



Your Waste Is Someone Else's Dinner

Exploring the Role of Grassroots Initiatives in Combatting Food Waste in Utrecht

Figure 1

A Picture That was Taken During Dumpster Diving, June 16, 2022



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Abstract

Due to the enormous pressure of conflicts, climate change, and an increasing population, people face the consequences of not having access to healthy food. Simultaneously, the production of food, which uses heavy equipment, and high amounts of fossil fuels, water, synthetic fertilisers and synthetic pesticides, puts a huge burden on the environment itself. Yet, in a world where these problems of unsustainable food production and unequal food access exist, people still waste 390 million tonnes of food every year. This is problematic since food is not only thrown away but the resources that are used to produce, distribute and store them are wasted as well. There are however several grassroots initiatives that try to face these problems. Nonetheless, academic debates often do not include the potential of grassroots initiatives in overcoming food waste problems. Therefore, this research aims at filling in this knowledge gap by studying how three grassroots initiatives in Utrecht try to prevent food waste and measuring their impact. This is done through participant observation at different events of the three initiatives and by interviewing people that are involved in the grassroots initiatives. Additionally, people who work for the municipality are interviewed to show how food waste is put on the agenda by governmental bodies. It can be concluded that these initiatives try to reduce food waste by food and by preparing meals that would otherwise have been discarded. Through this, the initiatives do not only reduce food waste but also address issues around social inequality and social injustice. However, it can be argued that the impacts of grassroots initiatives are limited since they do not have the power to change whole food systems. Making alliances with other grassroots initiatives and with governmental bodies, such as the municipality of Utrecht, is therefore needed.

Keywords: food waste, grassroots initiatives, food activism, social inequality, food access

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Chapter 1: Introduction

1.1 Problem statement

Current global food systems are under severe stress due to climate change (European Commission, n.d.), violent conflicts, and an increasing population (Ahmad et al., 2021; Leisinger et al., 2002). As a result of this the Food and Agricultural Organization of the United Nations (FAO) estimates that the world needs to increase food production by approximately 50% by 2050 (IPCC). This pressure also translates into food insecurity, which entails that people do not have access to and/or do not consume sufficient safe and nutritious food to live an active and healthy life (The Food and Agriculture Organization, 2006).

However, academic debates show that there is enough food produced to feed the earth's population, the problem lies in food accessibility. The world produces enough food to feed the earth's entire population, however food systems still fail in fulfilling its goal to making adequate nutrition available to everyone (Garnett, 2013). There are still 690 million people fighting hunger daily and simultaneously, other people face the consequences of obesity (The Food and Agriculture Organization, 2020). Food is thus distributed unequally, but it also depends on the levels of access that people have food. Access to food is influenced by a variety of factors, including people's income and purchasing power, but it also depends on the available modes of transportation in a given area (McCarthy et al., 2018). For example, someone that lives in an area where healthy food is available and inexpensive, their access can still be limited if they are not mobile enough to go to the store to attain the food

Although food systems themselves are under pressure, they also put pressure on the environment, which is a topic that has been widely discussed in academia (Stefanovic et al., 2020). Food systems can be defined as “the complete set of people, institutions, activities, processes, and infrastructure involved in producing and consuming food for a given

population” (Gladek et al., 2017, p. 17). They include activities such as growing, harvesting, processing, transporting, marketing, selling, preparing, consuming and disposing of food and food-related items (Gladek et al., 2017). The impact of food systems depends on several factors, such its production and distribution

When examining global food systems, it can be argued that they are highly unsustainable, since they are often driven by intensive industrial agriculture practices and large global supply chains (Oliver et al., 2018). Intensive industrial agriculture frequently uses heavy equipment, and high amounts of fossil fuels, water, synthetic fertilizers and synthetic pesticides (Miller & Spoolman, 2018). Through this, industrial agriculture is responsible for approximately 60% of the global terrestrial biodiversity loss, 33% of degraded soils and 24% of the total greenhouse gas emissions (United Nations Environment Programme, 2016). Local and regional food systems, on the other hand, are often characterized by focusing on producing and selling food locally. Through this, food chains are shorter when compared to global food systems, which has several potential benefits: it can benefit local and regional farmers financially, consumers and producers are often less distanced, food safety is relatively easier to monitor (Donkers, 2014) and food miles are generally reduced (Hill, 2008). The term food miles refers to “to the distance food travels from the location where it is grown to the location where it is consumed, or in other words, the distance food travels from farm to plate” (Hill, 2008, p. 1). Reducing food miles by selling and producing locally is often assumed to be inherently more sustainable. However, local and regional food systems can be as unsustainable as global food systems: in some circumstances, transporting products rather than degrading local resources may be more environmentally friendly (Born & Purcell, 2006).

In a world where food systems are under stress, unsustainable food systems put pressure on the environment and make people food insecure, valuable food is still being wasted.

Worldwide, approximately 17% of food is wasted every year due overproduction, the expiration of food before it gets purchased, food damaging in the market, over shopping or poor meal planning (Ishangulyyev et al., 2019). This comes down to approximately 390 million tonnes of food that ends up in the bin or on landfills (Forbes et al., 2021). Nonetheless, the amount of food waste is not the same on every region of the world: there are regional differences, differences between rural and urban areas and differences based on income level that affect the level of food waste.

The above-mentioned differences will be explained in the theoretical framework, but it is still important to note here why food waste is problematic. The fact that 17% is wasted does not only mean that food ends up being thrown away, the resources used to produce food are also wasted. Examples of these resources are water, labour and energy from agriculture, transportation processing, food sales, storage and preparation (do Carmo Stangherlin & De Barcellos, 2018; Principato, 2018a). In addition, when food ends up in landfills, it decomposes, and methane and carbon dioxide are released into the atmosphere. Both methane and carbon dioxide contribute to climate change (UNEP, 2021) and if less food is wasted, less food needs to be produced, transported and processed (RIVM, 2016) and less methane and carbon dioxide will be emitted when food ends up in landfills (UNEP, 2021).

1.2 Knowledge gap

The problems that are associated with food waste are also acknowledged by the United Nations (UN), which wants to ensure sustainable consumption and production patterns. Through the Sustainable Development Goal (SDG) “responsible consumption and production”, the UN set the goal to reduce food waste by at least 50% by 2030 (United Nations, n.d.). Although there is no guidance provided by the UN on how to achieve the SDGs (Costanza et

al., 2016), the Netherlands still committed to these them (do Carmo Stangherlin & De Barcellos, 2018).

The Netherlands wastes approximately 2 million tonnes food per year (Wageningen University and Research, n.d.) and although household food waste reduced by approximately 30% between 2009-2017, the total amount of food waste along the entire food chain has stayed the same (van Oorschot et al., 2021). This shows that non-household food waste is still a huge problem in the country. To meet this SDG, the country needs to cut down on 1 million tonnes of food waste per year (Soethoudt & Vollebregt, 2022). The government aims at achieving this through several ways: by supporting food waste research financially; by subsidizing institutions that want to make people aware food waste; and by making alliances with farmers, supermarkets, factories and the catering industry to implement ideas to reduce food waste (Ministerie van Landbouw, n.d.).

The topic of food waste, and how food waste can be prevented in the Netherlands has been widely studied over the last couple of years. What these publications show is that a lot of research is focused on how much food is wasted, what type of food waste occurs, where along the food chain food is wasted, how food waste can be prevented and the measures by which the government aims to tackle food waste. What these studies lack however, is the representation of grassroots initiatives aimed at reducing food waste. Mariam et al. (2020) also acknowledge this, by arguing that there is little information available on grassroots initiatives, and their potential, that try to reduce and prevent food waste.

To fill this knowledge gap, this research will focus on grassroots initiatives that try to fight food waste in the city of Utrecht. Utrecht is used as the scope of analysis since the municipality aims at supporting food waste prevention initiatives. The goal of the municipality, as presented in Haenen et al. (2018), is to end all food waste in Utrecht by 2022. This goal is

part of the of the “Healthy and sustainable food for the whole of Utrecht” vision of the municipality. Nonetheless, food waste is not defined in this document, nor is there an update to be found about this report. Visiting the websites of the Province of Utrecht and the Municipality of Utrecht also shows that there is almost no data on food waste and how this could be reduced in the city. This lack of data shows that there is still a lot of information to be gathered.

1.3 The scientific and societal relevance

As was mentioned in the previous section, this research focuses on grassroots initiatives that aim to fight food waste in Utrecht, namely Taste Before You Waste, Buurtbuik and The Barricade (Taste Before You Waste, 2019). These initiatives are used as a case study in order to show concrete examples of how initiatives try to reduce food waste in an urban environment. Through qualitative research, using participant observation and interviews for data collection, the researcher intended at getting an understanding of how grassroots initiatives operate and try to prevent and reduce food waste. Simultaneously, this research studied the role of the municipality in addressing food waste problems. Through this, this research intended to get an understanding of how the city of Utrecht tries to tackle food waste.

Studying grassroots initiatives in Utrecht that try to fight food waste adds to academic debates in two ways. First, it fills the knowledge gap that is presented in the previous section. Secondly, it sheds light on the potential impact of grassroots initiatives to local food waste problems. This offers opportunities for other researchers as well: it provides possibilities to do comparative studies on how different initiatives tackle food waste problems on grassroots levels in other local contexts.

In terms of societal importance, this research is relevant because it gives an overview of the different initiatives in Utrecht that try to combat food waste. This if of an added value

to the municipality, because they want to put food waste more on the political agenda in the future.

Chapter 2: Theoretical Framework

To have a better understanding of how grassroots initiatives try to reduce food waste, it is of importance to explain the theoretical debates and concepts that are related to this research. This chapter will consist of four main components: (1) how people have unequal access to healthy food, (2) the different ways of how activism is expressed, and the relation to food (3) what the concept of Alternative Food Movements (AFMs) entails, and (4) the differences between food loss and food waste.

2.1 Food Systems in Urban Areas: Unequal Access to Healthy Food

Since this research focuses on initiatives that aim at changing a part of the food systems in the city of Utrecht, it is of importance to explain how food systems relate to aspects of health in the urban context. This section will explain how people with low incomes often do not have access to healthy food.

As mentioned in the introduction, food systems can be described as the complete set of people, institutions, activities, processes, and infrastructure involved in producing and consuming food for a given population” (Gladek et al., 2017, p. 17). These food systems often include activities such as s growing, harvesting, processing, transporting, marketing, selling, preparing, consuming and disposing of food and food-related items (Gladek et al., 2017). In addition to this, Ericksen (2008) argues that the definition of food systems should also include the outcomes of food systems’ activities.

The outcomes of these activities are not only limited to the impacts they have on the environment, but also their effects on the wellbeing and health of humans, especially in urban environments. Some scholars claim that people's diets in urban areas are in general more diverse and that they have more access to products such as animal protein (Levin et al., 1999). However, as argued by Vilar-Compte et al. (2021), there are certain groups that do not have

financial access to healthy food, such as fresh fruits, vegetables, tubers, and legumes. However, poor people are not only restricted by financial means: “Among poor urban dwellers accessing healthier choices commonly requires “out-shopping” defined as shopping outside of your residential area, but this is limited by transportation cost and lack of public transportation access” (Vilar-Compte et al., 2021, p. 13).

This lack of access then often results in a consumption of highly and/or ultra-processed foods that are rich in sugars and fats. As Moodie et al. (2013) add to this: “Ultra-processed products are made from processed substances extracted or refined from whole foods – e.g. oils, hydrogenated oils and fats, flours and starches, variants of sugar, and cheap parts or remnants of animal foods – with little or no whole foods” (Moodie et al., 2013, p. 671). Examples of ultra-processed food items are: burgers, pizza, chicken nuggets, cereal bars, and carbonated drinks (Moodie et al., 2013).

