

MASTER'S THESIS FOR THE ENVIRONMENT AND
SOCIETY STUDIES PROGRAMME

Urban food: exclusive or accessible?

**Exploring inclusiveness of
urban food initiatives in their
accessibility for local residents**

Colophon

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Author: Eveline Rog

Student number: s1021802

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Faculty: School of Management

University: Radboud University, Nijmegen

Supervisor: dr. Rikke Arnouts

Second reviewer: dr. Mark Wiering

Internship: Rural Sociology, Wageningen University

Supervisor: dr. Martin Ruivenkamp

Credits photo front page and title pages chapters: author

Radboud University



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Preface

This thesis is the completion of my master's Environment and Society Studies at Radboud University. I started this research because I noticed that not everyone in society is included in current transitions towards a more sustainable future. Since I am passionate about sustainable and healthy food, I was highly motivated to do this research, in order to increase the potential for equitable change.

When I started this research project at the beginning of this year, I never expected the world to change so rapidly and how it affected me on both a personal and professional level. Covid-19 and the accompanying crisis showed more than ever the urgency of making a transition towards a sustainable, healthy and just food system. It revealed how disconnected we are from the origins of our food, but even more importantly how fragile our current international food system is. Moreover, the last couple of months showed that the fight against climate change, against overconsumption, against inequalities and racism are all the same battle: against a system of exclusion and depletion; and for diversity, equality and justice. I hope that this research can make a small contribution to this change.

I would like to use this opportunity to thank everyone who helped me during the last eight months. First, I would like to thank Martin Ruivenkamp from Wageningen University for offering me an internship and allowing me to be part of his research on urban food initiatives in Nijmegen. Our weekly conversations helped me to stay positive and to keep confidence in my own process and work. Secondly, I would like to thank my thesis supervisor, Rikke Arnouts, for his flexibility and guidance. During our feedback sessions he always provided me with constructive feedback and critical questions, which motivated me to continue this research. Third, I would like to thank all the interviewees and their organisations for providing me different perspectives and opinions on urban food initiatives in Nijmegen. I would also like to thank all the respondents took the time to answer the questionnaire.

Last but not least, I would like to thank my friends and family for their mental support and feedback, especially when I needed it the most. Thanks to mum and dad for your support even when we could not see each other. Thanks to Bella and George, the "Good food for all" group, for your feedback and support during our group sessions. A special thanks to Lex for your unconditional support and motivational speeches, even when we were stuck together in our little apartment. Without the help of all these people the result would not be the same.

I hope you will enjoy reading my thesis!

Eveline Rog
Nijmegen, September 2020

Summary

In today's discussion on urban sustainability issues, food and agricultural practices are getting more attention because of an increasing awareness of the city as being food productive rather than a mere consumer. Most urban food initiatives emerge from an urge to oppose the conventional, unsustainable food system and instead attempt to contribute to sustainable and just food system. One of the main aims of urban agriculture (UA) is to address food security issues by making locally produced foods more accessible. However, such urban food initiatives seem to be something that is only reserved for a specific social-economic group. Often lower income groups do not have access to these practices for various reasons, such as product price or distance to these locations. Nevertheless, if society aims to make a transition towards a sustainable and inclusive food system, access for all individuals need to be ensured.

Therefore, this research focuses on how urban food initiatives address accessibility and how inclusive they are in practice, which leads to the following main question: *To what extent are urban food initiatives inclusive in their accessibility for local residents?* In order to answer this question, this research uses three cases in the municipality of Nijmegen: Van Tuin tot Bord, Het Heerlijke Land and food forest Novio. Based on literature on food justice, food security and food sovereignty, an accessibility framework is created to research the accessibility of these UA initiatives from three perspectives: physical, economic and social accessibility. Each of the three perspective has its own indicators to research the initiatives more easily. Moreover, both initiator and participant perspectives are central in this research, therefore both qualitative and quantitative methods are used.

In the end, the main answer to the research question is that urban food initiatives seem to be more accessible for local residents to participate than expected beforehand, with the exception of food forest Novio. Both Het Heerlijke Land and VTTB aim for a social function, next to the production of sustainable food. They focus on bringing healthy and sustainable food to local residents, each in their own way. On the contrary, food forest Novio does not aim for such a social function, which could partly explain their issues with accessibility. Moreover, the current struggles are its open character that is negatively affecting its development and the long period of time before a food forest is matured and harvest is possible. These kinds of developments have a negative effect on public support from the neighbourhood and, therefore, its accessibility and potential to include a wider audience. Based on these results, the main strategy to increase accessibility and inclusiveness seems to be to overcome the gap between ecological sustainability and social sustainability.

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A photograph of a garden scene. In the foreground, there are several large, rounded green leaves of a plant, possibly a type of cabbage or leafy green. To the left, there are some yellow flowers on thin stems. In the background, there is a large, leafy tree and a brick wall. The text "Chapter 1" and "Introduction" is overlaid on the image.

Chapter 1

Introduction

1. Introduction

This first chapter introduces this research. It begins with a short overview of the current food system and the necessity of urban food (1.1), followed by an explanation of the problem statement on which this research is based (1.2). Section 1.3 addresses the main research question and sub-questions. Sections 1.4 and 1.5 discuss the societal and scientific relevance of this research. Finally, section 1.6 provides a reading guide for the following chapters of this research.

1.1. Need for urban food

The ability to ensure a reliable, healthy and accessible food system for a rapidly growing urban population, while at the same time limiting contributions to climate change and depletion of resources, is one of today's most complex problems (FAO, 2019a; UN, 2019). The current food system is responsible for around one third of the world's greenhouse gas emissions (GHG), as well as loss of biodiversity, pollution of land and water, deforestation and destruction of important ecosystems (Vermeulen et al., 2012; Horton, 2017). This system not only has a negative effect on the environment, but it also poses risks to human health such as malnutrition and obesity (EAT, 2019). In addition, a variety of pressures, including ongoing urbanisation (it is estimated that by 2050 68% of the world population will live in urban areas (UN, 2017)) and the growing demand for natural resources, are threatening the ability of the current food system to provide healthy and nutritious food in an inclusive and sustainable way (Eigenbrod & Gruda, 2015; Albrecht & Smithers, 2017). Therefore, new solutions and a reorientation of current agricultural practices are necessary to reduce pressure on both nature and humanity (EAT, 2019).

At the same time, food and agricultural practices are getting more attention in today's discussions on urban sustainability issues (Levkoe, 2006; Ladner, 2013). Firstly, urban agriculture (UA) is making a reappearance in the food discourse because of an increasing awareness of the city as being food productive rather than mere consumer (Steel, 2008; Albrecht & Smithers, 2017; Wertheim-Heck & Lanjouw, 2019). Secondly, the attention for urban food further increased due to the appearance of new urban food initiatives, such as vertical farming and community-supported agriculture. Due to these kinds of developments, attention for urban produced food is increasing.

Urban food is often identified as an important component of urban sustainability because it has the potential to add more green spaces to cities, which can mitigate environmental problems like heat islands or floods. This is important to decrease environmental impacts in urban areas, because cities are increasing centres of economic development in the world. This makes them more vulnerable when a disaster strikes because there is more to lose (Satterthwaite et al., 2010; Kopyawattage et al., 2019). At the same time, cities accommodate the majority of the world's population, which suggests that the impact is higher during a disaster. Furthermore, urban areas represent an ideal environment in which to first implement changes and many experts are available to formulate innovative practices that promote these kinds of transitions (Van der Heijden, 2014; C40 Cities, 2019).

The simple definition of urban food or urban agriculture (UA) is food that is produced in urban areas (Bohn & Viljoen, 2017). However, it focusses not only on production, but also creates a variety of benefits for consumers, especially for local residents. UA is often characterised by its recreational and educational purposes and ability to create and sustain local communities (Pearson et al. 2010; Hamilton et al. 2014; Mok et al. 2014). Notwithstanding, in the last couple of years it has increasingly been used as a tool to address accessibility issues of food in low-income neighbourhoods. UA has the potential to increase access to healthy and nutritious food, because of its local and sustainable approach (Doron, 2005; Alaimo et al.,

2008). Moreover, it does not focus on making huge profits like conventional agricultural practices, but instead strives to be part of a sustainable, healthy and inclusive food system (Bohn & Viljoen, 2017). Thus, UA seems to be a rather inclusive movement, although its practical implementation may not live up to its theorised ideals. Therefore, more research is needed to understand if it has the potential to make the food system more sustainable and socially just.

1.2. Research problem statement

Many scholars have shown that vulnerable neighbourhoods in urban areas often have insufficient and inconsistent access to healthy and sustainable food, which can cause health, environmental and social issues for its residents (Alkon, 2008; Raja et al., 2008). The urban food movement could partly fill this gap, although, in reality it seems to be something that is only reserved for a specific social-economic group. Currently, urban food is often only accessible for a more privileged class, but low-income groups often do not have equal access to these practices for various reasons, such as affordability and geographical proximity. Moreover, consumers who regularly purchase local food are often more concerned with environmental problems and participate actively in the debate (Alkon, 2008; Olsson, 2018). These kinds of issues often exacerbate social disparities and raise questions regarding the realisation of an inclusive transition towards a sustainable food system, and how access for all citizens, regardless of ethnicity, income or education level can be ensured.

If UA (and other alternative food practices) continue to serve only the privileged, it has the potential to lead to a situation in which only low-income groups are impacted by the problems created by the industrialised food system, because they cannot participate in sustainable alternatives (Kennard & Bamford, 2020). To overcome this exclusion in the accessibility of urban food practices, scholars opt for a focus on food justice in this debate (Poulsen, 2016). Food justice “*seeks to understand how inequalities of race, class and gender are reproduced and contested within food systems*” (Glennie & Alkon, 2018, para.1). Strategies to improve inclusion within the food system entail, for example, shortening the distance between producer and consumer. Food justice scholars believe that this kind of solutions would provide alternative sources of food and allow consumers to have more direct control of their food (Loo, 2019).

However, despite the intentions to incorporate food justice strategies and the aim of urban food practices to also serve low-income groups, they remain more accessible for high-income consumers (Allen & Wilson, 2008). Further research indicates that there is a lack of participation of low-income consumers in urban food practices, despite efforts from initiators to include them by making it more affordable. This can relate to the geographical location of an urban food practice, because urban food initiatives tend to be only rarely located in low-income neighbourhoods, or physical barriers like gates that can reduce accessibility (Dimitri et al., 2016; Guthman, 2011). Thus, recent strategies to improve the accessibility for low-income consumers, do little to diversify participation.

Therefore, this research focuses specific on how urban food initiatives address accessibility and how it works out in practice for local residents. It aims to research the tension between UA being elitist or widely accessible for the majority of people in society. Academic literature indicates that affordability is one of the main issues why it is only accessible for a specific part of society, but there could be also other barriers that exclude certain groups from UA practices. Therefore, it is interesting to research what urban food initiatives do in practice to include a diversity of people.

1.3. Research aim and research questions

This research aims to understand how urban food initiatives address accessibility in practice and how inclusive this accessibility is for local residents. This is primarily because urban food initiatives only seem to be accessible for the privileged in society. If we aim to make a transition towards a sustainable and inclusive food system, of which urban food can be part, every social class in society should be involved. This led to the formulation of the following main research question:

To what extent are urban food initiatives inclusive in their accessibility for local residents?

To answer this research question, first the perspective of urban food initiatives on accessibility will be researched to see what kinds of general considerations they have towards accessibility at first. Next, the accessibility of the initiatives will be assessed by using a framework based on three aspects (physical, economic and social) that addresses food accessibility based on literature on food security, food justice and food sovereignty. This framework is used to see how the urban food initiatives bring accessibility into practice. Since the main aim of this research is to see how inclusive these initiatives are in practice, it is also important to look at possible barriers that exist for local residents to participate. Even more important is to investigate the degree of solutions of UA practices to these barriers to make it more inclusive for a variety of local residents. Both barriers and solutions will also be discussed in the light of the accessibility framework. This led to the formulation of the following sub-questions that will be examined throughout this research:

1. What perspective do urban food initiatives have on accessibility?
2. How do urban food initiatives bring accessibility into practice?
3. In terms of accessibility, what kind of barriers – if any exist – hamper the participation of local residents in these initiatives?
4. If such barriers appear, to what extent do urban food initiatives change their accessibility to make it more inclusive for local residents?

1.4. Scientific relevance

Recently, discussions on feeding the city and urban food production have been gaining attention in the scientific field (Morgan, 2014). Food practices have long been neglected in urban studies and planning, although, it can play a central role in sustainable urban development in strategies to feed the urban population in an environmentally, socially and economically sustainable way (Viljoen & Wiskerke, 2012). Furthermore, scientific disciplines such as Urban Agroecology are growing and getting more and more attention (Francis et al., 2003; Gliessman, 2013). The current food system planning theories are evolving rapidly due to new conceptual developments such as Continuous Productive Urban Landscape (CPUL), which is a design strategy that opts for a contribution of UA to a more sustainable and resilient food system. Their main aim is to put the food system back into urban planning (Morgan, 2014; Wiskerke & Viljoen, 2012).

In the academic literature on UA, there is a strong focus on its benefits, and one of them is its ability to improve food access among low-income communities in urban areas. However, there are still a few studies which investigate the impacts of improving food security in low-income neighbourhoods. Also, current research is mainly focused on the production side, and therefore more research is necessary to understand and overcome barriers of accessibility for consumers (Siegener et al., 2018). Therefore, this thesis focuses on how urban food initiatives address accessibility and how this works out in practice for local residents. This research is supported by three cases in Nijmegen that represent three broader types of UA: food forestry,

community gardens and CSA. The outcomes of this research could be applicable to similar UA initiatives in different context when addressing accessibility issues.

1.5. Societal relevance

The societal relevance of this thesis rests on the notion that eating is one of the most primary necessities of human life. However, consumers have distanced themselves from the origins of food due to highly industrialised and globalised food production. A reconnection between humanity and food production can help the transition towards a sustainable food system (Steel, 2008). Also, the issue of how to feed a rapidly growing (urbanised) population is highly societally relevant in this research.

Moreover, this thesis is part of the researcher's internship at the Rural Sociology department at Wageningen University, which investigates a range of topics including issues related to food and the city. This research specifically contributes to a larger research on food initiatives in Nijmegen under the supervision of Martin Ruivenkamp, who is focusing on Nijmegen as a City Region. This concept can be used as a new practice to think about a more sustainable food strategy and to strengthen the relation between urban and rural areas. In September 2019 the programme *Eetbaar Gezond Groen* (Edible, Healthy, Green) started to map food provisioning initiatives in and around Nijmegen and how they are interrelated. The main aim is to work towards a possible food strategy for the municipality of Nijmegen. This thesis contributes to the consumption side of this research, since it aims to investigate the accessibility of food initiatives in Nijmegen for its residents.

1.6. Reading guide

In the following chapter, relevant theories and concepts underlying this research are defined. Additionally, the links between the different theories are explained in the conceptual framework. In chapter 3, the research methodology, including introduction of the cases, are described. Chapters 4, 5 and 6 show the results and analysis of the gathered data. Finally, chapter 7 contains conclusions and discusses the results of this research.



Chapter 2

Literature review and theoretical framework

2. Literature review and theoretical framework

This chapter is the theoretical core of this research. Therefore, the first part consists of a definition of urban agriculture (2.1). The second part further discusses academic literature on food security, food justice and food sovereignty (2.2). This chapter ends with a conceptual framework (2.3) of accessibility of urban food which will be used to identify the degree of accessibility of the three cases in this research.

2.1. Urban food

First, it is necessary to examine the relationship between food and the city so as to establish the fundamental reasons for the reappearance of urban food initiatives. The following sections are an effort to identify a comprehensive definition of urban food, including its foundations and motives.

2.1.1. Relationship between food and the city

Food is the most essential and basic resource for humanity to live their lives, without food we would simply not survive. However, Western societies have lost their connection to the origin of food due to industrialisation, modernisation and increasing dominance of supermarkets, all of which are developments that accelerated after the Second World War. Especially in Western countries, consumers take food for granted and the production of food is often highly industrialised (Steel, 2008; Wiskerke & Viljoen, 2012). However, food can be a powerful tool to make the world a better place, since it is our first and most important connection with nature.

This dichotomy between people and food is part of a wider discussion on the dualism between humanity and nature. According to different scholars, this dualism can be seen as the root cause of our current environmental problems and unsustainable behaviour (Caillon et al., 2017; Dorninger et al., 2017). Therefore, the call to reconnect with nature is increasing, from both scholars and civil society, to overcome environmental deprivation and to facilitate societal transformation towards sustainability (Ives et al., 2017). This same idea can be applied to the transformation of the food system. If we reconnect to the origins of food, people will become more aware of the impact of their consumption and realise the urgent need for transition. Giving this responsibility back to the consumer is essential to overcome this dichotomy and to act on the environmental and health impact of the current food system (Wertheim-Heck & Lanjouw, 2019).

The relationship between humanity and food is not the only relationship that is under pressure, because the connection between food and cities is important when talking about urban food. This relationship is actually very old, because the establishment of settled agricultural practices enabled formation of urban areas. Cities were partly formed by the way food entered the city. According to Steel (2008), this changed during the industrialisation of the 19th century and, for a long time, agricultural practices have not been a part of cities and urban planning agendas. She advocates for a re-valuation of the origin of food in which we return to the idea of feeding ourselves from the local hinterland. The solution lies in the maximisation of the urban-rural connection to understand the value of food again. Therefore, a reconceptualisation of the way food shapes our lives is necessary to bring food production back in and around the city, as Steel (2008) argues.

