking about leftovers from dinner] "But it's not like we say to ourselves: "Today we have to eat this and that, because it's about to expire". (Toril, WC28)
>
> "But eggs don't expire, do they? At least I have never experienced that." (Sindre, MS25)
>
> "But I think it's so hard to tell by smelling if milk has expired" (Sindre, MS25)

## Liminal Food

Not all categorizations of food were as clear as those based on expiration dates or clearly visible signs of deterioration. Many of my informants referred to these cases of doubt as "grey zone food". This was food they were relatively certain was still safe to eat. However, for various reasons, they were not tempted to or comfortable with eating it. Wasting food that was clearly bad weakened or eliminated their feelings of guilt completely, regardless of the process leading up to it going bad.

> "If I throw something away that I'm not sure about, I feel guilty about it. If I'm sure that I couldn't have eaten it anyway, then there really isn't anything to think about, is there? You're left with no choice but to throw it out." (Sindre, MS25)

According to Mary Douglas (1992: 4), there is no such thing as a clear category of absolute dirt. However, humans have a need to separate and categorize in order to impose system on what is felt as an untidy experience. The idea of clear categories of dirty and clean enables us to distinguish order from essentially disorder. That which falls outside of the patterns we know becomes what Douglas refers to as *matter out of place* (1992: 35). This is also the case for food, where what cannot be defined within a familiar category becomes liminal. This liminal food creates discomfort and spurs a need to categorize and reaffirm the comfortable limits:

> "You can't throw away good food. You have to wait until you are sure of it no longer being safe to eat. Then you don't feel bad about throwing it out, because you can't do anything about it then." (Jon, MC28)

The food that did not have visual and familiar signs of having gone bad needed to be defined as either food or waste. When these signs were not completely clear, the challenge of assessing what to do was a lot bigger and throwing this food away made many feel guiltier.

## Unpractical Food

The idea of safety was important for how people felt about wasting food and insecurities about liminal food were among the main reasons for food waste, regardless of household composition. However, food that diverted from clear categories of *purpose* was in many cases also categorized as not worth keeping. When informants talked about "useless food", they mostly referred to leftovers that were seen as a hassle making use of. Leftovers from plates and casseroles were among the types of food that most often went to waste, both in my own study and in the mappings by ForMat (Hanssen and Møller 2013). A desire for more variation in the household's menu from day to day seemed to be a main challenge to make use of leftovers. For example, after having potatoes one day, many wanted to have pasta or rice the next day, and so on. Most informants normally had some food left over after every dinner. Thus after a few days of producing leftovers from potatoes, rice and pasta, this had a tendency to pile up in boxes in the refrigerator and go bad awaiting their turn to be included with something new. Most importantly, leftovers had to appear tempting for it to be eaten: "It needs to seem quite fresh, though. That you feel like you are not just eating it because you have to. As in you have to eat leftovers!" (Tom, MC30).

As mentioned in chapter four, the majority of my informants mostly cooked meals they were already familiar with, as well as familiar food packages often determining both the portions and compositions of these meals. Within this pattern, "thinking outside the box" of familiar meals and reusing leftovers was a challenge, regardless of household composition. When discussing use of leftovers or soon to go bad food, the only mentioned options were old fashion and complicated recipes, like stew or apple tarte. Many seemed to know that there *were* possibilities. However, these seemed too complicated and not worth the time and efforts to find out how to make and fit into their routines. Making something new and tempting that also was presented to them in a ready-made and familiar package was too easy in comparison. Furthermore, not knowing what was actually in the food they prepared made it difficult to know what to do with the surplus food. This was a common feature among the informants who wasted the most.

> "When I'm making spaghetti and meat sauce, I always just use the readymade jar of sauce. And that's often too much for the two of us, so we get leftovers. But I don't use that later on, since I don't know what's in it or what it goes with, other than the spaghetti. So I guess if I knew more about those things I could avoid some of the waste." (Ellen, WF28)

Those who stated to have food as a high priority, as well as knowing how to make different kinds of food from scratch, tended to see leftovers in a different way than those who felt restrained by the meals and packages they knew how to cook. These informants said they often used leftovers as a base for soups or sauces the following day. In most of those cases it was emphasized that this was not primarily done out of a wish to not waste food, but rather due to the immediate value and purpose they believed it would have in a new meal. Nonetheless, the people who were open to using leftovers in new ways also wasted less food overall. Thus, having this knowledge and creativity regarding leftover food could be an important contributor to food waste reduction, regardless of motivation.

### Non-Food

Among the many informants who initially said they did not waste any food, most modified this to mean that they wasted "insignificant amounts" when speaking more specifically about their food waste practices. A number of them referred to different kinds of food as "not counting as food". According to Murcott (1999: 307-09), what

people define as food "is cultural, both in its material and its abstract aspects". Human definitions of good food and bad food are not final biological categories, but a result of dynamic processes of social learning and rejection, all of which are subject to change (Murcott 1999: 313). When trying to explain why throwing away lettuce did not feel as bad compared to other types of food, one informant referred to it as somehow not being "proper food". This was presumably due to the low economic as well as cultural value of lettuce in a meal; a necessary and expected, but minor element on the plate.

Some food seemed to go through various kinds of transformations to no longer being considered as food at all. Some informants spoke about the first layers of lettuce or other vegetables as not "real food" that in some sense were "already gone" and therefore "did not count as food". Heels of store-sliced bread were often referred to in the same way. When slicing the bread in a machine at the grocery store instead of at home, the bins full of cut off bread next to the machine made it easier and legitimate to devaluate these parts as food and throw them away. For many, this had also legitimized wasting the heels of bread when slicing bread at home. As such, physical structures and habits established and maintained new forms of categorization. This process of redefining food was a noticeable constraint to my informants acknowledging their actual levels of food waste and from there reducing it.

### A Feeling of Knowing

A tool used by most of the informants to categorize food and justify the waste of it was to establish a specific number of days as a limit for how long food could be kept after opening or cooking. These rules varied greatly, ranging from two days to a week for the same product. Some had consciously set these cutoff points as a result of education or courses within food safety and microbiology, explaining the various health threats that could result from eating food beyond these cutoff points. For most of the people I interviewed, however, these boundaries were largely based on feelings. According to Damasio (1999: 312) "[…] a feeling of knowing" is the basis of human consciousness. These clear systems of how many days "felt right" was the first and most common response when being asked how they knew if food should be kept or wasted. When asked why this number of days felt right for the various food items, most informants had trouble giving a rational explanation. Few had noticed this limit prior to our

conversations. However, after having become aware of it, many of them laughed at this self-created system of a fixed number of days, claiming that it did not really make any sense. What was more or less subconsciously based on feelings had turned into a sense of knowing, in lack of rational tools to decide. Introducing this specific number of days before something "had to go" was emphasized by many as simply being a practical tool in what was perceived as a more or less constant insecurity of evaluating food.

The impact of feelings was also important in terms of mentally picturing food as bad. One mother who normally threw all food out at the date of expiry explained how she sometimes would let her children continue to eat something expired if they had already started eating. She would have thrown it out if she had gotten to it first, since knowing it had passed the date made it disgusting to her. However, she said her feelings towards expired food were not primarily due to health concerns, calling herself "over the top":

> "But I try not to transfer it to them [her children], because I know that I'm a bit weird about it. With the dates and everything. A little silly sometimes. And I try not to transfer that to them" (Siri, WF38)

According to Douglas (1992: 32), the classification of dirt from the clean is our strongest mental habit. Thus, the process of mentally rejecting some food from familiar patterns takes part of the dispositions for future food waste actions.

### Picturing Food as Waste

Another mental habit of rejecting food was already having pictured food as waste. As noted by Douglas (1992), context is crucial for our perception of things as clean or dirty. Food that in its familiar context would have been seen as perfectly fine to eat becomes dirty if viewed outside of this context. To underline the importance of context, Howes (2005: 337) refers to the example of someone seeing drops of soup in the other person's beard when sharing a meal sparking feelings of disgust. While the soup in itself might have no indications of being unsafe or disgusting, transferring it from its clean context to a place where it does not fit in releases the sense of matter out of place. Although the soup in the bowl is physically unaffected by some of it having been displaced, this kind of mental image is strong enough to physically trigger a sense of disgust (Howes 2005). Among my informants, food that once was considered not tempting had a hard time returning to the category of tempting food:

> "I use my sense of smell. But most of the times I throw it out anyway. Because I feel that if I have to smell... If I feel like I have to smell to tell if cold cuts are ok or not, it's sort of already "done" for me. Then it's been standing there long enough for me to feel like I have to smell it. Then it's... Yeah, then it's kind of a disgusting thing to me." (Ellen, WF28).

Considering food as possibly bad automatically made it feel dirty and uncomfortable to consider, no matter the actual quality of it when looking and smelling it. "If I have to smell it, it's already been far down the bin for me. So you don't really want to eat it after that" (Maren, WF35). Imagining food in the waste bin was mentioned as a challenge to avoid food waste in several of the households:

> "That for example, those I will throw out very soon [jars of jam]. I thought about throwing them out earlier. But I didn't, because it could be, you know? But I don't actually think it could be because I've already thought about wasting them. And then it's already gone there in my head. They're not really tempting. If I have to consider it, in my head it has already been in the bin. And then it's not really tempting afterwards." (Ellen, WF28).

## Wasting as a Process

One way of placing liminal food into clear categories and thus reestablish the familiar pattern was by simply postponing the process of either eating or wasting it. If they did not have what they saw as a valid reason to waste something, the solution was often to wait for clear signs that made wasting it the only remaining option. This "guilt relief" of the refrigerator and postponing of waste was mentioned by many:

> "I'm good at always putting what's left into the fridge right away so that it doesn't go bad and that we can eat it the next day. But then we usually make something else and we have to throw it out anyway. That happens 90 % of the times. But then I don't feel bad when I have to throw it away. Because after a couple of days I can't really do anything about it. So I guess it's just for my own conscience that I put it into the fridge for a day before throwing it out." (Ellen, WF28).

> "It might be that I'm keeping them because it gives me a clearer conscience maybe? I don't know. When it has reached the point that the potato has been in there for four days, then… Then you definitely can't do anything with it. So then you're kind of allowed to throw it out." (Monica, WC30).

According to Douglas (1992: 7), people are concerned with protecting sacred things and places from defilement. The place where we keep, prepare and eat food can be said to be among our most pure and sacred places. Thus, the cleanliness of these spaces influences both how safe and tasty we perceive the meal. Douglas (1992: 2) stresses that eliminating matters out of place is not a negative movement, but rather a positive effort

to organize our environment. While feelings had a strong impact on perceptions of good and bad food, the relief of physically cleaning up and re-establishing order in food spaces was also a key for household food waste. One informant explained it as simple as this: "Sometimes I just think it's nice to empty it out, to clean up the fridge and get rid of it" (Ellen, WF28). My informants rarely considered "insignificant amounts" to count as food, nor was wasting it anything to feel guilty about. However, "cleaning up" their food supplies created a sense of starting fresh. Getting rid of food that had just been "sitting there" freed them from more or less constantly assessing good and bad food, planning to get rid of food that did not fit into their system and the guilt that followed these processes.

> "This little box of feta cheese has been standing there for two and a half weeks now. So every time I open the fridge I think: Oh no, why have I still not managed to finish that one? [Laughing] Because it's even placed in front here, very visible and everything. I just have to get around to throwing it out. But then again I can't really make myself do it either. Because it looks... I could just eat it. But then it is also bad. Well, I reckon its gone bad. But that one I don't think I will try to eat anyway. Because I'm scared I'll get sick. I don't want to take the risk. Then I would rather throw out too much. I guess I just haven't taken the big cleanup of the fridge yet. And then there's that blockage of wasting food. I don't really want to waste anything you know?" (Bente, WC33)

Many compared the need to clean up and reestablish order in their food spaces to cleaning up in their closet of clothes:

> "It's like with clothes just hanging in your closet without being used. You hang on to them in hope of someday wanting to put them on, but you never do. And then when you do throw them out it feels really nice. It's the same with food. If you haven't eaten it yet, you never will."(Susanne, WF35)

As discussed in chapter four, there was a widespread wish among the families in my study of establishing or keeping up a system that eased the stress level in their daily lives. This wish seemed to also include the way my informants felt about this systematic waste, compared to being faced with the discomfort of it throughout the week. This was especially the case for those whose lives were largely organized through strict systems and routines. Some of the informants who had strict plans for shopping for the entire week also had one day of going through the refrigerator to throw away food, in preparation for placing fresh food there instead. One of them explained how they systematically threw out some food every week as part of this weekly system:

> "Well, the food normally stays until it's time to go shopping again. So we clean out on Saturdays, because then it's time for something new. It's nice to have that system." (Susanne, WF35)

The relationship between quantity of food and guilt from wasting it seemed to shift when systematically going through the refrigerator in search for food that should be thrown out. Although they did not like the idea of wasting food, doing so systematically as part of a routine was said by many to provide a sense of calmness. People of various types of households who described themselves as organized also emphasized this need for structure with regards to food and its impact on what they felt more comfortable wasting. Several of them mentioned their inherent "cleaning up gene" contributing to food being wasted sooner than what they thought was actually necessary if only considering food safety:

> "I have this cleanup-gene! It sort of has to be clean. And that can sometimes conflict with.. yeah, with just cutting parts of the bad food off instead. I just want to get it out. Get rid of it. While he… He doesn't have the same need for control and order as I have." (Hilde, WF36)

> "It probably sounds really childish. That I kind of think it's disgusting to keep old food in the house. So if I have… If I throw something out… Pour milk or throw away meat or something. Then I want to take out the trash right away. Because I kind of feel like it's disgusting to let old food stay in the bin. Inside. And I guess I think the fridge should be nice and clean. I don't want old things sitting around there." (Johannes, MC29)

> "Now and then there are some of those small leftovers of juice in the cartons. Not a lot, but not tempting to drink at all. I often just pour that out, to get rid of it. To clean up, you know?" (Johannes, MC29)

This reduction or absence of guilt when food was wasted systematically was often contradictory to how most of the informants initially stated larger quantities being more difficult to waste. Even though this "cleaning up" did not always refer to large amounts of food, this was most often the case. Thus, this was another indicator of how the rational thinking about wasting food did not correspond with the feelings connected to and largely overruling logic in practice.