When ultra-processed food is consumed in moderate amounts alongside with other healthy and nutritious food, they cause no harm to people’s health. However, as Monteiro et al. (2013) argue, these food items are not likely to be consumed in small portions and neither are they likely to be replaced by other healthy and nutritious food. This is due to the intense palatability (achieved by their high fat, sugar, salt, and other additives content), ubiquity, and sophisticated and aggressive marketing techniques (such as price reductions for supersize servings), of ultra-processed food.

2.2 Activism: Civic Activism and Food Activism

The second concept that is relevant for this research is food activism. Since activism can be described as the desire to change the current situation, it is applicable to grassroots initiatives in Utrecht that aim at changing parts of food systems. This section will start with discussing the notion of activism and will end with an elaboration on food activism.

Generally, activism aims to change the current situation in terms of social, economic or environmental issues and often plays a role in influencing the political discourse (Lucas, 1980). According to Brian (in Anderson & Herr, 2007) there are many forms of activism: “There are many varieties of activism, from the face-to-face conversations to massive protests, from principled behaviour to the unscrupulous, from polite requests to objectionable interference, and from peaceful protests to violent attacks. Activism is not well defined, so different people often have somewhat different ideas of what constitutes activism” (Brian in Anderson & Herr, 2007, p. i) .

2.2.1 Civic Activism

The scale at which activism operates and the impact activists have can also greatly differ. Smith and Furgeson (2010) explains that the power of activists depend on the resources they have, especially in terms of people and money. For example, ten people that complain about a company’s activities may not have much of an impact, but 10.000 people who complain and boycott the products of that company, are much more effective.

The level of activism that people are involved in can be through the notion of civic activism. Civic activism refers to actions of individual or groups that aim to identify an address issues that are of public concern (Milošević-Đorđević, & Žeželj, 2017). Pattie, Seyd and Whiteley (2003) wrote about three different levels of civic activism, naming: individualistic activism, contact activism, and collective civic activism. Individualistic activism is an individual act that often relates to fundraising, making donations, signing petitions and ethical consumption. The second level of activism focuses on acts that centre around getting in touch with people in positions of authority. People who got in touch with a public figure are also more likely to get in touch with local lawmakers, the press, a lawyer, or an organization. The last level of activism, collective activism, refers to participating in demonstrations, political

meetings and protests. People that engage in this type of civic activism are likely to form a group of people that think the same about a certain issue (Pattie et al., 2003).

2.2.2 Grassroots Initiatives

One of the levels where activism comes into play is at the grassroots level. Grassroots initiatives can be defined as “any type of collaborative social undertaking that is organized at the local community level” (Grabs et al., 2016, p. 100). These initiatives often have a high level of participatory decision-making and often do not have a lot of hierarchal structures. Additionally, grassroots initiatives often depend on volunteers in order to achieve a certain, collective goal (Grabs et al., 2016).

There are also grassroots initiatives that are formed around sustainable development. Seyfang and Smith (2007) argue that the power of grassroots initiatives is that they frequently seek for bottom-up solutions, meaning that these solutions take into account the community's interests and beliefs as well as the local context (Seyfang & Smith, 2007). Grabs et al. (2016) elaborate on this, by highlighting that grassroots initiatives can contribute to more sustainable consumption and transitions at three levels: a personal level, a group level or a societal level. At the personal level, initiatives could serve as guidelines for individuals. At the group level initiatives can inspire community action and increase the ability to establish neighborhoods and communities in a sustainable manner. Lastly, initiatives at the societal level test social innovations that could involve changing infrastructures. They also provide possibilities for collectively reframing issues and potential solutions as well as higher order learning, all of which are prerequisites for sociotechnical system change (Grabs et al., 2016).

2.2.3 Food Activism

One area in which grassroots initiatives play a role is food activism. When the actions of people are concerned with addressing and identifying food related issues, food activism

comes into play. Food activism is defined as people's discourses and activities aimed at making food systems, or elements of it, more democratic, sustainable, healthy, ethical, culturally acceptable, or of higher quality. The methods by which food activism is expressed is diverse and there are several examples described from all over the world, showing that food activism can be seen as a worldwide movement. Counihan and Siniscalchi (2013) continue to discuss this concept by stating that food activism is a broad concept, which can be seen as an umbrella term to refer to various alternatives to the dominant agri-industrial food systems. There are several examples of these alternatives, such as: farmers' markets, vegetarianism and veganism, community supported agriculture (CSA), organic food production, and fair trade food production.

What some of these examples of food activism have in common is the goal to promote food democracy (Counihan & Siniscalchi, 2013), a concept that some AFMs focus on as well. Hassanein (2008) describes food democracy as “the idea that all people participate actively and meaningfully in shaping food systems” (Hassanein, 2008, p. 289). To actively shape food systems, alliances need to be made. Creating coalitions is argued to be an effective tool because it increases the power of citizens to make changes that could not have been made by individuals alone. In addition, people should discuss ideas about food systems; determine the position they have in food systems; gain knowledge about food systems, and lastly, be willing to go beyond their interests (Hassanein, 2008).

2.3 Alternative Food Movements and Criticism on The Concept

The third concept that is important to explain is the concept of Alternative Food Movements (AFMs) which aim to form an alternative to some of the characteristics of current global food systems. The aim to form alternatives to current global food systems is closely linked to food activism, and farmers markets, CSA and organic food production are also seen as part of AFMs. This section describes the concept of AFMs, including the criticism that it

has received by several scholars. This concept and the theoretical debates are worth explaining, because this research focuses on grassroots initiatives in Utrecht that want to form alternatives to current global food systems.

According to Menefee (2015), the historical development of AFMs is not well documented in literature. However, Grauerholz and Owens (2015) discuss how AFMs started in the United States (US). According to them, AFMs rose as a response to changes in food production and consumption patterns that started to rise in the mid-twentieth century. The rise of AFMs symbolized a comeback of the personal connections between consumers and producers on the one hand, and between consumers and the food they consume (Grauerholz & Owens, 2015). They elaborate on this by stating: “These movements emerged primarily as a response to a food production system that has become increasingly industrialized, standardized, and impersonal since the mid-twentieth century, when food production shifted from mostly small-scale, family owned operations to large, corporatized farm factories, motivated by the same profit principles found in any other type of business” (Grauerholz & Owens, 2015, p. 566). Myers and Sbicca (2015) also acknowledge that AFMs can be seen as a response to industrial agriculture, which is claimed to be harmful to the earth, farmers and people’s health. This harm is caused by the degradation of ecosystems, the dominance of a small number of big corporations, and diet related diseases.

Under the name of AFMs, several organizations and initiatives have emerged and evolved to challenge the predominate method of food production and in general it can be argued that AFMs aim to create food systems that produce enough food that is healthy for both the environment and people. In these food systems it is required that food is directly sold on the market, that food is produced in such a way that workers’ rights are respected, and that the natural environment is protected. The initiatives and organizations that have emerged out of AFMs can be categorized into four types. Firstly, there are initiatives and organizations that

support local farmers, for example through farmer's markets, CSA or through connecting local food producers to local institutions, such as schools, hospitals and local grocery stores. This does not only support local farmers, but it also has the advantage of connecting people with their community. Secondly, there are non-profit organizations that educate people on nutrition, teach people how to cook healthy food, and focus on preventing obesity. The third type can be classified as environmental groups that advocate for more sustainable food production. Lastly, there are groups that advocate for social justice for people that are oppressed within food systems. Their focus is often on hunger and food insecurity and/or on the rights of producers and workers (Menefee, 2015; Slocum, 2007)

2.3.1 Critique on Alternative Food Movements

Although AFMs have the intention to change food systems, they are highly criticized for several reasons. First, as argued by Menefee (2015), the concept of AFMs is misleading because it is not a single and cohesive movement but that AFMs rather consists of different sub-movements. These sub-movements focus on different sub-movements that focus on different areas, for example: organic food movements, food movements that focus on locally grown food, the anti-trans-fat movements and food movements that concentrate on food security (Nestle in Menefee, 2015).

Furthermore, academics have criticized AFMs for not being confrontational and political enough. Not only do they think that food movements are too weak and dispersed to make a substantial difference (Finn, 2017; Holt Giménez & Shattuck, 2011), but scholars have also argued that many food movement leaders take an apolitical approach to the issues confronting food systems. These leaders frequently focus on peoples' personal choices through education and market-based activities (Hoey & Sponseller, 2018). Johnston and Baumann (2014) elaborate on this by arguing that food activists repeatedly try to change people's eating habits and that activists often do not understand the circumstances, pressures and desires that

drive food choices (Johnston & Baumann, 2014). This is problematic, as argued by Guthman (2011), because, while people's choices are thoroughly scrutinized, the destructive methods used by food growers and processors, such as the dispersal of toxic chemicals and appalling pay and working conditions are ignored (Guthman, 2011). Hoey and Sponseller continues this debate by stating that AFMs should focus on food systems inequality and injustice, such as hunger, low wages and systemic racism (Hoey & Sponseller, 2018).

In addition, AFMs are often dominated by white and middleclass people (Alkon & Agyman) and CSA and urban agriculture are often proposed as solutions by AFMs (Myers & Sbicca, 2015). These proposed solutions however, serve mostly white people with a middle- to upper-class income and although farmers' markets are more racially and class diverse than CSA, farmers markets are often not located in communities of colour (Guthman, 2011). CSA and farmers' markets are therefore seen as initiatives that only privileged people can afford (Hoey & Sponseller, 2018).

2.4 Food Waste and Food Loss

2.4.1. Differences Between Food Waste and Food Loss

One way people try to actively shape food systems is through initiatives that try to reduce and/or prevent food waste, such as Taste Before You Waste Utrecht. This section, therefore, explains the differences between food waste and food loss, the differences between edible and non-edible food waste and the causes of food waste. Both food loss and food waste refer to "the decrease in mass (quantitative) or nutritional value (qualitative) of food - edible parts - throughout the supply chain that was intended for human consumption" (United Nations Environment Programme, n.d.-a). However, there is a distinction to be made between the two concepts. Food loss can be described as food that is accidentally being lost or reduced in quality and value prior to consumption (Santeramo, 2021). Food loss is common in the food supply

chain during the production (pre-harvest, harvest and breeding), post-harvest, processing, and distribution stages (United Nations Environment Programme, n.d.-a). Food waste, on the other hand, can be defined as food that is suitable for consumption and has completed the food supply chain but is thrown out before being consumed. This type of waste occurs most frequently at the retail and consumption stages of the food supply chain (United Nations Environment Programme, n.d.-a) and Santermo (2021) adds to this by saying that food waste refers to an intentional action.

According to Principato (2018a), food losses and food waste are forming one of the largest challenges to the future of the global food and agricultural system. As mentioned above, one-third of the global food production is wasted every year (UNEP, n.d.). This does not only mean that food is wasted, but it also means that other resources such as water, labour and land are wasted (do Carmo Stangherlin & De Barcellos, 2018; Principato, 2018a).

Besides making a distinction between food loss and food waste, it is also important to make a distinction between edible food waste and non-edible food waste. Edible food waste is seen by Principato (2018a) as waste that could have been avoided. This contrasts with non-edible food waste, which is waste that cannot be avoided, which often derives from food preparation. This waste usually includes things like bones, shells and skins (Principato, 2018a). For this research, the concept of edible food waste is used.

2.4.2 The Causes of Food Waste

The previous section indicated the difference between food loss and food waste. To get a complete overview of what waste entails, it is of importance to investigate the causes of food waste and how this differs in different geographical areas. When looking at the retail level, waste often occurs because of several reasons. Unpopular food items, damaged products, and products that are returned by customers also cause waste. Additionally, a lot of food is thrown

out when it does not meet certain standards anymore, such as old, soft, bruised or coloured groceries (A. Smith, 2020).

