

Thinking about Waste: A Case Study on the Perceptions and Practices of Food Waste in The Hague

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BACKGROUND

There is enough food to feed everyone on the planet [2], but an estimated 821 million people go hungry every year, with many more suffering from food related challenges, such as wasting, stunting, micronutrient deficiencies and obesity [3]. Paradoxically, almost a third of all edible parts of food— about 1.3 billion tonnes per year — are lost or wasted [1]. In low-income countries, food loss and waste (FLW) occurs early in the food system (costing about US\$ 300 billion); by contrast in higher income countries FLW occurs in the latter stages of the food system, specifically retail and consumption (costing almost US\$700 billion) [1].

While food loss (FL) implies “the decrease in the quantity or quality of food” before it reaches the consumer, food waste (FW) is “the discarding or alternative use of food that is safe and nutritious” [2] primarily in the consumer phase. In the European Union (EU) an estimated 88 million tonnes of edible and inedible parts of food are lost or wasted yearly, with an associated cost of €143 billion [13]. Households account for 53% or 47 million tonnes of the total EU's edible and inedible waste. The Netherlands is identified as the largest generator of FLW by volume, between 1.77 and 2.55 billion kilograms, with consumers accounting for the largest share, ranging between 33%-38% of the total [13]. Assessed as a public health problem, FLW relates to questions of food insecurity [11] and nutrition [2], both increasingly pressing concerns in the Netherlands since data indicate increasing use of food banks and food price increases in 2019 [14].

METHODOLOGY

This study's leading research question was: How is household FW perceived and managed by different communities living in the Central Innovation District (CID) of The Hague? The study focused more on households, hence the focus on food waste. The research question was operationalized through a mixed-methods approach, including cross-sectional survey, photovoice and focus groups. In this paper we focus only on the findings highlighted by one of the components: the PhotoVoice

Given that the terminology, understandings and practices of FW can vary, participants selected to join one of three language communities (Arabic, Dutch and English) for the PhotoVoice. Participants took photos of their FW during one consecutive week in September and October 2018. While the topic of FW was provided, participants were free to define, interpret and associate their own practices, registered in the photos. During the interview, each participant selected 3 photographs and discussed their stories responding to the SHOWeD framework [15]: what is seen, what happens, how does this affect our lives, why, and what can be done about it.

RESULTS

Revealing practices through the photo-taking process

For the participants, FW was a complex and nuanced practice that included buying too much food, leftovers and vegetable scraps. FW is “multi-faceted...and it's a very tricky one in our prosperous society” (Dutch Speaking (DS) 6). Plastic waste was repeatedly cited as contributing to FW: “I did bring all kinds of snacks... and then all of a sudden you have so much plastic” (DS5).

The photo-taking process allowed participants to reflect on their own FW practices more critically: “you know, we ignore in day to day life or we do not pay attention like wastage” (English Speaking (ES) 3). This triggered some changes in household practices including reducing portion sizes for children, improving household communication or rethinking the food preparation process. Lastly, participation also spurred conversations outside the household; participants discussed food waste with colleagues and friends and felt it was an important issue to raise awareness.

The Household: Transition from food to waste

Food does not automatically become waste; there is a process beginning before food is thrown away that influences the transition to waste. This process is affected by (i) sensory cues, such as smell and/or visual defects (mold), indicating when food becomes waste (Photo 1).

Cultural beliefs around when food should be eaten and storage of leftovers impacted transitions to waste. For example, some participants asserted that food needed to be eaten fresh (within one hour of being cooked) to ensure proper nutritional quality; any leftovers were discarded rather than stored: “Because the food is more healthy when it is eaten within hour...I see most of the time when we make more...it goes for waste” (ES2).

Unavoidable Waste

Most household waste was associated with food preparation (Photo 2). Some food waste is deemed unavoidable such as eggshells, coffee grounds, tea bags and peels. Some participants were unsure how to classify waste such as carrot tops and cucumber ends (Photo 3).

Children make a difference

Households with children struggled to control preferences in relation to FW. Provisioning of food especially for children was highlighted as a concern. Parents did not seem to serve correct portions to children, who also went through phases where more or less food was consumed. Several participants spoke about altering portion sizes: “I maybe started thinking about making smaller sandwiches for the children” (ES5); but there was a resignation that FW is “what you get I think automatically with small children” (DS4) (Photo 4).

Waste is connected to the process of planning, purchasing and consumption

Households spend a lot of time on food work such as planning, cooking, storing and consuming food. An aspect that can hinder this planning effort is the difficulty to find items in adequate quantity for consumption: “it’s very difficult to buy the right amount... I never make it through a bag of bread” (ES7).

Beyond the household: Challenges to reduce FW

Household specific waste is linked to wider municipal, state, country and global systems around food cultivation, subsidies, system-level practices, waste disposal systems and available purchasing options. For example, there was a lack of options for non-plastic wrapped food (Photo 5). Attempts to reduce plastic related food waste may involve finding other places to get groceries. However, even at the Haagse Market, one participant noted that many vegetables can only be bought in bulk “we basically bought a whole lot of bell peppers” (ES1); while plastic waste was reduced, the quantity of food did not align with needs resulting in waste.

Information and Trust

The availability of trustful information is another aspect that affects FW. For some, food disposal is informed by expiration dates, “because of my financial situation, I try also [not] to waste...But sometimes...If it is expired then I have to throw it” (Arabic Speaker (AS) 1). But for some, the final decision to waste food depends on the sensory appeal of food, “what I also consider a good thing is that I pay a little less attention to ... the ‘best before’ date... now I am more like eh, taste it first, smell it for a bit, just check whether it is really already off” (DS3).

Food Waste Management Systems

Participants spoke about lack of information in relation to recycling facilities, processes, requirements and access to such facilities. Particularly important here are the difficulties to deal with organic waste (lack of information about composting, infrastructure to home compost or have a GFT bin/collection point). Some participants did use the week of taking photos to better identify the different types of waste associated to food and looked into the municipal waste management systems to determine what can be placed in which bin.

CONCLUSIONS

Food waste is an interplay between households, the municipality as well as the food system (including producers and suppliers) negotiating what is and is not controllable. Participants in the study were generally unaware to the extent they had FW until the PhotoVoice; this research gave them opportunities to visualize and potentially act upon their FW. Control over FW management is dependent on levels of consciousness and information people possess. Some scholars indicate FW is not just one behavior, but a chain of practices including planning, buying, use, cooking and leftover management, which all culminate in waste [5, 7, 12]. Attempts to understand household FW management to determine the best strategies for behavior change have produced mixed results [4, 6, 8, 9, 10, 12]. Unlike in other research, participants in this study were willing to accept responsibility for their practices of unconscious and/or uninformed FW. A different issue relates to aspects out of their control e.g. quantities per unit item for sale and plastic packaged food. Significantly, it was not the plastic shopping bags rather the plastic wrapping of many items and ready to eat meals, that presented what was perceived as an unavoidable challenge. There is a desire to “do the right thing”, yet socialization and time management to improve food planning are barriers.

Through this study, we argue for a broader approach to examine, understand and act upon FW. While FW can be fought in the household planning and provisioning phase, efforts to reduce FW should also involve the wider food system and municipal governance. To produce change, FLW cannot be thought of separate from the wider social, economic, and political systems linked to consumption, food insecurity and food safety.

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