## Gender

Regardless of age or household composition, women more often felt guiltier than men about wasting food. Several women expressed that knowing that so many people did not have enough to eat made it ethically uncomfortable to waste food. A few men also mentioned this, but if so they more quickly added that this was irrational seeing as

consumer food waste did not have any real impact on global food security. Women also stated to *know* that it did not matter to any hungry people if they wasted the food or not. Nonetheless, the principle of being attentive to these global inequalities made them *feel* guilty regardless of what they thought was rational. Several women also said that wasting food made them feel like a failure when it came to managing the household properly. Finishing everything before the food went bad was consistently talked about as an achievement. Failing to do so made several of them feel embarrassed or angry:

> "I really don't like it. I get really mad every time I realize that I have to throw something out [laughing]. Like it's so unnecessary, you know? We could have easily managed to… I kind of feel like a failure. When I have to throw it away. Like it's wasted resources. Yeah. I don't think you think about it like that? [Looking at her male partner and getting this confirmed]." (Karin, WC31)

Gender patterns of housework and responsibilities were relatively traditional in most of the households I visited. Women took the main responsibility for planning meals in most of the families and couples and had a closer tie to all the processes of food consumption of the home. Although men did their share of housework, women most often delegated tasks and had the general overview within the area of food. Thus, wasting some of it was perceived by a number of them as a result of not managing the household properly, as this woman explained: "When you have to throw away food because you haven't paid enough attention or planned properly, you are sort of making a fool out of yourself" (Ane, WC20).

The interplay between the old gender ideologies and modern notions of equality seemed to have created a set of conflicting mentalities among women. The role of modern Norwegian woman has changed remarkably within a timespan of approximately fifty years, from predominantly being housewives to participating more or less equally in the job market. As noted by Krange (2004: 23), the individualization of modern society has shaped the attitudes and formal structures for equality, as well as theoretically detaching old gender roles from new expectations. Today, men and women are expected to share the responsibilities of the housework as well as income of the household. However, throughout the conversations about household food waste, traditional expectations towards women seemed to be working alongside the new structures of the modern context. While seen as equal to men and expected to participate in working life, modern women seemed to hold the main responsibility of ensuring a functioning household. The

cultural expectation of "nest-building" and the responsibility for ensuring all the included elements was primarily taken care of by the women in my study, as also shown in the analysis of chapter four. For most of the women I interviewed, expectations of being a modern and economically independent woman were combined with expectations to uphold the order, health and morality of the household. This confusion of why she disliked throwing away food was explained in this way by one of the women:

> "So I guess it's about money. But, on the other hand, that's not quite the reason either. I think it's more about feeling good about having been able to use it all up." (Karin, WC31)

Another woman explained that she did not think her closest friends wasted a lot of food, without having discussed it in her group of friends. The reasoning was a general perception of them as "being in control":

> "If you're someone that is in control of things, likes to keep everything clean and... Have things in place, in a way. Then I think that reflects your view on food as well. That you don't waste that much. So I think it's about being organized." (Monica, WC30)

Giving the impression of being in control of things in general thus generated an impression of wasting less food. Later on in the conversations it became clear that she was talking about her female friends. Women most often emphasized this relief from cleaning up the food spaces. Although women largely felt guiltier from wasting out of concerns for global solidarity and mastering the household duties right, the good feeling of reestablishing order by throwing food out often created certain ambivalence among some of them. When faced with the choice of keeping or wasting in practice, the sense of reestablished order was more often prioritized over what was seen as irrelevant principles for not wasting. Men's threshold for how long food could be kept before being wasted was most often higher than for women. In many cases this seemed to be caused by a desire to regain order, shared by many of the women. This urge to throw food away due to reestablishing a sense of order also tended to create some disagreements among the households of heterosexual couples: "Yeah, I'm a bit: We have to get this out, we need to clean up here. While he's stricter about sticking to his principles and: That's the way it is. You know?" (Hilde, WF36).

The conflict of expectations towards modern Norwegian women seemed to be driving a substantial share of the food waste in many of the households of couples and especially families, as the goal for many of the informants still was to manage them all. These feelings of anger, embarrassment and guilt of not managing the household properly were not at all mentioned among the men in my study. However, other aspects of food waste were more prominent for men than women. Men often took on the task of "getting rid of" the little food that was left after a meal. While women allegedly were more concerned with what and how much they ate, many of the men spoke about themselves as the ones who ate *everything*, often managing to avoid wasting food due to those efforts. When it came to leftovers kept in the refrigerator, the only way these were eaten was said by many to be if the man "made an effort" to "get rid of" what had been piling up before it went bad. Juggling between ensuring safe, nutritious food and keeping order and an overview of food, while not letting food and money go to waste in a world where people were starving, seemed to be an ongoing more or less subconscious conflict for many of the women. Persistent mentalities meeting the high pace of modern life seemed to create somewhat impossible standards of meeting these virtues. Women were more or less consciously expected to plan, cook and uphold these standards of the household with much less time at hand than before. Combined with old ideologies of not wasting food and thinking of those who were less fortunate, this seemed to create internal conflict and guilt for many of the women in these households.

## Summarizing Remarks

As this chapter has shown, a lack of knowledge about food and various ways of using feelings as tools to categorize food from waste were important challenges to food waste reduction within these households. While initially stating confidence in evaluating food by trusting *only* their senses, insecurities and confusions unfolded as the conversations moved along. The "feeling of knowing", presented by Damasio (1999: 312), is a suitable reflection of a number of the tools employed by my informants to decrease the sense of "irrational guilt" from wasting food. More or less consciously categorizing food as good and bad out of visual signs, purpose, self-made systems of cutoff points or whether it already had been mentally pictured as waste were powerful tools to justify

food waste. Expiration dates were highly influential for food going to waste, despite widespread knowledge about their differences and the general need to be pragmatic about them in theory. This seemed to be a result of a gradual distribution of this task to these expert systems and simultaneously reducing the trust in own abilities to evaluate this in practice (Giddens 1992).

This need for order and systematizing matters out of place is stressed by Mary Douglas (1992) as a significant human trait. The routinization of systematically wasting food also freed them from more or less constantly assessing good and bad food and decreased the sense of guilt that came with it, despite this opposing the rationalization larger quantities of food waste having a greater impact. The multiple expectations to modern women and the ambivalence this created also contributed to food going to waste. A desire for more variation of meals from day to day, as well as creativity and knowledge about how food could be reused, led to a perception of leftovers as a "hassle" to make use of and thus a challenge to avoid wasting. Alienation from the origin of food and various aspects of industrially packed food were also important drivers of food waste among these households.

The analysis of this chapter underlines the complex dynamics of knowledge, practice and feelings shaping food waste behavior. After explored the physical, social and mental structures inhibiting a reduction of food waste in the two preceding chapters, I now turn to how food waste reduction efforts have been presented and perceived by this group. How has the problem of food waste been communicated and what are the challenges and potential of this argumentation to creating social change?

# 6. Perceptions and Priorities

Household food waste in high-income countries has a major impact on climate gas emissions and food insecurity, and so arguments about these issues have been integral to the communication of food waste reduction efforts. However, the lack of acknowledgement of the actual extent and impact of consumer food waste, as well as the persistency of waste levels among young adults, indicate that the messaging has not succeeded in its mission. What are the constraints to communicating consumer food waste reduction to this age group? To answer this question, I will examine how the issue of food waste and its consequences has been communicated and the obstacles for these messages to succeed in creating change. From there, competing concerns and priorities to food waste reduction within the modern context will be addressed. I will start by studying how the informants perceived and related to global issues in daily life.

## Food Waste Reduction as Conscious Consumption

All the informants in the study acknowledged global challenges like climate change and hunger to various degrees, some more than others. The majority of households recycled their waste, and many had also made the choice of regularly biking to work, among other environmental measures. Some excused some of their routines that they believed were not sustainable enough, like using their car more often than they felt they should. Other conscious consumer measures included choosing organic food, buying meat and eggs directly from local farmers or choosing to shop in small franchise stores instead of big supermarket chains. Some ordered food boxes online which held the ethical standards that they preferred, while others regularly bought second hand products rather than new things. The incentives for these numerous ways of consuming ethically ranged from wanting a higher quality of products, supporting animal welfare or the environment and keeping local community businesses going. Thus, acknowledgement of the global impact of their actions had for the majority of informants led to an adjustment of routines towards more sustainable ways in a number of areas.

The issue of household food waste, however, was viewed somewhat differently than other types of ethical behavior. While environmental and food security consciousness and efforts varied among my informants on other areas, the differences were not notable when it came to how they thought of and behaved regarding food waste. Both those who were highly concerned with global issues and those who expressed more limited concerns for this largely had the same view of consumer food waste having an insignificant impact beyond principle:

> "[If trying to avoid food waste due to global concerns] Then it's about your own conscience. More than what you're actually doing for the environment or the third world or anything. So I don't think we can do that much about it". (Petter, MF37)

Climate change and food insecurity were rarely mentioned as reasons not to waste food. More or less the only mentioned environmental impact of household food waste was whether or not one had a compost system. When asked specifically whether they considered reducing food waste due to environmental incentives, the large majority did not. A few informants did, however, mention other areas of environmental impact when asked directly:

> "You do get some thoughts about those things… We might have mentioned it before, in relation to production of food. So there is too much food… So there is madness in throwing what is actually produced. You do think about those things. But then again, we waste so little that we think that it's not a problem. But if everyone… in Norway… Thinks like we do. And you take what we waste and multiply that by 5 million.. Then you can be sure that that's a lot of food. Ehm. That we do understand. Although I don't go around and think about it." (Johannes, MC29)

> "Well, producing food is rather… It's not so very environmentally friendly all the time, from what I've read at least. So I do think… If everyone could use just a little bit less. Everyone could simply use what they need. Then you don't have to produce that much food either. And then it's milder in terms of emissions and so on…environment in that way. So there is a connection… But with those articles I've read, those I can think about right now… I just remember the heading as something like: "Throw away 100 000 tons of food" or something. I don't remember the exact words… But it is resource intensive to produce food." (Kenneth, MS25)

Despite being aware of the problematic aspects of modern food production, none of these informants had allegedly thought of reducing food waste as an environmentally friendly effort until that very moment. Thus, being concerned with hunger and climate change did not translate into acknowledging consumer food waste as an important driver of these issues, and ultimately making an effort to reduce their own waste. Why have messages of the linkage between consumer food waste and its global impact not

created a change of behavior among young adults, regardless of their degree of consumer consciousness?

## Perceiving the Message

The "information deficit model" has been the basis for conventional policies aiming to change behavior to more environmentally friendly ways; when people know, they will act accordingly (Norgaard 2011: 1). However, this notion has been increasingly contested by theorists claiming that it is not a lack of knowledge that is the limitation to change, but acting upon that knowledge in the right way (Cohen 2001: 9; Norgaard 2011: 3). According to Douglas (1992: 36), whether or not we perceive new information depends on how well it coincides with our mental patterns. Only the sensations we know how to use are let through our cognitive *filtering mechanisms* (Douglas 1992: 36). People seek to include new information into familiar mental patterns, primarily accepting the cues that already fit in. Those conflicting with these patterns are most often rejected, since accepting them forces us to restructure our assumptions. Ambiguous information tends to be treated as if it harmonized with the rest of the pattern. Uncomfortable facts are subconsciously ignored to prevent these from disturbing our established assumptions (Douglas 1992: 36).

Knowledge about global challenges is significantly more accessible than before, enabled by increased mobilization and cultural exchange, as well as new types of media and information channels. Furthermore, one third of Norwegians now holds a degree of higher education (SSB 2015). Thus, compared to older generations, today's young adults are in a better position to understand the dynamics of global issues, as well as the various ways the modern lifestyle influence them. However, increased educational levels do not necessarily materialize in an increase of concern and conscious consumer efforts on all areas. In the case of consumer food waste, Hanssen and Schakenda (2010: 4) found that levels of food waste actually increased according to education levels. Having the information about consumer food waste available and improved abilities to attain it is therefore not determining for recognition or reaction to these messages. Thus, I ask: how are these messages communicated and how are they perceived by this group?