Food goes also to waste when managers of grocery stores misjudge the needs of customers, resulting in food stock excess (A. Smith, 2020). Gruber et al. (2016) elaborate on this topic and make a distinction between different types of commercial outlets. For example, managers from supermarkets (between 400 m³ and 1,000 m³), and discount stores (approximately 800 m³), experience pressure to maximize sales revenues and guarantee the product's ongoing availability, which results in more food waste. Managers from convenience stores (smaller than 400 m³), on the other hand, feel like that food waste is not a major issue for them. This could be due to the fact that less food is wasted in these types of stores: managers can be more flexible when it comes unsalable food. It is often easier for them, since they are often the store managers as well, to feed it to animals, to give food away for free to employees or to process it in their own butcher shops (Gruber et al., 2016).

When taking a look at the household level, food waste is often related to certain behaviours around “meal planning, cupboard checking and list-making before going shopping, proper storage of food items, use of food leftovers, cooking the right amount of food and a good understanding of expiration date labels” (Abeliotis et al., 2016, p. 124). This behaviour could be changed with policies and education about food waste, for example by teaching people how to store food in the best way, and what the differences are between use-by and best before date (Principato, 2018b). This is also acknowledged by Abeliotis and colleagues (2016) who argue that consumers need to have adequate knowledge about the meaning and the differences between these dates to prevent avoidable food waste.

2.4.3. Geographical Differences

Although there is a common belief that only high-income countries waste a significant proportion of food, the Food Waste Index Report of 2021 showed that every country in the world deals with this problem. According to this report, lower-middle-income countries wasted 91 kilograms of food per capita per year, while upper-middle-income and high-income countries wasted 79 kilograms per capita per year on average (Forbes et al., 2021). Although both high-income countries and low-income countries deal with food waste, there is a distinction to be made where these wastes or losses occur. In countries with poor infrastructure and limited financial and technological resources, food losses are the most common: approximately two-thirds are lost and one third is wasted. In more industrialized countries, food waste is more present at the consumer level (Principato, 2018a). In total, approximately one-third of the produced food is lost or wasted, which comes down to 1.3 billion tonnes every year (UNEP, n.d.).

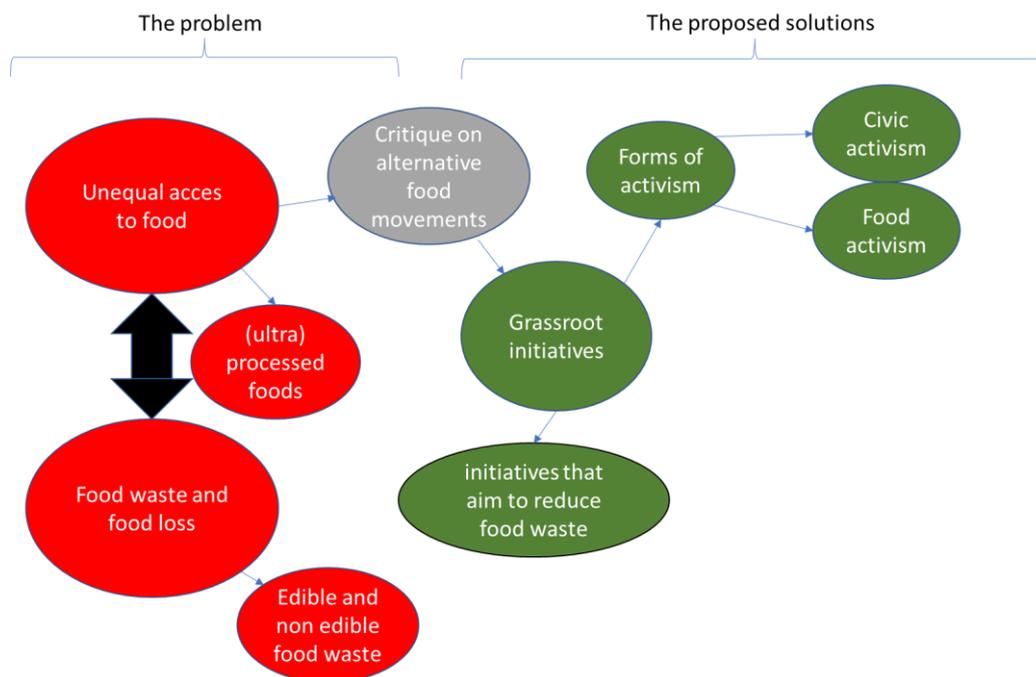
Besides differences between high-income countries and low-income countries, the amount of food waste also differs per person: the number of kilograms that is wasted appears to depend on income, education level, household size and whether a person lives in an urban or rural area. This can be illustrated in the Netherlands, where people who have a higher income, are less educated, or have more children waste more in general. In addition to this, people who live in cities also tend to waste more when compared to people who live in rural areas (Groen Kennisnet, 2017). This is also acknowledged by Lebersorger and Schneider (2011) who add to this that non-household food waste also tends to be higher in urban areas than in rural areas. Nonetheless, there is little explanation given for why these differences occurred.

Chapter 3: Research Design

3.1 Conceptual Framework

The previous chapter highlighted several concepts and theoretical debates that are of interest to this research. In addition to this, the previous section showed how the different concepts are linked to each other, which is also visualised in Figure 2. Figure 2 shows the problems that are found within global food systems, namely unequal access to food, which leads to a consumption of (ultra)processed foods, and the problem of food waste and food loss. Linked to this are proposed solutions to these problems. However, as academic debates have shown, these proposed solutions (alternative food movements) are highly criticized, since they do mainly focus on changing the consumption patterns of people, instead of focusing on the underlying injustice of food. There are however forms of activism that do take into account this criticism, of which grassroots initiatives are an example.

Figure 2
Conceptual Framework



3.2 Research Questions

Based on the theoretical framework and the knowledge gap in existing literature, the following research question is formulated: “*How do grassroots initiatives try to reduce food waste and what is their impact in Utrecht?*”

In order to answer the main research question, there are several sub-questions that this research aims to answer:

1. How do grassroots initiatives try to make people aware of food waste?
2. How do grassroots initiatives in Utrecht address social injustice and inequality?
3. What is the role of the municipality in reducing food waste?

Chapter 4: Contextual Framework

In order to get a better contextualization of what is going on in the Netherlands, and in specific in Utrecht, this section provides an overview of the characteristics of food systems in the Netherlands. In specific, this chapter provides information about the shifts that are going on in terms of food production.

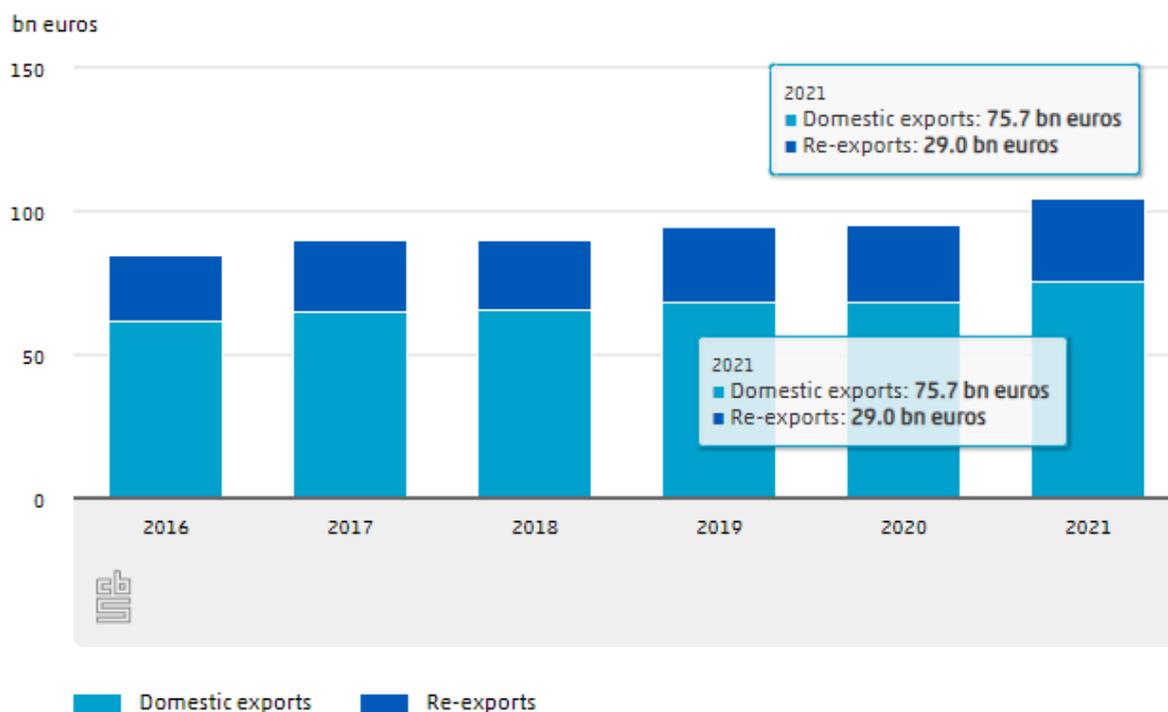
4.1 Food Systems in the Netherlands

In terms of food production and trade, the Netherlands is one of the leading countries in the world. On the one hand, the Netherlands is dependent on other countries: in 2021 there was a total of 72.5 billion euros worth of products imported (Jukema et al., 2022). However, this is not only due to feed the Dutch population, but it is also due to the geographical location of the country, the Port of Rotterdam, and for having a strong trading centre (van der Knijff et al., 2011). These imports mainly included products such as natural fats and oils, fruit, oilseeds and oleaginous fruit and animal products, such as dairy and eggs (Jukema et al., 2022).

The Netherlands was also ranked as the world's second largest net exporter of agricultural produce in monetary terms on the other hand (Dollmann et al., 2021). This was already the case in 2013 (Chivot et al., 2016), but the share of the Dutch agricultural market, in terms of export products, continued to grow in the years after, as shown in Figure 3. This resulted in an export of agricultural products with the value of 104.7 billion euros in 2021 (Centraal Bureau voor de Statistiek, 2022). The most important export goods categories are ornamental cultivation (9.5 billion euros), meat (8.7 billion euros), dairy products and eggs (8.3 billion euros), vegetables (7.1 billion euros), and fruit (7 billion euros). However, it is important to note that of these exported products, 29 billion euros were products that were re-exported that originated from other countries (Jukema et al., 2022). This leading position in global food systems was obtained after decades of changes in the agricultural sector in the

Netherlands. Due to technological advancements, specialization and intensification of agriculture and farming, agricultural production in the Netherlands has expanded fivefold since the 1950s (Chivot et al., 2016).