Furthermore, urban areas are especially interesting when it comes to food since modern cities are seen as places for consumption of food and not as a food production place. Everyday an enormous amount of food enters the city which requires a good organisational capability (Wertheim-Heck & Lanjouw, 2019). The fact that urban areas are not seen as a place for food production, partly led to the disconnection between producer and consumer. New food movements, such as urban food, try to strengthen this connection between producer and

consumer and try to bring food production back into cities, which is crucial in a transition towards a sustainable and inclusive food system (Albrecht & Smithers, 2017).

2.1.2. Defining urban agriculture

The increased interest in urban agriculture (or urban food) emerged for various reasons. Some are concerned about food security issues; others are worried about the impact of current agricultural practices on the environment (Ingram, 2011; Hallett et al., 2016). However, urban agriculture is not a new phenomenon. In the Global North it was already promoted during the First and Second World Wars to make households less dependent on conventional food systems and to increase national food security (Kennard & Bamford, 2020). In the Global South, it has been integrated in the food system already for a long time and produces considerable amounts of fruit and vegetables (Pearson et al., 2010; Hamilton et al., 2014; Mok et al., 2014). After the Second World War, attention for urban food in the Global North decreased because food was not scarce anymore. Nevertheless, in the 1970s interest in UA increased again due to the emergence of environmental issues (Hallett et al., 2016). This movement continued to develop into what we know as today's urban agriculture.

One of the main goals of UA is the production of fruit and vegetables, and sometimes raising animals, in urban areas, by using organic farming principles (Bohn & Viljoen, 2017). There are various definitions of UA, although Mougeot's (2001) is the most comprehensive and widely used.

“Urban agriculture is an industry located within (intra-urban) or on the fringe (peri-urban) of a town, a city or a metropolis, which grows and raises, processes and distributes a diversity of food and non-food products, (re-) using largely human and material resources, products and services found in and around that urban area, and in turn supplying human and material resources, products and services largely to that urban area” (Mougeot, 2001, p.10).

Thus, urban food practices take place in cities or around its borders and have a clear link to the promotion of sustainability, such as the creation of green spaces which could lead to more biodiversity in urban areas. Also, UA creates a small economy in which production, processing, distribution and consumption all happens within the borders of cities. This focus on self-sufficiency of cities is one of the reasons behind the emergence of UA (Hallett et al., 2016). Moreover, it has the potential to fulfil multiple other functions besides providing healthy, sustainable food and environmental benefits. These functions are predominantly social ones, such as education, reconnecting with communities and employing local residents (Hallett et al., 2016; Horst et al., 2017).

Most of the UA initiatives derive from a desire to oppose the conventional, unsustainable food system, and instead attempt to contribute to a sustainable and inclusive food system (Mark, 2015; Bohn & Viljoen, 2017; Kennard & Bamford, 2020). It has the potential to increase the availability and accessibility of fresh and nutritious food products by creating spaces in cities for people to grow their own fruits and vegetables. They believe that these solutions provide alternative sources of food and allow consumers to have more direct control of their food system. Moreover, it can support short food supply chains and local food economies, which can lead to decreasing GHG emissions and reduce pressures on current agricultural lands (Mariola, 2008; Van der Ploeg, 2010). Thus, UA can be seen as an approach that contributes to food security in cities and, therefore, can provide healthy and nutritious food for everyone (Ingram, 2011; Kennard & Bamford, 2020).

Table 1 Types of Urban Agriculture.
Source: Kennard & Bamford, 2020.

Private	Public	Commercial
Backyard gardens; balcony; etc.	Community gardens; public food forest; guerrilla gardening	Community-supported agriculture (CSA); rooftop farming; indoor farming (aquaponics, etc.)

In the UA literature, a division is often made between different types of urban agriculture initiatives. Private, public and commercial urban agriculture are identified as different types (see table 1; Kennard & Bamford, 2020). Private urban agriculture is defined as households who grow their vegetables and fruits in their own garden but is not included in this research (Alaimo et al., 2008; Kennard & Bamford, 2020). A second type is public UA, which is characterised by its educational function and can create more cohesion in neighbourhoods

(Doron, 2005). These types of UA are often non-profit and therefore dependent on subsidies and donations to be able to operate (Siegnier et al., 2018). Finally, commercial urban food initiatives mainly focus on producing and selling their products to consumers. Their main aim is to move away from the conventional food system and to improve access to healthy and nutritious food (Kennard & Bamford, 2020). Thus, UA entails a great diversity of practices, but maintains a singular focus on *“reconnecting with the community through food, jobs and economic development”* (Siegnier et al., 2018).

However, the risk of UA without an equality lens is that it could reinforce structural injustices and racism; and negatively impacting communities they aim to serve, because it is part of a capitalist system. Existing structural and historical challenges, such as institutional racism, poverty and disinvestment in specific neighbourhoods are increasingly recognised as root causes of current unequal access to healthy food (Ramirez, 2014; Alkon & Guthman, 2017). Moreover, land for UA initiatives in cities is often in tension with affordable housing and other city planning priorities. *“Because of the persistent legacy of systemic discrimination, it is neither inevitable nor guaranteed that urban agriculture will redress food system inequities; in fact, urban farms can sometimes lead to displacement through eco-gentrification”* (Siegnier et al., 2018). Urban food systems do not cause these structural inequity issues on their own, but it is important to acknowledge the context within which UA is operational and how it can potentially decrease inclusion in the food system by making it less accessible to certain groups (Allen, 2010).

2.2. Perspectives on access to urban food

In order to understand how food accessibility and UA are connected, this research tries to bring together academic literature on inclusiveness and justice in relation to food. Theories on access to food and inclusiveness of urban food practices, are closely related to food security, food justice and food sovereignty and have different but overlapping vision on accessibility issues (Mares & Alkon, 2011; Ingram, 2011; Siegnier et al., 2018). Common to these perspectives is the notion that just food systems are ones in which all segments of the population have access to healthy food (Glennie & Alkon, 2018). All emphasise greater control over both food production and consumption by people who have been marginalised by the conventional food system by focusing on the local level (Cadieux & Slocum, 2015). However, they differ slightly in how they approach food access issues and inclusiveness. Therefore, this section will deal with these three bodies of literature and their relation to inclusiveness and accessibility, which is the basis where the conceptual framework can build on.

2.2.1. Food security

Food security literature often has an anti-hunger approach and focusses mainly on access to urban food for low-income consumers (Mares & Alkon, 2011). The Food and Agriculture Organisation (FAO) defines food security as “*all people, at all times, have physical, economic and social access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life*” (FAO, 2019b, p.24). This definition puts the notion of access to food to the centre stage and divides it into physical, economic and social accessibility (Ingram, 2011). This division of different perspectives will also be used in the next section as a basis for the conceptual framework.

Food security practices focus on the development of a local community to become self-sufficient, often by the development of alternative local food systems rather than increasing consumption of industrially produced food. By doing so, the food security movement tries to strengthen local food systems including increasing the ability for low-income groups to participate (Alkon, 2015). Moreover, it seeks to reconnect producer and consumer to ensure an inclusive and accessible food system (Mares & Alkon, 2011).

Although issues of accessibility are central to food security, it is criticised by Anderson and Cook (1999) who argues that such issues lack a theoretical basis. Moreover, as Slocum (2007) argues, people conducting research from this perspective tend to be white and middle-class. The food justice movement reacts to this whiteness and is discussed in the next section.

2.2.2. Food justice

Food justice is often defined as a lens “*to look at race, class, and gender inequalities in all aspects of the food system - production, distribution, and consumption - as well as the various efforts to reduce them through social movements, state policies, entrepreneurial initiatives, and social practices*” (Glennie & Alkon, 2018, p.9). This movement focuses mainly on the transformation of the current food system through the creation of local alternative food initiatives in low-income communities of colour, which are often subsidised (Cadieux & Slocum, 2015).

The concept of food justice emerged from different social and environmental justice concerns that emphasised the cultural, racial and socio-economic inequalities within the conventional food system (Mares & Alkon, 2011; Moragues-Faus, 2017). It is a movement that is mainly active in the United States where it focuses on race and ethnicity. However, it also became established in Europe where it is more focused on income inequalities. Moreover, its main focus is to urban contexts rather than rural ones, and, therefore, is applicable to urban food issues (Cadieux & Slocum, 2015; Glennie & Alkon, 2018; Sherriff, 2019).

The food justice movement mainly focuses on including low-income communities of colour in making the food system more accessible. However, the movement does have its limitations, as Allen & Wilson (2008) point out:

“Effecting food justice is regularly constrained in actual practice regardless of the intentions of the actors [...] because of the need to work within the constraints of the current political economic system along with a push towards neoliberal forms of governance. One result is that the alternatives being developed are much more accessible to relatively more privileged people, despite intentions to the contrary” (Allen & Wilson, 2008, p.158).

Therefore, the efforts of food justice practitioners can be undermined as a result of the neoliberalist structure’s promotion of unaffordable (sustainable) food. Moreover, according to Cadieux and Slocum (2015), the movement has the tendency to be theoretical, while it is important that it is connected to practice otherwise it will be difficult to pursue.

2.2.3. Food sovereignty

Food sovereignty differs from the previous two concepts as it addresses more fundamental inequalities related to food and proposes democratic control over the food system by local people. It is originally a global equity movement, developed by the peasant organisation La Via Campesina which has its roots in Latin America. It started as a reaction to the increasingly globalised and industrialised food system and aims to recreate an autonomous food system based on inclusiveness, justice and ecological sustainability (Pimbert, 2009; Torrez, 2011). It mainly focuses on rural areas, although it can also be applied to urban areas. In this case, it can help communities in cities to become more in control of their own food (Block et al., 2012).

Both food security and food justice are still part of neo-liberal structures and focus on individual consumption instead of the collective. By contrast, food sovereignty is opposed to neo-liberalism and declares the rights of local people to define their own food system in order to respect their own living environment (Mares & Alkon, 2011; Torrez, 2011). Therefore, community self-sufficiency and self-determination are important components of food sovereignty. Moreover, this movement is often seen as a critical alternative to food security, because food security views the current problems of the food system as being a result of insufficient trade whilst food sovereignty views the problem as being a result of privileged access (Wittman, 2011). Nevertheless, these three concepts all have their own perspectives on accessibility issues and inclusiveness of UA practices which will be used to create a conceptual framework in the next section.

2.3. Conceptual framework

Based on the previous theories on accessibility and inclusiveness, the following distinction between three main perspectives including accompanying indicators has been made.

2.3.1. Physical accessibility

In this research, physical accessibility refers to possible barriers to accessing UA initiatives in the physical environment including accompanying solutions. Indicators of this first perspective are location of UA and availability of food products.

Location

Location is related to the geographical proximity of urban food initiatives, their visibility, and closeness to neighbourhoods (Block et al., 2012). Citizens are more likely to participate in urban food initiatives if the distance is minimal, because less effort is needed to visit these places. Shortening the physical distance between farmers and consumers is not only convenient, but it can also be a means to improve the ability of consumers to influence the way in which their food is grown and distributed (Macias, 2008; Sieger et al., 2018; Loo, 2019). Placing UA initiatives close to or in neighbourhoods can also increase their visibility to consumers, because they are often dependent on word of mouth advertising to attract new customers which makes them reliant on people who are living nearby (Macias, 2008). Therefore, in this research the first indicator is defined as:

The closeness of urban food initiatives to neighbourhoods which is related to convenience and visibility to local residents.

However, land availability for UA is often unevenly distributed across cities due to costs and scarcity of vacant plots suitable for growing food (Guthman, 2008; Siegner et al., 2018). Minority communities are more often victims of this unequal distribution, which becomes apparent in academic literature on food deserts. These are areas or neighbourhoods in which it is difficult for residents to have access to fresh and healthy food, because of a lack of

supermarkets and grocery stores (Guthman, 2008). Minority groups tend to live more often in these kinds of areas due to structural inequalities such as racism and disinvestments (Loo, 2019). Food desert issues are often discussed by those who are concerned with food justice issues and one of the solutions from this perspective is to initiate UA projects in these kinds of neighbourhoods to create more accessibility and to include a diversity of people (Mares & Alkon, 2011). Thus, geographical proximity is important when aiming for inclusiveness in UA practices.

Availability

Increasing geographical proximity cannot solve physical accessibility issues on its own, as Santo et al. (2016) argue. Therefore, the second aspect of physical accessibility is food availability and can be divided into production and distribution. The following definition as defined by Ingram (2011) is used in this research:

The quantity, quality and types of food available through local production, including the way it is made available and how convenient this is for consumers.

Especially in urban areas the land that is available for food production is finite, which means that there is a maximum amount of fruits and vegetables that can be produced (Ingram, 2011). However, a basic daily vegetable intake is achievable to produce in cities (Siegnier et al., 2018). Types of food that are grown in urban food initiatives can be different than what is available supermarkets. It depends on external factors, such as climate and soil quality, what kind of food can be produced in urban areas (Vermeulen et al., 2012).

The second aspect of food availability is distribution, which refers to way it is made available for potential consumers (Ingram, 2011). According to Albrecht & Smithers (2017), convenience is about how easy it is for consumers to pick up their groceries, is the location is hard to find, or if it takes a long time to reach the initiative. But also, how convenient is picking up groceries at an urban food initiative compared to going to the supermarket (Albrecht & Smithers, 2017). These are the kinds of considerations consumers make when they decide to participate in an urban food initiative.

In theory, it would be possible to grow the daily intake of vegetables and fruits for minorities in urban areas (Siegnier et al., 2018). From theories on food deserts you could argue that production and distribution have to be in the neighbourhood to include minority communities, which means that location is an important factor. Several studies show that local distribution points expand the access to fresh and healthy food products for low-income households (Mares & Alkon, 2011). However, they are still unevenly distributed to minority groups in society, which could affect the inclusiveness of the initiatives.

2.3.2. Economic accessibility

Location and food availability are not the only conditions to generate access for everyone. In most cases affordability is also considered important to make it accessible in the long term (Siegnier et al., 2018). Indicators of this second perspective on accessibility are affordability and time investment and is explained in this section.

Affordability

As indicated in the introduction, the price of sustainably produced food is often seen as a barrier to buying these types of products. Therefore, affordability is an important indicator of economic accessibility of urban food. Based on Ingram (2011), the following definition is used in this research:

The combination of the purchasing power of households relative to the price of food.

However, according to Albrecht & Smithers (2017), price is often viewed as less challenging than, for example, availability or convenience issues. Most consumers who already involved acknowledge that a higher price can be justified on ground of ecological and organic production and methods and a fair price for producers (Albrecht & Smithers, 2017). Nevertheless, there is still a group of consumers for whom the price can control their ability to buy it.

According to Macias (2008), the link between rising food prices and the number of food insecure people emphasises the importance of the food affordability for every consumer. These costs of urban produced foods are often in tension with the already high cost of urban living, which excludes especially low-income communities in certain parts of the city. Often food banks fill in these significant access gaps, but these customers often have poor nutrition and diet-related diseases. UA could do this better if it was made more affordable, because it can connect people to healthy food in their own neighbourhood (Siegnier et al, 2018). Moreover, the combination of high costs of urban living and high prices for healthy food means that unhealthy options are often more affordable and accessible for low-income households (Daftary-Steel et al., 2015).

Urban food initiatives have the potential to reduce food insecurity, but solutions to solve issues like affordability are necessary. Right now, UA often follows a corporate food system model of profit maximisation and efficiency. This capitalistic approach limits these initiatives in achieving more radical and transformative goals, because they need to make profit (Siegnier et al., 2018). On the other side, UA often strives to solve a range of societal issues next to producing food, which is challenging when you also aim to provide food access to vulnerable communities (Biewiener, 2016). According to Daftary-Steel et al. (2015), urban food initiatives cannot simultaneously address societal issues, provide healthy food to low-income households and generate a sustainable income for the producer, without significant funding or donations. This causes tension between the goal to reduce food insecurity and the capitalist system it is part of; solutions are necessary (Daftary-Steel et al., 2015; Biewiener, 2016).

Alternative economic models can be part of the solution, because they are based on social values instead of monetary values and are characterised by gifts, exchange, sharing, etc. (see Gibson-Graham (2008) for more information on alternative economic models). Direct participation of consumers in UA practices, such as working in community gardens can be an example of an alternative economic model. Citizens grow the vegetables themselves or help a farmer, instead of paying for the products (Santo et al., 2016). Although in this case, the initiative still has to be physically proximate which means both costs and location are relevant to boost accessibility and to include a diversity of local residents (Siegnier et al., 2018).

Time investment

Another aspect of economic accessibility is time investment. Most UA initiatives provide non-processed food which often takes more time to prepare and it is often considered less convenient than going to the supermarket (Macias, 2008). According to Bellows & Hamm (2001), less obvious is this unpaid labour involved in urban food practices and therefore time investment in UA in this research is defined as:

Time invested in production, distribution, preparation and consumption of food by consumers.

Following Bellows & Hamm (2001), unpaid labour is not equally distributed in society, and could be experienced as a barrier in accessing urban food and exclude people from

participation. Especially for low-income households and single-parent households it is often considered as a barrier, because time is already scarce (Macias, 2008). Therefore, it could be argued that accessibility is not just a matter of affordability, but it is tied to deeper structural inequalities in society like race, gender, socio-economic status. This brings us to the last perspective, social accessibility.

2.3.3. Social accessibility

In the FAO's first definition of food security from 1983, social accessibility was not even included. Nowadays, the social perspective is recognised as an important aspect of food security (FAO, 2019b). This perspective can be identified by using different indicators, of which the most mentioned in literature are knowledge and civic participation.

Knowledge

One assumption which is often mentioned in the literature is that knowledge is one of the primary barriers of accessing (urban) food (Bellows & Hamm, 2001; Macias, 2008; Albrecht & Smithers, 2017). Knowledge about seasonal food products is important, alongside awareness about food systems including the problems it is currently facing. For example, when consumers do not know how to prepare specific kinds of fruits and vegetables, they are less likely to buy them. (Albrecht & Smithers, 2017). Based on Guthman (2008), knowledge is defined in this research as:

Educating residents about the quality, preparation techniques and values of local, seasonal and organic grown food.