## The Shock Effect

As noted by Santopietro (1995: 520), the way messages are framed is crucial for whether they succeed or fail to create a change of behavior. Negative messages are less likely to create positive responses among its intended recipients and may also lead to people intentionally not complying at all (Santopietro 1995). Actors like Matvett have focused on the possibilities of consumers to gain both time and money from reducing their food waste, as well as providing specific tips on how to avoid it. Much of the focus has also been on informing people about the extent of food waste by Norwegian consumers[27]. The somewhat negative messaging of food waste as a problem, as well as the moral connotations of the topic in itself, might have contributed to a rejection and distancing of consumers from their role instead of the intended motivation for change. A number of informants said they had been shocked by how much food was wasted overall in Norway every year. However, the kilos and tons of food waste actually made many of them feel good about wasting the food they did, as they saw their own waste as considerably less than average and a minor share of the contributions by other players of the market:

> "You get information about it by watching TV and reading in newspapers and so on. I guess. Well, "the average family throws away this much" and so on. You see those 'This is how much every person throws out every year', or something like that. You hear about the numbers of kilos. I don't really remember. And that just makes me think that I don't think we do that. You know? [Laughing]. Then it's like: Then we are better than those who waste that much." (Monica, WC30)

Another informant who was among those who wasted the most[28] explained it like this:

> "I heard something about that on the radio once while driving. About how much we throw away and people called in to talk about why they threw food out. I could relate to that. I definitely could. But I guess I haven't thought about how to avoid it. I haven't done that. But I haven't really felt as if it concerned me either. Because what I throw away is so little anyway. So it has to be lower than that enormous number anyway. So then I think that it's not as bad after all." (Ellen, WF28)

Efforts to spark a change of practice through this kind of "shock effect" had therefore succeeded to attract more attention to the topic. However, an unintended consequence was a relatively widespread diminishing sense of consumer responsibility. The development and media coverage of the *dumpster diving* movement had a vital role in

[27] See appendix E

[28] This was based on conversations, observations and results from the week of food waste tracking.

this regard. Dumpster divers are people who search through "discarded trash for usable material goods and edible food [as a] critical or frugal reaction to the wastefulness of the consumer society" (Scott 2011). Regardless of how little some of my informants knew of food waste and its impact in general, close to all of them had heard about dumpster diving. These stories had made them stunned by the "mountains of food" wasted by supermarkets. However, my informants mostly saw dumpster diving as an important reaction to "the real contributors to food waste"; the supermarkets. When discussing problems related to food waste, most of them immediately referred to the role of supermarkets:

> "I do think about it, for example the huge amounts of food being wasted from supermarkets. That I really find a shame. I think maybe that's where something needs to be done." (Monica, WC30)

Some informants explicitly stated that stories about dumpster diving had made them feel better about the little they threw out, as their own waste was not viewed as comparable to what the supermarkets threw out. Although an online news search for articles on consumer food waste the last five years by far exceeded the stories about dumpster diving and supermarket food waste, the latter were largely the ones my informants had noticed. When discussing the role of consumers, the conversations were often diverted to the responsibility of bigger players, like in the case of this informant:

> "If you are to change things in this world, then it is the big producers and the politicians that need to do something. It's not us consumers. Small consumers. That has no effect. Whether we buy this or that product at the store, that does not affect the world at all." (Petter, MF37)

Thus, the effect of communicating obscenely high numbers of wasted food seems to have defeated its intention, providing people with a sense of ease that one is at the right end of the scale rather than motivating personal change. Stories about waste by other actors divert attention from personal responsibility and cause fewer disturbances to our familiar patterns than the role and responsibility of consumers. This is uncomfortable to relate to and therefore this information is more easily filtered out. These dynamics of framing information may explain some of the lacking recognition of household food waste impact among the informants of my study. All of the informants of my study *did* however acknowledge global issues to some extent and most of them performed various types of conscious consumer efforts to contribute for the better. Information about the

connection between household food waste and global issues would therefore seem to fit their patterns of perception. However, a high level of knowledge and recognition of global issues also functioned as an inhibitor rather than a catalyst for change in some cases. In the following section, I will therefore examine the perceived limits of global responsibility and conscious consumer efforts among the informants who *did* recognize and express concern for global issues.

## Navigating the Overload of Problems

Anthony Giddens (1992: 54) argues that citizens of modernity are constantly exposed to different and often conflicting knowledge-based alternatives for action. This high level of reflexivity in the face of various considerations forces people to have a particularly conscious relationship to knowledge. Increased information in a number of areas also increases the responsibility to act upon this in the best way. People are thus increasingly conscious about the possibilities and responsibilities of building and communicating their self-identity in the midst of all the information and choices of modernity Giddens (1992: 54). As mentioned in chapter five, Beck (1992) refers to the new modernity as risk society. Here, the dissolved traditional institutions diminishes the guidance of old societal structures and expectations, placing people at the center of their own choices in all aspects of life (Beck 1992: 91-92). This makes way for more freedom and individualization, but also for insecurity and the risk of failure by making the wrong choices.

Giddens (1991: 54) argues that many of the risks of modern society are filtered out in the practical conduct of everyday life. One adaptive reaction to the increased level of risk and large scale problems in modern society is what Giddens refers to as *pragmatic acceptance* (1992: 135). Responding to problems with pragmatic acceptance does not mean a rejection of them or withdrawal from the outside world, but believing that many of the modern problems are beyond our control. Thus, a pragmatic acceptance is a way of "surviving". When faced with problems of societal or even global scale, people may react by narrowing their focus to the closer tasks and problems of day-to-day life. Sahakian and Wilhite (2014: 31) further argue that the success of communicating such

distant problems relies on the anchoring of these messages in people's close realities. Messages for social change are often not framed to match the social context or values of its intended recipients. This raises the threshold for accepting these kinds of messages. Changing behavior to "save the planet" is an example of such a message highly disconnected from the social reality of most people in Western communities (Sahakian and Wilhite 2014: 31).

Acknowledgment of their global responsibility created a sense of hopelessness rather than empowerment for several informants. Like this mother, who had earlier expressed that she did not feel her environmental efforts were "good enough", said the following when asked about her views on environmental issues:

> "That feels a bit like: "Ah [sighs], do I have to take on that battle as well?" I don't have the energy for that. No. And then it's very easy not to. Not to think about it. Just not take any responsibility." (Ellen, WF28)

A number of informants presented similar concerns when discussing how they related to global issues in their daily lives. This was mostly the case for those whose conscious consumer efforts were least prominent. However, this sense of overload of possibilities and demands for consumer efforts was also widely shared by those who had made more extensive efforts to take their share of global responsibility. For all my informants, there seemed to be certain limits to ethical consumption.

## Limits to Ethical Consumption

Wallenborn and Wilhite (2014: 60) argue that changing mindsets is not enough for changing behavior in the same direction. "[…] a greening of attitudes leads to a greening of consumption practices for only a limited segment of the population", while these changes usually are relatively superficial (Wallenborn and Wilhite 2014: 61). Norgaard (2011: 11) stresses the need to acknowledge the different types of denial in order to understand people's response to information about climate change. In contrast to literal denial, which is the traditional understanding of the word, *implicatory denial* is when the information is acknowledged, but fails to be integrated into everyday life or transformed into social action. Although the messages are perceived, this type of information is often not seen as psychologically disturbing or does not carry a moral imperative to act. This kind of denial creates an underestimated barrier to social change, where those who actually care do not act upon their concern (Norgaard 2011: 3).

For Norwegians between 20 - 40 years of age, information about poverty and hunger in other part of the world has been a part of the public debate in a larger part of their lives. So has the information about the major efforts to eradicate it. Official Norwegian aid to developing countries was established in the 1950's, with Kerala in India as the first recipient of this assistance (Rødsten and Ingulstad 2014: 45; Simensen 2003). The Biafran war in Nigeria in the late 60's was the first time information about such a hunger crisis was brought into Norwegian homes through news reports from the field (Simensen 2003: 234). Lie (2011: 3) notes that the media coverage of this famine had a significant impact on Norwegian perceptions of Africa, which since then have been dominated by poverty, hunger and disorder. Information about climate change has been a part of the public debate throughout most of the lifespan of this age group, with the 1970's marking a upspring in environmental consciousness in Western countries (Berntsen 1994). However, studies of environmental concern among the Norwegian population showed a significant decline of people who were "very much worried" over the last three decades (Barstad and Hellevik 2004; Hellevik 2002). This corresponds with several studies showing that an increase in information about climate change actually caused a reduction in concern and sense of personal responsibility (Kellstedt et al. 2008; Krosnick et al. 2006). Krosnick et al. (2006) also found that people seem to only view seriously those problems with which they think something can be done.

For a number of informants in households that were more or less conscious about their consumption, awareness of global challenges seemed to be a challenge for action in itself. Having been exposed to the narrative of the hungry child, a hopeless African continent and massive aid and development efforts not succeeding in eradicating these problems throughout their lives seemed to have created a sense of this being a problem they could not relate to and one that was too complicated to solve. Hungry children in Africa or noticeable consequences of climate change are also spatially and socially distant to the reality of the informants of my study. These problems seemed as big as ever, and additional ones became clear along the way. Several informants stated that they did not believe their own efforts had a significant impact. The problems simply seemed too big and too many. Thus, to some extent, failure to create a change of behavior among the consumers of these households was not information deficit regarding global challenges, but rather an *overload* of information.

## Being "Over the Top"

Many of the most conscious consumers of my study felt like they were already "doing their share". Due to the limited recognition of food waste as a conscious consumer effort, accepting *a little* waste was necessary to keep the way of life they wanted. This woman, who biked to work, recycled and made other efforts to be a conscious citizen explained it like this: "We feel we are doing what we can to avoid wasting food. I feel like we do. So we cannot save the world more than we already do, you know?" (Monica, WC30). Some also expressed that ethical consciousness could become "over the top", and that demands for being a conscious consumer were too high. While many stressed the importance of contributing as consumers and that everyone's environmental efforts were important, a number of them also expressed that knowing about everything that was wrong and all the changes you had to make to live an "ethically perfect life" had somehow taken a toll on their motivation. A mother in a household where several ethical measures had been implemented for their daily routines underlined that it was important for her that they could also be "normal" now and then. She stressed the importance of not being "too perfect" and that "you should not feel strangled from all the ethical duties as a consumer".

This feeling of not being "extreme" in regards to ethical consciousness reoccurred among several informants. Consideration for global inequality and the environment were virtues that should be taken seriously as a principle. However, many of my informants viewed *very* ethically conscious consumers as strange and such "extremisms" as something one did not want to be associated with. When having spoken about their recycling, biking to work and other eco-friendly measures, a number of them then emphasized that they were not extreme in that regard, but that they simply did what they felt was right. One father said the following after having explained how they recycled, took the children to kindergarten by bike when possible, and composted their organic waste: "But it's not like we are doing yoga in the trees, you know? We haven't taken it that far." (Petter, MF37). Another mother who was also very conscious about the family routines regarding food, consumption and use of time, emphasized the balance between following their own principles while not distancing themselves too much from the norms of society:

> "We avoid talking about it [their conscious consumer routines]. Since it can seem a bit snobby. I feel like it's a bit weird? And that we are a bit too concerned about it. And of course that it's more expensive. And some might probably say it's a bit exaggerated." (Hilde, WF36)

She later returned to why she aimed for such a balance: "It's more that it, it can be a bit too... I mean, we shouldn't alienate ourselves too much from society either." (Hilde, WF36). This sense of limits to how much global responsibility one could take reoccurred in several of the households who had implemented conscious consumer behavior to various degrees. This had led to a prioritization of efforts. With the limited perception of the impact of household food waste reduction and a number of conflicting concerns related to food, this effort failed to be a priority. Wasting less food than they already did was perceived as requiring significant sacrifices, thus placing this in the unattractive category of "extreme" consciousness. Among all the conscious consumer efforts one could make, reducing household food waste seemed to be perceived as "too much":

> [Whether people are concerned with not wasting food]. "I don't think that's something people think a lot about. Unless you are one of those crazy compost people. Then I think people might look at you a bit strangely. It's like "Hello, we do live in Norway, you know". But it's the same as how people view vegetarians. Being vegetarian is a very positive thing. But at the same time, there's that.. that the animals are shot whether you eat it or not. You know? And I think it's more like that with this as well. That it doesn't help if you don't throw food if the rest of Norway does it."(Karianne, WC22)

In the following section, I will address some of these conflicting concerns. What are the main concerns challenging the prioritization of food waste reduction in these households?

# Conflicting Concerns

### Health

Concerns for health influenced the food waste considerations within these households in several ways. However, this did not only include the safety of food. Some of those who had backgrounds within microbiology and food safety spoke about this knowledge as a primary reason for wasting food. Some of them admitted that they might be "over the top" with throwing out food, because they knew the worst-case scenarios bad food could cause. For most of my informants, other health concerns were more important for

why they waste the food they did. Overall, unhealthy food was seen as easier to waste. When asked if there was any difference in the food they felt better or worse about wasting, many answered that potatoes, rice and pasta were the easiest to waste, referring to this as "carb-food"[29]. Thus, expectations of living healthy and looking fit, with low carb diets as an example, were influential concerns for the food waste within this group. The concern for overeating expressed by was this informant was mentioned by many:

> "But I try not to take too much on my plate. So there is that thought that I know I can overeat if I help myself with too much. That I get a little too full. And I don't want that. Because I don't want to gain weight either. So if I'm full, I'm full. Then I don't eat more. Because then I think more about the weight than that it's a shame to waste it." (Ane, WC20)

This health perspective was also important for how new information regarding food was perceived. For example, a news story from Belgium in 2013 about a little girl dying from eating reheated pasta resulted in a number of Norwegian newspapers, magazines and TV channels warning about deadly bacteria developing in rice and pasta if kept in room temperature overnight[30]. This story was brought up by several of my informants as a reason why they felt that it was ok to throw away these types of food. This story easily coincided with existing views of leftover rice and pasta as a hassle to reuse among my informants. An online news search[31] uncovered that the articles and information campaigns about consumer food waste extent and impact largely outnumber the few stories of the dangerous rice and pasta. The articles warning about bacteria in these types of food underlined that the danger only arose if food was kept outside of the fridge overnight. Bringing this food to work or reheat it if it had been stored properly would be perfectly fine. Most of my informants made sure to store leftovers in the fridge within an appropriate time after it had been cooked, like meat and other types of so-called "valuable" food. Nonetheless, the widespread perception of these bacteria was that they made reheating rice and pasta "a risk not worth taking". One of my informants explained how this information functioned more as justification

[29] Food with high levels of carbohydrates.

