Building agro-cities: can Nijmegen follow Almere's urban farming example?

A case study of the implementation of agro-city policy in Nijmegen

Bachelor thesis Geography, Planning and Environment (GPE)
Nijmegen School of Management
Radboud University
August 2023

By Kyra van Houten, Rosa van Engelshoven and Tim van Ark

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Summary

The city of Almere is the frontrunner in integrating urban agriculture (Leerstoelgroep Landgebruiksplanning, n.d.) and developed a planning framework to create a diverse and food producing city district in which urban agriculture is a major aspect, also known as an agro-city (Jansma et al., 2011). Sustainability and ecology are the central themes in this district and urban agriculture was identified as one of the means to achieve this ambition as it makes the city greener, more sustainable and provides more services than just food production (Jansma & Wertheim-Heck, 2021). Thus, the agro-city Oosterwold was created. This district was to become a multifunctional area where a mix of different land uses was encouraged. Agriculture, leisure, ecology and water retention in and adjacent to the built-up environment (Leerstoelgroep Landgebruiksplanning, n.d.). In doing so, the link between rural and urban areas is restored (Forster et al., 2015). The district measures a total area of 4300 hectares and is the future home to approximately 15.000 households. Of this area, fifty percent is dedicated to urban agriculture (Jansma & Visser, 2011; Jansma & Wertheim-Heck, 2021). The city aims to develop this area as a continuously productive urban landscape, where ten percent of Almere's future food will be produced (Jansma & Wertheim-Heck, 2021).

Research is needed to see how other cities can follow Almere's example. This brings us to Nijmegen. Unlike Almere, the city does not have a policy on integrating urban farming into the city as of yet. Nijmegen still being new to urban farming, the question is how they can apply an agro-city policy themselves. However, there are other cities in the Netherlands that already have integrated some type of urban agriculture, Arnhem being one of them. Arnhem has historically been active in urban agriculture, as their school garden program dates back a hundred years. Nowadays, the city has a policy on promoting and facilitating urban agriculture (Arnhem, 2017).

The aim of this research is to acquire knowledge on how Almere became an agro-city in order to draw lessons on how a similar type of policy could be implemented in Nijmegen. Arnhem serves as an example to bridge the gap between Almere and Nijmegen. The central question of this research is as follows: How can an agro-city planning policy be applied in Nijmegen and what can be learned from Almere and Arnhem? In order to answer this question, social practice theory was used. This theory can be used to look at practices through the lens of meanings, competences and materials. This means that we can see how the practice of agro-city Oosterwold came to be and how this practice can be followed by other cities. For this research, meanings were interpreted as ambitions and values, competences as knowledge and skills, and materials as resources like tools, infrastructure and money.

The meanings, competences and materials needed to become and agro-city were explored by means of conducting policy document analysis, interviews, observations and literature review. Data from interview transcripts and policy documents were analysed in Atlas.ti. A three-step coding strategy was used that is inspired by the strategy grounded theory used as described by Creswell and Poth (2018). The first step of the coding strategy is open coding. This is done by quickly reading the document or transcript and coding words, sentences or paragraphs that relate to meanings, competences and materials. After this first round of coding, the codes are polished and similar codes merged. When the list of codes is tidied up, the second step is analytical coding. Codes that seem to belong together are combined in categories. The final step of grounded

theory analysis is theoretical coding. However, for this research, networks were used to form a clear picture for the recommendations. Insights from the analysis of the policy documents were also used in interviews with policy makers. For instance, interviewees could indicate where reality departed from the policies' ambitions. This double checking allowed for a greater depth when doing the interviews.

From the literature review and the interviews we learned that urban farming has had a hard time coming off the ground (Blaauw, June 2, 2023; Dekking, June 1, 2023; Jansma, May 8, 2023; Sikking, May 15, 2023; Van der Ham, May 26, 2023). Over the years, Almere changed its approach as some unforeseen problems emerged. This means that other cities can not only learn from Almere's example, but also from the municipality's mistakes. Additionally, from Nijmegen's policy documents and the interview with Verhoeven (June 9, 2023) we learned that the city is already making strides to facilitate and support urban farming. As such, the lessons learned from Almere and Arnhem were adjusted to be more relevant for Nijmegen.