This includes also educating people about 'imperfect' food products and limited choices compared to supermarkets (Albrecht & Smithers, 2017). It is also about creating awareness about local and seasonal products and about sharing knowledge on the impacts of the food system and making sustainable choices (Olsson, 2018). Moreover, it can function as an educational project in the neighbourhood, for both children and adults (Macias, 2008). This is how project *Incredible Edible* in Todmorden, England, is functioning at the moment. By bringing food in public spaces and communicating clearly about what it is, when and how it can be harvested and how it can be eaten, the possibility of (re)connecting people to the origin of food increases (Incredible Edible, 2020).

However, scholars who researched inclusiveness in food accessibility often indicate that barriers to urban food for minority groups have more to do with economic and structural indicators than knowledge about food (Glennie & Alkon, 2018). Nevertheless, especially low-income groups often suffer from unhealthy diets and do not have the knowledge and capacity to change their behaviour (Allen et al., 2017). Initiatives such as the Ron Finley project focus on educating people about healthy food by transforming vacant lots into edible gardens. His main aim is to tackle food insecurity in underserved communities in the United States by creating spaces to grow healthy food. Finley believes that urban food spaces have the potential to serve minority groups by providing healthy food, including a strong educational function (Strom, 2017; Ron Finley, 2020). These kind of educational projects on a neighbourhood level could work in creating access to urban food practices and including vulnerable groups.

Civic participation

Since UA is focused on the reconnection of producer and consumer, the participation of consumers is an essential part of it and initiators need to come up with strategies to connect to them. All the indicators discussed before includes strategies to facilitate civic participation but is not comprehensive yet. According to Siegner et al. (2018), civic participation is a

combination of different factors, including consumer and initiator perspectives. Therefore, it is defined by the researcher as:

Strategies of UA initiatives to include a diversity of local residents to participate.

There are different strategies to do this and many UA initiatives have the ambition to include a diversity of people, but this is often problematic in practice (Hinrich & Kremer, 2002). This can be related to a variety of factors, including physical and economic barriers as discussed before.

A factor that is potentially relevant, but which has not yet been thoroughly investigated is the idea that certain social groups do not feel welcome to participate in some urban food initiatives, mainly because of the existing participants (Block et al., 2012). As pointed out by Guthman (2008), UA practices increasingly became privileged white spaces which can put off low-income people or communities of colour. Urban food initiatives often fail to address issues of white privilege, as Slocum (2007) argues. She believes that this could be related to the fear within the UA movement to offend current participants or allies when embracing an anti-racist practice and calls for a general recognition within the movement for this structural problem (Slocum, 2007).

According to Guthman (2008), there are some organisations which try to not prioritise white participants to be able to include black consumers. As Siegner et al. (2018, p.19) explain: *“By placing voices of communities of color at the forefront, it can create space and/or leadership roles for disadvantaged groups within the organisational structure.”* Of course, this can also be applied to other vulnerable communities, such as low-income or low-educated residents. However, one of most important notions to remember when offering solutions to increase civic participation is to include the needs of the community itself (Block et al., 2012). Direct participation by minority groups in UA practices has the potential to enhance their food security, since it can give them a more welcoming experience, but it is important to always remember their needs and preferences (Siegner et al., 2018). Thus, civic participation is mainly about how to create an environment in UA practices that increases the potential for a diversity of participants to make it an inclusive initiative.

2.3.4. Conclusion

To conclude, accessibility of urban food can be defined by a variety of factors and this framework is a conceptualisation of this, based on the theory as outlined above. It is important to mention that this framework is not comprehensive, but it is the researcher’s conceptualisation of food accessibility. Figure 1 shows three perspectives of accessibility of urban food including their indicators. Based on this framework, data will be collected in the following steps of this research.

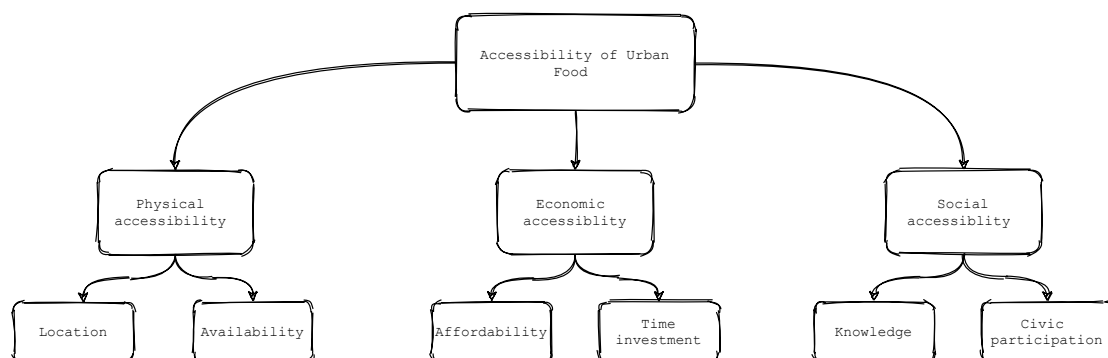


Figure 1 Conceptual framework



Chapter 3

Methodology

3. Methodology

This chapter discusses the ways in which the research answers the main research question: *To what extent are urban food initiatives inclusive in their accessibility for local residents?* This chapter begins by elaborating on the philosophical background of this research (3.1). Furthermore, it provides information on the research strategy (3.2), including more information on the cases used, its methods (3.3) and analysis (3.4). This chapter ends with a description of the validity and reliability of this research (3.5).

3.1. Research philosophy

Every academic research project is guided by a set of beliefs, which is the researchers' philosophical position. There are different kinds of paradigms in research philosophy which ranges between positivism on the one end and constructivism on the other side of this continuum. The basic beliefs of a researcher follow from answering three fundamental questions: ontological, epistemological and methodological. Ontology refers to beliefs about the nature of reality, it is about what exists. Epistemology is about the relationship between the researcher and the research and asks questions about the nature of knowledge and how knowledge is constructed. Lastly, methodological questions concern how a researcher set out to acquire knowledge in a systematic way (Guba & Lincoln, 1994).

This particular research project can be placed in between the positivist and constructivist side of the continuum, which makes it a post-positivist study. Post-positivism is a critique on the main characteristics of positivism that sees scientific research as the way to get the truth. Positivism ignores contexts and it does not include human experiences and interpretation as a scientific inquiry, which means that there is no role for reflexivity of the researcher (Fox, 2012; Trochim, 2020). However, post-positivism argues that the ways scientists acquire knowledge and how they think, do not completely differ from our everyday thinking in life as humans. Therefore, it believes that scientists are always biased by experiences and worldviews and rejects the idea that we can never completely understand each other because of these different worldviews (Trochim, 2020).

Post-positivist philosophers are critical about the ability of researchers to know reality with certainty and believe that all observations are questionable, and all theory is reversible. Therefore, it is important to use multiple methods of data collection to achieve triangulation in every research (Trochim, 2020). This research can be characterised as post-positivist, because context and human experiences are important in this research. Triangulation is also an important factor in this research since different data collection methods are used by gathering different views on each case study, look at both the initiator and the consumer sides. Since semi-structured interviews will be conducted and observations will be used, total objectivity cannot be reached, which means this research has a modified dualistic epistemology (Guba & Lincoln, 1994). There will always be some sort of interpretation of the researcher in this research.

3.2. Research strategy

The research strategy of a research follows from the ontological and epistemological perspectives and focuses on how the researcher will acquire knowledge systematically to answer the research question (Moses & Knutsen, 2012). The most appropriate methodology for this research is case study research, because its main aim is to conduct in-depth research on relevant issues in specific contexts. It aims to understand both initiator and participant's perspective by using different methods to acquire knowledge (Creswell, 2013; Harrison et al., 2017).

3.2.1. Nijmegen as a context

This research will be conducted within the context of the city of Nijmegen, because it is part of the researcher's internship which researches urban food initiatives in Nijmegen and works towards a possible food strategy for the municipality. Nijmegen is interesting, because in the last couple of years many new food initiatives have appeared in and outside the city due to the developments mentioned in the previous chapter. Furthermore, Nijmegen won the European Green Capital Award in 2018, which is an award for European cities with high environmental standards and ambitious goals for further improvement (EC, 2020). This gave rise to even more sustainable food practices in the city. However, within the policy framework of sustainability in the municipality, there is a marginal position for food and agriculture and there are no policies that directly address food issues. Additionally, the city borders of Nijmegen are the same as the built-up areas, which means there are almost no agricultural plots within the city to produce food in the conventional way (Nijmegen, 2020). The concept of city region is also interesting in this context, because Nijmegen does not see itself as a city region, because it makes a strong distinction between a city as a place for consumption and not for production. Therefore, it is interesting to investigate urban food initiatives in Nijmegen, because it is a context in which more focus is placed on the consumption side (Alison, et al., 2018).

3.2.2. Case selection criteria

Within the context of Nijmegen, three different cases will be discussed making it a multiple embedded case study with a single analytic aspect: accessibility. These cases are selected based on purposeful maximal sampling, which aims at selecting cases that show different perspectives on the issue of accessibility (Creswell, 2013). Therefore, the selection was based on their degree of accessibility which is based on a continuum between openness and closedness towards local residents (see figure 2).

Based on the case selection criteria, three different urban food initiatives in the municipality of Nijmegen will be used as subcases. These are: Van Tuin tot Bord, Het Heerlijke Land and Food Forest Novio Hees (see figure 3).

Every case has its own relation to local residents and its own perspective on accessibility. Therefore, it is interesting to look at these three initiatives and compare them with each other on their perspectives on accessibility and how this works out in practice.

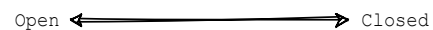


Figure 2 Continuum degree accessibility

- **Het Heerlijke Land:** is a self-harvest garden on the southern border of the city and works according to CSA principles. Participants have a subscription to the garden which enables them to harvest seasonal and organic fruits and vegetables every week. This initiative is on the closed side of the continuum because of its subscription model.
- **Van Tuin tot Bord:** is a welfare project in three neighbourhoods in Nijmegen. Currently there are five different locations with a vegetable garden and a neighbourhood restaurant. The idea is that both people from the neighbourhood and vulnerable groups can work and eat together. Their main goal is stimulating a healthy and sustainable lifestyle in the neighbourhoods. This initiative can be placed in the middle of the continuum, because it part of the neighbourhood it is located, but not always accessible.
- **Food forestry Novio:** is a food forest in the middle of the city and is part of a broader area of public green. It operates according to food forest principles which means that it is a closed and self-sustaining ecosystem with edible trees, shrubs and plants. Since it is part of a network of parks it can be placed on the open side of the continuum, because of this open character.

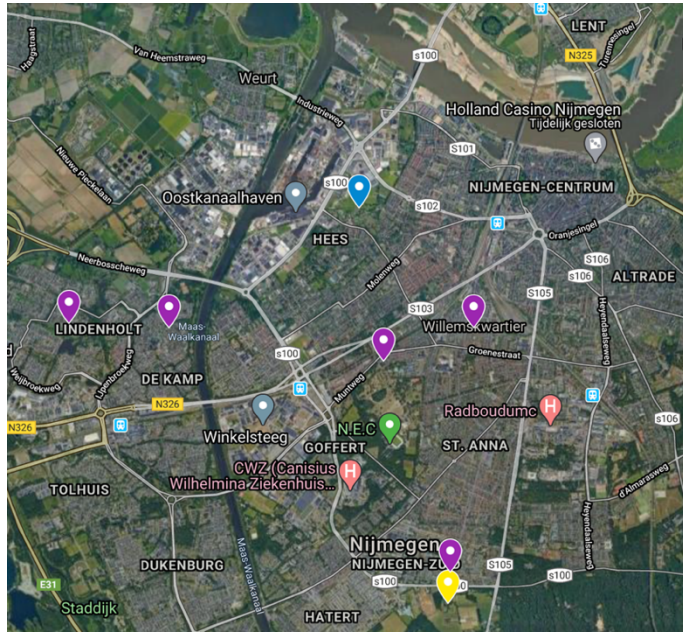


Figure 3 Map of Nijmegen with all locations of the case studies. Source: screenshot Google Maps, 2020.

Legend:

- Van Tuin tot Bord
- Het Heerlijke Land
- Food forestry Novio

3.3. Research methods

Case study research is not only a methodology but also a method. Methods are defined as the procedures and techniques that are used when conducting research (Harrison et al., 2017). According to Denscombe (2003), case study research offers the opportunity to use multiple data collection methods. Therefore, this research project uses both qualitative and quantitative research methods for data collection to include different perspectives. Besides the literature review, the semi-structured interviews and questionnaires, other forms of data collection are necessary to reach internal validity. These other forms of data collection are participant observations and desk research. In the following sections these research methods are further elaborated, before data analysis is outlined. This research consists of two parts: the first part is the initiators' perspective which is mostly covered by using semi-structured interviews as research method. The second part, the local resident perspective, is covered by using questionnaires and observations. In each method the focus is on the three perspectives of accessibility as discussed in the conceptual framework.

3.3.1. Semi-structured interviews

The first phase in the data collection process is in-depth interviews with the initiators of the three urban food initiatives in Nijmegen (see table 2). Therefore, the interviews include questions on how these initiatives address accessibility and how inclusive they are in their practices. A second person involved in the same project was also interviewed alongside the initiators themselves, to gather different perspectives and to reduce biases.

	Name interviewee	Function	Case
1.	Elly Jansen	Project manager VTTB (initiator)	Van Tuin tot Bord
2.	Romilda van der Wal	Manager VTTB	Van Tuin tot Bord
3.	Ingrid Loman	Initiator Het Heerlijke Land	Het Heerlijke Land
4.	Kien van Hovell	Owner Grootstal Estate	Het Heerlijke Land
5.	Pieter Poels	Coordinator Het Huis van Compassie	Het Heerlijke Land
6.	Ab Verheul	Initiator Werkgroep Groen Hees	Food forest Novio
7.	Wouter van Eck	Owner food forest Ketelbroek, Groesbeek	Food forest Novio

Table 2 Interviews with case initiators

In addition, interviews with neighbourhood managers and community workers in relevant neighbourhoods are conducted, to see how the initiatives are experienced by local residents (see table 3). Neighbourhood managers are assigned by the municipality of Nijmegen and focus on improvements to neighbourhoods such as liveability, safety and social cohesion. They have a better view on the daily activities in neighbourhoods and have more knowledge about the participation of residents in nearby food initiatives. Community workers are employees of the welfare organisation Bindkracht10 who are active in different neighbourhoods in Nijmegen. Their job is to make a connection between the local residents and other active organisations in the neighbourhood.

	Name interviewee	Function	Case
1.	Edwin van Haveren	Neighbourhood manager Brakkenstein, Grootstal, Hatertse Hei, Hatert	Het Heerlijke Land
2.	Marianne Mondria	Former community worker Nije Veld	Van Tuin tot Bord
3.	Dorien Baetsleer	Community worker Hees & Heseveld	Food forest Novio

Table 3 Interviews with neighbourhood managers and community workers

3.3.2. Questionnaires

The second phase of the data collection process is questionnaires which gives this research a mixed-methods character. The initial plan was to distribute a questionnaire among participants of the three different initiatives to include the perspective of the citizen side in this research. However, for the food forest this is not possible because there is not a clear group of participants since it is an open initiative. For VTTB it is not allowed to do a survey among participants, because many come from vulnerable situations. The only initiative where a questionnaire is conducted, is Het Heerlijke Land.

A questionnaire or survey consists of a list of often closed questions, although, it is possible to leave room for respondents to fill in their own answer if appropriate. The advantage of this method is that it is possible to reach a large number of respondents (Van Thiel, 2014). A questionnaire can allow more insight into how participants experience the accessibility of the urban food initiative they visit. For the purpose of this research, a questionnaire was distributed through the weekly newsletter of Het Heerlijke Land to the participants. The

questions were based on the different indicators described in chapter 2. It involved questions such as “what possible barriers are there to participate?” and “what did you do to overcome these barriers?” (see Appendix I). In the end, the questionnaire was designed and distributed by using the software Qualtrics, which is an easy tool to distribute surveys in an anonymous and safe way.

3.3.3. Observations

Additionally, to include more perspectives on the consumer side and partly as substitution of the questionnaires, observations were conducted. Participant observation is a qualitative method to collect data in which the researcher is part of the subject of study. The main purpose of this method is to get a deeper understanding of a specific situation through the experiences of participants. For this specific study, the researcher adopted the role of participant-as-observer, which means that the researcher is more an observer than a participant (McKechnie, 2012). The main aim of the observations is to gain insight into the perspectives of participants on the accessibility of the initiatives. Several observations were conducted in food forest Novio on various days and times to reach the widest audience possible. Informal interviews were conducted by asking visitors three to four questions to get a quick impression of their opinion. Questions ranged from “Do you live in the neighbourhood?” to “How do you experience this place?”. Furthermore, several observations were conducted in activities of VTTB. One observation was conducted during a neighbourhood meal in community centre ‘T Hert. The second observation was conducted during the opening hours of the community garden De Klokkentoren. Data was recorded in the form of field notes which were written down after the conversations to limit interference.

3.3.4. Desk research

Lastly, desk research is used as a data collection method. First of all, the websites of the initiatives are used to gather background information, such as goals and visions.¹ Furthermore, policy plans of the municipality of Nijmegen and annual reports of VTTB are used to check additional goals and visions. Especially for the VTTB case study, other forms of data collection were necessary, since distributing a questionnaire among participants of VTTB or asking questions during participants observation was not possible. Therefore, the initiator of VTTB sent the researcher a 2017 report carried out by an external organisation as an assignment for VTTB (Kerstens & Visser, 2017). It was an exploratory research focussed on the connection of VTTB to neighbourhood residents. This report is used in this research to get more insight in participant perspectives on VTTB and how they experience their accessibility.