[30] See example in appendix F

[31] In the news search engine Retriever (2016)

for not eating food they initially did not want or know how to reuse, more than the actual fear of it causing harm to their health:

> "If we have a little rice left, we throw it out. Maybe because we are hiding a bit behind that it might be dangerous to eat. If you know what I mean? That it makes us fell less guilty about throwing something out right away, instead of keeping it for a while. Maybe there's an unconscious connection there. I don't know. It could be that we blame it on that. But that we actually know that we are not going to use it anyway. But that one potato that we always end up with, we keep that, because that's not dangerous! We're still not going to use it, but we don't have a good reason to throw it out!" [Laughing]. (Monica, WC30)

This more or less conscious selective use of information to create new categorizations and routines or justify existing ones poses a challenge to reducing consumer food waste. Another concern was protecting food against a range of negative connotations in modern society, as will be examined in the following.

## Keeping Food Positive

Several of the parents stated to be conscious of sticking to their principles and setting good examples for their children. In this way, they could pass on good values and habits to their children, including caring for global issues. Some emphasized how it was important for them to continue with recycling and to keep updated on the developments on climate change and the global situation so that they could be a supportive and "up to date" parent. However, having children marked an important shift with regards to food waste practices, perspectives and priorities in various ways, as mentioned in chapter four of this thesis. Ensuring good habits of appropriate food portions and nutrition was a bigger concern than children having to finish the food they had on their plates. Close to none of the parents in my study said they were strict with their children finishing their food. What was more important was that they did not learn bad habits of overeating and that they *tasted* everything to get used to different flavors and types of food. Several parents said that the only reason for emphasizing that you should not serve yourself more than you can eat was for the purpose of social settings, where it was seen as good etiquette not to leave a lot of food on their plate. A number of parents underlined this concern as a stronger motivation than avoiding food waste in itself:

> "We can't say we think too much about the environment and those things. It's mostly about that we want our kids, when they are out there, that they don't leave a big pile of food on their plates. In my eyes that is about good food habits. To finish your food, from my childhood at least, is the right thing to do. At least if you have served yourself." (Anders, MF35)

Some said they usually mentioned to their children that it was a shame having to waste food, since food costs money and not everyone has enough to eat. However, most parents emphasized that they did not force them to eat if they believed them to be full:

> "But it's not like I use the "Eat your food now, because the children in Africa are starving", you know. I'm not quite *there*. I don't make them responsible for that, you know? For children in Africa not having food. I can't do that. With food I think it's important that I can never decide whether they are able to eat more or not. So if there's one thing I'm certain about, it is that I never want to force them to eat. Then I think they get a bad relationship to food. If they are forced to sit and eat and eat. I know that if I'm full, I'm full. Then I reckon they are as well. And it's not like if they don't finish their food, more children are starving. That's not true. So I can rather speak of it in more general terms. Not when they are about to throw the food away. But it's important to me to communicate it. That we are lucky. Who actually can.. Give them some good attitudes regarding that we are lucky to be able to eat enough every day. That we do talk about a lot. Because we are concerned with those things." (Siri, WF38)

A crucial consideration for parents was to avoid associating negative feelings with food. In general, avoiding placing guilt about food or other problems of the world upon their children was the main concern for the parents of my study. Knowing about health issues related to food consumption, as well as various types of pressure regarding food and appearance facing young people today, seemed to conflict with principles several informants claimed they had prior to having children. Many parents argued that there was already too much pressure on children today regarding appearance and health. Thus, building a positive focus on and relationship to food was a major priority. These concerns also led to a reprioritizing of how they communicated the global impact of food consumption towards their children. The expression "think about the children in Africa" that most of them had heard while growing up was consciously avoided by all of them. They themselves did not view their own food waste as having an impact on food security. Thus, the guilt they felt from wasting food in the household was perceived as an unnecessary feeling they did not want to pass on to their children. Several parents spoke about this as an old fashioned argument that did not have any legitimacy, while emphasizing that the relationship to food should be kept positive and healthy:

> "My parents never said that to me [Think of the starving children in Africa]. No. But I did hear others who got those things pointed out. And that has just cured me from it. It made me think that, no, I am actually never going to say that to my children. Because [laughing], it doesn't help to send the food to Africa or Asia anyway. We can support children's education and.. give money. So that they get their education and earn their own living and buy their own food. But to think about food waste that directly. Here at

> home. On such a small scale. What is really horrible is the supermarkets! They are the true wasters!" (Hilde, WF36)

Later in the conversation she added the following:

> "I've heard the old people talk about how horrible it is to waste food. That made me think: I will never say that to my children. Because that gets really moralistic and… Giving them a bad conscience about something you can just do instead of saying a lot about it. Just set a good example. If you have some good habits, then I think they learn it. But when you then have to throw something out, I could never get myself to say: "Oh, how horrible it is that we have to waste food!" No. I don't think we should moralize over that".
>
> ["Why do you not want to do that?"]
>
> "I don't know. It kind of sets… Food should be a joy. It should be fun and creative. And then ok, if things don't go as planned now and then and some things need to be thrown out, then… Compared to everything, then.. Yeah, it's just the way it is. And you shouldn't beat yourself up about it and kill that joy. I'm very conscious about not transferring guilt to children for all kinds of things." (Hilde, WF36)

There was a general tendency of parents having more or less consciously revised a number of priorities from their pre-family life. Ethical consumption efforts were in many cases gradually reprioritized in the transitions from one household composition to another. Responsibility was shifted from initially concerning only oneself, via the project of building a common home and lastly to ensuring the health and socio-cultural education of children in even busier daily routines. Although still making conscious consumer efforts on a number of areas, responsibility for the health and wellbeing of their children weighed heavier than all other concerns, including the principle of not wasting food.

### Visibility

Another concern challenging the prioritization of food waste reduction was the notion of visibility. When discussing environmental efforts and the motivations behind them, many seemed to be more motivated by visible environmental action than the hidden. This concern for visibility reoccurred throughout all types of households:

> "I rather prioritize biking and not driving to work than recycling plastic. Maybe because when others see me biking, when they see me bike to work… Then I sort of can.. It's rather clear then. It's pretty clear in a way. And I feel it has an impact in a way. A good cause. While there is kind of less of a PR effect in what I do in my own kitchen. It's something visible, in a way. That it might motivate others to do the same." (Jon, MC28)

Several informants referred to the limited "PR effect" of the conscious consumer efforts conducted in the privacy of the household. This weakened the motivation, despite

several of these "invisible" efforts requiring less physical efforts than the visible ones. Some mentioned that rinsing and recycling plastics at home felt less valuable than taking glass bottles and metal to public recycling stations in the neighborhood. The invisibility of household food waste did not seem to give this practice enough recognition for it to be a priority. Thus, the threshold for prioritizing the highly invisible practice of household food waste is an important challenge for change, in addition to the very establishing of this as a "green" consumption effort in itself.

Some of the most common concerns inhibiting my informants prioritizing food waste reduction were health, keeping food a positive and social recognition, in addition to ensuring that their conscious consumer efforts did not make them come off as extreme. In the cluster of close and distant concerns, the informants of these households had various ways of deciding on which of these they saw as worth prioritizing. Food waste was widely seen as difficult to do anything about, not having any real impact often more or less conflicting with more important concerns. Thus, in practice, this was rarely the priority. In general, a key challenge for a reduction of food waste within these households was an overall lack of control mechanisms for this particular practice.

## Lack of Control Mechanisms

### Policy and Privacy

A number of consumer practices are explicitly or implicitly governed in Norway through public incentives, praise or sanctions. The financial benefits of recycling plastic bottles, having a compost system and owning an electric car are some of these benefits, while large scale dumping of waste and pollution are financially sanctioned. According to Santopietro (1995), the success of environmental policy to influence citizen behavior depends on the form of power employed. While *condign power* uses negative sanctions for unwanted behavior, *compensatory power* uses rewards for the desired behavior. Both these strategies can have positive outcomes, but tend to be costly and demanding if one is to ensure a lasting change. *Conditioning power*, however, changes the receiver's own value system. This guides behavior and makes the motivation for the wanted behavior intrinsic. The appropriate behavior is then seen as natural and proper without

any sanctions or rewards needed (Santopietro 1995: 518). These understandings of policy build on Foucault's (1979) notion of power. He argues that power relations in modern society are not based on explicit messaging or sanctions for behavioral change. They are rather built on knowledge that ensures sufficient internal motivation for change. Citizens' actions are not influenced through traditional top-down policy but through guiding and providing information that changes mentality. In this way, people are morally convinced that they are responsible of consuming ethically (Foucault 1979).

Kjærnes (2012) notes that liberal political rationalities have a dual wish to on the one hand; respect the privacy and autonomy of citizens, while on the other; ensure behavior that profits both the individual and society at large. In the case of food policy, Roos et al. (2010) argue that there has been a general trend of relying less on legislation and increasingly on voluntary measures emphasizing consumer's conscious choices based on the necessary education and information provided. Consumer food waste reduction policies have also been restricted to encouragements without financial incentives or legal sanctions, as reflected in the MoUs presented in chapter two. This reflects the neo-liberal view on policy of not stepping into the personal sphere of its citizens. The main initiatives for food waste reduction have also focused on building knowledge, while not invading some of the most private and invisible spaces of the home; food and waste. However, as shown in the preceding analysis, providing information alone has been an insufficient measure for ensuring this inner motivation for food waste reduction in the households of my study.

Addressing food waste in institutions is less morally sensitive than steering behavior in people's homes. Reducing the levels of food wasted by farmers, retailers, supermarkets and restaurants are also driven by incentives for the players themselves as well as the economy at large. The waste at these levels leads to a loss of economic productivity as well as food supply to the market. Prioritizing reduction of household food waste in the modern Norwegian context is not driven by the same incentives. In a neoliberal perspective, consumption of commodities at a high pace is important for the economic wheels to continue turning. The public health perspective also needs to be taken into consideration by policy makers, as over-eating and health issues related to this leads to significant societal expenses both in economic and social terms. Furthermore, the most

severe effects of climate change are distant to the Norwegian society, and so is the threat of food insecurity. Addressing consumer food waste due to these consequences is therefore less urgent than closer and sometimes conflicting societal concerns. The lower threshold for addressing food waste in other sectors and thus increased incentives to turn the attention there poses a challenge to consumers acknowledging their role as the ones wasting the most in the Norwegian food chain

### Social Control

Consumer food waste is also largely freed from a range of *informal* control mechanisms shaping what is perceived as normal behavior. These can be equally or more powerful in shaping behavior. Foucault notes that power exists in and works through social relations and between people (Foucault and Gordon 1980). This understanding of power mechanisms does not only focus on the traditional sense of the term, with top-down execution of power or dominance and repression. It rather recognizes the different actors and power structures interwoven in both formalized institutions and informal power structures, as well as taking part of other kinds of relationships. Furthermore, Beck (1992) argues that the dissolving institutional foundation of industrial society within risk society, further leads to a diminishing of social institutions structuring normal behavior. Thus, a number of traditional social mechanisms previously governing what was perceived as expected behavior are now left up to the freedom of the individual.

Certain control mechanisms are still at work for a range of unsustainable practices, like people frowning upon the practice of public littering and positive connotations to a healthy lifestyle from biking, to mention a few. These mechanisms largely do not involve consumer food waste reduction, as shown in the analysis of chapter six. Consumer food waste is limited to the privacy of the household and thus largely invisible to the outside world. The credit given to a number of conscious consumer practices outside of the household is thus dwindled. When the social world *does* meet the inner sphere and routines of the home, modern social norms of young adults largely seem to work as inhibitors of this practice rather than encouraging it. Keeping unwanted food or eating more than necessary is also related to possible threats to health or appearance. This lack of formal and informal control mechanisms to this private and

taboo-ridden practice is a significant contributor to food going to waste in the households of my study. This also seems to be a key to why this consumer practice is particularly difficult to change.

## Summarizing Remarks

The analysis of this chapter shows that providing information about food waste alone is insufficient to create social change within this group. Despite the range of efforts emphasizing the benefits of food waste reduction for the consumer, specific advice for how to achieve this and the global impact of the problem, the dominant message perceived by my informants was the images and stories about large piles of wasted food and dumpster divers portraying and criticizing the food wasted by supermarkets. Instead of motivating for change, this had provided a sense of content about their food waste being a small drop in the ocean. The somewhat negative and uncomfortable nature of food waste and consumer responsibility have contributed to the rejection of these messages and further distancing of consumers from their role instead of the intended motivation for change. In this regard, special attention needs to be on the barriers of filtering mechanisms, stressed by Mary Douglas (1992), and framing of messages to the social realities of the receivers, underlined by Norgaard (2011) and Santopietro (1995).