There are many ways to create an agro-city. As such, there is no need to copy Almere's example. In Nijmegen, there is both political will as well as a demand from citizens for urban agriculture. They can use the agenda-setting potential of their Strategy on Spatial Planning 2020-2040 to draft a larger and more concrete vision on food and urban agriculture. This vision should build upon Nijmegen's context and tie in with the city's story. The definition for urban farming from GroenLinks' initiative council proposal should be embedded in this new vision, so that it can be clearly communicated to create a common meaning. The ambitions in this new vision should be realistic and achievable. Additionally, it is important to work out the potential of these ambitions as a reminder why the municipality wants to facilitate urban farming to begin with.

Regarding participation, citizens attach great value to space for private initiatives. Nijmegen already pursues a bottom-up strategy and wants to actively facilitate and support initiatives. Nijmegen's Urban Agriculture Desk is a great way to support initiatives that already exist by strengthening and expanding their network. Subsidies, on the other hand, might attract fortune seekers that are not invested in the cause. Additionally, the municipality should take responsibility when citizens are not able to.

Nijmegen could do more in the field of education and, thus, broaden its focus beyond urban agriculture to encompass the overarching theme of food. Arnhem has demonstrated that nature and environmental education is very successful and can create awareness of a healthy and green living environment and food, which is fundamental to change and people's approach to food. Nijmegen could achieve this by incorporating these themes into the curriculum of primary and secondary schools.

Nijmegen excels in partnership with surrounding municipalities and the city's existing food and urban agriculture networks. This local perspective is crucial for the further development of their urban agriculture policy. However, collaboration with other cities and knowledge institutions outside of Nijmegen has also proven highly important. The municipality of Nijmegen needs to gain more knowledge of developments in urban agriculture across the Netherlands, such as the project in Almere Oosterwold. By seeking collaboration beyond the municipality and immediate neighbours, Nijmegen can stay informed about the latest developments, learn from other cities' experiences, and stay updated on innovations in urban agriculture.

Additionally, Nijmegen can seek collaboration with other cities through City Deals. In doing so, you can join forces against governmental bodies and the food industry or even convey a message to Brussels, urging these parties to take more steps towards

sustainable food policies. This could involve, for example, implementing a ban on promotions for meat consumption or fast-food chains.

Regarding materials, space within Nijmegen is scarce, but this does not mean urban agriculture is not possible, for there are multiple ways to engage in urban farming. This could already be done by promoting healthy and sustainable food consumption, or having a vision on food as discussed above. This vision should entail how the municipality would want to deal with the food landscape, which could include allowing less fast food chains within the city or encouraging people to eat in other ways. Next, enforcing rules costs materials such as manpower and money. The municipality should not set rules it cannot enforce if there is a lack of these materials. Enforcing rules can be done in different ways depending on the rule. Sometimes, only a gentle hand can suffice. Furthermore, when applying a policy it is important to give the process time. Change happens gradually, so developing an area is a long process in which you have to deal with various procedures and permits. Making long-term vision is thereby a requirement.

This research on urban agriculture answered questions and raised questions for further research. To begin with, we asked multiple interviewees if the agro-city policy in Almere Oosterwold could be considered a success. It became clear that Oosterwold is still too young to determine whether it is successful. Multiple interviewees, such as Jansma, Sikking, and Blaauw, stated this. [Come back in ten years] (Jansma, interview, May 8, 2023). In the future, a study should be conducted to determine whether Oosterwold's agro-city policy was successful.

Secondly, the component competencies of social practice theory require more in-depth attention in subsequent research. Specifically, identifying competencies within policy documents did not emerge clearly from our analysis. While the interviews provided additional insights, there is room for further elaboration. Moreover, future research should emphasise assessing the competencies of city residents and initiators to determine whether they possess the necessary level of knowledge and skills for effective engagement in urban agriculture.

Finally, further research could focus on the effective collaboration between universities, universities of applied science, and municipalities in addressing real-time urban challenges. The interview with Verhoeven, Policymaker Greenery and Climate Adaptation, showed that Nijmegen aspires to cooperate closely with knowledge institutes in the future to acquire knowledge through student research. Questions emerge about how these institutions can assist municipalities in developing the city. What role can students play in this regard? And how can research assignments from the municipality become part of the curriculum?