3.4. Data analysis

Since this research has both a qualitative and a quantitative approach, different data analysis approaches are necessary to conduct this research. Especially in qualitative research, the role of the researcher is important, because they can influence the outcome with their values and attitudes (Denscombe, 2003). In this research, the researcher was aware of her own role and how it could influence the outcomes. Nevertheless, she tried to analyse the data as objective as possible.

¹ Websites of Het Heerlijke Land and Van Tuin tot Bord are used. Food forestry Novio does not have its own website.

3.4.1. Semi-structured interviews

All interviews were audio recorded with permission of the interviewees and afterwards transcribed for analysis. It can be more difficult to analyse this kind of research data because the researcher has to oversee and interpret a large amount of data which is often quite unstructured (Van Thiel, 2014). However, it is not impossible. Coding is often used as an organised way to analyse interviews. In this research, coding is done in an old-fashioned way by using different colours for different codes (see appendix II). The indicators as described in the conceptual framework (see 2.3) are used as codes. In doing so, comparisons between different interviews were easily made, due to the structure coding gave. Moreover, the interviews are used as anecdotal data to underpin arguments and explain different perspectives on accessibility. For language consistency, all interview quotes used in chapters 4, 5 and 6 are translated from Dutch to English.

3.4.2. Questionnaires

The questionnaire was distributed in the first week of July 2020 to the participants of Het Heerlijke Land. 35 out of 100 participants completed the questionnaire, which is a turnout of 35%. Since only one questionnaire was distributed, a statistical analysis is not necessary, because no comparison is made. Qualtrics provided reports of the answers of the participants with graphical representation and were used to analyse the answers. Moreover, some open-ended questions were included to gather anecdotal data from the participants. Some of answers are anonymously quoted in the following chapters and are translated from Dutch to English for language consistency.

3.5. Reliability and validity

Both reliability and validity are important when conducting scientific research. The reliability of a research looks at the accuracy and consistency of the variables that are measured. Reliability is always important, because the research needs to be as transparent as possible to make it reliable and to minimise errors and biases. The first aspect of reliability, accuracy, refers to the measurement instruments that are used (Van Thiel, 2014). In this thesis this will be done in the operationalisation part which shows a range of indicators of the three perspectives on accessibility.

The second aspect is consistency which refers to the repeatability of the research, which means that under certain circumstances the outcome of the research is the same (Van Thiel, 2014). However, in social sciences and especially with a qualitative approach, this can be hard to reach. Since interviews will be one of the main sources of data collection, personal opinion and the bias of the researcher could be a problem. Therefore, the data will be systematically coded, quotes will be used, and every step in the process will be documented to create transparency. Moreover, the purpose of selecting multiple cases is used to increase the reliability of the research and to provide different perspectives on the same issue: accessibility of urban food initiatives (Creswell, 2013).

There are two different types of validity in scientific research: internal and external validity. Internal validity refers to how well a study is conducted. It is concerned with different methodological tools to triangulate the research data. Triangulation is important to indicate that there is more than one method used to collect data (Van Thiel, 2014). In this thesis, several methods to collect data are used. Next to interviews and literature review, a questionnaire and participant observations are used. In addition to internal validity, external validity is important as well, because it looks at how applicable the findings of the research are to the real world (Van Thiel, 2014). Again, external validity will be strived for by coding the data, using quotes and documenting every step in the process.



Chapter 4

Het Heerlijke Land

4. Het Heerlijke Land

In this chapter the results of Het Heerlijke Land will be presented, starting with an introduction of the case including the first sub-question (4.1) and an outline of the surrounding neighbourhoods (4.2). In sections 4.3, 4.4 and 4.5 about different perspectives on accessibility (physical, economic and social), the last three sub-questions are central, using perspectives from both initiator and participants. This chapter ends with a brief conclusion (4.6).

4.1. Case description

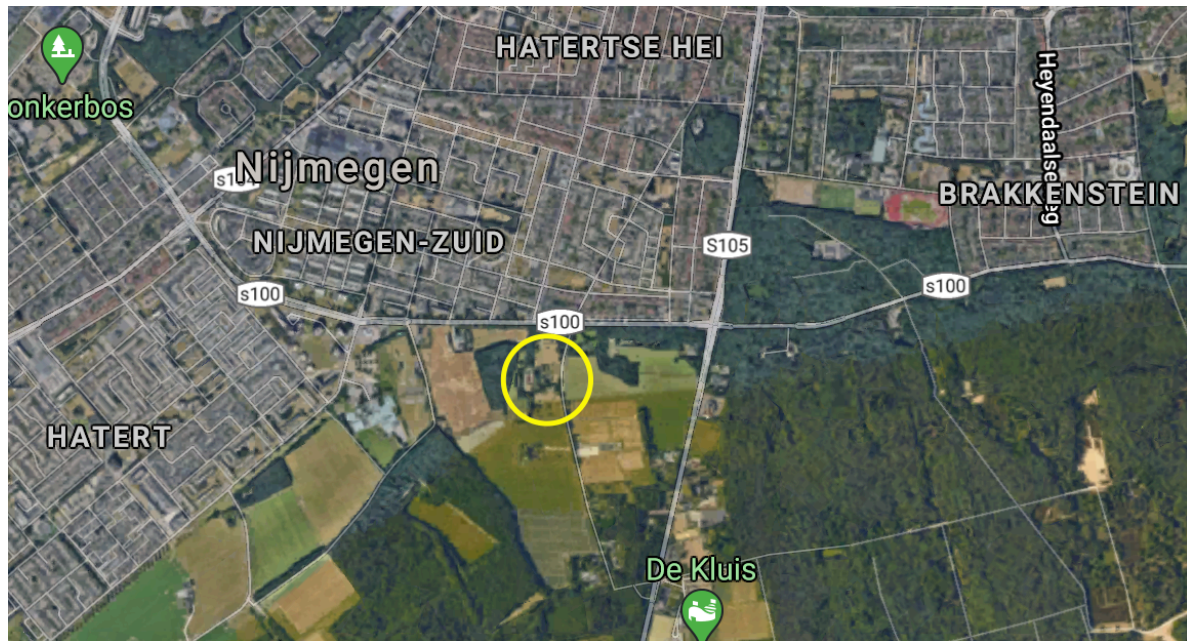


Figure 4 Location Het Heerlijke Land and nearby neighbourhoods. Source: screenshot Google Maps, 2020.

Het Heerlijke Land is a self-harvesting vegetable garden located on the Grootstal estate (see figure 4), which is a family estate on the southern border of the city of Nijmegen (technically it is located in Malden). Kien van Hövell is the formal owner of the estate which accommodates several food related initiatives: “*we actively try to connect the urban area with rural areas according to the principles of multiple value creation*”. In this light, all the initiatives on the estate focus on social and environmental aspects in their daily activities. Next to Het Heerlijke Land, there is an apple orchard, a beekeeper, a flower garden and a small shop selling regional products. Recently, a regenerative agriculture project, Bodemzicht was added to the estate (Landgoed Grootstal, 2020). Thus, a variety of entrepreneurs are actively involved in the Grootstal estate, all focussing on sustainable food production.

Het Heerlijke Land started in 2017 as a way to connect local citizens to local and seasonal food; and is built along the principles of community-supported agriculture (see box 1). Participants can buy a so-called ‘oogstaandeel’ [harvest share] at the beginning of the season which gives them access to fresh fruits, vegetables and herbs, enough for one adult to eat from the whole week. The season starts in May and ends in November and the harvest differs throughout the season (Het Heerlijke Land, 2020). Het Heerlijke Land started in May 2017 with around 11 participants. Now, three years later, there are around 100 participants and it is still growing.

The main perspective of Het Heerlijke Land on accessibility is the focus on local residents and involving them in the harvesting process by sharing knowledge about it. The initiator mainly focusses on people who are already interested in local produced food and conscious about sustainability issues. Currently, this is also the main audience that is involved in Het Heerlijke Land. Most participants come from nearby neighbourhoods and the main drivers for participation are indeed a weekly supply of local, seasonal and organic food (26%) and sustainability benefits (21%), as is indicated by the survey. Moreover, the current group can be defined as high-educated (90% completed a higher professional education (HBO) or university) and are people with high incomes (60%). This confirms the overall idea that these kinds of initiatives are mainly visited by this specific group in society.

Box 1 What is Community-supported agriculture?

“CSA is not the conception of any one person. It is a response and a solution to the disconnection that industrialized societies face from the land that feeds them. At a time when markets are almost always “super”, and “fresh” means flown from halfway around the globe, it is not easy to find a connection between the field down the street from you and the dinner on your table. CSA changes that. CSA unites people who are passionate about farming with people who are passionate about healthy food, healthy families, and a healthy earth.” (Perry & Franzblau, 2010, p.9).

Community-supported agriculture (CSA) is a locally based model that aims at reconnecting consumers with local farmers. It can be a manifestation of urban agriculture, but there are also examples of CSAs in rural areas. Consumers can join a CSA initiative by making a payment in advance of the growing season. Therefore, the farmer has capital to start the farm, to buy seeds and materials. In exchange for the payment consumers receive a share of what the farm produces every week and production and marketing risks borne by the farmer regarding are minimised. Sometimes consumers have to harvest the products themselves, and sometimes it is just a box people can pick up, depending on the farm (Cone & Myre, 2000; Ostrom, 2008). The main goal of a CSA is to promote a direct connection between local producer and consumer. It is often seen as a strategy to revitalise local agricultural economies and to enhance local food security (Ostrom, 2008). No big corporations are involved, but it is about the alliance between producer and consumer (Cone & Myre, 2000).

4.2. The neighbourhoods: Brakkenstein, Hatertse Hei, Grootstal and Hatert

The primary audience of Het Heerlijke Land come from surrounding neighbourhoods based on its main aim. *“The main reason for me to start was to involve local residents. Thus, people from nearby neighbourhoods: Brakkenstein, Grootstal en Haterse Hei. Very few to none come from Hatert.”*, the initiator explains. All these neighbourhoods are located in the south of Nijmegen and each has its own specific characteristics.

Brakkenstein can be considered as a neighbourhood with a high socio-economic status. *A large share of the residents in this neighbourhood are highly educated and have well-paid jobs. They are often interested in vegetarian diets and sustainability”,* the neighbourhood manager explains. According to the *Wijkmonitor*², Brakkenstein is a neighbourhood with high property values and very little social housing. Additionally, it is a neighbourhood with strong social cohesion: 88% of the residents feels connected to the neighbourhood and participate actively in neighbourhood activities (Wijkmonitor Brakkenstein, 2020).

² Wijkmonitor is an annual research on the current state and developments in the municipality of Nijmegen.

The neighbourhoods Hatertse Hei and Grootstal are quite similar in structure. Hatertse Hei is a quiet neighbourhood with a significant number of elderly people. It is a really mixed neighbourhood in terms of the housing stock, with both owner-occupied property and areas of social housing. There are a large number of vulnerable, low-skilled residents with different ethnicities. Moreover, there is a lack of connection between local residents and few meeting places in the neighbourhood (Wijkmonitor Haterse Hei, 2020). In Grootstal is a large share of social housing (59%) and a significant group of people with a low income. Also, there are large groups with different ethnicities in this neighbourhood who are not connected to each other. Therefore, there is some degree of unplanned segregation in Grootstal (Wijkmonitor Grootstal, 2020).

Hatert can be placed as an opposition to Brakkenstein on different levels. *“This neighbourhood has a low socio-economic status and a lot of people are living in poverty, have psychological problems and stress”*, according to the neighbourhood manager. 65% of the total housing stock in Hatert is social housing that houses a lot of refugees, singles and one-parent families (Wijkmonitor Hatert, 2020). Moreover, there is a largescale diversity of ethnicity in the neighbourhood as the neighbourhood manager explains *“imagine, there are over 10,000 people living in Hatert from 145 different ethnicities. By comparison, in a city as Amsterdam are 183 ethnicities. In Hatert all these different ethnicities are living together in one neighbourhood.”* Moreover, this neighbourhood is characterised by a high inflow of vulnerable people who leave Hatert when their situation improves, which gives the neighbourhood a vulnerable character (Wijkmonitor Hatert, 2020).

4.3. Physical accessibility

This section deals with the physical accessibility of Het Heerlijke Land, specifically location and availability. For every indicator, the starting position of the initiative, possible barriers along the way and accompanying solutions to make it more inclusive are described.

4.3.1. Location

The main perspective of Het Heerlijke Land on accessibility is the focus on people from the neighbourhood and, therefore, mainly attracts local residents. Thus, people from nearby neighbourhood were important according to the initiator, because *“I really wanted the focus to be on local people considering sustainability. People come by foot or bike, which saves a lot of energy and transport.”* The answers on the survey show this as well, 88% of all the respondents use the bike as main transport mode to visit Het Heerlijke Land. However, the respondents who do not live nearby experience the distance to Het Heerlijke Land as quite being far, which is one of the reasons to not visit it every week. This underpins the argument that citizens are more likely to participate when the distance is minimal. However, the overall judgement on the location's accessibility is good (see figure 5&6). A large share of the participants come from nearby neighbourhoods, which is also experienced as a main advantage: *“it is really nice to be part of such a valuable project, which is close to home as well.”*

However, there are also some physical barriers and the long and bumpy gravel path that leads to the garden is one of them. Especially participants who come by bike indicate this as a reason why it is less accessible for them. This is also one of the reasons why Het Heerlijke Land is less accessible for people in a wheelchair or with other physical disabilities according to the initiator. *“If they manage to reach the location, then the other obstacle is to harvest from your wheelchair which is really difficult. My idea is now to use raised boxes for herbs and flowers for the recently added ground.”* The initiator has seen this solution in other gardens, and it worked quite well. However, there are no participants with physical disabilities yet, but she thinks that they maybe will join with new adjustments and potentially including a wider audience.

Another barrier that can affect participation of local residents is its invisibility, because it is just outside the city and not really visible from the main road (i.e. Grootstalselaan). The initiator herself also thinks that she is not really visible for potential participants. *“I am not advertising actively. I also do not know how to do this. Moreover, it takes a lot of time which I do not have.”* Based on the answers of the survey, most participants became familiar with Het Heerlijke Land via friends and family. However, it is interesting to see that a significant part of the respondents indicated that they know Het Heerlijke Land because they cycled past it. Arguably therefore its visibility towards local residents is better than expected by the initiator, which has a positive effect on its accessibility.



Figure 5 & 6 Het Heerlijke Land. Photo: author.

Another aspect that is currently lacking, is the involvement of residents from every nearby. According to the questionnaire and the initiator, there are currently no participants from Hatert, which is located just on the other side of the estate and holds a majority of vulnerable communities. By initiating UA project close to these kinds of neighbourhoods it has the potential to increase its accessibility for these groups and to contribute to food security, but this is not happening at the moment. According to the neighbourhood manager of Hatert, the location of the estate is not the main problem for residents: *“the main barriers for residents to participates are the subscription fee and that they are not interested in sustainability issues.”* Thus, other factors are considered more important for people in Hatert and, therefore, other changes are necessary which will be discussed in the section on affordability.

Regarding changing the general physical accessibility to include a diversity of local residents, there are plans for the public road (Sint Jacobsweg) in making the estate more visible and accessible. The owner explains: *“My greatest wish is to use this road to force people to walk slowly and to see the food landscape on the left and right side of the road. It is already a public road [...] maybe by using QR-codes or signs you can make this food landscape of the 21st century more perceptible for the neighbourhood and creating more awareness of it.”* By using the road for this purpose, it would be possible to increase the visibility of the projects on the Grootstal estate including Het Heerlijke Land, and possibly attracts a wider diversity of people. However, the main issue right now is the tension between the openness of the road and the closed nature of the estate. In this openness to the public, ownership is really important according to the owner, because it makes them more connected to and responsible for the projects.



Figure 7 Harvest. Photo: author.

4.3.2. Availability



Figure 8 Weekly harvest. Photo: author.

Another aspect of Het Heerlijke Land's perspective on accessibility is to involve local residents in local and seasonal food. Therefore, the initiator works according to biodynamic farming principles which means that: *"I grow various seasonal crops that fit in this climate. I see how the climate is changing, because it was really easy to grow tomatoes outside last year"*. At the moment, there are around 60 different varieties growing on Het Heerlijke Land, including vegetables, fruits and herbs (see figure 7). *"At the beginning of the season, participants can harvest around five or six different crops a week and in peak season it is around eight to nine varieties"*, the initiator explains (see figure 8).

Availability is considered an important indicator, because it influences people's behaviour for participation. However, current participants experience availability in different ways, according to the survey. Firstly, harvest season is experienced as quite short, which could be a barrier

for participation. One of the respondents explains: *"A longer harvest season would be beneficial, because now we still have to buy our vegetables in the supermarket in the other half year."* Regarding the amount and variety of products, opinions vary as well. The main experience of a lot of the participants is that the number of products is not always enough to eat for the whole week, which is due to the long dry periods. Reactions were: *"I was hoping that our family could eat from the harvest of Het Heerlijke Land, but this is not the case [...] now I still have to go to the supermarket during harvest season"* and *"At the beginning of the season it is limited, but from the end of June it is a good amount, sometimes even too much. Also, the quality and variety are really good, and I see the soft fruits as a real advantage."*

Recently, new land is added to Het Heerlijke Land and therefore there is more space for new varieties, but this is still in the beginning phase, the initiator points out. Therefore, no real solutions are available yet to increase the availability of products and include a diversity of people. These issues of length of harvest season, variety of products and the number of products per week can function as a barrier for local residents to participate in Het Heerlijke Land. It can have a deterrent effect on them, and it can contribute to the overall feeling that supermarkets are an easier and cheaper option than going to such an initiative. Therefore, changes regarding availability may be necessary to make it more inclusive for a diversity of local residents.