Figure 3
Export of Agricultural Goods



Note. Reprinted from Centraal Bureau voor de Statistiek, 2021 (<https://www.cbs.nl/en-gb/news/2022/03/agricultural-exports-exceeded-100-billion-euros-in-2021>)

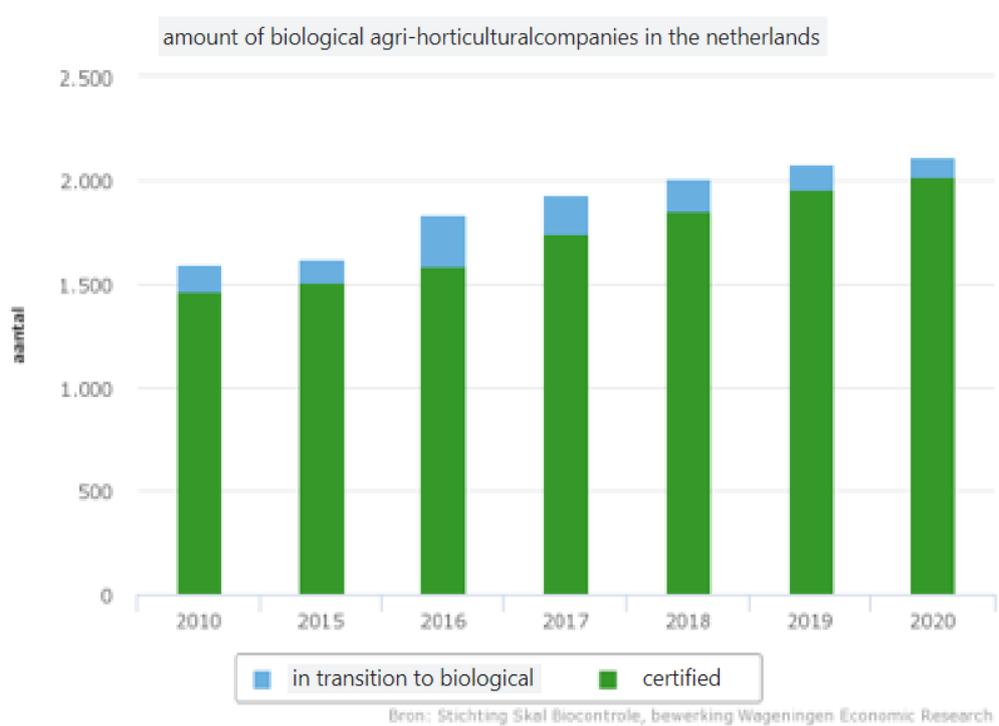
The production of food has however put a burden on the environment: according to the National Institute for Public Health and the Environment in the Netherlands, current Dutch food systems are unsustainable on several levels: the agricultural sector is responsible for 14% of the total greenhouse gas emissions that are emitted in the Netherlands (Van der Weijden et al., 2021) and meat, dairy and cheese production put the largest pressure on the environment (Rijksinstituut voor Volksgezondheid en Milieu, 2016) What is remarkable in this story is that intensive agriculture plays a significant role in the Netherlands, especially when compared to other countries (Wilting, 2021). The country has more than four times the average

of the European livestock density and, at the same time, it is the fourth-largest milk producer (Vermunt et al., 2022). This has the advantage that the yields per hectare are higher (Wilting, 2021), but this also means that the sector is responsible for 25% of the nitrogen deposition in the Netherlands (Vermunt et al., 2022). In addition, this intensive food production leads to a higher biodiversity loss when compared to other countries (Wilting, 2021). This is shown by the Living Planet Index for the Netherlands, which has decreased from 40% in 1990 to 15% in 2010 (Vermunt et al., 2022).

While there is a high pressure on the environment, there are shifts towards more sustainable food systems in the Netherlands. The number of certified organic agricultural and horticultural companies in the Netherlands has increased over the years, as can be seen in Figure 4 (Wageningen University and Research, 2022). This shift can also be observed in the livestock farming sector: the number of organically raised dairy cows rose with 82.5% over the last ten years (Centraal Bureau voor de Statistiek, n.d.). Besides organic farming, there are also food producers that focus on shortening food chains: in the Netherlands there are 7.234 farmers that sell their food directly to consumers, or through only one intermediary (Wageningen University and Research, 2021). Additionally, there are farmers that try to reduce food waste, while at the same time feeding their animals (Wageningen University and Research, 2018). However, the numbers of these type of farmers are however not insightful.

Figure 4

The number of organic agricultural and horticultural companies in the Netherlands



Note. Adapted from Wageningen University Research, 2021

<https://www.agrimatie.nl/ThemaResultaat.aspx?subpubID=2232&themaID=2286&indicatorID=3586>

Besides initiatives from farmers to work towards more sustainable food systems, processors, distributors, individual citizens, non-governmental organisations, schools and governmental institutions organize initiatives. De Bakker et al. (2011), commissioned by the Ministry of Economic Affairs, Agriculture and Innovation, made an attempt to quantify food initiatives in 2011. The examples of food initiatives included producers that sold free-range meat, networks that aimed at selling products locally and initiatives that focused on teaching primary school children about nutrition. Although the authors identified 150 initiatives in 2011 (de Bakker et al., 2011), there was no list available in the document and not all 150 initiatives were described in this document. This, and together with the lack of insights from literature,

news articles and research institutions, shows that it is hard to quantify the different types of food initiatives.

4.2 Food Systems in Utrecht

Shifts towards more sustainable food systems are also present in the city of Utrecht. The need for a shift towards more sustainable food systems has however not been explicitly acknowledged by the municipality of Utrecht over the last couple of years. As will become clear in Chapter 6, where the results will be discussed, there is almost no data to be found on how the municipality aims to make food systems more sustainable. Nonetheless, there are reports on how the province of Utrecht aims at making food systems more sustainable.

The province of Utrecht created a food agenda for the province. Central to this food agenda is the aim of shortening food chains, reconnecting producers, and consumers and to stimulate local production by the end of 2023. Shortening food chains helps to reduce the emissions of transport and storage and at the same time producers can earn a better and fairer price for their products (Provincie Utrecht, 2021).

Although the province's goal is to stimulate shorter food chains, the regional sales of food production were not more than one per cent of the total food sales in Utrecht in 2017. However, the number of initiatives around shortening the food chain are growing and examples of this can be found in the city of Utrecht as well. There are, for example, five locations around the edges of the city where people can be part of CSA. Nonetheless, in the city of Utrecht there is only one location where CSA is practiced, called de Moestuin. De Moestuin is a social enterprise located in the eastern part of Utrecht. This social enterprise comprises a shop, restaurant, a petting zoo, a beehive and a vegetable and herb garden. Everything that is grown or sold at the Moestuin is organic and people can take a subscription to the Moestuin per season and harvest their own vegetables, fruits and herbs (De Moestuin, n.d.-b).

Besides initiatives that focus on shortening food chains and producing food in a more sustainable manner than industrial agriculture, there are also initiatives that focus on food waste. In the city there are for example companies that pick up left-over fruit from supermarkets and turn them into new products. One example is the company “Koprol in Utrecht”, which picks up left over fruit from supermarkets that are smaller than average, fruit that is considered as too ripe or fruit with spots. From this fruit they make fruit rolls, which then again can be sold to customers (Koprol in Utrecht, n.d.)

There are however also other initiatives that are not focused on profit, such as Taste Before You Waste, The Barricade and Buurtbuik Utrecht. In general, these initiatives share two commonalities: reducing food waste on the one hand and feeding people on the other hand. All of the initiatives are financed through donations that are made by visitors. However, Buurtbuik Utrecht is also supported financially by the municipality. Since this research focuses on Taste Before You Waste, the results section, will start with a description of the initiative, followed by a comparison between Taste Before You Waste and Buurtbuik and the Barricade on the other hand. The following chapter will discuss the methodologies that were used for obtaining data.

Chapter 5: Methodology

This research aims at gaining an understanding of how grassroots initiatives try to challenge food waste problems in Utrecht. This chapter starts with what type of research was conducted and what type of research approach was used. This is followed by three sections in which the data collection methods, the ethical considerations and the data processing is discussed.

To get to this understanding, this research used the case study strategy, which is characterized by using qualitative research methods. This means that “the emphasis is not on counting and calculating based on the observation units, but on comparing and interpreting these results” (Verschuren & Doorewaard, 2019, p. 179). Additionally, this strategy is characterized by a focus on depth, meaning that the researcher often uses intensive face-to-face interviews with open questions. Besides using open questions, this research tries to gather data in an open way through participant observation. Lastly, the case is studied in its natural context, also referred to as a research project on-site (Verschuren & Doorewaard, 2019).

5.1 Data Collection Methods

For this research, data was collected during a fieldwork period of eight weeks in Utrecht in which the researcher aimed at getting the insider’s perspective of Taste Before You Waste. Taste Before You Waste Utrecht was chosen as a case study after a thorough Internet search of organizations, initiatives and companies in Utrecht that try to change current food systems, which was also part of the mapping exercise. In Table 1 the results of this mapping exercise are shown. It is important to note that this list is not exhaustive, that some information is unknown, and that some information was only available after contacting people that are involved in a particular alternative food practice.

Table 1

A table which describes the different alternative food practices in Utrecht

Name of alternative food practice	Year of launch	Type of alternative food practice	Sources of funding	Amount of people involved	Specialization
De Moestuïn	1998	Social enterprise	Sales through their farm shop, restaurant, and café and through funding (De Moestuïn, n.d.-a)	72	Social enterprise which sells biological products. Besides selling products, people can take a subscription to grow and harvest their own (biological) vegetables, fruits, and herbs (De Moestuïn, n.d.-b).
Foundation Utrecht Natuurlijk	2015	Network of urban farms	Funding by municipality of Utrecht, province of Utrecht and through the Dutch government. Utrecht Natuurlijk is also financed by visitors of events and by products that are sold through their farm shops and through their cafes (Utrecht Natuurlijk, 2021)	There are 52 staff members (Utrecht Natuurlijk, n.d.). The number of volunteers is unknown.	Utrecht Natuurlijk tries to bring nature closer to citizens of Utrecht through city gardens and urban farms. They also place vegetable gardens on schools, so that youth can learn about how food is grown (Utrecht Natuurlijk, 2022)
Slow Food Utrecht	2004	International food movement	Unknown	The number of members of Slow Food is unknown, but there are six people who are in the board of the	This movement tries to bring people from the whole food chain together to start a dialogue about a good, clean, and fair food systems (Slow Food, n.d.)

				organization (Slow Food, n.d.)	
Slow Food Youth Network	Unknown	The youth section of the international food movement of Slow Food	Unknown	Unknown	Just as Slow Food, the Slow Food Youth Network tries to bring people from the whole food chain together to start a dialogue about a good, clean, and fair food system (Slow Food Youth Network, n.d.)
Circle That	Unknown	Non-profit organisation	Six board members	Unknown	Circle That tries to involve citizens in a circular economy. This is done through several projects, such as organizing a rescued food market
De Groentetas	1995	Non-profit organisation	Around 25 volunteers each year	Through sales	This non-profit organisation distributes local and organic fruits and vegetables once per week. Customers have to bring their own bag, since everything is free of packaging. The organization also shares recipes that include the

					fruit and vegetables that are sold that specific week (Groentetas Utrecht, n.d.).
Koprol in Utrecht	Unknown	Company	Four people are in the board	Through sales	A company that makes fruit rolls of fruit that would end up in the bin otherwise. The fruit are sold to customers (Koprol in Utrecht, n.d.).
Vooko	Unknown	Non-profit organisation	Unknown	Through (non-profit) sales	A food collective that provides fresh, sustainable, and local food for people that are member of this collective. The food that is produced by local farmers is sold for a fair price
The Barricade	2016	Citizen led initiative	There are 63 members in the Telegram group. However, it is unknown how many people volunteer regularly	Through donations from visitors	This is a volunteer-run collective inspired by anarchism. This collective tries to combat food waste through dumpster diving. Food that is dumpster dived is given away to people in the form of a dinner on Sundays at the ACU. Important to note is that The

					Barricade does not call themselves an organization, but a collective (The Barricade, 2021)
Buurtbuik	2015 in Amsterdam, and 2018 in Utrecht (Buurtbuik, n.d.-a)	Non-profit organization	80 volunteers (Eisses, n.d.)	Through donations from visitors and companies, and through subsidies and fundings from the municipality (Eisses, n.d.)	Buurtbuik picks up groceries that would otherwise have been thrown away from stores. They prepare meals out of this food and hand it out in community centres in three neighbourhoods in Utrecht: Overvecht, Utrecht West and Utrecht East
Taste Before You Waste	2014 in Amsterdam (Participant A, personal communication June 17, 2022), and 2016 in Utrecht (Participant B, personal communication, June	Grassroots initiative	74 volunteers are in the Telegram group. However, there are approximately 16 people that volunteer regularly	Through donations they get from serving meals	Taste Before You Waste is a citizen led initiative that organizes themselves horizontally. They try to combat food waste by dumpster diving and by picking up groceries from stores that would otherwise have thrown food away. The group donates food to the Solidarity Fridge, the shelter for

	16, 2022).				undocumented people and it cooks every Saturday a donation-based meal at the ACU. Important to note is that Taste Before You Waste does not call themselves an organization.
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After the mapping exercise, it was clear that there are three citizen grassroots initiatives in Utrecht that share some similarities: The Barricade, Buurtbuik and Taste Before You Waste. First of all, all three initiatives explicitly mention on their website that they want to combat food waste by picking up groceries from stores in Utrecht. Secondly, all three fulfil a social role by serving donation-based meals to people in Utrecht. The meals can be visited by anyone and the social role is explicitly stated on their website, by mentioning that initiatives mention explicitly on their website that everyone deserves a decent meal (Buurtbuik, n.d.-b; Taste Before You Waste, 2019; The Barricade, 2021).