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1 Introduction

This first chapter provides the introduction for this bachelor thesis and the research that was done in light of it. Firstly, paragraph 1.1 delves into the research context. Following, paragraph 1.2 will introduce the research aim and questions. The scientific relevance of this thesis is explained in paragraph 1.3. The societal relevance is elaborated on in paragraph 1.4. Finally, paragraph 1.5 will provide the reading guide for the rest of this thesis.

1.1 Research Context

Urban areas are facing many challenges nowadays, some notable drivers being the growth of the urban population and climate change. Today, 55% of the world's population lives in urban areas, which is expected to grow to 68% by 2050 (Profiroiu et al., 2020). On top of that, cities are dealing with the consequences of climate change. In particular, the increasing frequency of extreme weather events such as warmer air temperatures by day and night over most land areas; more frequent and more prolonged heat wave events; changes in precipitation statistics, and the intensity and duration of drought and high-sea level events (Oke et al., 2017). These challenges threaten the well-being of society and the quality of life (Profiroiu et al., 2020). For this reason, questions about sustainability, resilience and the liveability of urban areas are becoming more and more relevant. Questions that are complex but closely linked. In this thesis, one approach is explored to take on these challenges, which is promised to positively affect a wide range of issues in urban areas (Profiroiu et al., 2020).

Green planning is a way to address these challenges as these plans are "comprehensive environmental strategies intended to improve environmental quality and make rapid progress towards sustainability" (Environmental Encyclopedia, 2023). One of these strategies is the implementation of green and blue infrastructures that alleviate a wide variety of urban issues (Van Veenhuizen et al., 2006). Oral et al. (2020) defined these infrastructures as "strategically planned networks of natural spaces in cities that minimise the effects of climate change on urban areas and create various ecosystem services with benefits for the society, environment, and economy". It helps cities to become more sustainable and resilient. Additionally, it is a way to improve the quality of life for its citizens. A type of green and blue infrastructure is urban agriculture, which is defined as "[the production of] food and food products within the city or in the city's fringes and [it] comprises various production systems, ranging from subsistence production and processing at the household level to fully commercialised agriculture, and simultaneously provides non-food products and services for city dwellers" (Van Veenhuizen et al., 2006; Jansma & Visser, 2011). An approach that is increasingly accepted and a used tool in the sustainable development of cities (Van Veenhuizen et al., 2006), but still perceived as a source of pollution and activity that cannot compete with urban land use (Leerstoelgroep Landgebruiksplanning, n.d.).

Urban agriculture can be implemented in many forms and scales and take on different roles. Urban farming can be, for example, a garden on a rooftop, a professional city farm, or even an agro park. It can be focused on, for example, education, energy, waste cycles, water management, and of course, food production (Jansma et al., 2011; Leerstoelgroep Landgebruiksplanning, n.d.). The city of Almere is the frontrunner in

integrating this approach (Leerstoelgroep Landgebruiksplanning, n.d.) and developed a planning framework to create a diverse and food producing city district in which urban agriculture is a major aspect, also known as an agro-city (Jansma et al., 2011). The ambition to develop such a district is the result of a critical reflection of the city itself on the past thirty years of development. Previous development was mainly focused on the production of houses for the growing population of Randstad, a large metropolitan area in the West of the Netherlands (AIPH, 2021). The city council concluded that Almere had become a subject to monotonous real estate development with insufficient infrastructure and limited amenities, resulting in an unattractive living and working environment (Jansma & Wertheim-Heck, 2021). Creating an attractive living and working environment was, therefore, the focus of the further development and expansion of the city. From now on, sustainability and ecology were the central themes in the city expansion, which led to the following seven development principles: cultivate diversity, connect place and context, combine city and nature, anticipate change, continuous innovation, design healthy systems, and empower people to make the city (Jansma & Visser, 2011). Urban agriculture was identified as one of the means to achieve this ambition as it makes the city greener, more sustainable and provides more services than just food production (Jansma & Wertheim-Heck, 2021).