4.4. Economic accessibility

This section addresses economic accessibility, using affordability and time investment as the main indicators.

4.4.1. Affordability

Affordability is most of the time one of the biggest points of critique on sustainable alternatives, especially on community-supported agriculture practices, and therefore an interesting discussion in this case. In principle, Het Heerlijke Land focuses on all local residents, but in practice only the people who can afford it are participating. Right now, participants need to pay 253 euros on a yearly basis for one harvest share, which has to be paid before the beginning of the season. This yearly contribution can be experienced as quite high, especially because it all has to be paid at once. Currently, most participants are high educated with middle to high

incomes. Moreover, price is never indicated as an issue for them to participate, likely because they can afford it.

As indicated in the previous section, there is still a part of the local residents that are not included, in this case people from Hatert. For this group, the affordability of Het Heerlijke Land is considered a barrier to participate, because this neighbourhood is characterised by a large share of low-income residents. This issue is also addressed by the neighbourhood manager of surrounding neighbourhoods: *“a lot of residents with low incomes or who are dependent on financial benefits live in Hatert, and especially on the side of the Grootstal estate. This is also a group of people with a lot of psychological issues and stress. These people do not have the money to pay 253 euros a year and even if they have the money, they have a lot of other issues.”* Thus, a large share of the residents of Hatert likely experience the price to participate as a barrier, which makes it less accessible for this group. The neighbourhood manager adds: *“Residents of Hatert who could afford it, live on the other side of the Haterseweg, because that is where the owner-occupied properties are. However, there is an enormous vegetable garden complex, which could mean that there is no need for something like Het Heerlijke Land.”*

Changes regarding affordability are necessary to make it more inclusive for residents from Hater and other excluded groups. Recently, a new project has started on Het Heerlijke Land to make it more accessible for these kinds of groups. This project is called Waardevolle Oogst which is a collaboration with Het Huis van Compassie (see box 2 for more information). The initiator explains: *“I was interested in this project, because I was looking for extra social function in the garden. And people who are living in poverty often have an above average stress level and being outside in green environments can help to relieve this stress.”* The project started in May 2020 and is subsidised in order to reduce poverty in Nijmegen. *“Het Huis van Compassie already had contact with the food bank for their own project, but their garden was too small to include everyone. Thus, they were looking for a garden and I was looking for those people”*, the initiator explains. The main idea is that food bank clients can work one day per week in the garden and in exchange they can harvest products to bring home, the coordinator of Het Huis van Compassie explains: *“currently, there are seven participants active in the project, and it is possible to expand this to ten participants in total. We are going to do some extra advertising, especially in the food bank in Hatert since it is so close to the Grootstal estate”*.

Box 2 Het Huis van Compassie

Het Huis van Compassie is a social organisation in Nijmegen which organises a variety of activities for a variety of people. *“The initial idea was to organise activities for people in vulnerable position in the city of Nijmegen. At the start we mainly focussed on refugees and later on we connected with the local Food Bank”*, the coordinator explains. With this in mind, they started to organise activities such as language lessons, community meals and a small vegetable garden. The coordinator adds: *“our other ambition was to create connection between vulnerable people and ‘normal’ people. This from the idea that when you connect those people to each other, the vulnerable group can profit from this.”*

One of those activities is a small vegetable garden which was an idea of two Food Bank clients themselves. The coordinator explains: *“their idea was to grow vegetables themselves and to distribute this to one of the Food Bank distribution points in Nijmegen. One of our volunteers is there every Friday and clients call her the ‘vegetable woman’, because she shares the harvest from the garden.”* This small garden was the reason to start the project Waardevolle Oogst at Het Heerlijke Land.

One of the main focus points of this project to enable the participants to destress by working in a green environment and using their own preferences and capabilities as a starting point for their activities. The coordinator explains: *“one of our volunteers together with an intern and the initiator are guiding those people. They talk to them to see what their preferences are, what they would like to learn and what they would like to accomplish.”* Therefore, customisation is really important. Moreover, it is also a way for them to expand their social network, because they meet new people. *“Since they are both volunteer and harvest participant, they become part of the existing group”*, the initiator explains.

The first reactions and results seem to be positive. *“There is a lot of enthusiasm of people to participate and the ones who are involved right now have a really diverse background. It is varying in age, in cultures and nationalities; and they differ in socio-economic background. What they share is poverty, lack of network, lack of social participation. People really enjoy working in the garden and really like to meet new people”*, the coordinator explains. Also, the initiator of Het Heerlijke Land is really positive about how it is going. The coordinator adds: *“It has a really intense positive effect on people. One woman told me after her first day on Het Heerlijke Land: this is the first time in years that my head was empty at the end of the day. This is absolutely wonderful. You could say that gardening is a really nice way to de-stress.”*

However, one of the main pitfalls of this project is again the financial part. *“I do not know if this project makes Het Heerlijke Land more economically accessible. This is something that we have to investigate in depth”*, the initiator argues. The coordinator adds: *“the main questions that immediately arises is how are we going to continue this project, something that is really valuable, next year and how can we expand it in a sustainable way. Therefore, resources are required.”* The problem is that this first year is subsidised, which is fine for a first year to set up the project, but in the long term it is not sustainable to be dependent on a subsidy. The initiator proposes: *“a solution could be that regular participants donate money to make it possible for participants from the project to harvest next year as well.”* In this case, financing comes from the community itself, but this still has to be investigated. However, these kinds of projects have the potential to include a wider variety of people in urban food practices.

4.4.2. Time investment

Het Heerlijke Land tries to actively involve local residents by letting them harvest the products themselves, which requires a certain time investment from the participants. This is a form of unpaid work involved in both harvesting and cleaning/consuming products. Firstly, time is needed for harvesting: *“Participants can harvest their products three days a week: on Wednesday, Friday and Saturday. I did this on purpose, because I think that it is important that people can meet each other in the garden. Using limited opening hours increases the chance of encounters”*, the initiator points out. Looking at the answers of the participants on the survey, the overall judgement of the opening hours is fine. A few participants experience the determined days as a barrier, *“because it is hard to combine it with work in a busy week.”* But the amount of time needed to harvest the products is almost never experienced as a barrier by current participants.

Another time investment is cleaning and preparing products for consuming. Most of the participants points out that it takes them longer to prepare a meal with vegetables from Het Heerlijke Land than before. However, this is not considered a barrier to participate by them. Some examples of reactions are: *“it takes more time to prepare, but this can be offset against the advantage of sustainable and local food. Moreover, we learn to cook with new vegetables, which also takes more time because we had to learn new recipes”* and *“especially the amount of dirt is impressive. I like the experience of it, but I would not like to do this every day of the*

week.” You could say that this time investment brings participants closer to the origin of their food.

Based on this, you could argue that the current group of people who are participating in Het Heerlijke Land do have the time or are willing to invest the time required to participate. Taking the results of the survey into consideration, it shows that a large share of the respondents does not have children (70%) and a significant proportion are not working (35%, mostly retired). Based on this, you could establish that the group of people with children is not included. As discussed in chapter 2, this is the group of people for whom it is especially difficult to make time for these kinds of practices, because of the unpaid work involved in it which they cannot combine with other household tasks. However, there are no strategies yet to make it more inclusive by lowering a possible time investment barrier.

4.5. Social accessibility

In this section the third and last perspective social accessibility of Het Heerlijke Land will be addressed, looking at two indicators will be used: knowledge and civic participation.

4.5.1. Knowledge

Since Het Heerlijke Land focuses on the production of local and seasonal food, it grows a variety of known and unknown vegetables. Therefore, knowledge is an important factor regarding its accessibility and inclusiveness and is also considered important by the initiator: *“Every Monday I email all the participants with the weekly harvest, how much can be harvested, how they can harvest it, how they can preserve it and some recipes”*. She updates the participants on the conditions in the gardens such as the really long dry periods. It is especially important to share this knowledge, because a lot of unfamiliar crops are grown in the garden. By doing this, you can make people more aware of what is growing in which season and in this climate, according to the initiator. The owner adds: *“creating awareness and sharing knowledge about seasonal products and the origin of food is really important at the moment. In this change towards a sustainable food system, the whole chain needs to participate, which means not only the farmers, but the consumer needs to be involved.”* Both initiator and estate owner acknowledge the importance of active knowledge sharing to involve people in their practices.

In practice, most of the participants do not experience a knowledge barrier, according to the survey. *“The initiator explains everything clearly in the weekly email and she is always open to questions”* and *“the weekly mail is informative and based on that we can buy our other groceries”* are some examples of answers. Moreover, some participants gained new knowledge, because of this initiative: *“I became aware of my own lack of knowledge on how vegetables grow, and which parts are edible.”* Based on these answers, you could conclude that there are no real knowledge barriers to participation, because of the open character of the initiative and the active knowledge sharing in the weekly email. One participant even indicated: *“one of the main reasons to visit Het Heerlijke Land is to show my kids how food grows.”*

According to the neighbourhood manager, also acknowledges knowledge as not one of the main barriers for residents of Hatert to participate. However, Het Heerlijke Land could fulfil an educational function, especially for children living in Hatert: *“A big problem in Hatert are children who are eating really unhealthy [...] If you bring them in contact with the origin of food and discuss themes such as what is healthy and what is not, you could make a difference on the long term. I really believe that we have to start with the children.”* There are already other projects in Hatert to which children respond positively and the estate could really play an important role, the neighbourhood manager believes. However, the estate itself has to be committed as well, and could see it as a way of multiple value creation.

4.5.2. Civic participation

The main idea of Het Heerlijke Land is that anyone is welcome to participate and to work in the garden if they like. This connection and meetings between people are really important for the initiator. In practice, one of the ways of achieving this is the fixed harvest days and the fact that participants need to harvest the products themselves. According to the survey, meeting and connecting with other participants is one of the main reasons to visit Het Heerlijke Land. Most of the participants feel concerned with the garden, especially with the effect of the long dry periods. Some reactions are: *“Interaction with people during harvesting keeps me involved and the enthusiastic attitude of the initiator is really welcoming”* and *“Het Heerlijke Land has a great atmosphere and I feel welcome. Also, I like the added value of the other initiatives on the Grootstal estate.”* For most participants the main reason to visit Het Heerlijke Land is fresh and local food and a lot of people indicate sustainability is one of their main priorities.

Another strategy used to keep people involved in Het Heerlijke Land is the organisation of activities that take place in the garden. *“There are also some recurring activities every year, like the first harvest day, the last harvest day and evaluation”*, the initiator explains. Answers to how often individuals attend activities varies from multiple times a year to never. The initiator also organises other activities which are more in line with the biodynamic farming philosophy: *“We are going to prepare cow’s manure. Last autumn, we stuffed cow horns with cow’s manure and buried them in the soil. We are going to thin this with water, which means that we have to stir it for a while. Afterwards, we spread it over the soil. It is a way to stimulate the fertility of the land.”*

However, most of the critique regarding civic participation focuses on its elite appearance, because sustainable food is often seen as being reserved for upper classes. The participants of Het Heerlijk Land can be characterised as high-educated with high-incomes, based on the outcomes of the survey, which underlines this argument. As mentioned, residents from Hatert are missing, which could be related to the fact that *“the population of Hatert is less concerned with environmental issues and healthy diets, because for a lot of people it makes no sense. [...] Moreover, a large share of the residents has to go to the Food Bank and do not have the space in their head to think about this as well.”*, as the neighbourhood manager argues. This could indicate that there is also a psychological barrier to participating in initiatives such as Het Heerlijke Land.


A solution to overcome barriers for participation is to involve the needs and preferences of participants. Projects like Waardevolle Oogst focus on including those needs and preferences; and introducing this group of people in UA. Moreover, during one of researcher’s visits to Het Heerlijke Land, one of the participants talks about her experience with the initiative and what her opinion is about the accessibility of the garden: *“if you aim to make it more accessible, you have to let people experience it themselves. I can tell it to them, but I think it is better if people visit it and feel and experience it themselves. This is also what I do when one of my friends ask me about Het Heerlijke Land.”* Thus, introducing new people to the project and letting them experience it, could make it more visible and accessible for them.

4.6. Conclusion

At first, Het Heerlijke Land seemed to be not really accessible for everyone, because of its closed appearance towards local residents. However, reality showed a more differentiated picture. The main perspective on accessibility of Het Heerlijke Land is by focussing mainly on people from surrounding neighbourhoods who already are aware of sustainability issues and healthy food. In practice, accessibility is reached by producing local and organic food and sharing knowledge with the participants about these products and let them harvest the products themselves. Especially, this focus on knowledge is working really well and can resolve possible

barriers for participation. However, it is always important to let people experience it themselves to take away other possible barriers.

The fact that Het Heerlijke Land seems to be more accessible than expected, does not mean that there are no barriers for local residents to participate. Het Heerlijke Land tries to connect to local residents, but in practice it is still only accessible for people who can afford it, which can give the garden an exclusive character. Currently, there are no participants from the nearby neighbourhood Hatert that holds a majority of low-income residents with different backgrounds. The main barriers for them to participate are affordability and interest in healthy and sustainable food. Het Heerlijke Land tries to make changes to include a diversity of local residents. One of these changes is the project Waardevolle Oogst that has the potential to make sustainable food accessible for a wider audience and includes a more social function to the garden. By lowering the affordability barrier and actively involving another target group than the current group, it can potentially make Het Heerlijke Land more inclusive for local residents.



Chapter 5

Van Tuin tot Bord

5. Van Tuin tot Bord

This section starts with a case description, including the first sub-question (5.1) and a short outline of which neighbourhoods it is active in (5.2). In sections 5.3, 5.4 and 5.5 the different perspectives on accessibility (physical, economic and social) are presented and the last three sub-questions are central. In these sections, perspectives from both initiator and participants on accessibility are used. This chapter ends with a short conclusion (5.6).

5.1. Case description

Van Tuin tot Bord (VTTB) is a project of welfare organisation Bindkracht10 and is active in three different neighbourhoods in Nijmegen. The main objective of VTTB is *“to contribute to the realisation of an inclusive and healthy society on a neighbourhood level, in which there is place for everyone to participate”* (Baetsleer et al., 2020). They actively try to connect people in neighbourhoods and especially focus on vulnerable groups in society, such as people with burnouts, acquired brain injury (ABI) and mental disabilities. Therefore, they work together with several healthcare organisations to reach these vulnerable groups (VTTB, 2020).

The organisation behind VTTB, Bindkracht10, tries to strengthen connections between citizens, mostly on a neighbourhood level, by giving advice and organising activities for the local residents. Bindkracht10 is there for everyone in society, but especially for people with few social contacts and for people who are in difficult situations (Bindkracht10, 2020). This is also the main idea behind the VTTB project that came from a community worker from Bindkracht10 who was at the time active in the neighbourhood Nijmegen-Midden. She saw that different social organisations tried to organise the same activities: weekly eateries with their clients and actively seeking connection with the neighbourhood they were active in. She recognised this and brought the different parties together to collaborate: *“the initial idea was to connect the target groups of the different organisations with people from their own neighbourhood.”* In the end also a project manager was involved to take care of subsidies and justification of the project.

Currently, VTTB is active in three neighbourhoods in Nijmegen with five different locations. They started in 2015 with two locations in Nijmegen-Midden: one in community centre ‘t Hert and one in De Klokkentoren. In February 2020 they expanded to two further neighbourhoods: Lindenholt and Grootstal. The location in Grootstal is located in community centre De Schakel. Lindenholt has two locations, one in De Broerderij and one in Het Wijkatelier. All locations have a vegetable garden, a kitchen and place to organise the meals at their disposal, except for the location at ‘T Hert. In this case the vegetable garden is located somewhere else in the neighbourhood (see figure 9) (VTTB, 2020). The focus of this research is on the two locations in Nijmegen-Midden, since the other three locations were opened for a very short period of time due to the corona crisis. During this research the two location in Nijmegen-Midden merged with ‘T Hert as the main location for the weekly meal.

The basic idea is that people from the neighbourhood together with people from vulnerable groups, can volunteer to work in the community garden or cook a three-course vegetarian meal once a week. This becomes apparent in the main aim of VTTB in which inclusiveness is central. *“This mix of people is really important for VTTB and they strive for a 50/50 division between vulnerable people and other people from the neighbourhood in the volunteer groups”*, as stated by the project manager. The inclusive character of VTTB expresses itself not only in the mixed groups, but also in offering healthy meals with a lot of vegetables from their own gardens. Thus, the main perspective of VTTB on accessibility is its inclusive character which is about connecting people from the neighbourhood with people from vulnerable groups by providing healthy and sustainable food. Currently, the activities are mainly visited by people from the neighbourhood, including vulnerable individuals.

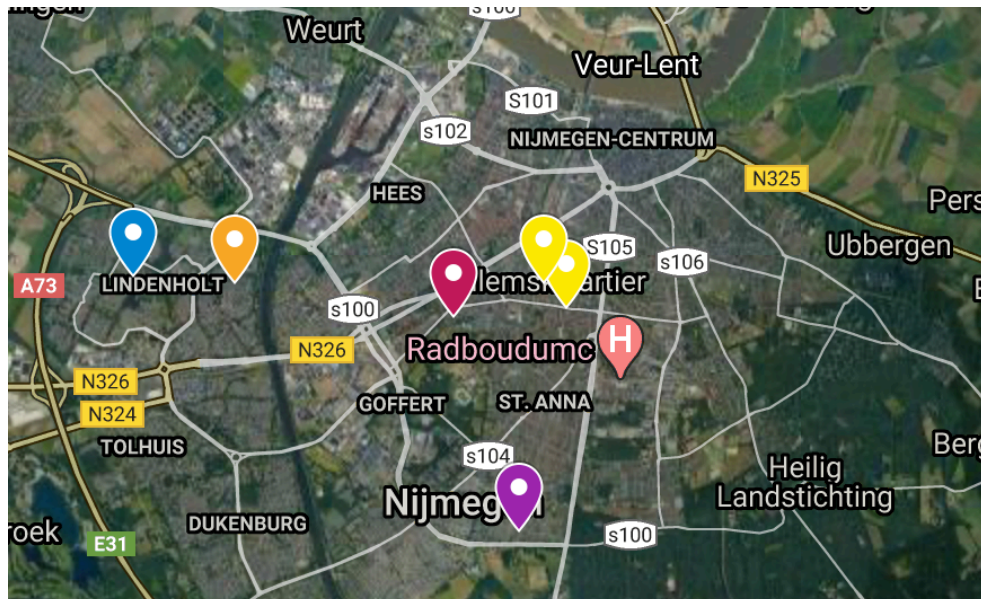


Figure 9 Map showing the locations of Van Tuin tot Bord. Source: screenshot Google Maps, 2020.