During the start of the research, I solely focused on Taste Before You Waste Utrecht, because this citizen-led initiative does not only exist within Utrecht. The initiative also exists in other places in the Netherlands (Bussum and Amsterdam) and in other countries, such as Canada and Australia (Taste Before You Waste, n.d.). Studying Taste Before You Waste Utrecht could thus provide opportunities for other researchers in which Utrecht could be compared with other cities. Besides providing opportunities for other researchers, studying Taste Before You Waste Utrecht was also chosen in terms of practicality: this was the first initiative that granted me the opportunity to work with them.

However, during the research it became easier to get in touch with the other two initiatives. Through means of networking, I eventually got in touch with The Barricade and Buurtbuik. Being able to participate in their activities and getting in touch with different volunteers was valuable, since it provided me with more insights in how food waste and questions around social injustice are tackled by these initiatives.

To get an in-depth understanding of the grassroots initiatives, participant observation was used. As part of participant observation, I participated in group activities, interactions, and events with the aim to understand the explicit parts of the group that were being researched. Participant observation is an important research tool because it allows the researcher to observe peoples' behaviour, instead of only being informed about what they claim to do (DeWalt & DeWalt, 2011; DeWalt & DeWalt, 2011a). For this research, participant observation was carried out at 16 activities, such as picking up food from stores, dumpster diving food, cooking and serving food, and visiting the Food Autonomy Festival (FAF), as will be described in the results chapter. Attending and participating in these activities were helpful to me in several ways. It helped me to: (1) get an understanding of the daily activities and practices that Taste Before You Waste Utrecht is involved in, (2) get in touch with other initiatives, such as the Barricade, and (3) to build rapport with participants.

Lastly, this research used informal conversations and semi-structured interviews to gather data. Informal conversations were often held during participant observation, which had the benefit that participants spoke more openly about topics. For example, one group of volunteers started for example a discussion about the current food waste problems in Utrecht, while others spoke about what anarchism means to them, and lastly, people talked to me about why they joined the initiatives that they are volunteering at.

The interviews were also valuable: in total I conducted 17 interviews, which helped to answer all the research questions. Out of these 17 interviews, eight interviews were held with volunteers of Taste Before You Waste, including with one person who started Taste Before You Waste in Amsterdam and with one person that started the initiative in Utrecht. Besides these eight interviews, five interviews were conducted with volunteers of Buurtbuik, two interviews were held with visitors of the Barricade and Taste Before You Waste. One of the persons that visited events of Taste Before You Waste was also a volunteer themselves of the Barricade, and the other person visited events of both The Barricade and Taste Before You Waste. Lastly, one interview was conducted with a person of the municipality, who is responsible for creating a circular economy in Utrecht. Lastly, an interview was held with someone who works together with the municipality to reduce food waste in the Stads Kantoor (City Office) of the municipality.

During the interviews the researcher made use of a list of interview questions, as can be seen in Appendixes A, B, C and D. This interview guide was useful in the sense that it made sure that every topic was covered.

5.2 Ethical Considerations

Since this research took place in the Netherlands, the Netherlands Code of Conduct for Research Integrity was used (Koninklijke Nederlandse Akademie van Wetenschappen et al., 2018). Following these principles, it means that the researcher adhered to the principles of honesty, scrupulousness, transparency, independency, and responsibility. The first principle is followed through ensuring that no results were changed or made up and that no information was taken out of context. The second principle was followed by using methods that are scientific. Transparency was carried out by ensuring that informed consent was explicitly given by all informants, by informing informants that their data would be used anonymously and by ensuring that every person that I met knew that I was present because of research purposes.

When interviews were conducted, informants were also explicitly asked if the interview could be recorded. Transparency is also followed through making data available to other researchers by uploading this thesis to the databank of Utrecht University. The fourth principle is followed by using a theoretical framework and by reporting independently as a researcher. Lastly, responsibility is taken by highlighting the social and scientific relevance of this research, and by ensuring participants to not share any sensitive information that they did not want to be shared.

5.3 Data Processing and Data Analysis

During interviews and participant observation I made use of several methods that ensured that data was captured. First, interviews were recorded so that no data got lost. Secondly, I wrote data down during participant observation and informal conversations. There were different types of field notes used in this research: jot notes, methodological notes, meta notes and lastly I kept a journal. The first type of notes can be described as “the words, phrases, or sentences that are recorded during the course of a day’s events as primarily aids to memory” (DeWalt & DeWalt, 2011c, p. 160). These notes were written in a small notebook and my mobile phone that I kept with me during the research.

The methodological notes were used in this research to provide me with an overview of the several methods that I used during several stages of the research. These were written down in a logbook, which consisted also of the meta notes. The logbook showed me an overview of the type of activities that I attended, what kind of conversations and interviews I had with participants, the preliminary interpretations of my data and a summary of the collected evidence. This was not only useful in the sense that it helped me to plan the next stages of my research, but it was also helpful for the coding schemes, which will be discussed below.

5.3.1 Data Analysis

After data was collected, fieldnotes were made and interviews are transcribed, data was analysed. Fieldnotes and transcriptions were transferred to an online coding programme (Nvivo). The first step in the coding process was open coding, also referred to as initial coding, where data is being split into several fragments (Saldaña, 2013a). After the first step, I made axial codes. In this step, the researcher found relationships between certain (sub)categories. Both initial and axial coding were useful during analysis methods because it helped to create structure.

Chapter 6: Results

Describing Grassroots Initiatives in Utrecht

This research aimed to understand how food waste was put on the agenda in Utrecht by grassroots initiatives. In order to answer the research question, it is of importance to describe the different types of grassroots initiatives in Utrecht that actively try to reduce waste. Therefore, this chapter will give a description of the three initiatives that were selected for this research, namely Taste Before You Waste, The Barricade and Buurtbuik. All of these grassroots initiatives have their own section in which it is described how the initiatives started, what their daily activities are and how they are structured. This provides an insight in how changes happened over time, how they try to reduce food waste, and what social roles they fulfil. Lastly, the role of the municipality will be described in how it tries to deal with food waste related problems.

6.1 Taste Before You Waste

6.1.1 The history of Taste Before You Waste

What started ten years ago with someone in Amsterdam who watched documentary about food waste, has now resulted in a Taste Before You Waste community that wants to fight food waste in Bussum (The Netherlands), Utrecht (The Netherlands) Kingston (Canada) and Auckland (Australia). The initiator explains:

“I saw a documentary, together with my boyfriend, about food waste. It was a Zembla documentary, and compared [with], I always say, compared with other documentaries it was, it just offered a different perspective. Because in general there are documentaries in which they terrorize you with: ‘This is going wrong and those are very large-scale problems’ without offering a real solution, or an alternative, or without offering anything that you can hold on to, to what you can do about it. And this documentary

was very targeting the consumer and the consumers are wrong. And so, you can do something about it on a very small scale, but also on, on a larger scale. So I really felt really addressed by that, and then, I think, I went that same week, after I saw the documentary, (...), to the grocery stores in my neighborhood to talk and ask about it, like: ‘I saw a documentary, is that [are the food waste problems] reality? And if it is reality, can we think about something better?’ I really wanted to start a conversation, but apparently there was a huge gap in the system (...) and the greengrocers really had the need to find a solution for that” (Participant A, personal communication, June 17, 2022).

Shortly after that, groceries were picked up at the grocery stores in Amsterdam and food was brought, by car, to a refugee camp. However, due to the long fuel costs that came along with this, the initiator decided to buy a secondhand cargo bike, and together with their friends and family, they brought food to different good causes in the city. However, on one day there was a misunderstanding between Participant A and one of the good causes:

“Something went wrong at a given moment between me and one of the good causes to which we donated the food (...). They were already gone, and we arrived too late with the food, so it [the location where the food was donated to] was already closed. And well, I had a whole cargo bike with food that, so to speak, needed to be finished. So, I posted on the Facebook group of my university, we all lived on campus, I just posted it there like: ‘Hey, here is a picture, I have a cargo bike full of food. Come and pick it up’. Well, students and free food, that is of course a match made in heaven, so within ten minutes I had my whole living room full of students that picked up food and who asked themselves where the food came from. And yeah, they actually wanted to help straightaway. So, then everything went really fast” (Participant A, personal communication, June 17, 2022).

Since then, more and more people got involved with the initiative, people started to cook in in a community center in Amsterdam and later on they were financially able to hire a building. Eventually, people from other places also approached Participant A, asking if they could use the name of Taste Before You Waste in order to set up a similar concept in their city (Participant A, personal communication, June 17, 2022).

One of these persons was Participant B, who came up with the idea to fight food waste in Utrecht in 2021², after she got in touch with Food not Bombs (Participant B, personal communication, June 16, 2022). Food not Bombs is a collective that is run by volunteers in 65 countries of the world, as can be seen in Figure 5. This collective shares vegan and vegetarian meals for free for people who are in need due to wars, conflicts and financial reasons. Additionally, they share meals to people who participate in protest, strikes and marches (Food not Bombs, n.d.). Participant B thought that this was such a nice experience, that she started dumpster diving in Utrecht (Participant B, personal communication, June 16, 2022). Through this, she came up with the idea to do something about food waste, as she explains:

“I think once you go dumpster diving a couple of times, it is hard not to be completely mind blown by the amount of [food waste]. So, I think that was an experience that we [Participant B and someone she met during dumpster diving] wanted to share with other people, because I think it is, like, I mean documentaries are good, but it is more shocking than seeing a documentary, because it is in your city. (...) So yeah, raising awareness [about food waste], (...) preventing food waste and yeah, then like from an ecological perspective and then obviously the social benefit is huge” (Participant B, personal communication, June 16, 2022).

Together they discussed the idea and started to pick up food from grocery stores in Utrecht and give them away to a refugees in Utrecht, who do not wish to be mentioned in this

report. For almost a year they did a weekly pickup from the shops (Participant B, personal communication, June 16, 2022) and sometimes they handed out food for free at food markets in the city (Participant C, personal communication, June 13, 2022). During this first year, more and more people wanted to volunteer with them (Participant B, personal communication, June 16, 2022). As a result, the initiative started to grow and over the time of eight years, they managed to go from one pickup during the week, to collecting food five times a week. These changes, together with the daily activities that Taste Before You Waste is involved in, will be discussed in the following section.

Figure 5

A map of the world showing where Food not Bombs is present



Note. Reprinted from Food not Bombs, 2021 (https://foodnotbombs.net/new_site/)

6.1.2. Daily Activities of Taste Before You Waste and How Things Changed over the Years

As mentioned in the previous section, Taste Before You Waste grew over the years, which resulted in being able to collect food five times a week and being able to make a donation-based meal. This section will elaborate more on the daily activities of the group in order to get an understanding of how food waste problems are trying to be tackled. Additionally, this section will dive deeper into the changes that the grassroots initiative has experienced over the years.

Taste Before You Waste is an initiative that consists of a group of volunteers that all communicate in a Telegram group. In this group there are 74 members, however, not everyone is involved as others. As based on my own observations, there are there are approximately 16 volunteers who are involved regularly, which means that they are present every two to three weeks.

Each of these volunteers that are in the Telegram group can sign up every week to be involved in one of the pickups or in one of the cooking (and/or serving and cleaning) sessions. The way that Taste Before You Waste communicates and the way in which responsibility is taken has however changed over the years, as explained by participant D, who is a regular volunteer for seven years:

“So, we had a (...) signup list and that was like a Google Docs and this [list] was spread through Facebook. And then you could see where the blank spaces were [in the list] and then you would fill in your name. However, at a certain time, we ran into some problems with the shops, because some people [volunteers] did not show up (...), and then shops would throw out their food, since they would say: ‘Well, you were not there on Monday either, so now we threw away our food.’(...) Then we decided that we needed one person per shift that needs to make sure that it [the pickup at the stores] gets done,

because we need to build up a relationship with these shops and if they, if we are not reliable, then the shops will not be either” (Personal communication, May 17, 2022).