A lack of traditional control mechanisms, as well as a reflexive relationship to knowledge, is emphasized by Giddens (1992) and Beck (1992) as central to modern society. This was also a significant challenge to reduce consumer food waste within these households. The perceived "overload" of global problems and demands for ethical consumption had led to a more or less conscious prioritization of efforts among my informants. Avoiding food waste was excluded from the formal and informal rewards and sanctions provided for other types of behavior. Food waste was widely seen as difficult to do anything about, not having any real impact and often more or less conflicting with more important concerns. Some of these competing priorities were concerns for health, ensuring good eating habits and a positive relationship with food for their children, and social recognition and acceptance for these practices. The duality of communicating the need for food waste reduction while excluding formal sanctions

or incentives reduces consumer food waste to a question of personal morale and faithfulness to principles. In the three preceding chapters, I have analyzed my empirical findings in light of theoretical concepts. I will now turn to a discussion of the findings and analysis by systematically following the guiding questions of this study.

# 7. Discussion

The purpose of this thesis has been to identify key factors inhibiting a success of food waste reduction efforts in households of young Norwegians, with the multiple consequences of consumer food waste as my rational. The ForMat project set a goal of a 25 % reduction of overall food waste in Norway by 2015, compared to 2010 levels (Hanssen and Schakenda 2010: 5). Although the summarizing report of the six years of this project is awaited before the summer of 2016, the 2015 report indicated that this goal would not be reached (Stensgård and Hanssen 2015b). One of the reoccurring findings throughout the annual ForMat mappings was that young age was a significant factor for higher levels of food waste and lower levels of acknowledgement of the problems related to it. Exploring the barriers within this particular group was therefore a way of building on the mapping of food waste developments in Norway.

This study was conducted through the use of mixed research methods, with emphasis on a qualitative approach and a combination of ethnographic methods. My case study consisted of 20 households in the Norwegian city of Fredrikstad, with in-depth interviews and conversations, participant observation and self-reporting of food waste practices as primary tools for data collection. The research question of the study was twofold. First, I set out to examine how the issue of food waste is perceived within this group. The purpose of this was to uncover attitudes and knowledge, and thus possible inhibitors for prioritizing food waste reduction in the home. Here, I also examined forms of communication and argumentation of the main Norwegian initiatives for food waste reduction, in order to understand the barriers and potential of these types of messages and approaches for a reduction of household food waste. Secondly, I investigated structures driving food waste perceptions and practices within these households. In that process, sociality, materiality and the informants' habits were explored, as well as knowledge, feelings and cultural aspects structuring perceptions and practices related to food and waste.

The primary question guiding this study was: ***What are the barriers to reducing household food waste among young adults?***

Throughout this study, I observed a number of structures and dilemmas which I believe are important barriers to successfully reducing food waste within this group. To support this main question, I asked two sub-questions to which I will present my key findings in the following discussion.

***How do young adults perceive food waste and the argumentation used to reduce it?***

## Multiple Mentalities and Lack of Recognition

All my informants initially stated that they believed food waste was wrong and unnecessary. However, the analysis sections of this thesis demonstrate how these initial statements most often refer to a principle which influences practice only in limited ways. This is largely due to traditional ideologies concerning food waste being transferred from older generations through narratives of past hardship and the more recent narrative about hungry African children. These were seen as principles with no real legitimacy in the modern context, merely influential to my informants' emotions rather than noticeably guiding their practices. Nonetheless, these principles were still perceived as the primary argumentation for not wasting food, and so many informants found themselves balancing between old virtues and principles on one side and rational reflection of the current realities on the other. While all the informants expressed that not wasting food was more of a principle than actually having a significant impact, feelings of guilt and firmness to the principle itself were more widespread among women. This was a key contributor to the discrepancy between what my informants said they believed and what they actually did in practice, as was evident in the findings presented in chapter four. Thus, understanding and timely addressing the conflicting mentalities and concerns is vital for the success of food waste reduction efforts.

The analysis indicates that the inconsistency in the informants' attitudes and values is connected to a knowledge gap regarding the extent and global impact of consumer food waste, which also influences their attitudes towards reducing food waste. My informants did not perceive their consumer role as sufficiently influential for them to act on information about overall levels of food waste or their general concern for global issues. Hence, the informants were skeptical to try to reduce what they saw as insignificant levels of food waste and felt that this responsibility should be taken on by bigger players of the food chain rather than by private households. The issue of food waste has seen an

increase of focus in recent years, as a result of publications and campaigns by the ForMat project and other initiatives. Nonetheless, food waste reduction is not commonly recognized as an environmental contribution, compared to using the car less, flying less or recycling, to mention a few. Nor is it recognized as a contribution to global food security. The narrative of hungry African children is not seen as legitimate, but remains as the primary connotation to reasons for not wasting food. This is a crucial barrier for recognition of actual food security arguments.

### Prioritizing Efforts

Confusion of relevant and irrelevant arguments can enforce the justification for wasting food in the complex picture of expectations for conscious consumption in the modern context. Unawareness and lack of knowledge about its consequences reduced the legitimacy of arguments for food waste reduction in the home. Hence, although not wasting food was a stated principle, other types of conscious consumer practices were prioritized. Throughout the analysis of my data, a number of challenges for emphasizing global responsibility to communicate food waste reduction were evident. The topics are in themselves distant from people's daily life challenges. Informants' recognition of arguments of global responsibility was also influenced by a general perception of "already doing their share". Conscious consumers felt like one should be aware of not being "extreme" in terms of ethical consciousness, with reference to social expectations and own wellbeing. A vital concern was to avoid connecting guilt to all areas of consumptions and to keep a positive relationship to food both for themselves and for their children. With the threshold recognized as high and the impact perceived as low, food waste reduction was continuously de-prioritized. Thus, too much information about global challenges combined with a lack of knowledge about the impact of food waste was a key barrier for these types of arguments to engage people to change. The result among my informants was a prioritizing of what they found most doable, most rewarding and most effective.

This lack of prioritizing food waste reduction indicates that the messaging from actors like Matvett or NGOs has not seeped through the filtering mechanisms of informants who did not feel that this information concerned them and their household. Public events where people serve food that otherwise would have been wasted, dumpster

diving stories and media coverage of initiatives such as the food bank in Oslo have increased the focus on food waste as a problem. However, this has also placed the responsibility on bigger players while distancing the consumer from their role and responsibility. In general, Norwegian consumer food waste reduction policies and campaigns are built on the notion of information motivating a change of practice, resulting from a general reluctance to use direct power through public sanctions or rewards. However, theories questioning the assumptions of information deficit and rational choice rather point to dynamics of denial, mechanisms for filtering information and pragmatic acceptance as inhibitors for changing behavior. Household food waste is considered as highly private and connected to a number of taboos. Thus, addressing this practice touches upon some of the most personal spheres of individuals – food and waste in the privacy of the home. This represents a significant barrier both for policy intervention and perceptions by consumers themselves of such interventions of personal space.

***What are the structures driving food waste perceptions and practices among young adults?***

## The Material World

By using a combination of methods in my data collection and theoretical concepts in my analysis, I discovered a web of structures of material, social and cultural nature, as well as knowledge and practice influencing the food waste attitudes and perceptions of my informants. Combined, these structures formed the context within which young adults turn perceptions into practice. Among the material structures, the availability of food is a driver of surplus food being purchased on a regular basis. Despite a wish to consume differently, agency is distributed to supermarkets through consumption itself, further shaping the habit of its users. This reciprocal relationship between the availability of food and habit of shopping raises the threshold for introducing new routines. The communicated benefits of less frequent shopping were acknowledged. However, the agency of the high supermarket availability in Norway was a significant threshold for change. So are relatively low prices of food. Although my informants did not perceive loss of food as a significant loss of money, the large majority strived to keep food

expenses low, and thus continuously devaluated the “non-exclusive” food in their kitchen. This process made food easier to waste.

Sizes of packages, serving plates and bowls, and the storage spaces for food are influential material structures inhibiting a correspondence between the amounts bought and cooked and actual needs of the consumers. Combined with familiarity and ease in a high-pace modern lifestyle, the agency of packaging is embedded in the habitus, further reproducing this practice. Moreover, household appliances and material objects functioned both as inhibitors and drivers of household food waste. While keeping food fresh longer, as well as facilitating the use of food that often was perceived as challenging to make use of, appliances like the refrigerator, freezer and microwave were important tools for food waste prevention. However, compost bins justified food waste as “resources brought back” and the refrigerator functioned as a “guilt relief” of waste through postponing the waste process. Appliances also contributed to a lack of oversight of actual food stocks. In several households, juicers led to an increase of waste, as they were not primarily employed to make use of food that otherwise would go bad. These appliances rather led to their owners buying more food without their routines of “juicing” catching up with this increase. Thus, the subconscious routines of interacting with these material structures determined their influence on food waste levels.

### Habits

As reflected in the findings presented in chapter four, the food waste practices among these young consumers were rarely a result of rational consideration of possible outcomes. This behavior was rather subconscious, as well as often conflicting with the rationalization of the actors performing them. Most of the informants had a basic wish not to waste food or spend time almost every day on planning and shopping for food. The majority of informants also recognized the multiple benefits of better planning. However, these routines were maintained and reinforced through frequent repetition. In theory, the threshold for wasting small amounts of food was also lower than for wasting a lot. However, in practice, systematically wasting larger amounts of food met the need to clean up and start fresh. The embodied knowledge of this systemized waste was thus stronger than cognitive reflection of scale of impact.

The findings from chapter five shed light on the fact that a number of subconscious household routines also function as strategies for limiting guilt about wasting food. Postponing the process of wasting food and mentally categorizing food as "inedible" based on feelings are two such strategies. Furthermore, wasting food was an initially uncomfortable practice that my informants had become accustomed to through repetition, for example through large scale wasting in work places, adjustment to the waste levels and perceptions of a partner or simply through a weighing of priorities in everyday life. The irrationality of habit represents an important challenge for food waste reduction through information sharing only. The interplay of materiality and habits are significant structures posing a challenge to food waste reduction within this group. However, this shows the dynamic nature of habits and thus the potential of ensuring a routinization of better practices. This requires a wide-reaching approach addressing the multiple structures driving this practice.

### Social Norms

The analysis of the informants' attitudes reveals that norms and socially constructed needs and perceptions influenced their attitudes towards wasting food. Although the waste of other people allegedly did not concern the informants of this study, a number of unspoken norms became evident through the course of the study. Perceptions of other people wasting more than them were largely a result of seeing food being wasted with ease in social settings. However, entertaining guests in their own home was an influential factor for food more easily going to waste. Spending time socializing with guests and not including them in the kitchen space was rather prioritized. An exploration of food waste norms within this group also indicated that a fear of being perceived as stingy or old fashioned governed their food waste practices to some extent, although few of them actually believed that these were indicators of such characteristics. Many rather expressed an admiration for people who were able to stick to the principle of not wasting food. Thus, the perception of food waste levels in other households was largely based on situations where they themselves tended to more easily throw food out. Perceptions of unspoken norms also seemed to subconsciously govern food waste practices, even though few of the informants shared these views themselves. This further contributed to legitimization of the food they wasted in daily life, as this

was both perceived as less than that of social occasions in their own home as well as the average.

Furthermore, findings from chapter six indicate that visible consumer practices are more often prioritized than those made invisible by the privacy of the home. Such prioritization of practices also influences the selective recognition of information concerning these issues. These tacitly accepted norms and "social approval" of food waste among young adults, as well as the invisible nature of this practice, represent important challenges of social recognition for this type of conscious consumer practice and thus a significant threshold for tackling them. Certain social elements did contribute to an increased threshold for wasting food. Among women in particular, wasting food sparked a feeling of not being in control of managing the household. This was also reflected in their rationalization for why they believed certain friends wasted more, according to how organized and "proper" they were perceived to be. Not wanting to be perceived as reckless or not in control of things, as well as feeling embarrassed or like a failure when having to waste food, created incentives to avoid wasting food. Furthermore, the large majority of initiatives for food waste reduction taken by the informants themselves were a result of learning about them from acquaintances. The power of personal relations for credibility of measures for food waste reduction was therefore stronger than that of formal information channels. A dominant norm among young adults was, however, that food should not go to waste in principal, but that it was something everyone did and that it therefore was not such a big deal. Consequently, in order to succeed in changing food waste practices within this group, these unspoken socially constructed barriers need to be addressed.

### Knowledge and Alienation

This thesis has identified important dimensions of knowledge inhibiting the reduction of food waste within this age group. First of all, as presented in the analysis of chapter five, limited knowledge about food was a major contributor to insecurities about food safety and thus food going to waste. As a responsive mechanism, this task was largely distributed to the expert system of expiration dates, leading to a circle of diminishing capability and trust in one's own senses. Significant confusions of the meaning of labeling systems were also identified. However, the most important finding regarding

the role of these date labels was that knowledge rarely matched practice. Despite knowing the difference of meaning in theory, the numbers were most often the only perceived information in practice. This represents another challenge for food waste reduction through communicating the difference of these meanings. People thinking they know the difference, as well as people knowing the difference but not acting accordingly, is a barrier for breaking the pattern of distributing this task and strengthening the reliance on themselves in deciding the actual quality of food. Limited creativity about the usages of food beyond its original purpose also reflect a widespread reliance on external structures like food packaging shaping food consumption practices and driving the waste of food. The dissonance or confused relation to date labels, and food knowledge in general reaffirms the informants' lack of insight into the issue.