5.2. The neighbourhoods: Nije Veld and Hazenkamp

This research focusses on the two locations in Nijmegen-Midden, both located in the neighbourhood Nije Veld. VTTB also include the neighbourhood Hazenkamp in their marketing, although they do not have their own location (VTTB, 2020). Therefore, an introduction on both neighbourhoods will be given.

Nije Veld is a neighbourhood in Nijmegen-Midden which can be divided into three sub-neighbourhoods: Willemskwartier, Muntenbuurt and Landbouwbuilt. It is characterised by a high diversity of residents living next to each other, although there is no real connection between different groups. Moreover, it is a neighbourhood of which 58% of the housing stock is social housing, with a large group of low-income households (26% versus 16% in the whole city). The main problem in this neighbourhood is the vulnerability of its residents, such as deficient language skills, financial problems and loneliness (Wijkmonitor Nije Veld, 2020).

Hazenkamp on the other side is a quiet and green neighbourhood with a lot of public green spaces and a city park, De Goffert, nearby. It is a neighbourhood with a large share of high-educated residents and a few low-income residents. Moreover, there is a strong cohesion between the residents of Hazenkamp. However, the population is ageing, and therefore loneliness is becoming the main problem (Wijkmonitor Hazenkamp, 2020).

5.3. Physical accessibility

This section deals with the different aspects of the physical accessibility of VTTB, namely location and availability.

5.3.1. Location

VTTB has a clear connection with the neighbourhoods it is located in, because the main aim is to create an inclusive and healthy neighbourhood. Therefore, they make it as accessible as possible for a variety of local residents by really integrating in the neighbourhood. Activities are almost always organised in a community centre and adjustments are made to increase accessibility. An example of such an adjustment is the raised vegetable boxes in De Klokkentoren (see figure 10), as the project leader explains: *“the idea was that it would be easier for wheelchair users to work in the garden.”* Currently, it is a combination of the raised vegetable boxes and garden.



Figure 10 Raised vegetable boxes VTTB.
Photo: author.

A problem regarding the accessibility of the location of both De Haard on the Groenestraat and De Klokkentoren is its visibility in the neighbourhood. The manager explains: *“this vegetable garden [De Haard] is not really visible, because there is a gate and you need to enter the terrain to know that there is a garden [...] the volunteers work on agreed times and days, because you need a key to open the gate.”* De Klokkentoren has similar problems, although with the arrival of the vegetable garden it became more visible in the neighbourhood. The project leader describes: *“Every Friday morning, the gate is open, because volunteers are working in the garden. Moreover, local residents can visit the garden to buy fresh vegetables at a low price. We get a lot of positive reactions from the neighbourhood such as that they did not know about this, and now they do.”* This is a positive development regarding its physical accessibility, because it makes the location more visible.

Recently, one of the new locations brought some nice developments regarding increasing physical accessibility. *“The garden of our new location in Grootstal is really a neighbourhood garden [...]. It is open and everyone who is walking their dogs or is cycling sees the vegetable garden, because it is really central in the neighbourhood. I really like this open vibe,”* as the manager explains. This location has no gates or other barriers to enter the garden, which contributes to its public character. According to the manager, *“this openness has an added value, because you see how happy people when they see how vegetables grow. We get a lot of positive reactions.”* This openness and visibility are also a way to connect to people more easily. The project leader adds: *“this is a really nice way to remove barriers for participation. Last week, there was a Moroccan man who is trapped here due to the coronavirus, but he only speaks French. But he saw what we were doing, and he started to help, which is really beautiful.”* This shows that the open character of the garden has the potential to be more inclusive for local residents. However, the openness of this garden also brings risks, because already some plants were stolen, the manager says, which could indicate that solutions may be necessary in the future.

The vegetable gardens are not the only activity of VTTB, the cooking groups and neighbourhood restaurants are another important activity. These activities always take place in a community centre, which are always centrally located in the neighbourhood. However, it could exclude certain groups in the neighbourhood who do not visit these places. *“We are searching for other locations in the neighbourhood like local restaurants to reach a wider audience. Right now, we are making a little herb garden in the garden of a local café, to connect to a younger audience and to widen our visibility in the neighbourhood,”* the manager notes. According to the annual report, VTTB is also trying to develop a catering service to increase its visibility, which could also work as a way to generate income (Baetsleer et al., 2020). Thus, VTTB is actively seeking changes to increase their accessibility and make it more inclusive for a diversity of local residents.

5.3.2. Availability

Providing local residents with healthy and sustainable food is one of the main aims of VTTB, translated into practice by making food available through their weekly meals and vegetable gardens (see figure 11). The project leader explains: *“during growing season, the harvest is pretty good, and we have an overproduction in the summer. Therefore, people from the neighbourhood can buy vegetables from us at De Klokkentoren.”* However, when the gardens are empty in the winter, there are no products at all. The manager explains: *“we have a deal with a local farmer who provides us with fresh vegetables during the winter season.”* Moreover, the vegetables from the gardens are not enough to make a three-course dinner, thus other ingredients are bought in the supermarket to create a complete meal.

The food that is made available for local residents is always vegetarian, which could be a barrier to include a diversity of people. *“We made this choice because we would like to provide a healthy meal with a main role for the vegetables”*, the manager points out. The project leader adds *“it was also a really practical solution, because we work with vulnerable people and if you do not use meat you already leave out a possible health risk. Moreover, we have limited budget and if we want to keep it low priced our only option is cheap meat which is not in line with our healthy meal.”* In the end, a vegetarian meal was a more practical solution, although, it is not something they propagate particularly.

Participant reactions on the vegetarian meal really differs, but overall it is quite positive the manager explains: *“peoples’ perspective against meat is shifting and especially the volunteers change their own eating habits at home and are eating more vegetarian. During the weekly meals they see how easy and tasty it can be.”* This is also supported by the overall view during the observation. People like that it is vegetarian because it is different and some also see the importance of it. However, the project leader points out that there are people who do not like the vegetarian meal and that they often do not come back, which is also acknowledged in the study of Kerstens & Visser (2017). In this way, it may be considered as not really inclusive, although, considerations regarding vegetarian meals are fair.



Figure 11 Harvest of De Klokkentoren.
Photo: author.

5.4. Economic accessibility

This section addresses economic accessibility by using affordability (price related to income) and time investment as the main indicators.

5.4.1. Affordability

Affordability is important for VTTB, because it aims to be as inclusive as possible which means that price should not be an issue for participation. Right now, the entrance fee for the weekly three-course meal is €6,50 for adults and €3,50 for kids. Volunteers in the cooking group eat for free and volunteers from the vegetable gardens can get a free dinner once a month (Baetsleer et al., 2020). The project leader explains that it is a very good price to quality ratio for this quality vegetarian dinner. This fee is used to cover costs like renting the kitchen and purchasing products that are necessary besides the vegetables from the gardens.

Even though the entrance fee is quite low, it could still function as a barrier for some groups. The former community worker of Nijmegen-Midden explains this: *“especially people with disabilities or long-term financial problems do not have the money to do this every week. The moment that you have to do this with your household [2 adults and 2 kids] on a weekday, you need to spend more than 20 euros. Therefore, there is a lot of tension on its economic accessibility.”* This is also something that is confirmed in the study of Kerstens & Visser (2017). The amount of the entrance fee is used multiple times by guests as an argument to not visit VTTB anymore, because the experience it as too fancy to do this every week.

Since VTTB aims to be as inclusive as possible, changes are necessary to increase its economic accessibility. *“A couple of weeks ago we started with a tip jar at our location at De Broerderij and people can donate money to buy a meal for someone who cannot afford it. Now we can offer people who are living in poverty or have other financial problem a meal for free and make it accessible for them as well”*, the project manager points out. However, at the time of the interview this had just started and since they were not completely open due to the coronavirus there were no significant results on the effect this has. According to VTTB’s annual report (2019), they are also working on setting up a catering service and developing their own product line to generate income that can cover rent and purchasing costs. The community worker proposes a different solution to lower the fee: *“A solution could be to leave it to the participant themselves what they can and want to pay based on their own capacities. This is how it works at Hof van Heden, another food project in Nijmegen”*, the community worker explains. These kinds of solutions could potentially work when aiming for inclusiveness, because it lowers the barrier for participation by making it more affordable.

5.4.2. Time investment

Another indicator that can affect the accessibility of VTTB is the time investment of participants. The three different groups (garden, kitchen and guests) each make their own time investment. Volunteers in the vegetable garden have to be available at least on one part of the day which is often on a fixed day. The cooking group has to be available from 16:00 on the day of the community meal and some people are there even at 14:00 to do grocery shopping (Baetsleer et al., 2020). Furthermore, guests in the neighbourhood restaurant need to be there at 18:00. Thus, all groups have their own commitment and time investment.

According to the community worker, especially the time investment for the cooking group and the restaurant are experienced as a barrier: *“this time is used to go through the recipes and to prepare the food. However, if you have kids or other household responsibilities, this is not always possible.”* Moreover, if you work full time you probably do not have time for this as well. Regarding the neighbourhood meals, *“for a lot of people the strict starting time of the meal is experienced as a barrier, because of work and family responsibilities. It is not part of their daily rhythm and living world”*, the community worker explains. The starting time of the meal is also identified by the respondents of the survey, because 18.00 is experienced as quite early especially for those working. Also, the fact that it is always on the same day of the week, is experienced as a barrier. Some participants would like to see it on different days in different weeks. However, there are no plans yet to change this accessibility issue to make it more inclusive.

5.5. Social accessibility

In this section the third and last perspective, the social accessibility of VTTB is addressed. Two indicators are used: knowledge and civic participation.

5.5.1. Knowledge

Active knowledge sharing is important for the accessibility of VTTB, because it attracts a diversity of people in the various activities. Regarding the vegetable gardens, most of the volunteers are already interested in gardening, which means that they already have knowledge, or they are actively seeking it. The project manager explains: *“in the beginning, we supported our gardening groups with a vegetable garden expert. With the opening of the new locations this year, our idea is to offer extra courses to increase this knowledge.”* The manager adds: *“most of the volunteers really like to learn new things, it was also something that they were asking for.”* Thus, by providing courses on gardening, VTTB aims to include a wider audience by lowering possible knowledge barriers.

Since one of the aims of VTTB is to bring back the food chain to neighbourhoods and to make it accessible for everyone, they also try to actively share knowledge on local and seasonal food during the meals. The manager points out: *“we always share what kind of vegetables we eat and what is from the garden. In this way we try to increase awareness on seasonal vegetables [...] Moreover, when the weather is nice, we eat outside in the garden of De Klokkentoren. We try to show the participants the garden during the meal to make them aware of how vegetables grow.”* During the observation in ‘T Hert, most people experience this sharing of knowledge on the vegetables as a good addition, because it makes them aware of which vegetables grow at what time of the year. Therefore, you could argue that this is not a barrier for participation.

Regarding knowledge sharing in the cooking groups, contrasting opinions exist. The project manager explains: *“our manager coordinates the cooking groups and prepares the recipes, because she knows what kind of vegetables are available from the garden”*. The recipes and other additional information are shared at the beginning of preparation. However, the community worker argues: *“due to this normative quality thinking, there is less room for input from the volunteers. [...] Therefore, some people remain away because there was no room for own input and creativity anymore.”* This could indicate that it is not accessible for everyone, but proof is lacking. However, more input from the volunteers could be beneficial for increasing accessibility.

5.5.2. Civic participation

Participation is one of the main focus points of VTTB, because they started this initiative with the idea that is accessible for everyone. To be as inclusive as possible, the focus on this mix of people, between vulnerable groups and other people from the neighbourhood, is really important in practice. *“In the first couple of years, our main focus was on inclusiveness, in the gardening groups as well as in the cooking groups [...] Because of this mix of people, we often hear reactions such as: normally I only saw people with the same disease, but now I am part of a normal group”*, the project manager explains. Table 4 shows the number of participants in the different groups, including the number of vulnerable participants. These numbers display that the focus on a combination of people is working out in practice. According to the project leader: *“especially vulnerable residents are able find us really well, because of the collaboration with the healthcare organisations.”*

The focus on enabling vulnerable groups to participate was made clear by the manager:

“Our starting point is always what the participant can and would like to do. We have interns in the kitchen who assist people who face challenges. For example, we have one

participant with addiction problems, which means that he is not allowed to work with knives. We made an agreement with him: when he does not use drugs, he can make the soup under supervision [...]. Therefore, it is really important to constantly recognise where people are at the moment, are they angry or sad, etc.”

These are examples where interns can help. Involving interns is also a way to put less pressure on the other participants, which makes it easier to be accessible for everyone because they do not need to supervise vulnerable participants.

	‘T Hert	De Klokkentoren
Number of volunteer’s vegetable garden	A total of 16 volunteers for both groups, including 5 vulnerable local residents	
Number of volunteer’s cooking group	A total of 20-25 volunteers for both groups, including 15 vulnerable local residents	
Average number of weekly guest restaurant	15	10

Table 4 Number of participants VTTB in 2019. Source: Baetsleer et al. (2020).

It is interesting to observe that the age of the participants of the cooking and gardening group respectively is very varied. However, visitors of the neighbourhood meal are often 50 years and older. The project manager points out: *“this meal is really a weekly outing for this group.”* This was confirmed during the observation in ‘T Hert: most of the visitors enjoy this weekly meal together with other local residents, because otherwise they would eat alone at home. Some of them indicate that they join the meal because they would like to eat more vegetarian meals at home, but they do not know how to cook vegetarian meals.

Currently, one of the main issues regarding the inclusiveness of VTTB is the diversity of participants. As indicated in section 5.2, Nije Veld has a diversity of inhabitant with different backgrounds and cultures. However, this is not reflected in the participants of VTTB. In practice, a majority of white people participate in the activities. Both project manager and manager find it difficult to explain the lack of diversity. *“There is still a challenge on this point, and we really try to understand it. We think that it is because this group [residents who are not participating] eats at different times and has other household patterns.”* The manager adds: *“we actively try to change this and during our junior projects, we see more diversity at the tables. Sometimes they come back, but this is on an occasional basis.”*

However, strategies to include a wider audience do not exist yet. The community worker describes: *“in the beginning there was more diversity, but now they operate along certain principles [...] The moment that you do not open up or focus too much on reaching a certain quality [i.e. three-course vegetarian meal], you exclude a particular group in society.”* She argues that due to this focus on sustainable and healthy food, there was less attention for inclusiveness. Therefore, the group of participants became less diverse. Here you see that when you go outside the community, it can negatively affect its accessibility. Moreover, the community worker uses the example of Hof van Heden as a way of working with people in the neighbourhood without top-down guidance: *“this is a bottom-up initiative and started from the strength and capabilities of the people themselves [...] this is working really well.”* Thus, it seems to be that the focus on quality and sustainability hinders the attention for inclusiveness and that the feeling of ownership and responsibility is considered important for the group that is not involved right now.

5.6. Conclusion

To conclude, based on the main perspective of VTTB on accessibility and including a diversity of people, it seems to be that this initiative is accessible and inclusive for local residents to participate in their activities. In practice, they try to address accessibility with their locations who really part of the neighbourhood and there is a large focus on sharing knowledge to lower possible barriers. Especially, this focus on knowledge is considered important by both initiator and participations, including the good supervision for vulnerable participants.

However, there are also some barriers for local residents to participate in VTTB of which affordability and engagement are considered the most important. Regarding the affordability of VTTB, the price to participate could be considered high, especially for families with low incomes. Nevertheless, there are several solutions to this issue of which some are already used by the initiative itself. The second issue, diversity of participants, is remarkable in a neighbourhood with many different backgrounds. It seems to be that the lack of ownership and focus on quality is a barrier for some groups in society to participate. This is something that they are thinking about to work on.



Chapter 6

Food forest Novio

6. Food forest Novio

This section starts with some background information on food forest Novio, including the first sub-question (6.1), followed by a short description of the relevant neighbourhoods (6.2). Sections 6.3, 6.4 and 6.5 deal with different perspectives on accessibility, integrating perspectives from both initiator and participants on accessibility are used. In these chapters, the last three sub-questions are central. The chapter ends with a conclusion (6.6), combining all the different perspectives on the accessibility of food forest Novio.

6.1. Case description

Food forest Novio is built along the principles of food forestry (see box 3) and commissioned by the municipality of Nijmegen as an environmental development project inside the city, because it adds more biodiversity and green spaces to the neighbourhood. Moreover, it can also increase awareness on how food grows, while enabling people to pick their own fruits in their own environment. It is located in the neighbourhood Hees in Nijmegen-West and is part of a broader network of connected city parks (see figure 12). The area used to be a private nursery garden, but the municipality bought out the former owner and added it to public ground.