One thing that has however not changed over time are the shops from which food is picked up from. During the first years of Taste Before You Waste, the initiative contacted a lot of shops in Utrecht. However, the big supermarket chains did not want to be involved, because they did not want to take the risk if someone would get sick. For the small grocery stores it was easier to see which people were responsible (Participant E, personal communication, April 4, 2022).

Another thing that has stayed the same over the years is to where the food is donated to. After the pickups, volunteers bike to The Solidarity Fridge, which is located in the neighbourhood Noordwest (Northwest), This neighbourhood is characterized by single-person households and although the majority of the citizens have a job (63.3%), the percentage of people who struggle financially is higher when compared to other neighbourhoods, as can be seen in Table 2.

Table 2
Characteristics of Neighbourhoods in Utrecht

Neighbourhoods in Utrecht	Share that (really) struggles to make ends meet [2021]	Share that has a job [2018]
West	4%	67,4%
Noordwest (North West)	7%	63,3%
Overvecht	10%	48,6%
Noordoost (North East)	4%	65,2%
Oost (East)	6%	58,3%

Binnenstad (City Center)	4%	68,3%
Zuid (South)	4%	61,6%
Zuidwest (South West)	6%	59,9%
Leidsche Rijn	4%	73,6%
Vleuten-De Meern	4%	66,6%

Note. Adapted from Utrecht in Cijfers (<https://utrecht.incijfers.nl/>)

The Solidarity Fridge, as can be seen in Figure 6, is a fridge that started in 2016. The Solidarity Fridge is a fridge to where people can donate their groceries for the neighbourhood, but according to Participant O people from all over Utrecht, and even some people from Nieuwegein come to this place to take food. They estimate that at least 30 people, from all different ethnical backgrounds come to this place on a daily basis to take groceries, such as fruit, vegetables, bread and meals that were donated by restaurants nearby. This is also a place where people who are financially in need can pass by, and are thus fulfilling a social role (Personal communication, July 9, 2022).

Donating groceries to this fridge is an activity that is done four times a week by Taste Before You Waste and usually the group brings a cargo bike full of food, which can be seen in Figure 7. According to Participant F, the cargo bike does not only function as a way to transport food from Place A to Place B, but ideally it also functions to spread the words to Taste Before You Waste. They told me that they hope that people would look up what Taste Before You Waste means, which is written on the front of the cargo bike, and to see what the initiative does (Personal communication, June 2, 2022).

Figure 6
The Solidarity Fridge, April 13, 2022



Figure 7
A Picture of the Cargo Bike Filled With Food, April 20, 2022



Besides these regular pickups on Monday, Wednesday, Friday and Saturday, the group dumpster dives on Thursday. The food that is then collected will be used for a cooking session every Saturday at the Auto Centrale Utrecht (ACU). The ACU is a political, cultural centre in the city centre of Utrecht that hosts several activities during the week. It hosts concerts, benefit events, parties, it screens movies, and it is a meeting place for political and cultural initiatives, such as Taste Before You Waste (ACU, n.d.).

Figure 8

A meal made from dumpster diving, served at the ACU, April 23, 2022



During these events at the ACU, the group of volunteers of Taste Before You Waste cook in the kitchen of the ACU. During the cooking session everyone from Taste Before You Waste makes sure that decisions, about what is cooked and who is entitled to which task, are based on consensus (Participant G, personal communication, April 23, 2022), which will be elaborated on in section 6.1.3.

After food is prepared, the meal, as can be seen in Figure 8, is served to visitors, of ACU, and a little speech is given about Taste Before You Waste, through which volunteers try to make visitors aware about food waste. Although it is hard to quantify, approximately between 30 and 40 people show up to these dinners

During the speech it is made clear to visitors that the food is made by a group of volunteers, that the meal is prepared with groceries that were dumpster dived, that everything is vegan, and that the meal is free, but that people can donate if they want to. Although some volunteers sometimes wanted to buy additional ingredients, such as cheese, the group was clear about their policy: the meal should always be vegan (Participant H, personal communication, May 21, 2022).

There are two What is remarkable is that volunteers are always the ones who serve and hand out the food, instead of visitors serving themselves. As Participant I explained, this is because volunteers know at best how big the portions should be. In the past, and at one particular dinner during participant observation, people put too much food on their plates. As a result, food is thrown away at the end, something that Taste Before You Waste tries to prevent (Personal communication, May 7, 2022).

Besides pickups, dumpster diving and the organized dinners at the ACU, the group is present during several events in which they try to make people aware about food waste. An example of this was the Food Autonomy Festival (FAF) organized by Aseed. Aseed is an international organization that aims at making connections and alliances throughout Europe. Through this, the organization tries to counter the environmental destruction and social injustice. At the moment their focus is on issues that are related to global food chains, such as the loss of biodiversity in agriculture, genetic engineering, the availability of seeds, and the power of big agricultural and biotechnical companies. In practice this means that the organization empowers grassroots organizations and youth groups through trainings, knowledge sharing and through promoting discussions (Aseed Europe, n.d.).

During the FAF several volunteers of Taste Before You Waste helped either individually or as part of Taste Before You Waste, which shows that volunteers are interested in alternative food practices in their private lives as well. The festival consisted of several workshops and events that all were related to alternative food systems, thus away from the dominant, industrial food systems with long global supply chains. There were for example workshops about what community gardens are, how people could start their own community garden and what challenges there are for community gardens in the Netherlands. During the festival people were also able to swap kitchen tools and seeds and seedlings of edible plants. Taste Before You Waste had their own role during this day: it dumpster dived food from the

distribution centre in Nieuwegein and prepared lunch and dinner for the visitors. Through this it tried to make visitors aware of the food that is thrown away daily and that it is still edible (personal communication, May 29, 2022).

Besides this festival, volunteers spoke about other events that the organization collaborated with in the past. Examples of these are sustainability events, for example of the Green Office or sustainability events near the University College, where initiatives were invited to sell things, or as is the case of Taste Before You Waste, to hand out food for free (Participant J, personal communication, May 20, 2022). Other people, like Participant F explained that Taste Before You Waste does not only join events that are related to sustainability: “But yeah, the events are normally around queer or migrant struggles or like small scale sustainability events. Yeah, activist and anarchist, decolonial protests, trans protests” (Personal communication, June 2, 2022), showing that the initiative does not solely on unequal access to food, but also focus on social injustice and inequality.

6.1.3. The Structure of Taste Before You Waste

The previous section highlighted the daily activities of Taste Before You Waste, showing in which it tries to make people aware about food waste. however, in order to get an understanding of how the initiative operates, it is important to understand how Taste Before You Waste is structured.

Taste Before You Waste is a group that organizes itself horizontally, as is stated on its website (Taste Before You Waste, 2019), but what does this mean and how is this expressed? First of all, this is expressed through the way that decisions are made: every decision is made by consensus (personal communication, June 13, 2022), meaning that “everyone should be able to weigh in equally on a decision, and no one should be bound by a decision they detest”

(Graeber, 2013, p. 211). This is expressed through the decisions that are made in the kitchen, as described in the previous section, but it also comes into play during other activities.

A clear example of how consensus comes into play is when the group has to decide where the money goes to. Taste Before You Waste is not financed through any governmental funds or subsidies. However, the group receives money for the donation-based meals they serve every Saturday, or when the group attends other events, such as the FAF festival. With this money, the group has the possibility to buy things like pasta, rice, oil, and herbs or to repair their cargo bike. The money that will not be used for these types of groceries or repairs can for example be used to donate to good causes. Participant F explains how this decision-making works:

“We use consensus decision making, which means if one person wants to donate to this organization, and then three people agree with them, but two people disagree, then we talk to those two people. We talk as a group, and we'll be like, what, how do people feel about this? Like, why do you not want to donate to this group? And it's not just a vote, it's not that we'll donate to the group because there's a majority, it's not a democracy, like that is it's a consensus. So, we all come to agreement, which means that the majority don't like bully, bully is too strong a word, but the majority don't roll over the minority. Which means that takes a lot of time, like meetings take more time, because you have to spend more time talking that people get, feel heard at the end of it. And it's also how I would, I would want the rest of society to operate. I think consensus decision making is a really sound way to organize” (Personal communication, June 2, 2022)

The horizontal structure is not only expressed during decision making about good causes, but is also present during the monthly meetings. During the meetings people are free to bring in any ideas they have (Participant A, personal communication, May 17, 2022) and

people make sure that no one runs over each other, through making use of hand signals. If one person talks, the other person can use the hand signals to ask for clarification, to show that they agree, to show that they disagree and lastly, they can use a signal if they want to speak. Through this, no one gets interrupted while they are talking (Participant F, June 2, 2022). Additionally, people do not have certain roles beforehand, but it is something that will be decided during the meeting itself. People are free to choose if and which task or role they want to carry out, for example being an action point taker, being a facilitator or being a minute taker (Participant F, personal communication, June 2, 2022)

Even though Taste Before You Waste aims to structure itself fully horizontally, participants indicate that it is sometimes hard to realize. In the beginning, as described in the previous section, there was a schedule with tasks that people could sign up for, which caused some problems. This however caused some problems because people would not show up for example to the pickups. As a result, the group decided to make a few people responsible as coordinators of the pickups (Participant D, May 17, 2022). Participant F explained the idea about coordinators eventually in further detail:

“But the idea behind having a coordinator is that because we're horizontal, we don't want to have leaders. We don't want anyone to have more, more power or knowledge than other people. But it's really hard to achieve a completely horizontal group. Because responsibility is also needed, especially with the shops. So, there are people that rely on us to bring the food away. So, we need to rely on each other to make sure that someone goes each week to pick up the food. So, the idea of the coordinator is that they, they try and make sure it happens, that the pickup happens. And it normally means that they themselves go but yeah, it just means like if someone volunteers to say like, ‘Oh, cool. So maybe go around that time and you go to these places, and then you take it to this place’. Yeah, so I think that's the structure. There are also other roles such as the finance person (...), and there is a couple of people that have access to

the email account. So, you can definitely see that there is more people taking on more responsibility” (Personal communication, June 2, 2022).

6.2 Buurtbuik

6.2.1 The History of Buurtbuik

The idea of Buurtbuik started in 2014, when the founder felt inspired by a Portuguese project called Refood (Buurtbuik, n.d.-a). Refood started with the idea to fight food waste from restaurants in Lisbon and it was launched in 2011. Working together with 30 restaurants and 2 churches, Refood distributed at least 50 meals, 5 days a week. This idea eventually spread towards other cities over the world as well, including Madrid (Spain), Milan (Italy), Richmond (US), and Salvador de Baia (Brazil) (Refood, n.d.).

After a visit to Lisbon, the initiator of Buurtbuik decided that a similar project needed to be set up in Amsterdam. After having conversations with the municipality of Amsterdam, and after the pilot project was organised, the first Buurtbuik location opened in Amsterdam Zuid (the South of Amsterdam). As the organization states themselves on the website: | After the success of Amsterdam-South, things went really fast and Buurtbuik opened approximately two other locations per year. Currently, Buurtbuik has 12 locations in Amsterdam, Rotterdam and Utrecht” (Buurtbuik, n.d.-a).

6.2.2 Daily Activities of Buurtbuik

Buurtbuik can be described as a non-profit organization that tries to fight food waste by picking up groceries from supermarkets that would have been thrown away otherwise. This is done on Monday, Wednesday and Saturday and the food that is picked up is brought to different community centres, where volunteers prepare a meal for the neighbourhood. In Utrecht there are three community centres used, which are located in the neighbourhoods Utrecht West, Utrecht Oost (Eastern Utrecht) and Overvecht. On Monday volunteers prepare a meal in

Utrecht Oost, on Wednesday this is done in Utrecht West and on Saturday in Utrecht Overvecht.