Based on these new principles and with urban agriculture as an approach to achieve the ambitions of the city, the agro-city Oosterwold was created. This district was to become a multifunctional area where a mix of different land uses was encouraged. Agriculture, leisure, ecology and water retention in and adjacent to the built-up environment (Leerstoelgroep Landgebruiksplanning, n.d.). In doing so, the link between rural and urban areas is restored (Forster et al., 2015). The district measures a total area of 4300 hectares and is the future home to approximately 15.000 households. Of this area, fifty percent is dedicated to urban agriculture (Jansma & Visser, 2011; Jansma & Wertheim-Heck, 2021). The city aims to develop this area as a continuously productive urban landscape, where ten percent of Almere's future food will be produced (Jansma & Wertheim-Heck, 2021).

Almere is unique due to fifty percent of the land being dedicated to urban agriculture in the new district. However, there are other cities that also already have some type of urban agriculture, Arnhem being one of them. Arnhem has historically been active in urban agriculture, as their school garden program dates back a hundred years. Nowadays, the city has a policy on promoting and facilitating urban agriculture (Arnhem, 2017). Almere remains the main topic within our research. However, in search of a way to implement urban farming in Nijmegen, Arnhem might serve as a stepping stone in bridging the difference between the oldest and youngest city in the Netherlands.

This brings us to Nijmegen. Unlike Almere and Arnhem, the city does not have a policy on integrating urban farming into the city as of yet. However, as we will learn later, it is making strides to increase urban agriculture within the city. The first steps have been taken to start promoting and facilitating urban farming. Not only are resources allocated to the cause (Moerkerk et al., 2022), but the municipality is also working on *Loket Stadslandbouw* (Urban Agriculture Desk), to support and expand the existing network of urban farmers in the area (Ruivenkamp, 2022). However, Nijmegen still being new to urban farming, the question remains how they can apply an agro-city policy themselves. This brings us to the aim and research questions of this thesis.

1.2 Research Aim and questions

The project of Almere Oosterwold is a unique example of how urban agriculture can be integrated into urban areas. However, all cities have their history, context, characteristics, and visions that make them unique and therefore determine the possibilities for implementing urban agriculture in these urban areas. Nijmegen is no exception to that. This research attempts to identify the possibilities for Nijmegen to implement urban agriculture into the city and make recommendations for the city to become an agro-city. In order to do this, Arnhem will serve as inspiration to bridge the gap between Nijmegen and Almere.

The aim of this research is to acquire knowledge on how Almere became an agro-city in order to draw lessons on how a similar type of policy could be implemented in Nijmegen. Arnhem serves as an example to bridge the gap between the two cities. The central question of this research is as follows: How can an agro-city planning policy be applied in Nijmegen and what can be learned from Almere and Arnhem?

The following sub question will answer this question:

- What are agro-cities?
- What does Almere's agro-city planning policy look like?
- Which meanings are needed to become an agro-city?
- Which competences are needed to become an agro-city?
- Which materials are needed to become an agro-city?
- What is Nijmegen's current approach to urban farming?
- What can Nijmegen learn from Almere's and Arnhem's planning policies?

1.3 Scientific Relevance

Although the integration of food into urban planning is becoming more common in various cities and regions, Cabannes and Marocchino's study (2018) suggests the need for further research on the integration of urban agriculture policies to make the concept more visible to a broader audience and to reflect on the limitations and successes of implementing such policies, as information in this field is currently scarce. Implementing urban agriculture to make cities economically, socially, and environmentally sustainable and resilient is still an ignored option in most cities (Jansma, n.d.; Van Veenhuizen et al., 2006). Consequently, urban agriculture is still not or minimally addressed in national and local policies or is not acknowledged as a valid form of urban land use (Van Veenhuizen et al., 2006).

Researchers from Wageningen University & Research share this sentiment. From the beginning, they have closely followed the development of urban agriculture in Almere and produced many articles (Dekking, 2018; Jansma et al., 2008; Jansma et al., 2011; Jansma & Visser, 2011; Jansma & Wertheim-Heck, 2021). It is also the university's understanding that case studies are needed of the planning process and its implementation. This way, light can be shed on obstacles and solutions for other cities (Leerstoelgroep Landgebruiksplanning, n.d.). Jansma (n.d.) also emphasises the need for research on the obstacles and possibilities in new contexts as to provide applicable, valuable insights for other cities or contexts. Because spatial concepts, like agro-cities, are subject to specific location-based rules, regulations, and characteristics, which may differ or overlap to some extent in different contexts (Jansma, n.d.). This is why research

on the implementation of an agro-city planning policy in Nijmegen is relevant; the benefits and challenges associated with such policies can be identified, as well as the potential solutions to these challenges within a different context.