### Feelings and Cultural Meanings of Food

A number of cultural meanings of food, and the meal in particular, also structured food waste perceptions and practices within these households. The categorization of food according to cultural value rather than safety was one of these. A subconsciously defined number of days as a cutoff point for wasting food, mentally categorizing liminal food and the conflicting consideration of reestablishing order of food spaces were some of these cultural structures lowering the threshold for food waste. Modern cultural expectations for eating healthy food contributed to a categorization of good and bad food, hence justifying and lowering the threshold for wasting unhealthy food. Transitions to new types of household compositions also entail the introduction of new cultural meanings to food. As opposed to households of single people, the increased value added to the meal among couples and families tend to restructure both perceptions and practices regarding food waste. Adjusting to the habits and attitudes of the partner and building a proper home encompass a range of subtle changes to the composition, variation and rituals of the meal. Increased self-restrain regarding eating that little extra to "finish up", as well as a diminishing sense of overview and responsibility for finishing off food, were also among these cultural elements accompanying the new household composition. Still, couples protected the spontaneous nature of their everyday life. This duality of spontaneity and nest-building contributed to more food generally going to waste among couples than singles.

For families, additional cultural components increasingly shifted the perspectives and practices regarding food waste. The sense of time constraints and chaos of family life further justified a systematic wasting of unsuitable food in order to reestablish order, as well as shifting priorities. Cultural expectations of proper nutrition, habits and protecting the ritual of the family meal were virtues increasingly challenging the consideration of food waste avoidance in these households. Moreover, as indicated through the analysis in chapter six, having children created a duality of wanting to set a moral example for their children while diminishing the sense of responsibility for global issues even among the most conscious consumers. The pragmatism that usually followed a more spontaneous lifestyle was a contributor to avoiding food waste in these types of households. Nonetheless, the predictability of systematic planning was more influential for avoiding food waste.

The importance of competing cultural concerns of different kind of households (demonstrated by the concern for spontaneity, nest-building and running the so-called family business) explains reluctance to reducing their level of food waste. Multiple expectations towards modern women also contributed to more food going to waste, governed by the persistence of traditionally female values of ensuring the health, efficiency and morale of the households' food consumption. Lastly, levels of income and education were only of limited importance for how much food that was wasted in these households. Despite a higher prevalence of systematized routines for planning and shopping for food, a generally higher recognition of global issues and conscious consumer efforts among the informants with higher levels of education, this did not result in them acknowledging the extent and impact of food waste reduction more than other informants. In most cases, informants with higher levels of education were rather more prone to prioritize their consumer efforts and in that process justifying wasting food out of a feeling that they already did their share. Informants of lower income groups were generally less systematic about their food consumption and had introduced fewer routines for ethical behavior. These informants expressed more guilt about wasting food, although this did not seem to materialize into lower levels of waste. With reference to the analysis of information not necessarily leading to a change of practice and food not only being valued out of financial concerns, other factors than education and income are more important to address.

## Changing Practices by Changing Structures

As the analysis of this thesis has shown, feelings represent powerful structures of human behavior. A better understanding of the informants' relationship to food also provides an insight into the processes leading to so much food being wasted. These insights need to be acknowledged and incorporated into campaigns and policies motivating a change of practice. Facilitating structures for food waste reduction and perception of information is a complicated task, as everyone is different, with unique experiences and priorities. Understanding motivations behind systems and structures intentionally or unintentionally leading to food waste reduction will therefore be important to anchor future initiatives in existing perceptions and practices. Connecting the right information and perceptions to the right feelings would therefore be an important contribution to changing food waste practices within this group.

Ensuring an understanding of the significant global benefits of food waste avoidance, in addition to the credit for managing the household properly and conforming to old ideologies and virtues, has the potential of bridging the gaps of recognition and awareness. Providing the right set of information in a way that seeps through mental filtering mechanisms is crucial in this regard. With reference to the feeling of problem overload and consumer disempowerment, focusing on the global concerns to engage consumers to actions might not necessarily be the right approach for food waste reduction. The negative connotation and guilt related to traditional food waste reduction narratives and perceptions must therefore be reevaluated. However, since people who *do* express concern for these global issues do not perceive or prioritize food waste reduction as an important contribution, I believe ensuring knowledge about its vital role for a sustainable food system would be important.

Information cannot be the only measure for food waste reduction. Facilitating a material context of new habits for purchasing, storing and cooking the right amount of food is an important supportive measure for avoiding the scenarios where food is wasted. Additionally, decreasing the threshold for reusing food is key for these facilitators to materialize into new habits and new social norms. The agency of materiality, culture, habit, sociality and feelings has the potential to reshape dispositions for future actions and could be a powerful contribution to food waste reduction among these consumers.

Moreover, breaking down the barriers of "social approval" of food waste, as well as the perceptions of the high threshold and sacrifices connected to them, are key challenges for success. The modern context of increased risk and disembedding mechanisms leads to an increased alienation from the origin and knowledge of food, while multiple mentalities, expectations and concerns diminish the role of food waste prevention as a priority. The result is a lack of both formal and informal control mechanisms previously structuring food waste behavior with rewards and sanctions. Hence, categorization of food as waste, as well as the way in which this practice falls outside of clear categories of concern, priority and responsibility places food waste in somewhat of a liminal position on several levels. The invisibility of this practice both in physical and cognitive terms is therefore an important recognition in order to overcome food waste reduction barriers.

The widespread consensus, both among consumers, the food industry and policy makers, is that food waste is an unwanted practice. Hence, one would not assume that reducing household food waste levels would be such a challenging task. Despite significant efforts to demonstrate the personal benefits of saving food and guidance for how to achieve this with the least possible effort, a reduction of food waste in the household is widely perceived as requiring noticeable efforts and sacrifice. Spontaneity, variation of meals and taste, as well as concerns for health, social norms and keeping a positive relationship to food, are some of these perceived sacrifices. Furthermore, routinization of this practice is justified by habit, material agency and socialization. Changing the practice of household food waste is particularly challenging when so many aspects of it are related to habits and the norms connected to them are largely unspoken.

## Implications for Food Waste Research and Policy

My observation of how our conversations developed was in itself interesting for the understanding of food waste attitudes and behavior within this group. While the large majority of informants started off by quite firmly stating that food waste was wrong and that they did not waste food, this was gradually nuanced to a complex system of structures, feelings and practices influencing how they threw away food and how they felt about it. Moreover, the development of how the informants spoke about the

connections to global issues followed the same pattern to a large extent. While starting off by rejecting the connection as an illegitimate principle from a different context or an invalid argument to make children eat their food, several informants drew lines to the environmental cost and food security impact of modern food production. Thus, recognition of this problem did not imply recognition of the connection to this practice and one's own role in particular. When evoking reflections on the topic, knowledge from other areas are employed and connections to the importance of the topic are drawn, decreasing the initial reluctance towards this practice. This also sheds light on some interesting effects of the methodological approach. In addition to the challenges presented in chapter three, the encouragement to reflect upon individual food waste practices and perceptions might have created connections and perspectives on food waste, food security and the environment that are usually unnoticed.

Examining the potential of global responsibility to reduce food waste among consumers also generates some implications for general policy and campaign efforts for social change through a sustainability perspective. I found that these issues seem distant and that my informants' own efforts often were viewed as insignificant. Another important finding was the difficulty of engaging those who *are* concerned and who *have* made behavioral changes on certain areas while not on all. The conscious consumers of this study justified their behavior through the notion of already doing enough and avoiding to "strangle" themselves with ethical pressure or distancing themselves too much from the norm. Prioritizing of certain practices is not a result of rationalization of where the impact is the greatest. It is rather a result of pragmatism in everyday life, as well as consideration of rewards and sanctions both on a formal and informal level. Thus, ensuring a view of consumer food waste reduction as achievable, socially and formally valued, and influential in the global perspective is of utmost importance.

This study aimed to contribute to the general understanding of food waste behavior among Norwegian consumers, through an emphasis on young adults whose food waste behavior has been particularly difficult to change. As this research project is limited to a qualitative study of 20 households, a specific geographical location and a sample of informants between 20-40 years old, my results cannot claim to reflect the food waste perceptions and practices of *all* Norwegian consumers. Nevertheless, the informants

were selected with the purpose of covering different backgrounds, gender, household compositions and the range of the defined age span. Thus I believe this sample is relatively representative of young adults in Norway. This study uncovered nuances of consumer food waste that are difficult to catch through quantitative mappings. Among these were discrepancies between knowledge and practice, limitations and potential of different narratives, social norms and motivations behind initiatives that have resulted in reduced levels of food waste. This can have implications for the overall understanding of food waste behavior, values and priorities among young adults and contribute to more successful approaches by future food waste reduction policies and initiatives.

# 8. Conclusion

At first glance, it may be tempting to answer the research question of this thesis with simple assumptions, such as the financial situation of the average young Norwegian in a situation of food abundance, providing a leeway for wasting food without caring for its implications. However, by discussing and observing perceptions and practices of these households, this study has shown that such simplifications do not reflect the complex drivers of consumer food waste behavior. Low food prices relative to the average Norwegian income was a driver of food going to waste. However, this was only one factor in the complexity of knowledge, feelings, materiality, sociality and habit that together formed and maintained the food waste perceptions and practices of this group.

All of the informants stated a basic wish not to waste food. However, they all had difficulties with rationally explaining *why* they believed this was wrong. When old ideologies met modern realities, this seemed to have formed a set of multiple mentalities within this group of young adults. The ideology professing frugality and not wasting food, which had been passed on through narratives of past hardship and the more recent one about being respectful of starving children in Africa, was viewed as merely a principle in the modern Norwegian context of food abundance. These multiple mentalities created a discrepancy between stated principles of avoiding food waste, a rationalization of this argument as illegitimate, and the practice of relatively frequently wasting food. The result was what several informants referred to as "irrational guilt".

Despite significant efforts to communicate the extent and global impact of consumer food waste, close to none of my informants perceived this as significant. Information about dumpster diving and spectacular visuals of "mountains of food" had increased the recognition of food waste as a major problem. However, the widespread belief was that this was the responsibility of bigger players in the industry. Due to subconscious cognitive processes of comparing and filtering uncomfortable information, being exposed to food waste reduction messages had in many cases actually *reduced* the sense of consumer responsibility rather than motivated for a change. The informants of this study had also recognized advice about how to avoid food waste and the range of

possible benefits from implementing better routines. However, the suggestions coming from impersonal actors were less likely to be implemented than those coming from personal acquaintances. In the cases where informants had changed routines and systems that led to a reduction of food waste, these were most often driven by other motivations. Food waste reduction was most often more or less an unintended side effect.

These findings show the limitations of using information alone to create behavioral change, as well as challenges of communicating through impersonal information channels. Addressing the limitations of these information channels does not imply a suggestion to remove them as tools to create change. Actors like Matvett and dumpster divers presenting the extent of food waste through these visuals and numbers are important ways to attract attention to this issue. However, these initiatives need to use the possibility of this attention to increasingly underline the role of consumers, framing this as a positive practice with major sustainability impacts and multiple benefits. Narrowing down the information to tangible amounts that people can relate to in daily life and reducing the sense of "duty" are important priorities in that regard. Some of these strategies are already a part of the communication of Matvett, but should be further emphasized. In this way, one may overcome the barrier of conscious consumers currently not perceiving food waste as a significant contribution to sustainability.

Wasting food is a highly subconscious practice, and so are the complex processes preceding it. This inhibited an acknowledgment of how much food these informants actually wasted, as well as successfully changing a number of practices and systems that many of the informants themselves disliked. These "bad habits" were both a result of and drivers of habits, the material structures with which these informants interacted and social norms within this age group. Availability of food, sizes of packaging and household appliances were some of the material structures shaping the food consumption patterns among these households. These material structures were closely interlinked with routines of more or less daily planning and shopping for food, buying products out of familiarity rather than need, and subconsciously throwing away food on a regular basis. The routinization wasting food also diminished the negative feelings connected to it. Although food waste was rarely discussed in social settings of these

informants, a number of unspoken social norms still seemed to subconsciously justify this practice. Interestingly, these norms were largely based on how food was wasted in social settings, where most of the informants stated that the practical circumstances lowered their threshold for wasting food compared to situations in daily life. Thus, although most of the informants of this study viewed efforts to avoid food waste as a virtue, there was a relatively widespread perception within these households that other people categorized being concerned about food waste as old fashioned or stingy. The private nature of food and waste formed a context where these routines and problems connected to them were not talked about. Yet these unspoken norms contributed to social acceptance of wasting food.

A number of mechanisms of the modern food system seem to have alienated consumers from the origin of their food. The threshold for wasting food was *bought* was lower than for that which had been *grown* by the informants themselves or someone they knew. Food that was given significant effort to prepare was also noticeably more difficult to waste than the type of meals requiring less dedication. The cultural and personal value of food, rather than economic value, was in fact more important for what most informants saw as most difficult to waste. People who based their cooking on a limited range of meals or ready-made packages had difficulties knowing how to reuse leftover food in alternative ways. As a result, these households tended to produce more food waste. These perspectives shed light on the importance of connection to and knowledge about food to increase the threshold for wasting it.