According to volunteers there are three points that the organization focuses on: saving food, supporting people in need, and encouraging social cohesion. The first and the second focus points are quite forward: the first focus point simply means that food is saved from the bin by picking up groceries from 9 local stores in the three neighbourhoods in Utrecht, as can be seen in Figure 9. Nonetheless, volunteers do not explicitly mention during the dinners that the meals are made with food that would otherwise have been thrown away by shopkeepers. According to Participant K, awareness about food waste is especially created among volunteers. They explain:

“You notice, especially among the volunteers that cook [with Buurtbuik] for the first time, that they are a bit hesitant to use products in a certain condition, even though that the products are still fine. And I think on the side of the people who (...) who only visit Buurtbuik to eat, that there is not a lot of awareness about food waste. I think that some people might recognize it, but those are the people that are already aware about food waste. If you take a look at the people who are not concerned about food waste, we do not approach them and say: ‘Oh, all the food is saved today [from the bin]’. For them it is just about eating food” (Personal communication, June 6, 2022).

Figure 6

I am bringing groceries from supermarkets to a community centre in Utrecht West, June 1, 2022



The second focus point, helping people in need, is carried out through serving a donation-based meal to people struggling economically. The organization estimated that there were approximately 1800 meals served in 2021, which meant that round 34 meals were served per week. This included however also the months in which the organization was restricted due to the restrictions of the pandemic, in which they could not serve in community centres. Based on my observations, the locations of Utrecht Oost and Utrecht West both serve approximately between 25 and 40 meals.

Based on my observations, this is also done through handing out the groceries that are not used for the meal, or through giving people leftovers of the meal to take home. This does however also cause some difficulties sometimes: during two events, some people were disappointed that there were not any leftovers to take home or that there were not any containers to put the food in. A participant also explained that there is another obstacle: some people do not come to the events, because they are not financially in need. These people feel like they are

taking away food from others that really need it from a financial perspective (Participant K, personal communication, June 6, 2022).

The last focus point is carried out in practice through letting different types of people get in touch with each other in the community centres while serving food. Participant L explains that this is one of the strengths of the organization: “The nice thing about being a volunteer is that, as volunteers you are all in the same niche, we are all a bit in the same age group, we have a little bit of the same interests, while the people that you eat dinner with [at the community centres] are very diverse. They are all people that I would normally not be in touch with” (Personal communication, May 30, 2022). Based on my own observations, it is true that different types of people sit and eat together, especially for people of different age groups: seniors, children and students often sit together. However, for Utrecht East and Utrecht West, where I participated in activities, mostly Dutch speaking and white people joined the dinners.

6.2.3 The Structure of Buurtbuik

In contrast to Taste Before You Waste, the organization of Buurtbuik does not aim to be structured horizontally. The organization is structured in such a way that it assigns different responsibilities to different people. Besides the Executive Committee of Buurtbuik in general, each city has its own board. The board of Utrecht consists out of five people who are responsible for different tasks: there is a president, a treasurer, a coordinator for volunteers, a coordinator for food suppliers and someone who is responsible for public relations (Participant H, personal communication, June 6). Besides the board, there are coordinators that are responsible for their own Buurtbuik location (Participant I, personal communication, May 30, 2022).

The way that Buurtbuik is structured is also related to how the organization deals with finances. Although all the initiatives receive donations from the people that eat, Buurtbuik is

also financed in other ways: they receive subsidies from the municipality and donations from businesses (Participant K, personal communication, June 6, 2022) and they also receive indirect support from the municipality through the fact that they can use the community centres for free (Participant M, personal communication, June 1, 2022). Through the subsidies and donations, the organization is able to pay their Executive Committee. Additionally, the income made it possible for Utrecht in specific to hire a freelancer (Eisses, n.d.). This person helps the organization to be more continuous and to help with the weekly tasks (Participant K, personal communication, June 6, 2022), such as answering e-mail, doing financial administrations, and helping to set up an extra location of Buurtbuik in Utrecht (Eisses, n.d.).

Besides paying the Executive Committee and a freelancer, the other income is used to make the activities a bit easier for volunteers, such as an electric cargo bike or potential repairs of the bike (Participant L, June 3, 2022). This electric bike safes the volunteers a lot of time, the volunteers in Utrecht West are able to pass by seven shops in an hour. Moreover, volunteers were asked if there any kitchen tools that they needed, which also makes some parts of the cooking easier. Lastly, new volunteers receive a small present when they arrive, which is also financed by Buurtbuik.

6.3 The Barricade

6.3.1 The History of The Barricade

The Barricade is an anarchistic collective that started in 2016 (Vrije Bond Secretariaat, 2016), and can be seen as the sibling of Taste Before You Waste, since this initiative was started by people who were first part of Taste Before You Waste (Participant D, personal communication, May 17, 2022). According to Participant N this was due to the fact that some people were more active on a political level (Personal communication, May 27, 2022) and

Participant C adds to this that some people wanted to set up a library. This, and the way that The Barricade is more active on a political level will be elaborated on in section 6.3.2

As mentioned in the previous paragraph, The Barricade is an anarchistic collective, but what does this mean to them? Anarchy can be described as the desire to have a society in which people live in both absolute freedom and equality. When referring to the Barricade being a collective this means to them that something is done by people acting as a group. This is further explained by stating that a collective is not the only place in which individuals can act together, however there is a difference with for example teams or companies: "A team, a company or a choir are also collections of individual acting as a group. However, your sport abilities will influence your possibility to be part of a team; you are only part of a company if someone decides to hire you; you are only part of a choir if you can sing. There is no eligibility requirements to being part of a collective (unless you're an asshole), just the affinity of political ideas and the will to engage in a constant process of change, together" (The Barricade, 2019, p. 23).

6.3.2 Daily Activities of The Barricade

Just like Taste Before You Waste and Buurtbuik, The Barricade tries to tackle food waste through to ways. First of all, the collective often brings food to several less prosperous neighbourhoods in Utrecht (Participant Q, personal communication, May 25, 2022). One of these neighbourhoods is Noordwest, which was described in section 6.1.2, and the collective stands with a “free food market” in front of an organic supermarket, called Ekoplaza (The Barricade, n.d.).

Secondly, this is done by serving a donation-based meal. This meal is served every Sunday at the ACU, and although it is hard to quantify how many people attend these dinners, Participant P estimates that around 40 people visit every week (Personal communication, July 9, 2022). The food that is prepared comes from a volunteer who grows mushrooms, as can be seen in Figure 10, from dumpster diving (Participant N, personal communication, May 27, 2022) and sometimes from a restaurant in the city centre. Before serving, the group makes a small speech to the visitors about the rescued, dumpster dived and vegan meal, and about what the collective entails.

Figure 7

I am showing oyster mushrooms that a volunteer from The Barricade grew, June 20, 2022



The Barricade is however more than simply serving meals on Sunday; it is a collective that engages with many different topics, such as feminism, anti-capitalism, veganism and being against any form of oppression. This shows that their way of incorporating with social injustice and inequality goes beyond being concerned about people having access to food. This is expressed in several ways, for example through the library of The Barricade at the ACU, which encourages people to educate themselves on certain topics that is of importance in the struggle towards social change (The Barricade, 2021; Participant P, personal communication, May 25, 2022). The books in the library contain topics such as anarchism and communism and even fascism to inform people about these topics. Additionally, there are often events organised by The Barricade at the ACU with the aim to inform people, and to create discussions about certain topics. These events include things such as movie nights where documentaries are screened about the Ukrainian revolution in 2014, or music nights where artists sing songs about squatting houses and the European borders (Participant Q, personal communication, May 25, 2022). Another way this is done is through workshops about digital privacy and how people can

minimalize being traced online, how people can dumpster dive safely (Participant Q, personal communication, May 25, 2022).

6.3.3. The Structure of The Barricade

As is clear from The Barricade's book and from their website, The Barricade wants to create a space in which no hierarchy exist, and in which everyone has the absolute freedom to do what they want to do. This is expressed in practice through for example how The Barricade's kitchen works: when the collective prepares a meal, they often have a chat together about what people want to prepare, and decisions are often based on consensus. This also includes there is no one in the kitchen that tells other people what to do. This does however not imply that there are no informal structures within the collective, as explained by Participant N: "I do not have the idea that there is a very clear structure. However, there are a few [people] that have been involved [in the Barricade], and because of that they take the lead. There always needs to be someone who makes a poll [in the Telegram chat] to ask who wants to join. So, I think that is a way of structure".

6.4 Making People Aware About Food Waste and the Impact of Grassroots Initiatives

In order to respond to the research question, it is of importance to examine the impact that the different grassroots initiatives have in Utrecht. This goes however further than the numbers of meals that are served by each initiative: when examining the impacts of the three grassroots initiatives in Utrecht, it can be concluded that there are several levels on which this occurs. First of all, there is the impact that the citizen-led initiative has on how people perceive food waste. When examining the efforts of the grassroots initiative, it can be concluded that the level in which the initiative tries to make people aware about food waste differs. For Buurtbuik it is less about informing people about food waste. However, there is still awareness created

amongst volunteers, who see the huge amounts of food that is still used. On the other hand, The Barricade and Taste Before You Waste try to make visitors aware about food waste: through preparing a dumpster dived meal, and through giving a little speech every week, they show that the food that is thrown away by others is still valuable. However, this impact is often only limited to the different neighbourhoods in which the initiatives serve their food.

Secondly, there is the impact that grassroots initiatives have with regards to food systems. Although some initiatives, such as Taste Before You Waste, explicitly mention that they aim to challenge and change food systems, it can be argued that the efforts of the initiatives can be seen as a symptom relief, since at the end over production is not reduced (Personal communication, participant R, May 30, 2022).

Thirdly, the impact of the initiatives reaches further than saving food from the bin, and serving a meal. After asking one of the volunteers about their opinion about the impact that Taste Before You Waste makes, he replied:

“That we prove the persons that we can do our volunteer work very good. As good as a company. It is well done. It is really good food, [it] is also vegan. Also, we use food that is wasted. So, we prove that it can be done and yeah that speaks by ourselves. Also, we are a small group that has an impact of giving food for free and something free these days [is] really, really difficult to find” (Participant S, personal communication, May 21, 2022).

Through organizing wasteless dinners, the initiatives are able to feed people for free, which raises questions about social injustice and social inequality. All three initiatives are therefore very clear about this: they explicitly mention on their website that not everyone has (financial) access to healthy and fresh food.

6.5 The Role of the Municipality in Reducing Food Waste

As mentioned in the introduction, the municipality mentioned that they aimed at ending all food waste in Utrecht by 2022. However, this is not the case yet, and no updates can be found about this document in which this is stated. This raises questions about the vision of the municipality towards food and food waste. this chapter will discuss

Participant T, who works with the theme of sustainability in the municipality, explained that the municipality is working on a food agenda in which there are a few important themes: regional and local food, urban farming, and food waste. Simultaneously, the municipality is working on a programme in which Utrecht works towards being a circular economy (Personal communication, June 22, 2022). When examining the document in which the programme is explained, this statement of Participant T can be acknowledged: the term “food” is only mentioned three times in the document, and the term “food waste” is not mentioned at all, showing that food waste is not yet on the political agenda.

Chapter 7 Discussion

The previous chapters gave an insight into the results that were obtained after conducting this research, showing how grassroots initiatives fight food waste in Utrecht, what the impact is of the initiatives, and what the role of the municipality is in combatting food waste. This chapter briefly summarizes the main findings of this research and connects the results to broader theoretical concepts. This is followed by a discussion of the limitations of this research and recommendations for further research.

7.1 Connecting Results and Theory

As is clear from the results, there are three grassroots initiatives in Utrecht that try to combat food waste on a neighbourhood level. Some (Buurtbuik) do this by only picking up food from local grocery stores that would otherwise have been thrown away, some only dumpster dive food (The Barricade) and others do both (Taste Before You Waste). With this food, the grassroots initiatives make donation-based dinners, and also handout food for free. Through this, they do not only aim at making people aware about food waste, but they also try to raise questions about social inequality.