1.4 Societal Relevance

Food production within urban areas has numerous benefits beyond simply providing food. Urban agriculture is an overarching concept that offers solutions to various environmental and socio-economic problems. It also promotes health and well-being and contributes to the concerned region's overall development. Urban agriculture creates green spaces in cities that serve as more than just areas for food production. These spaces can provide additional benefits such as energy, care, education, and recreation for the citizens, thereby fostering a more sustainable and livable city (Jansma et al., 2008).

Integrating urban agriculture into cities increases green infrastructure, which positively impacts the health and well-being of the residents and makes the city more resilient to climate change. Studies conducted by White et al. (2013), Wood et al. (2017), and Sugiyama et al. (2008) demonstrate that access to green spaces has a positive effect on the mental health and well-being of individuals. Furthermore, a study by Pereira et al. (2012) found that living in areas with high-variable greenery stimulates physical activity and reduces the likelihood of hospitalisation for cardiovascular disease by 37%, leading to lower medical costs.

In addition to these benefits, urban agriculture and creating green spaces within cities enhance their resilience to climate change, particularly in extreme weather conditions, by regulating urban microclimates. For example, the evaporation of plants increases air humidity, acting as a buffer against the urban heat island effect (Langemeyer et al., 2021), or the study by Zupancic et al. (2015) that observed a temperature difference of approximately 3.5 degrees Celsius between a green area with grass and trees and a similar area without greenery. Moreover, urban agriculture has the potential to enhance biodiversity due to its comprehensive and diverse nature. This, in turn, improves the quality and quantity of ecosystem services provided throughout the urban landscape (Lin et al., 2015). These services encompass clean water supply, nutrient cycling, waste management, and energy provision (Forster et al., 2015). By reusing or recovering resources from urban waste flows, cities can close resource cycles within their boundaries and enhance sustainability.

Producing food within the fringes of cities leads to shorter food chains, which yield economic, social, and environmental benefits and positively influence health (Kawecka & Gębarowski, 2015). Local food production positively affects the local economy by generating employment opportunities and retaining financial capital within the area. Supporting local businesses and service providers becomes easier (Forster et al., 2015), (Kawecka & Gębarowski, 2015), and (Hughes & Boys, 2015). Additionally, locally-produced food exhibits a better price-quality relationship, offers certainty regarding its origin, provides higher purchase security, supports local farmers, and possesses high health and nutritional value (Kawecka & Gębarowski, 2015) and (Forster et al., 2015). Moreover, the link between urban and rural areas created by implementing urban agriculture is crucial for farmers' access to markets and services. This allows farmers to easily sell their products at farmers' markets and food hubs (Forster et al., 2015). Strengthening local food systems can also help mitigate the effects of price volatility and shocks in international markets, such as the COVID-19 pandemic or conflicts while

providing more accessible markets for regional food producers (Forster et al., 2015). Urban agriculture and selling products within the production area also hold environmental and social dimensions. Products travel shorter distances than those produced for the global market, and natural resources are used more sustainably, significantly reducing environmental impact.

Shorter food chains in urban areas have social benefits as they provide access to affordable, nutritious, and ethically traded food from local and regional producers, benefiting communities of all socio-economic backgrounds (Forster et al., 2015).

The study by Ilieva et al. (2022) emphasised that urban farms contribute to social cohesion, fostering connections among people and community engagement where knowledge and resources are exchanged. Engaging low-income families in urban agriculture can serve as an empowering tool, enhancing their understanding of food and nutrition and their skills in gardening (Lovell, 2010). This aligns with the provision of education in urban farms, which offers additional societal benefits. This education encompasses gardening skills, knowledge of healthy nutrition, and personal growth, all of which positively influence the health of urban citizens (Ilieva et al., 2022).