Lack of knowledge also largely reduced people's ability to independently evaluate safe food. As a result, feelings were often employed as a tool to categorize food from waste, as well as to provide a sense of justification. A dominant feeling in this process was the need for order and cleanliness. The conversations of this study unveiled numerous more or less subconsciously established categories of food to keep or to waste. Visual signs, purpose, self-made systems of cutoff points, or whether the food had already been mentally pictured as waste, were some of these tools for justifying food waste that were largely based on feelings. Among these, delegating this task to expiration dates as an expert system was the most common tool. Despite widespread knowledge about the differences between the two types of expiration labels and sense of pragmatism towards

them in theory, this was rarely applied in practice. These dates rather seemed to function as the most legitimate and applicable way to justify wasting food that they already did not want to keep for other reasons. The subconscious processes of redefining food, reestablishing order and delegating tasks and trust to expert systems, were noticeable constraints for my informants to acknowledge their actual waste levels and from there reducing it.

Strengthening food knowledge from an early age could alleviate insecurities leading to these alternative coping mechanisms, as well as limiting the sense of alienation and devaluation of food. Using existing institutions like school kitchens and school gardens to teach children about the origin of food and its various possibilities could be important to change the way food is valued among the young generation, as well as providing them with the tools to evaluate and be creative with food. Active participation is key to embody this knowledge and to strengthen the trust in own capabilities. Such an engaging and positive approach could shift the focus from the guilt, sacrifice and moral responsibility that represent the strongest barriers for prioritizing food waste reduction in the contemporary Norwegian context.

The possibilities of a positive and participatory approach can also be found in initiatives to reduce food waste in other countries. Norwegian food waste reduction initiatives have largely focused on information as a motivational tool. In France, the food waste movement has included a participatory element. The *Disco Soupes*, where surplus food is served in public places, is based on spectators taking part in the different stages of the cooking process, from cutting away damaged parts, rinsing and cooking the meal. In this way, rather than only seeing the shocking amounts of wasted food, people are provided with the tools to evaluate food, as well as seeing the result of a process that started with products they might normally have wasted. Such a participatory approach embodies this knowledge in a different way and has a higher chance of changing future practices and perceptions. This might have contributed to an increased public attention and the recent decision of banning supermarkets from wasting food. Although cultural differences might be a threshold for engaging the reserved Norwegian in such spontaneous events, the possibilities found in such a participatory approach should be considered for the Norwegian context.

The subconscious nature of food waste and the processes maintaining it pose a challenge for acknowledging and changing this behavior. Thus, addressing all the pillars of this practice is important in order for consumers to acknowledge its impact and from there facilitate a new set of norms, structures and habits as dispositions for future perceptions and practices. Establishing a general perception food waste reduction as a significant consumer effort that entails personal benefits rather than sacrifices also has the potential of this being socially rewarded rather than giving an impression of being stingy or fashioned. An important challenge for food waste reduction within this group seemed to be an overall reluctance to address the uncomfortable and private combination of food, waste and consumer responsibility. This made this problem invisible on many levels. Control mechanisms at the formal level governing other types of consumer behavior do not encompass consumer food waste. Nor are there any noticeable informal control mechanisms that socially sanction food waste or reward efforts to avoid it. Hesitation by policymakers to step into the private spheres of the household contributes to consumer food waste falling between gaps of responsibilities, and being reduced to a question of principle and virtues of keeping order and control.

A number of barriers to food waste reduction were more related to lifestyle, household composition and socio-economic position rather than young age in itself. Spontaneity and limited responsibilities of single people led to less overview, while also more pragmatism about eating leftovers and being creative when composing meals. Couples seemed to balance between a continued sense of spontaneity and lack of responsibility, while simultaneously adding cultural and material structures of a "proper" home. This led to an increase of food waste in many of these households. Lastly, having children marked a significant change in terms of renegotiation of both practices and principles. "Managing the family business" and ensuring a positive relationship to food for their children were concerns that often conflicted with previous principles of not wasting food.

Education level and type of profession seemed to influence food waste perceptions and practices in limited ways. People with higher income professions had more often introduced systematized food consumption routines, as well as being more conscious about global issues and their consumer responsibility. However, these concerns did not

include reducing household food waste. People with lower levels of education and income level were often less systematic in their food consumption, but felt more guilty about wasting the food they did. This study also unveiled the role of gender for differences of food waste perceptions and priorities. The multiple expectations to modern women spurred stronger feelings of guilt for neglecting principles and failing to manage the household properly, while competing with a sense of responsibility to ensure safe, nutritious and varied food for the household. These multiple and somewhat conflicting expectations towards modern women often led to a prioritization of other concerns rather than avoiding food waste.

The guiding questions and sample of informants for this study were based on the ForMat studies pointing to young age as a primary factor for higher levels of food waste and lower levels of knowledge and concern about this problem. A large number of the drivers of food waste unveiled in this study were connected to central elements of modernity. These modern structures have largely formed the context within which people between 20 – 40 years old have spent most of their lives. This indicates that they have a stronger impact on the perceptions and practices of this age group than on older generations, hence supporting the findings of ForMat. Nevertheless, as this study was limited to an investigation of food waste perceptions and practices of young adults, this remains a hypothesis that should be further investigated. Thus, similar or comparative studies among people above 40 years of age would be a valuable contribution to the understanding of food waste behavior among Norwegian consumers.

Studying how the problem of food waste has been communicated and perceived within this age group shed light on important challenges of communicating social change through arguments of global responsibility. The massive flow of information about the problems of world hunger and climate change, as well as efforts to solve them, increased the need to make one's own world smaller. This sense of "overload" of global problems and expectations for conscious consumption led to a pragmatic approach to consumer responsibility in daily life. Food waste was widely seen as difficult to do anything about, not having any real impact and often conflicting with other concerns, and so it was not seen as worth prioritizing. Messages about the global impact of consumer food waste also had to compete for attention with the narrative of starving

African children. Although this was seen as an irrelevant principle, it remained the dominating food waste argument about hunger. This duality poses a challenge to the acknowledgment of other food security arguments. Increasing the recognition of this effort as one of the most influential consumer contributions for sustainability and food security is therefore an important premise for these arguments to have an impact in changing this behavior. These perspectives are also important to create social change within other areas through communicating global responsibility.

As this study has shown, food waste within households of young adults is the result of a complex web of drivers. Thus, one cannot achieve a change of practice by addressing only one of them. Policy makers need to move beyond the initial assumptions of why young people waste food and base strategies solely on information. One needs to address the hidden and uncomfortable topics and consumers need to reengage with distributed tasks of daily food consumption. It is also important to recognize that "young adults" is not a monogamous group of consumers with similar concerns, challenges and priorities. The nature of consumer food waste is complex, as it is both private and trivial, while also having major global implications. This places this practice in a challenging, but important landscape for both researchers and policy makers to navigate in. The fact that the majority of the informants in my study believed that not wasting food was a good principle is an important foundation for succeeding in these efforts. Significant reduction of food waste in Norwegian households would be an important contribution to ensuring a sustainable food system. For consumers, there is also great potential for saving both time and money, as well as relieving some of the stress related to their daily lives. Thus, this invisible practice should be granted more time in the spotlight, both on a social, policy and research level.

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# 10. Appendices

## Appendix A: Interview guide

### Interview guide

- **Informed consent**
- Fortelle litt om meg selv og hvorfor jeg er interessert i å forske på dette, for meg selv.
- Fortelle om hvordan intervjuet kommer til å være.
    - Jeg begynner med litt generelle spørsmål og så går jeg inn på hovedemnene litt etter hvert. Høres det greit ut? Bare si ifra hvis du har noen spørsmål, kunne tenkt deg en pause eller noe annet du tenker på.

**Themes**

Situation/Life Story

1) Kan du fortelle litt om deg selv og bakgrunnen din?
    - Hva jobber du med?
    - Husholdningen: Hvem den består av, hvor lenge dere har bodd her?
2) Har du noen spesielle interesser eller hobbyer du pleier å bruke fritida di på?
3) Kan du fortelle litt om hvordan en vanlig dag ser ut for deg/dere?
    - Hvordan er helga i forhold?

Food shopping routines

4) Kan du fortelle litt om rutinene dine/deres for handling av mat?
    - Hvor ofte pleier du/dere å handle mat i løpet av en uke?
    - Når på dagen pleier du som regel å handle?
    - Hvor pleier du å handle da?
    - Pleier det som regel å være en del av andre ærend?
    - Pleier du å skrive handleliste på forhånd?
        - I hvor lang tid i forkant av handlingen blir den vanligvis skrevet?
        - Pleier du å bruke handlelista når du er i butikken?
            - Hvis ikke, hva er grunnen til det?
    - Pleier du å se igjennom kjøleskap og skap før du handler?
    - Gjør du noen gang spontaninnkjøp på butikken?
    - Kan du fortelle litt om hva som er viktigst for deg når du velger matvarer?
        - (Pris? Helse? Holdbarhet? Emballasje? Miljø? Solidaritet?)

- Hvis det gjør det lettere: Se for deg at du skal kjøpe melk eller epler. Hvordan går du fram for å velge?
- Eks: 3 for 2-tilbud? Store pakninger?

5) Hvis flere i husholdningen:
   - Hvordan er arbeidsfordelingen i forhold til hvem som handler og lager mat hos dere?
6) Hva tenker du om rutinene dine i forhold til handling av mat?
   - Er det noe du tror ville gjort ting enklere eller bedre hvis var annerledes?
7) Føler du at vanene dine i forhold til innkjøp av mat har endra seg noe?
   - Hvorfor tror du at de har blitt som de er nå?
8) Hvordan syns du det du vanligvis passer handler med det du får brukt?
   - Er det noe som gjør det vanskelig å få brukt opp?

<u>Habits concerning meals</u>

9) Kan du fortelle litt om rutinene dine/deres i forhold til matlaging og måltider?
   - Middagsplan? Sosialt? Tid? Prioritering? Liker å lage mat?
   - Når pleier du å spise middag?
   - *Hvis flere: Spiser dere sammen alle sammen?*
   - Hvordan er matrutinene i hverdagen i forhold til helga?
10) Hvordan syns du det er å beregne riktig mengde?
   - Oppskrifter? Ofte ny mat/de samme rettene? På egen tallerken?
   - Pleier du bevisst å lage større porsjoner for å ha til dagene som kommer eller fryse det ned?
11) Hva pleier du å gjøre med den maten som blir igjen?
   - Tar dere vare på alt? Alltid? Hvorfor tar (ikke) dere var på X eller X?
12) Hvor ofte pleier det å bli rester igjen i løpet av en vanlig uke?
   - Er det noen spesielle situasjoner eller dager du føler det oftere blir rester?
   - Hva tenker du om spise rester?
   - Hvordan pleier du å bruke restematen? (Varme opp i samme form? Lage noe nytt av det? Fryst/kjølt? Delt opp i posjon?)
   - Hvordan syns du det er å få brukt opp restematen?
     - Micro? Nok lagringsplass? Oversiktlig? Ta med på jobb?
     - Hvor mange dager på rad syns du det er greit å spise det samme?
   - Hva slags rester er lettere/vanskeligere å bruke opp?

**Kjøkkentitt**

13) Er det greit hvis vi tar en liten runde og kikker litt på kjøkkenet og der du har maten?

14) Hvor pleier du å legge ulike matvarer på kjøkkenet og i kjøleskapet?

- Kjøleskap/Kjølerom/matskap
- Kan du vise meg?
- Hva er tanken bak hvor maten legges?
- Hva tenker du om lagringsplassen du har her for mat?

**Kjøleskapstitt**

15) Vil du si at det her representerer sånn kjøleskapet ditt vanligvis ser ut?

16) Hvordan syns du det er å holde oversikt over det du har?

17) Hva er grunnen til at de ulike tinga ligger der de ligger?

18) Er det noe av dette du kunne kasta nå?

- Hvis i tvil og beholder: Hva tror du kommer til å skje med det?
- Hvis «blir kasta»: Hvorfor lar du det stå lenger?
- Hva gjør at du venter?
- Er det noe sjanse for at du spiser det senere?
- Hva er grunnen til at du ikke spiser, men ikke kaster det?

19) Hvor ofte finner du mat som du har glemt og som har blitt dårlig i kjøleskapet?

- Pleier du å fjerne dårlig mat litt etter litt, eller tar du heller en skikkelig opprydning av og til?
  - Hvor ofte gjør du i tilfelle det?
  - Hva får deg til å gjøre det?
  - Kan du si noe om hvordan det føles mens du gjør det/når du er ferdig?

20) Hva slags temperatur er det i kjøleskapet? Bevisst?

21) Tror du at kaster mer mat nå enn du har gjort før? /Har du fått lavere terskel for å kaste mat med årene?

- Hvis ja, hva tror du det kommer av?
- Hvis nei, hvorfor lar du det i tilfelle stå allikevel i stedet for å kaste det med en gang?

<u>Knowledge about food</u>

22) Hvordan syns du der er å bedømme om mat er god eller dårlig?

- Hva gjør du hvis du er usikker?
- Hvorfor? Hvor har du lært det?
- Noen typer mat som er enklere/vanskeligere å bedømme?
- Har du noen gang blitt dårlig av mat du har spist?

23) Holdbarhetsdatoer
- Har det noe å si for deg om det står best før eller siste forbruksdag?
- Hvis ja: Ser du på talla eller skriften i praksis?

<u>Attitudes towards wasting food</u>

24) Hvordan syns du det er å kaste mat?

25) Er det forskjell på mat du syns det er greit å kaste og mat du aldri kaster?
- Er det noen grunn til det, tror du?