The fact that Buurtbuik and Taste Before You waste pick up food at local stores, instead of at large supermarket chains, is in line with the theory of Gruber et al. (2016), who explain that managers from these stores can be more flexible when it comes unsalable food. This was also explained by one of the volunteers of Taste Before You Waste, who stated that big supermarket chains do not want to take the risk if someone would get sick from the unsalable food. For the small grocery stores it was easier to see which people were responsible.

When examining the impact of the initiatives, theories of Grabs et al. (2016) could be brought into the discussion. Grabs et al. argue that grassroots initiatives have the potential to

contribute to more sustainable consumption and transitions at three levels: a personal level, a group level or a societal level. As could be seen in the results, the grassroots initiatives mostly focus on creating awareness among individuals, by showing that food waste can still be turned into a dinner. However, it can be argued that the impact of grassroots initiatives is only limited to this personal level and does not focus on the group or the societal level, because they do not have the power to change entire neighbourhoods or societies. This is in line with the critique of Finn (2017) and Holt-Giménez and Shattuck (2011) who state that food movements are too weak and dispersed to make a substantial difference.

Smith and Furgeson (2010) also discuss the level of scale at which activism operates and that the impact that activists have can also greatly differ. This is dependent on the resources they have in terms of people and money. When examining the three initiatives in Utrecht, there are great differences in the resources that they have. Where Taste Before You Waste and The Barricade rely on donations from visitors, Buurtbuik gets subsidized by the municipality and receives donations from companies. These financial resources enable Buurtbuik to hire a freelancer, and open a new location, and eventually provide more meals.

Another point of critique that is made within theoretical debates is that food activists often focus on changing people's eating habits, while failing to understand the circumstances, pressures and desires that drive food choices (Johnston & Baumann, 2014). When looking at the grassroots initiatives in Utrecht, it can be concluded that they also take into account the circumstances, pressures and desires that drive food choices. This is because they try to erase the barriers for people to access healthy food, by handing out free food in community centres, the ACU and in a less well-off neighbourhood.

Another explanation could be due to how alliances are made, which is according to Hassanein an effective tool to actively shape food systems. Although some of the initiatives

join events, there is no collaboration between the three initiatives. Additionally, there is no collaboration on how to fight food waste with the municipality, which does not prioritize food waste on its political agenda. It is however necessary to prioritize this, because valuable resources are wasted, which does not only put a burden on the environment, but it also highlights the gap of a world where not everyone has access to food. To bring forces from all over society together to make the biggest impact. Therefore, it is essential to bring everyone on board: citizens, companies, schools, and governmental institutions, such as the municipality.

7.2 Limitations and Recommendations

This research has shown how grassroots initiatives try to reduce food waste problems in the city of Utrecht. Nonetheless, this research also has its limitations, which are due to the limited timeframe reserved for this research. First of all, the researcher did not have the opportunity to participate in more than one event of the Barricade and to interview more than one volunteer of the Barricade, because contacts with the Barricade were made at quite a late stage of the research. Secondly, this research did not have interviews with the initiators of The Barricade and Buurtbuik, Thirdly, it was hard to reach visitors of the events of Taste Before You Waste, Buurtbuik and The Barricade, resulting in the fact that only two visitors were interviewed. Lastly, the researcher only interviewed one person who works at the municipality, and one person who works together with the municipality, because it took a long time to get in touch with them.

Further research is thus needed, which would include several factors. First of all, this research would include more time spent at the activities of the Barricade to get a better understanding of how many different people they reach, what kind of people attend these activities, and how they interact with other questions of social injustice. Secondly, another extension of this research would include interviewing the initiators of Buurtbuik and The

Barricade to get insights in how the initiatives changed over time, and how ideas were formed to start the initiatives. Thirdly, focusing more on the visitors of the grassroots initiatives is needed to understand what kind of people join these events, how they think about food waste and social justice, and what it means to them to visit these types of events. Lastly, it would be of importance to include more perspectives on how the municipality wants to put food waste on the agenda.

Although these limitations exist, this research still has added valuable information to academic debates. First of all, this is done through adding the perspective of grassroots initiatives in fighting food waste. This perspective was often lacking within academic debates and research, since they mostly focus on how much food is wasted and where along the food chain this occurs, and how food waste can be reduced. Moreover, this research adds to academic debates through showing concrete examples of how food waste can be tackled by grassroots initiatives, and that there is a lack of collaboration between these initiatives among each other and between the municipality.

Chapter 8: Conclusion

Current global food systems are under extreme pressure due to conflicts, an increasing population, and climate change, resulting in food insecurity. Nonetheless, global food systems themselves also put stress on the environment through intensive industrial agriculture and large global supply chains. Yet, in a world that faces food insecurity and unsustainable food practices, valuable food is still wasted.

There are however responses from society that want to tackle the problems of food waste and food insecurity, as can be seen in the city of Utrecht. Within Utrecht there are three grassroots initiatives that address these problems: Taste Before You Waste, Buurtbuik and The Barricade. This research aimed at addressing how these grassroots initiatives try to reduce food waste, while highlighting their impact, which is done through answering the following research questions: *“How do grassroots initiatives try to reduce food waste and what is their impact in Utrecht?”*

The results show that grassroots initiatives in Utrecht try to reduce food waste by either dumpster diving food; by picking up food from local stores, which would otherwise have been thrown wasted; or by doing both. Through this, the initiatives also focus on several levels of creating awareness about food waste. Although Buurtbuik does not actively try to make visitors aware this is still done when volunteers pickup and cook with food that would otherwise have been thrown out. In contrast to this, Taste Before You Waste and The Barricade do try to make visitors aware by giving a little speech every week, which highlights that the dinner is made with saved food.

Nonetheless, the impact that these grassroots initiatives have on changing food systems is limited, which is in contrast to what some state on their websites. Since the efforts of the initiatives ultimately do not reduce excessive food production, one may claim that they are only

a form of symptom relieve. Moreover, the impact that the initiatives have are also often reduced to the neighbourhoods in which they provide people with a free meal or with free groceries. Concluding, in order to make a bigger impact, initiatives should stimulate collaboration with each other, and with governmental bodies, such as the municipality.

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Appendix A

Interview questions Taste Before You Waste

Opening

1. Could you tell me something about yourself?
 - Who are you, what do you do in daily life?
2. How did you get in contact with TBYW?
 - For how long have you been active at TBYW?
 - Why did you become a volunteer at TBYW?
 - What are your own opinions towards food waste?
3. In what kind of activities are you often involved in?

Key questions

4. Could you tell me something about how TBYW started?
5. Could you tell me something about the structure of TBYW?
 - Do people have certain roles within TBYW?
 - How does TBYW finance themselves?
6. Could you tell me something about the kind of activities that TBYW do?
7. Besides the wasteless dinners on Saturday in the ACU, what are some other activities of TBYW?
8. The website of TBYW mentions that the organisation is activist. Could you explain to me in which sense TBYW is activist?
 - What does activism mean to you?
9. Could you give me some examples of some activities that show the activist character of TBYW?
10. How does TBYW make people aware of food waste?

11. How does TBYW relate to other organizations/grassroots initiatives that try to reduce food waste?
 - Does TBYW collaborate with other organizations/institutions/initiatives?
12. How does it differ from other organizations, such as The Barricade and Buurtbuik?
13. How is it similar to other organizations, such as The Barricade and Buurtbuik?
14. What, in your opinion, are some of the successes of Taste Before You Waste?
15. What are some ways in which the organization could improve/what are some burdens for the organization?

Closing

16. What are your opinions of the policies of the municipality to tackle food waste?
 - Do you think it is enough?
17. What would be needed according to you, to make the world food waste free?
18. Is there anything that you would like to add?
 - Do you have any questions?

Appendix B

Interview questions volunteers The Barricade

Opening

1. Could you tell me something about yourself?
 - Who are you, and what do you do in daily life?
2. How did you get in contact with The Barricade?
 - For how long have you been active at The Barricade?
3. Why did you become a volunteer at The Barricade?
 - What are your own opinions towards food waste?
4. In what kind of activities are you often involved in?

Key questions:

5. Could you tell me something about how the Barricade started?
6. Could you tell me something about the structure of the Barricade?
7. Do people have specific roles within the organization?
8. Could you tell me something about the activities that the Barricade organises?
9. How does the Barricade try to make people aware about food waste?
10. How does the Barricade finance itself?
11. The website of the Barricade mentions that it is an anarchistic initiative. Could you explain to me what this entails?
 - How is it expressed in practice?
12. What are, in your opinion, some of the successes of the Barricade?
13. What are, in your opinion, some of the obstacles for the Barricade?
14. Which improvements can there be made within the group?

15. If you would compare the Barricade with Taste Before You Waste and/or Buurtbuik, what are the differences in your opinion?

16. What are the similarities between these groups?

Closing

17. What are your opinions of the policies of the municipality to tackle food waste?

- Do you think it is enough?

18. What would be needed according to you, to make the world food waste free?

19. Is there anything that you would like to add?

- Do you have any questions?

Appendix C

Interview questions volunteers of Buurtbuik

Opening

1. Could you tell me something about yourself?
 - Who are you, what do you do in daily life?
2. Could you tell me something about how you got into touch with Buurtbuik?
 - For how long have you been active?
 - What kind of activities are you involved in?
3. Why did you become a volunteer?
 - Voor hoe lang ben je actief?
4. Waarom ben je een vrijwilliger geworden bij de Buurtbuik?
 - Wat is je eigen mening als het gaat om voedselverspilling?
5. Bij wat voor soort activiteiten ben je vaak betrokken bij de Buurtbuik?

Key questions:

6. Could you tell me something about how Buurtbuik started?
7. The website of Buurtbuik mentions three focus points, could you tell me something about this?
 - How does Buurtbuik express this?
8. Could you tell me something about the structure of Buurtbuik?
 - Could you tell me something about the board of Buurtbuik?
 - Could you tell me what the task of a day coordinator entails?
9. Zou je me wat kunnen vertellen over hoe de Buurtbuik is gestart?
10. How does Buurtbuik finance itself?

11. How does he Buurtbuik make people aware about food waste?
12. What are, in your opinion, some of the successes of Buurtbuik?
13. What are in your opinion some of the obstacles of Buurtbuik?
14. If you would compare Buurtbuik with other initiatives in the city, such as TBYW/The Barricade, what are according to you some of the similarities and differences?

Closing questions

20. What are your opinions of the policies of the municipality to tackle food waste?
 - Do you think it is enough?
21. What would be needed according to you, to make the world food waste free?
22. Is there anything that you would like to add?
 - Do you have any questions?

Appendix D

Interview questions visitors Taste Before You Waste, The Barricade and Buurtbuik

Opening

1. Could you tell me something about yourself?
 - Who are you, and what do you do in daily life?
2. Could you tell me something about the way you got in touch with Taste Before You Waste/The Barricade/Buurtbuik?
3. Could you tell me something about the type of events you visit from Taste Before You Waste/The Barricade/Buurtbuik?
4. What kind of people join these events?
 - Young – old people
 - Political activist people
 - People that are already conscious about food waste
5. How often do you visit an event of Taste Before You Waste/The Barricade/Buurtbuik?

Key questions

6. Are there any particular reasons why you join these events?
 - Connecting with people
 - Having free dinner
7. Fighting food waste is a topic that is closely related to Taste Before You Waste/The Barricade/Buurtbuik: in which way does the organization express this?
8. What are the main similarities between Taste Before You Waste/The Barricade/Buurtbuik in your opinion?

9. What are the main differences between Taste Before You Waste/The Barricade/Buurtbuik in your opinion?

Closing

10. Besides visiting events of Taste Before You Waste/The Barricade/Buurtbuik, do you visit any other events that are related to reducing food waste?
11. Are there any other ways in which you try to reduce food waste?
12. Is there anything that you would like to add?
 - Do you have any questions?