So, urban agriculture is a multifunctional approach to urban development, encompassing various aspects of addressing societal issues, enhancing the well-being of city residents, and addressing the challenges cities face. Researching the implementation of urban agriculture becomes relevant to learn from experiences in other cities and exploring the potential benefits it can bring to other cities. In this case, Nijmegen.

1.5 Reading Guide

Following this introduction, Chapter 2 will define some important concepts that were used in this research. The theoretical framework is also explained and the conceptual model that was used is presented. Chapter 3 contains the methodology. The philosophy and strategy behind the research are explained and a description is given of the research process. In Chapter 4, the context is provided for this research. It is explained what agro-city Oosterwold is. Additionally, a comparison is made between Almere and Nijmegen to show how these cities are alike and also different. Chapter 5 reports the findings. The paragraphs are ordered in a similar way to the subquestions. The first two paragraphs, 5.1 and 5.2 are mostly the result of literature review. The rest of the chapter discusses information acquired during the interviews and from policy documents. Following the results, Chapter 6 will present the lessons that were learned from Almere and how they might apply to Nijmegen. Finally, Chapter 7 answers the research questions and presents the recommendations for Nijmegen. Reflection on the research process is done in chapter 8.

2 Theoretical and Conceptual Framework

To analyse the planning practices and thereby obtain an understanding on how the policy in Oosterwold came about, we use the social practice theory. We closely examine in what way behaviour change processes come about, with all the aspects and complexities of daily life. In contrast to other approaches to behaviour change, social practice theory de-centres individuals from analysis and focuses more on the social and collective organization of practices. It offers a broad and holistic approach to the analysis. To get a full picture of the theory used in this research, we first start with definitions used in the research, thereafter a discussion of the theories used in the analysis of policies. Focusing on the social practice theory, we start the background of the theory, which will then be applied to the context of this research and clarified with the conceptual model.

2.1 Concepts and definitions

This paragraph will provide the definitions of concepts that were used in the research.

2.1.1 Planning Policy and Regional Planning

Planning Policy is the method by which the development of land and buildings is planned for, managed and controlled. These policies are designed to guide future development in the area, how much development there should be and where it should end up (East Hampshire District Council, n.d.). In this research, we focus on Dutch spatial planning policies, such as the Act (WRO). This policy sets down how the spatial plans of the state, provinces and municipalities are affected. The spatial visions of these groups describe the spatial developments they can expect, together with the way these developments will be directed or implemented. In the Netherlands, spatial planning decisions are made at the national, regional and local level (Ministerie van Infrastructuur en Waterstaat, 2017).

For the analysis of a municipality, analysing from a regional level is needed. Regional planning can be described as “the integrated management of the economic, social, and physical resources of a spatially bounded area” (Johnson, 2015, p. 1). It is the effort of society or factors within the society to intervene in the development of an area (Johnson, 2015).

2.1.2 Garden City, Urban Farming, City Region Food Systems and Agro-City

Garden City

In 1898, the book “Garden Cities of Tomorrow” was published by Ebenezer Howard. He developed a system of smaller and larger cities that would enhance each other. The cities would offer services, such as amusement, job opportunities and higher wages, together with fresh food and low rents. In his opinion, the optimal size of the central city would house around 58,000 people, and the ring of second tier ‘garden cities’ would house around 32,000 people. The smaller cities would be connected by a railway, located near the central city, agricultural land and allotment areas. The total population within the system of central and second tier ’garden cities’ would be self-sufficient in terms of food, ecosystem services and jobs and would host around 250,000 people. This concept has been applied in at least two British cities and in the original plans of the Dutch city Almere (Van Der Gaast et al., 2020).

Urban farming

Mourgeot (2000) came up with the most commonly used definition of urban agriculture in the literature. “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 or 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, 2000). According to Mougeot (2000), most urban agriculture lies between two extremes. On the one hand, there is the highly intensified and specialised enterprise that might grow and sell high value vegetables to consumers and is able to produce an income. On the other hand, there is the part-time farmer who grows food mostly for self-provisioning and saves some money on groceries (Mougeot, 2000). The second extreme seems closely related to allotment gardening in the Dutch context.