This decision for a food forest from the municipality followed several requests from the local community to add the area to public land. *“The main reason for us was the construction of a new main road (s100) close to the neighbourhood and by transforming it to a green area it could function as a green buffer between the nearby industry, the new road and the neighbourhood”*, the initiator explained. The municipality proposed the idea of changing the area into a food forest and the neighbourhood committee visited Wouter van Eck’s food forest Ketelbroek in Groesbeek, which is one of the leading examples of food forestry in the Netherlands. In collaboration with Van Eck, they made plans to develop a food forest on this former nursery garden terrain.

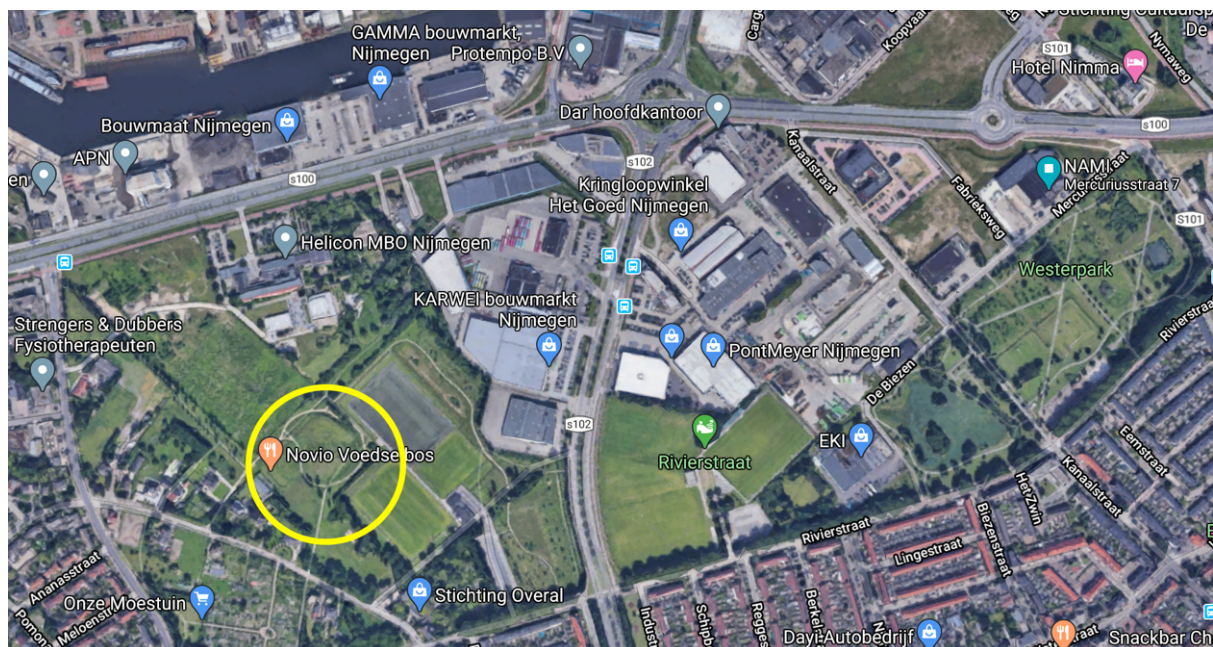


Figure 12 Map location food forest Novio. Source: screenshot Google Maps, 2020.

The main perspective of food forest Novio on accessibility is their open character towards the neighbourhood, because of its public green function. From the beginning, the idea is that local residents can use this space for recreation and as a food productive place that they can visit

whenever they prefer. According to the initiator, “*the food forest is really accessible. This was also a requirement from the municipality since it is part of public green, and we agreed to it.*” Since it is part of a wider park area it currently used by dog owners and runners from nearby neighbourhoods. To maintain this open character there are no active strategies to involve people in the food forest from the initiators, which could have consequences for its accessibility. These kinds of issues will be addressed in the following sections of this chapter.

Box 3 What is a food forest?

A food forest is a forest in which edible plants, shrubs and trees grow. According to the definition of Stichting Voedselbosbouw Nederland (2020) a food forests is “*a vital ecosystem which is designed by humans according to the principles of a natural forest and aims to be food productive. Its distinctive characteristics are: a vegetation layer with large trees, a minimum of three other vegetation layers, a rich soil life and a rapidly growing biodiversity*” The concept of food forestry is closely related to permaculture. Permaculture is an agricultural principle which works for a harmonious relation between nature and humanity, and it is a method that is ecologically sustainable and economically profitable at the same time. It produces food without putting too much pressure on nature (Holzer, 2017).

The variety of plants that are part of a food forest are all edible, such as fruits, nuts, herbs and leafy greens. Also, when all species are planted, no real maintenance of the forest is required (Crawford, 2010). It is a self-sustained system; human intervention can be even harmful. To achieve such a self-sustainable system, often methods based on nine layers is used (see figure 13). This method is not static and depends on the local climate and soil quality and can therefore adapt to the situation. For example, Western Europe has a quite humid climate and not a large number of sunshine hours, which means that space between large trees is necessary so that low vegetation layers can grow as well (Oostwoud, 2019).

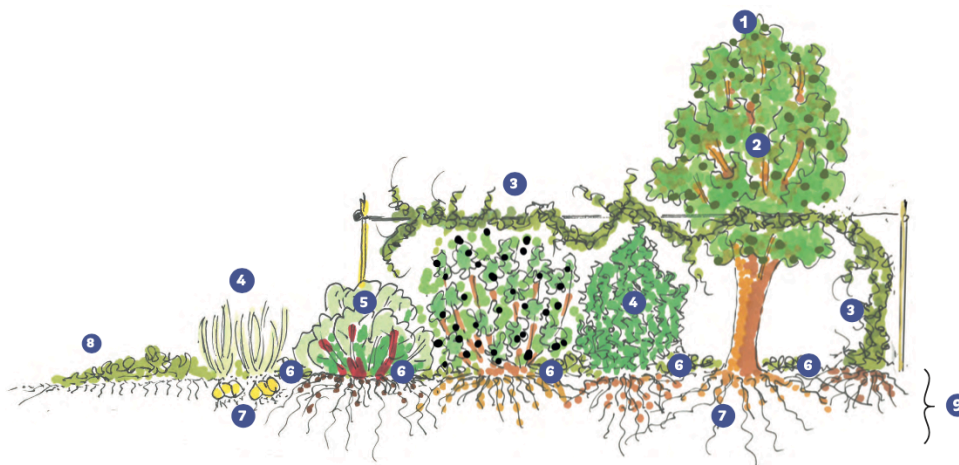


Figure 13 Schematic representation food forestry with nine layers. Source: Oostwoud, 2019. 1. Large trees (more than 8 meters high); 2. Small trees, large shrubs (3 – 8 meters); 3. Climbing plants; 4. Shrubs (1 – 3 meters); 5. Herbaceous layer (20 cm – 1 meter); 6. Ground cover (up to 20 cm); 7. Roots; 8. Aquatic plants; 9. Mushrooms.

6.2. The neighbourhoods: Hees & Heseveld

Food forest Novio is located in Hees, a neighbourhood in the West of Nijmegen. Traditionally, Hees is seen as a village district (‘dorpswijk’) with its own village council and it is a quite closed and independent community. The residents in this neighbourhood can be characterised as relatively highly educated (more than 50%) with a large share of people with a high income. Most of the residents (77%) feel concerned with the neighbourhood, which could be explained by its village character of the neighbourhood. A lot of residents are involved in issues such as

sustainability and loneliness, which expresses itself in for example the proper maintenance of public green spaces. Demographic ageing of the neighbourhood is one of the main focus points at the moment, since a relatively large share of the residents is 65 years and older. However, recent numbers show that there is an inflow of young families (Wijkmonitor Hees, 2020).

Close to Hees is the neighbourhood Heseveld for which the food forest can create significant benefits. As the community worker of these two neighbourhoods describes *“the residents of Heseveld see Hees as part of their neighbourhood, but this is not the case the other way around.”* Heseveld can be characterised as a neighbourhood under development. In recent years a lot of renovations and constructions of new houses are done. It is quite a mixed neighbourhood in regard to nationalities, age and household compositions. One of the main issues in Heseveld is mutual connection between local residents in the sense of collaborating together and mobilising people for activities in the neighbourhood (Wijkmonitor Heseveld, 2020). The community worker explains: *“As I see it, there are too few collaborative activities in Heseveld, which is unfortunate since there are a lot of vulnerable individuals who could benefit from these kinds of activities by creating more connection with the neighbourhood.”* Food forest Novio could be one way to make this connection between local residents.

6.3. Physical accessibility

This section deals with the different aspects of the physical accessibility of food forest Novio, using location and availability as the main indicators to describe it.

6.3.1. Location

Based on its main perspective on access, the location of Food forest Novio should be physical accessible for local residents. In practice, there are no gates or barriers which means you can enter the terrain at any day, at any time. This openness is also valued as important by both initiator, municipality and local residents. However, this creates some risks for the development of the forest. The initiator explains: *“Some people let their dogs run loose, which is not allowed in the park, but they are doing it anyway. The dogs are digging holes which damages the plants. Also, some people are walking everywhere without even noticing the plants that are growing there.”* This is problematic because plants are damaged, especially the small plants do not have a chance to grow properly which affects the ecosystem and appearance of the food forest.

A solution for this barrier can be increasing its visibility which could have a positive effect on the food forests' accessibility. Within the broader park area, the food forest is not really visible for visitors and, therefore, they are not always aware that plants are still developing and vulnerable. *“Maybe this could have been done more clearly by adding more signs such as ‘weeds are growing here, which is beneficial for the food forest that is developing here’ or ‘please wait’”,* Van Eck argues. The initiator himself would support building a fence to close the forest to the public so that it can grow in peace. However, this is not in line with the open and public character of the initial plan. Although, you could opt for an approachable fence with information panels like those used at protected nature reserve. The fence could be opened at every time of the day, while still making people more conscious that they are about to enter a developing food forest. Right now, it is not always clear when you are entering this area, because it is really part of the whole park area. Making this clearer could protect the food forest while maintaining accessibility.



Figure 13 Close-up food forest Novio.
Source: Screenshot Google Maps,
2020.

In this case, visibility barriers are not only about the placement within the park area, but also about its visibility in the neighbourhood. This is important, because placing UA initiatives in neighbourhoods does not make them automatically visible. When you visit the food forest, you can enter the site from three different entrances, two are connected to the Bredestraat and the other one gives access to a dog walking area (see figure 13). However, the food forest is not really visible for visitors who are not familiar with the area. During one of the observations, two visitors mentioned the issue of invisibility. It was their first visit to the food forestry, but it took them some time to find it because it is not visible from the main street.

Strategies to improve the food forest's visibility and attract more people, could include adding signs on the Bredestraat or the other entrances. Right now, when you enter the food forest, there is only an information sign when you use entrance number 1. This sign provides more

information on the background of the food forest and which plants and trees are growing where (see figure 14). The same two visitors were struggling with the information and especially the map with the locations of the plants (figure 15). Van Eck also supports adding more information signs, but with less text because *“right now it is maybe too much information and people do not read it properly.”* Thus, adding more signage, both to indicate the location and give information on the area, could be a solution to increase visibility and therefore changing its physical accessibility. Moreover, increasing visibility can attract more people which could have a positive effect on the inclusiveness of the food forest.



Figure 14 (left). Information sign food forest Novio. Photo: author.



Figure 15 (right). Map food forest Novio. Photo: author.

6.3.2. Availability

Part of the open approach of its accessibility, is the idea that everyone can pick fruits in the forest. However, in practice it has a lot of issues with food availability due to several circumstances, which affects the accessibility of Novio. Four years after the start there is still very little to pick, which can be mainly attributed to the long period of time a food forest needs to mature (see figures 16 & 17). It takes around 10 years before significant harvest is possible. However, there are other factors that slows down this growing process and have a negative impact on the accessibility of the forest.

The first factor are the long periods of droughts: *“Already since the planting in the autumn of 2016, every spring has quite long periods of droughts which is not beneficial for the plants since they need a large amount of water for growing”*, as the initiator explains. Van Eck adds by saying *“it is not only the long periods of droughts, but also heat stress which doubles the effect. Trees did not have the time to mature, which means that there is no natural cooling system.”* Because of the lack of big trees, smaller plants are not protected and cannot grow properly. *“The plants that survived are developing really slowly, because they started already with a disadvantage which is not good for the appearance of the forest. This is really unfortunate”*, says the initiator. Right now, they are trying to fix this by watering the plants when it is not raining. However, this goes against the principles of a food forest since it should be a self-sustaining ecosystem.

The second factor that has a negative impact on the availability of food in the forest is the quality of the soil. As explained before, the former function of this area was a nursery garden that slightly polluted the soil. Therefore, new soil was necessary to restore its nutrients. *“This new soil was some sort of heavy clay which is really nutrient-rich but has the tendency to dry out really fast, which makes it impervious for roots to grow”*, the initiator explains. They did not know this beforehand and the combination with the extreme periods of drought makes the soil *“almost like brick.”*

Another important factor is the wind. The original plan consisted of a significant number of windbreaks on the west and a couple on the north-east side of the area. According to the initiator, *“in the beginning the windbreaks had the same height as the plants that it needed to protect, which was not enough”* Moreover, especially the north-east wind is dry and occurred more often than expected, which was not beneficial for the plants’ growth leading to many of them dying.

All these different factors that impact the availability of food, makes it a really difficult start for the food forest. This is unfortunate since it is a public food forest and these issues are not beneficial for the public opinion which is really important to ensure it continues. The initiator explains: *“right now, a lot of local residents think that the project has failed, because they experience it as a mess [...]. I would not say that it is a failure, but it is a difficult process.”*



Figure 16 (left). Field where nut trees are still growing. Photo: author. **Figure 17 (right).** First berry harvest. Photo: author.

A solution to increase both the visibility and availability of food forest (and also other accessibility issues) could be to make a distinction between a food producing food forest in peri-urban areas and food parks in cities, as Van Eck advocates for: *“Food parks could work as a way to show the diversity of possibilities of food forests to people in their own neighbourhood [...] it could also have an educational function so that people see how things grow and share recipes together.”* Moreover, these food parks could reduce heat stress in cities by adding more natural values and increasing biodiversity, because there is more space for insects and birds.

Next to the food parks in cities, food forest(s) in the peri-urban areas could have a more food productive function. Van Eck explains: *“in an ideal situation, these kinds of food forests are located in a circle around a city and could supply supermarkets and restaurants with part of the products a food forest can deliver.”* This is how Van Eck’s own food forest, Ketelbroek, functions at the moment. *“We have a couple of relations such as the one with Restaurant De Nieuwe Winkel, brewery Nevel and supermarket Ekoplaza in the Ziekerstraat. We have connections from our own landscape to places in the city where our products are available.”* However, Ketelbroek was not designed with the intention that people could visit the food forest, there are only a couple of narrow tracks for harvesting. According to Van Eck, *“these kinds of food forest would probably only work if they are closer to the city than we are now in Groesbeek.”* Thus, the indicator of proximity is an important factor as well.

This combination between food parks and food productive forest in peri-urban areas can solve the availability barrier, because one could function as a showcase for the other. By introducing people to food forest in their own living environment it can potentially attract a diversity of people, because it lowers the barrier for participation. Additionally, the food productive forest function as a way of sustainable food production which consumers already discovered through the local food parks.

6.4. Economic accessibility

This section addresses economic accessibility by using affordability and time investment as the main indicators.

6.4.1. Affordability

Since food forest Novio is a public green project, affordability is less relevant. However, the possibility to approach food forests in urban areas in different ways as described before, involves its own affordability barriers.

The main barriers regarding affordability of food forest in cities are the high land prices and pressure on land. According to van Eck *“there is increasing competition for space in cities. At the same time, we know that if we lose our green living environment, we will also lose necessary function for humanity. If we prioritise sustainable food production in urban areas, we can secure it as green space at the same time.”* Municipal policies could play an important role here by securing public spaces for sustainable food production and green spaces as they did for food forestry Novio. However, this can be really difficult because of rising urban population and land pressure.

Compared to high land prices, the costs of planting material are relatively low and therefore not really a barrier. Van Eck explains: *“a chestnut tree of high-quality costs 25 euros and gets around 450 years old. You probably need several dozen plants, when looking at other project expenses in public spaces then these plants are not actual expenses. Especially infrastructure and landscape gardeners are quite expensive.”* Therefore, he advocates for food forests and food shrubberies for all public green spaces to keep costs low, because you do not need all the gardeners to maintain it since it is a self-sustained system. Moreover, it adds all kinds of nature values and biodiversity to urban areas, which could be beneficial in terms of

fighting climate change. In general, food forest could be a more affordable urban food solution which can increase its potential to include a wider audience

6.4.2. Time investment

The conception of time investment for food forest Novio differs from the definition as given in chapter 2. Currently, the main barrier for participation is the time it takes (around 10 years) before it is matured, and harvesting is possible, which makes patience from the consumer side an important factor. *“A food forest is a designed ecosystem and follows the principles of a natural forest. Growing trees and shrubs take time before you can pick berries and stuff”,* according to Van Eck. In the last couple of years, there were already some good harvests of red berries and silverberries in food forest Novio. However, these sorts can grow really fast but varieties like apples, pears and hazelnuts need more time as Van Eck explains. *“This differs from for example a vegetable garden in which you can grow a radish in four weeks. This is a challenge of patience.”*

Since it is an innovative system, it brings tension between what people usually see as public green and how a typical vegetable garden looks. But in this case, it is neither of those. Moreover, the time it takes to mature is long and therefore difficult to keep people enthusiastic. Van Eck explains: *“when there is interest from local residents you almost need to say: keep your enthusiasm with you for 5 years, because only after this period of time you can start to harvest. This is also what is happening with food forest Novio.”* It is hard for people to see the value of the food forest, because there is not much to see yet which could also be related to lack of knowledge.