26) Hvis de har kompost: Syns du det er noen forskjell på å kaste mat nå i forhold til da du ikke hadde kompost?
- Hvorfor fikk du kompost?
- Har det gjort noe med hvordan du ser på det å kaste mat?

27) Føler du selv at du kaster mye mat?
- Hvem sammenligner du deg med da, i tilfelle?
- Hva er som regel grunnen til at du kaster noe? Tilstand til maten og hvorfor det skjedde.
- Hvor ofte i løpet av en uke pleier du å kaste noen form for mat?

28) Hvis kun snakka om middagsrester: Hvis du tenker på annen type mat enn middagsrester da, hvor ofte blir det kasta noe av det, tror du? Noe spesielt det blir kasta mer av? Er det noe som gjør det vanskelig å bruke opp noe sånt i tide?

29) Føler du at noen av vanene dine i forhold til matkasting eller hvordan du ser på det har endra seg de siste åra?

30) Har du noen gang vært bekymra for ikke å ha nok mat?

31) Føler du at hvordan du ser på matkasting har forandra seg i løpet av årene?
- Hvorfor tror du det er sånn?
- Har det endra seg noe i forhold til hvem du har bodd med, fra student/i jobb eller noe sånt?

<u>Guilt</u>

32) Hvis dårlig samvittighet: Hvorfor?
- Evt. hvis de nevner sult/Barna i Afrika: Hva tenker du om det argumentet?

- Tenker du noe på den følelsen utover det øyeblikket du kaster? Påvirker det noe hvordan du handler/planlegger neste gang?

33) Er det noe forskjell på mat du syns det er lettere/verre å kaste?

Test (hvis ikke gått gjennom mye i kjøleskapet & brukt mye tid)

34) Epler. Rekkefølge: Middels, verst, best. Be de tenke høyt om hvordan de vurderer dem, en etter en.

35) Yoghurt

36) Brødskiver. Rekkefølge: Tørrest. Litt tørr.

37) Hva tenker du om å kjøpe nedsatte varer pga. dato, feil eller skader?

Social norms/taboos

38) Hvis du har gjester og det blir mat igjen, hvordan er prosessen rett etter dere er ferdig med å spise?
   - Rydder sammen? Venter?
   - Hvis du skal kaste noe, har det noe å si om gjestene ser det?
   - Er det annerledes hvis mammaen din eller bestemora di ser det?

39) Hvor mye tror du du/dere kaster i forhold til andre? For eksempel de på samme alder? I omgangskretsen din? Hvorfor?

40) Hvordan føler du at det å kaste mat blir sett på i omgangskretsen din?
   - Er det noe dere har snakka om?

41) Hva tenker du om å la matrester ligge igjen på tallerkenen?
   - Er det noen forskjell om du er hos andre?

42) Er det noen forskjell på hvor mye du beregner når du har gjester i forhold til «bare» deg/dere?
   - Har det skjedd at du beregna for lite mat når du har hatt besøk?
     - Hvis ja: hvordan opplevde du det?
     - Hvis nei: hvordan tror du det hadde føltes?

Generational differences

43) Kan du fortelle litt om matkulturen i familien din da du vokste opp?

44) Kan du huske hvordan foreldrene dine snakket om mat og kasting da du var liten?
   - Hvordan snakker du til barna dine om det å bruke opp eller spise opp maten sin?

45) Hva tenker du om hvordan foreldregenerasjonen din ser på matkasting? Besteforeldregenerasjon?

The impact of food waste

46) Har du tenkt på selv eller hørt om noen grunner til ikke å kaste mat?

47) Har du hørt eller sett noe om det i media?

- Har du hørt om friganere/dumpster diving?
  - Hva tenker du om det?

48) Hvilke perspektiver er det du tenker på som problematiske ved matkasting?

- Hva slags påvirkning tenker du at det har?
- Kan du komme på å ha hørt noe om det?

49) Hvordan tror du nordmenn ligger an i forhold til resten av verden når det gjelder matkasting? (Hvorfor)

50) Hvem tror du kaster mest i Norge? (Av butikker, restauranter, forbrukere osv?)

- Hvilke aldersgrupper tror du kaster mest? Hvorfor?

Global consciousness

51) Hvordan syns du det er å forholde seg til miljø i hverdagen?

52) Er det noen ting du syns det er viktige å gjøre enn andre, i forhold til miljø?

53) (Hvis ikke nevnt tidligere) Hvordan forholder du deg til andre store temaer som fattigdom og sult andre steder i verden?

54) (Hvis ikke nevnt tidligere) Har du tenkt noe på det med matkasting i forhold til miljø?

- Har du hørt noe om det i media/kampanjer e.l.?

55) (Hvis ikke nevnt tidligere. Afrika-argument osv.) Har du tenkt noe på det med matkasting i forhold til sult?

56) Hvordan er resirkuleringssystemet i dette området?

- Pleier du/dere å resirkulere avfallet ditt/deres?
  - I tilfelle hva og hvordan?
  - Hvorfor resirkulerer du det?/hvorfor ikke?

57) Hva slags transportmiddel bruker du som regel i hverdagen?

- Hvis bil, i hvilke situasjoner bruker du f.eks. buss eller sykkel?

58) Hvorfor gjør du disse tingene?

Towards lighter final subjects (opportunity to talk about their own efforts)

59)Skulle du ønske du kasta mindre mat?

- Hvorfor? Hvorfor ikke?

60) Er det noe du kommer på i hverdagen som gjør det vanskelig å unngå å kaste mat? Noe som kunne vært annerledes for å unngå det?

61) Har du gjort noen endringer for å kaste mindre mat?

- Hva? Hvorfor? Hvordan har det fungert?

62) Er det noe du har lyst til å legge til, snakke litt mer om eller noe vi ikke har vært innom som du føler det er viktig å få med?

# Appendix B: Letter of Informed Consent

## Informert samtykke

Student: Elisabeth Riise Jenssen e.r.jenssen@sum.uio.no

Veileder ved Senter for utvikling og miljø (SUM): karen.v.l.syse@sum.uio.no

Beskrivelse av studien

Intervjuet og loggføringen fra uken som følger etter intervjuet er en del av mitt masterstudium på SUM ved Universitetet i Oslo. Temaet er matkasting blant norske forbrukere i aldersgruppen 20 til 40 år, og formålet er å avdekke vaner, kunnskap og holdninger knyttet til temaet, samt forhåpentligvis bidra til den øvrige forskningen på området.

Frivillig deltagelse

Intervjuet vil foregå i en uformell samtaleform, hvor du velger helt selv om og hvor mye du vil svare på hvert spørsmål. Du kan også når som helst i løpet av studien trekke deg, eller trekke tilbake noe du har sagt underveis i samtalen, uten at det har noen konsekvenser. Jeg kommer til å bruke lydopptaker under intervjuet, men du kan be meg stoppe opptaket underveis i samtalen, hvis dette ønskes.

Anonymitet

Det som oppgis i intervjuet og i loggføringen er konfidensielt og vil kun brukes i dette forskningsprosjektet. Alle deltagere og deres personopplysninger vil bli holdt anonyme gjennom hele prosessen og alle indirekte personidentifiserende opplysninger vil grovkategoriseres på en slik måte at personer ikke kan gjenkjennes i materialet. Ved enden av studien vil alle personidentifiserende opplysninger, som navn og koblingsnøkkel, bli slettet. Det vil da heller ikke være mulig å kjenne igjen informantene i den ferdige masteroppgaven. Dersom det er ønskelig, kan du få tilsendt transkriberingen av samtalen i etterkant av intervjuet, for å godkjenne innholdet. Den endelige oppgaveteksten er også mulig å få tilgang til når den er ferdig. Prosjektet avsluttes 01.06.2015. All informasjon skal da anonymiseres og lydopptak slettes.[32]

På bakgrunn av dette håper jeg at du føler deg trygg på å være åpen og svare så ærlig som mulig på spørsmålene i undersøkelsen, slik at resultatene for studien reflekterer realiteten i så stor grad som mulig.

Samtykke

Jeg har lest og forstått informasjonen over, og gir mitt samtykke til å delta i studien.

_____

Sted og dato Signatur

[32] Approval to keep the data until the project was finalized was later confirmed from all the informants on the phone or via email.

## Appendix C: Form for Tracking Household Food Waste

Front:

LOGG Navn: Uke:

| Skriv helst på hvilken ukedag du begynner loggføringen | Dag 1 | Dag 2 | Dag 3 | Dag 4 | Dag 5 | Dag 6 | Dag 7 | Kommentarer |
|---|---|---|---|---|---|---|---|---|
| 1) Handlet mat | | | | | | | | Stor/liten handel? |
| 2) Skrev handleliste | | | | | | | | Når? |
| 3) Fulgte handlelisten i butikken<br>- Kjøpte mer/ mindre enn planlagt | | | | | | | | Hva? Hvorfor? |
| 4) Fikk mat til overs ved et måltid<br>I gryta?<br>På tallerken? | | | | | | | | Hva? Hvorfor |

1

LOGG Navn: Uke:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 4a) sparte på restene<br><br>b) kastet med en gang | | | | | | | | Hvorfor?<br><br>Hvorfor? |
| 5) Spiste rester | | | | | | | | Hva? Hvordan?<br>Hvor gamle? |
| 6) Kastet restemat tatt vare på fra et tidligere måltid | | | | | | | | Hva? Hvorfor? |
| 7) Kastet varer fra kjøleskap/fryser /skap/benk | | | | | | | | Hva hvorfor? |

Generelle kommentarer: Føler du at dette representerer en gjennomsnittlig uke for deg?



Back:

## Appendix D: Informants

## Codes

The informants' names are fictional. Only their gender, age and household situation is indicated according to the following coding system:

| | | |
|---|---|---|
| M = Male | Number = age | C = Couple |
| W = Woman | S = Single | F = Family |

Example:

Mona WC34 = a woman living in a household with a partner. No children. 34 years old.

## Informants

Anders is 35 a year old man who lives with his family.

Maren is a 35 year old mother living with her family.

Simon is 36 years old and lives with his family.

Hanne is 29 years old, living in the same house as her parents.

Stian is a 20 year old man living alone.

Kristian is 28 years old and lives by himself.

Ane is 20 years old and lives with her partner.

Andrea is 23 years old, living with her family.

Ellen is a 28 years old single mother.

Hilde is a 36 year old mother who lives in a family household.

Bente is 33 years old and lives with her partner without any children.

Petter is 37 years old and lives with his family.

Toril is a 28 year old woman living with her partner without any children.

Johannes is 29 years old and lives with his partner. No children.

Jon is 28 years old and lives with his partner, without children.

Karin is 31 year old and lives with her partner. No children.

Siri is 38 years old and lives with her husband and children.

Susanne is 35 years old, living in a family household.

Tom is 30 years old and lives with a partner without children.

Monica is 30 years old and lives with her partner. They have no children.

Kenneth is a 25 year old man living by himself.

Sindre is a 26 year old man who lives by himself.

Karianne is 22 years old, living in a household with a partner without any children.

## Appendix E: Food Waste Reduction Initiatives and Campaigns[33]

Above: "The Food Waste Table" (Matkastebordet) presenting the amount of food wasted by the average Norwegian each year (Matvett 2013). Below: The posters for the events "Feast Against Famine"[34] and "Abandoned Food"[35].



[33] Used with permission from Matvett, Feast Against Famine and FIVH Bergen 17.02.16

[34] Design: Ole F. Hvidsten

[35] Design: FIVH Bergen

## Appendix F: Example of News Story about Bacteria in Leftovers[36]

# Middagsrestene kan være livsfarlige

Pizza, pasta og ris kan inneholde sporer som overlever steking. Lar du maten stå ute over natta, kan du bli akutt syk, og det er verst når du lager maten selv.

Journalist
Henrik Brattli Vold
@hevold

MER OM MAT UNDER LUPEN
MER OM HELSE OG LIVSSTIL
MER OM FORBRUKER (HELSE OG LIVSSTIL)

Oppdatert 09.10.2013, kl. 19:33

Om denne pizzabiten har ligget ute hele natt, er det klare rådet å kaste maten. Ellers risikerer du alvorlig matforgiftning.
FOTO: COLOURBOX

Ris, pasta og pizza kan inneholde bakterien bacillus cereus, som kan bli farlig når maten når ti til tolv grader. Det sier professor Per Einar Granum ved Veterinærhøyskolen til NRK Forbrukerinspektørene.

Dersom maten står ute på kjøkkenbenken i lang tid, kan bakteriene formere seg. Enkelte stammer av denne bakterien har evnen til å utvikle et giftstoff som kan gi leversvikt og endret trykk i hjernen.

**– Når matvarene er stekt og varmebehandlet tror folk flest at det er trygt, men man må opp i 105 til 110 grader og koke maten under trykk for å ta knekken på disse bakteriene, sier Granum til NRK.no.**

I Japan og Kina er giftproblemet kjent

### Fakta om bacillus cereus

- Bacillus cereus-matforgiftning er en næringsmiddelbåren sykdom som skyldes inntak av mat forurenset med toksiner som dannes fra den sporedannende bakterien Bacillus cereus.
- To kliniske bilder er beskrevet;
- Diarétype - første gang beskrevet i 1948, ofte overført med stivelsesholdige matvarer som f.eks. vaniljesaus. Toksiner dannes under bakteriens vekst i tarmen. Dette er den vanligste forekommende form i Norge.

[36] Source: Vold (2013)