A solution to this accessibility challenge could be an active neighbourhood group who is involved in the development of the local food forest. This is what is happening in the Schijndel food forest, Van Eck explains: *“A nice observation is that in Schijndel a local food forest working group developed itself, they are they eyes and ears of the project. If there is an issue on litter for example, this group take action to prevent it the next time [...] They also organise meetings for interested people once a month to motivate each other and to keep people involved in the project, even if there is not much to see and do.”* This kind of activity helps to keep people involved while the forest has to grow without being disturbed, can have a positive effect on its accessibility and makes it more inclusive for local residents.

6.5. Social accessibility

In this section the last perspective, social accessibility, of food forest Novio is explained. Using knowledge and civic participation as indicators.

6.5.1. Knowledge

Food forest Novio strives for complete accessibility, although, currently knowledge is one of the main barriers for local residents to participate. During the observations, one of the main points discussed was how people feel there is insufficient information about the varieties that are growing there. Most of the visitors are hesitant to pick anything, because they do not know what it is and if it is edible. According to Van Eck the main reason for this is: *“people can be really conservative in their eating habits. Harvesting something you do not know and eating it, is something that is not in our system. This is really understandable, because there are also very poisonous varieties.”*

Solution can focus on tasting and experiencing the food forest to reduce knowledge barriers, because people can experience the added value of it. According to the initiator, there was already quite a good harvest of the silverberry last year, but no one picked them. Van Eck thinks again that lack of knowledge is an important factor: *“people do not know the silverberry as a tasty and healthy berry and do not know any recipes with it, explanation is necessary. For*

example, by using a neighbourhood WhatsApp group to invite people for a tasting in the food forest. If you do not communicate this kind of things, people stay hesitant.” These kinds of activities are something that could be organised on a neighbourhood level, to share knowledge actively. An active neighbourhood group is necessary to organise this and to provide a point of contact for local residents. Right now, sometimes people are picking things, as the initiator explains: *“this morning a woman was picking leaves from a linden tree. She knows that she can make tea from the leaves, but a lot of people do not know this kind of thing.”*

Solutions are not only about sharing knowledge but fulfilling some kind of educational function. This is also something that the working group often encounters: *“The food forest could easily function as an educational project for children in their own neighbourhood. They could see how for example apples and pears grow. However, our main problem is that we are just volunteers and we cannot organise something like this. Moreover, the local primary school is on a 20-minutes away by foot, which is quite far.”* However, the food forest has the potential to fulfil such an educational function but involving other parties could be necessary like a local community worker. The community worker of Hees and Heseveld thinks that she could fulfil such role but adds that support from the initiator group is crucial to succeed. This is also something that she really would like to address in the future.

Other solutions to make the food forest more accessible by focussing on knowledge could be sharing knowledge more clearly on signs. According to several visitors, this information board is unclear. Especially the map with the location of all the plants and trees is often experienced as confusing. One of the volunteers who was watering the plants at the time of one of the observations suggest having more signs close to the plants which could make this clearer. Moreover, he would like to gain more knowledge about the food forest himself, but when visitors ask him questions, he often does not know the answer. Currently, the volunteers in the food forest one or two mornings in the week and he would like to share his knowledge with the visitors.

6.5.2. Civic participation

When aiming for an open character it is important for food forest Novio to have strategies to include a diversity of local residents. Since food forests are quite a new phenomenon, it is very interesting for some people to participate. *“In general, people are really enthusiastic about this combination of nature and agriculture. When you organise planting days which you communicate by using social media or the local newspaper, most of the time dozens of people are helping voluntarily”*, Van Eck explains. This is also what happened at the start of food forest Novio. According to the initiator: *“we contacted local residents personally and through the local newspaper. In the end, around 50 people helped a couple of days in the autumn of 2016.”* Over the years, there is still sufficient support from the local residents. The turnout of the last planting round in the autumn of 2019 demonstrated this again, when 15 people showed up for work for something that could easily be handled by 8 people. Already a group of local residents is included without real strategies for participation

However, the food forest is not used in the manner intended due to the various reasons that are described above which can affect participation (see 6.3.2). According to the initiator, *“there are a lot of people who are walking in the food forest every day. Also, a lot of people are walking their dogs there.”* Observations showed that indeed most of the visitors are walking their dogs or are working out. Moreover, during the observations there were only two visitors who are visiting the food forest specifically for food. This contributes to the argument that the it is not completely functioning as it should be.

Again, the biggest barrier is the time it takes for a food forest to mature, which can put pressure on the mutual cohesion between participants. One of the solutions already mentioned is establishing a local community group. Another solution Van Eck is suggesting is “part

vegetable garden and part food forest. You always have to work really hard in a vegetable garden: watering the plants, weeding, composting. This always continues.” In this way, the vegetable garden could function as a meeting place while at the same time the food forest can grow in peace.

6.6. Conclusion

At the start of this research, food forest Novio seemed to be the most accessible initiative because of its open character which became clear in its main perspective on accessibility. In practice, this openness is creating problems for the food forest that are affecting negatively on its accessibility and inclusiveness. One of the biggest problems that affects its accessibility is the availability of products. Right now, there is almost no harvest which is partly related to the 10 years it takes before a food forest is matured and harvest is possible. On the other hand, the open character of Novio poses risks to the development, because visitors do not recognise it as a food forest since it is part of a broader park area in the city. This is also something where knowledge is lacking, because the main public do not know how long it takes before a food forest is matured and what it looks like. Moreover, a large share does not have enough knowledge about edible forest which makes them hesitant to pick berries and other greens. These kinds of problems are barriers for local residents to participate in food forest Novio.

Solutions to change the accessibility of food forest Novio and make it more inclusive for local residents can be the combination of food parks and food productive forest. In this case, people can discover edible forests in their own living environment in the food parks and could function as a showcase for food productive forest in peri-urban areas. Still, active knowledge sharing about edible greens and berries by organising guided tours for example, are necessary. To conclude, mainly because of the lack of knowledge and availability of products, the food forest is not functioning in the way it was intended. Right now, people from the neighbourhood mainly use it as a place to walk their dog and it is not used as a food productive space.



Chapter 7

Conclusion, discussion and reflection

7. Conclusion, discussion and reflection

This concluding chapter answers the main research question based on the results and analysis of the previous chapters (7.1). Then section 7.2 highlights some broader points regarding improving access to urban food and provides some recommendations for the initiatives that were studied. This chapter ends with a reflection on the research process and recommendations for further research (7.3).

7.1. Conclusion

The main driver behind this research is how to include everyone in a transition towards a sustainable and healthy food system. One of these alternatives in the wide variety of possibilities, is urban agriculture as discussed. In the introduction, we recognised that these urban food practices are often not accessible for everyone in society, although, they are aiming to be inclusive for everyone to participate (Allen & Wilson, 2008). It seemed to be that the current group who is involved in these kinds of practices are often already concerned with environmental issues and interested in local food (Alkon, 2008; Olsson, 2018; Kennard & Bamford, 2020). To see how urban food practices addresses accessibility and how inclusive they are in practice, three initiatives in Nijmegen were studied on their accessibility towards local residents. Therefore, the question central in this research was: *To what extent are urban food initiatives inclusive in their accessibility for local residents?*

Considering the findings of this research, urban food initiatives are more inclusive in their accessibility for local residents than expected, except for the food forest initiative. Different approaches of the initiatives to sustainability could influence their degree of accessibility and inclusiveness. All initiatives in this research operate from a certain view on sustainability and the urgency to contribute to a transformation towards an environmentally friendly, healthy and inclusive food system. However, it seems to be that including social sustainability in UA initiatives contributes positively to its accessibility for local residents. Both Het Heerlijke Land and VTTB include such a social function in their practice and do not only focus on producing food in an ecologically sustainable way. In contrast, food forest Novio seemed to be less accessible for local residents than expected, but they mainly focus on ecological sustainability and does not include a specific social function. Therefore, it seems to be that including social sustainability in urban food practices contributes to its accessibility and inclusiveness for local residents.

This becomes clear in the initiatives' general perspectives on accessibility. Both VTTB and Het Heerlijke Land focus on providing healthy and sustainable food for local residents, besides their contribution to ecological sustainability. Het Heerlijke Land focusses on including local residents in the production of sustainable and local produced food by enabling encounters between participants in the garden. VTTB aims to make healthy and sustainable food accessible in the neighbourhood with a specific focus on including vulnerable residents. On the other hand, food forest Novio focuses on environmental development inside the city by producing food. Their main perspective on accessibility is the open character towards the neighbourhood, because everyone can visit it at any time. However, this public green space character is negatively affecting the development of the forest right now and, therefore, its accessibility. In this ecological perspective, accessibility is subordinated because environmental development is the most important and this focus can be a barrier for participation. Besides this, time is a big issue, because it takes around 10 years before a food forest is matured and harvest is possible.

In practice, there are different indicators that are making urban food initiatives accessible for local residents to participate. In this research it is identified that knowledge is the most important indicator when addressing accessibility. Especially VTTB and Het Heerlijke Land focus on active sharing knowledge with their participants in order to make it more accessible for them. By doing so, it also can eliminate barriers for residents who are currently not involved. On the other hand, knowledge is one of the main barriers of food forest Novio regarding accessibility, which underpins the importance of it even more. Currently, the food forest is not working properly, partly due to this lack of knowledge towards local residents which negatively affects support from the neighbourhood. Thus, practice shows that knowledge can be considered as an important indicator when addressing accessibility issues, especially since it has the potential to increase inclusiveness when informing people on urban food related topics.

The argument of VTTB and Het Heerlijke Land being more accessible than expected, does not mean that there are no barriers at all. The most important one is affordability. Results show that each initiative has their own issues considering its affordability, which could potentially decrease accessibility. For both VTTB and Het Heerlijke Land the payment is considered as quite high, especially for people with low incomes. Another issue is diversity of participants, especially for VTTB and Het Heerlijke Land. Both initiatives have a rather white, and in the case of Het Heerlijke Land a high-educated group of participants. One of the main reasons could be this focus on sustainability, which creates a psychological barrier to participate. This could deter people or mean they do not feel welcome and therefore, could potentially exclude them. Especially, low-income communities do not have the time or mental space for sustainability issues and, therefore, this group often cannot participate in such initiatives. In this case, it is important to always connect to the community level to include people in order to be inclusive in their accessibility for local residents.

Each initiative deals with these barriers in their own way, meaning there are a variety of changes to increase their accessibility. Current changes are mainly focussing on affordability and entails setting up projects to include people with low incomes (i.e. Waardevolle Oogst), setting up different business models (“pay-as-you-like model”) and including the current community to donate money. These kinds of changes can help to make the initiatives more accessible to include a diversity of local residents. Also, for food forest Novio changes can be made to increase accessibility, such as the division between food productive forest in the peri-urban area and food parks in inner cities. Still, involving and educating people is one of the main priorities. Therefore, food forest Novio and other food forests in urban areas really need to come up with strategies to share knowledge actively and to keep people involved over a longer period of time.

To conclude, these changes are just the beginning in the process of making urban food initiatives more accessible. However, none of the initiatives investigated in this research have existed longer than five year. They are still in their developing phase and a lot of changes are still possible. This research does not judge the initiatives on how accessible they are, instead it explored how they address accessibility themselves; which barriers exist in practice and which solutions they are addressing to make their initiative more accessible to include a diversity of Nijmegen residents.

7.2. Discussion

Based on the conclusions, it seems to be that a strong focus on ecological sustainability can exclude social sustainability which is important when striving for inclusiveness for local residents. Therefore, both ecological and social sustainability should be unified in order to make it more accessible. In this research, the focus was on separate initiatives, although, it is important to see it as a network of urban food initiative in which they can learn from each other

to overcome this gap. The questions that rises is how we are going to overcome this gap between social and ecological sustainability. During this research on how UA initiatives address inclusive accessibility some similar barriers emerged. These similarities could be used to draw lessons from to overcome such a gap and could be generalised and used in this network of urban food practices to learn from to successfully address accessibility.

1. Active knowledge sharing with participants

Sharing knowledge about the urban food initiative is considered important in making UA accessible, because it is different from the current food system. To include everyone, it is important to share knowledge about a variety of topics, including different types of food or how to harvest it, as is done by Het Heerlijke Land. Moreover, it is also considered important to create awareness about how food grows and why sustainable food is necessary to reconnect the consumer to the origin of food.

2. Connection to the community level

Connection to the community level is a significant factor in accessibility of UA initiatives. When aiming for inclusiveness it is important to involve everyone by focussing on the community or individual level. The UA initiatives in this research are already mainly focussing on the neighbourhood level, although it is important for the initiators to be aware of their own position. For example, when focussing too much on their sustainability approach it can exclude people, because it can make it less welcome for them. Therefore, it is important to always keep connected to the community level.

3. Focus on shared responsibility

Based on the results, you could say that people need to be actively involved in UA practices to participate, therefore you could relate accessibility to shared responsibility or ownership. This relationship will be based on mutual trust, because people who would like to participate need to take this ownership and initiatives themselves should create a safe space to this. On the other hand, initiators and current participants have to trust new participants. If we aim for more inclusiveness in current UA practices, people need to take this responsibility or ownership, and also have confidence in each other.

These points can be central in a network of urban food initiatives to overcome the gap between social and ecological sustainability in order to make it more accessible and include a diversity of local residents.

However, during this research it became clear that you can aim for increasing accessibility, but the current system is even more important than considered beforehand. Particular attention must be paid to other structural injustices in cities such as racism, disinvestment and gentrification to solve accessibility issues (Siegnier et al., 2018). Additionally, the current system is focussed on capitalism and efficiency, which is often characterised as money-driven and individualistic (Allen & Wilson, 2008; Alkon & Guthman, 2017). Therefore, alternative (food) systems and practices are necessary where different possibilities can exist next to each other without one being predominant (Bohn & Viljoen, 2017). Here we can challenge society to think differently about system failures and force them to look at it from different perspectives. Moreover, urban farmers cannot solve these kinds of issues on its own. Therefore, society (state, market and civil society) need to come up with solutions such as additional policy and market strategies to overcome inequality barriers and to make alternative food practice more accessible.

7.3. Reflection

This section reflects (theoretically and methodologically) on the research process of this thesis. Moreover, it gives some recommendations for further research regarding different aspects of inclusiveness in accessibility of urban food.

7.3.1. Reflection on research process

Doing scientific research and writing a master thesis is always a lengthy process and takes a lot of perseverance at all times. However, the current crisis made the research process of this thesis even more challenging but also made it more urgent and relevant than before. Therefore, I hope that the outcomes of this research are a useful contribution to existing projects on urban agriculture which strive for inclusiveness. This section reflects on the usability of the theoretical concepts and methods used to conduct this research.

Theoretical reflection

In chapter 2, a conceptual framework on accessibility is created, including different indicators. While gathering and reading scientific literature on access to food and equality in food systems, it became clear that there is an enormous amount of literature available. This made selecting useful theories quite complicated, especially since there was not comprehensive theory on the accessibility of alternative food practices available yet. Therefore, combinations of different theories on food justice, food security and food sovereignty were made, because these bodies of literature often refer to accessibility issues, each in their own way. This resulted in the current conceptual framework with physical, economic and social perspectives on accessibility, including a set of indicators for each perspective.

Already from the start, the main idea was that this was not a comprehensive model to test accessibility of urban food practices, but a conceptualisation of the researcher itself. During the research it became clear that these are not the only indicators of accessibility. Convenience for the consumer could be a separate indicator, where it is now implicitly part of the location, availability and time investment indicators. Moreover, psychological barriers for participation should be incorporated in further research, because this is more important than considered beforehand but also more difficult to research.

It is not only the addition of indicators but also the expansion of current indicators, such as time investment. During the research, it became clear that time investment as in the unpaid work involved in alternative food practices could be a barrier. It could also be time as during what time of the day people can participate. Results from Het Heerlijke Land and VTTB both showed that this can be a barrier for some people. Thus, some of the indicators can be expanded to include even more aspects of accessibility.

Methodological reflection

The three urban food initiatives were selected on their basis of their openness towards the consumer. However, it has turned out to be more complicated than that. At first, the appearance of the selected cases was indeed more open or closed towards the consumer. However, during the research it became clear that there is a whole set of other indicators that defines how open or closed an UA initiative is. This is not a negative thing, but it shows how the researcher perspective changed during the research.

The main research methods used were semi-structured interviews and questionnaires to gather a variety of perspectives on accessibility issues. In the end, twelve interviews and one questionnaire were conducted, which resulted in an impressive amount of data. For each initiative both initiator and one other person involved in the project were interviewed to increase the reliability of this research. My personal opinion is that it was really interesting to gather different opinions on the same topic, which gives this research a variety of perspectives.

However, due to the current crisis it was really difficult to approach people for interviews, especially participants and local residents. Therefore, interviews were conducted with community workers and neighbourhood managers to include a consumer perspective in this research, because this was considered important at the beginning of this research. Moreover, some observations were conducted at VTTB and food forest Novio, although the researcher was not allowed to talk to participants of VTTB during the observations. Therefore, small changes in the focus of this research had to be made to adjust it to the results that were available. In the end, the collected data was enough to answer the main research question but adding more perspectives of consumers would have been interesting.

7.3.2. Future research

This research has some limitations. Firstly, something that is not included in this research right now, is the cultural acceptability of urban produced food or the willingness of individuals to change behaviours (diet, grocery shopping, convenience, etc.). It is something that would be highly relevant to investigate further, because it can influence peoples' mindset to participate in UA practices. Moreover, there is increasing academic interest in the whiteness in alternative food movements (Slocum, 2007; Guthman, 2008; Alkon & Agyeman, 2011). This issue is already mentioned shortly but could be addressed more in depth to see how this affects the accessibility of UA practices. Lastly, it could be interesting to investigate people's agency or capacity to participate in alternative food practices. This could include discussions about how much knowledge and interest about sustainability issues and food is required to be able to participate.

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