Which functions urban agriculture fulfils highly depends on the type of urban agriculture that is put into practice. Nevertheless, urban agriculture is socially, economically and ecologically integrated in the urban system, can fulfil multiple functions, and create diverse and producing city districts, as urban agriculture provides food in combination with other services (Jansma et al., 2011, p.3; Müller et al., 2022).

City Region Food Systems

To understand what a City Region Food System (CRFS) is, we need to trace back to its origins, namely the period after the Second World War. In the Netherlands, a policy was implemented that focused on developing compact cities, allowing maximum space for agricultural practices and food production. This policy resulted in the segregation of urban life, nature areas, and agriculture, with minimal interaction between them (Jansma, interview, May 8, 2023). This concept proved highly successful for the Netherlands, as it propelled agricultural development in a specific direction, making it the second-largest agricultural exporter in the world (Centraal Bureau voor de Statistiek, 2022). However, as Jansma pointed out, “*het zijn niet alleen de vruchten die we plukken, maar ook andere ellende,*” [It’s not just the fruits we reap, but also other trouble] (interview, May 8, 2023). This refers to challenges like the nitrogen crisis and depleted land with low diversity. As Jansma stated in the interview, “*Als je hier in die kale velden kijkt, dan denk je van nou ja, het is een soort woestijn*,“ [When you look at these barren fields, you would think, well, it’s kind of like a desert] (interview, May 8, 2023).

Aside from the environmental concerns, there is a significant disconnect between people and agriculture, leading to a strong political divide between rural and urban areas. According to Jansma, this raised the question in the scientific community and the urban regions whether separating functions is the right direction of urban development and whether integrating functions may be a more suitable approach (interview, May 8, 2023). In response to this question, concepts like City Region Food System and the agro-city emerged, where food is used to strengthen the rural-urban linkages (Jansma, interview, May 8, 2023; RUAF*,* n.d.). However, CRFS is more widely used in international literature.

City region food systems (CRFS) is an approach that aims to develop sustainable and resilient food systems using the city region's perspective (Blay-Palmer et al., 2018). City regions can be described as nodes of human activity that typically encompass large cities or systems of medium-sized cities in close geographical proximity. These regions connect economic and social developments within suburban, peri-urban, and rural areas,

forming a dynamic interaction between urban cores and their semi-urban and rural hinterlands (Rodríguez-Pose, 2008). City regions often embrace bottom-up policy approaches, emphasising subsidiarity and local decision-making as suitable platforms for community engagement (Blay-Palmer et al., 2018). Additionally, the city region concept has been employed to understand resource flows better and minimise environmental impacts by, for example, improving resource utilisation efficiency and waste management (Blay-Palmer et al., 2018).

The CRFS approach aims to enhance the resilience and sustainability of food systems within urban centres, peri-urban and rural areas surrounding cities by strengthening the linkages between rural and urban areas (RUAF, n.d.). It provides a concrete and coherent framework for addressing multiple challenges simultaneously, such as sustainable urbanisation, food and nutrition security, job creation, environmental and natural resource management, rural development, sustainable agricultural production, distribution, consumption, and marketing. Furthermore, it supports participatory governance (Dubbeling et al., 2016).

CRFS explicitly considers the flows between rural areas and cities, foregrounding rural needs as essential in their own right rather than solely serving urban centres. This approach facilitates meaningful development in both rural and urban contexts (Blay-Palmer et al., 2018) and (Rodríguez-Pose, 2008).

Agro-City

As mentioned earlier, the agro-city concept emerged in response to the separation of functions in urban development, offering the alternative of integrating functions (Jansma, interview, May 8, 2023). Although the term “agro-city” has been used in a few papers about urban agriculture, there is no precise and widely accepted definition of an agro-city. However, by examining policy documents from Almere and based on research from Wageningen University, a working definition was established: the term "agro-city" refers to a spatial concept that prioritises urban agriculture as the primary strategy for achieving the city's ambitions, such as fostering climate resilience, circularity, and energy self-sufficiency (Almere, 2022a; Jansma & Visser, 2011). This definition will be used in this research, as the researchers of Wageningen University use the term to refer to the new neighbourhood of Oosterwold, Almere.

2.1.3 Self-Organisation

Almere, unlike many other cities, has the administrative will to
to give future residents room to influence their own living areas. They experiment with individual development within the city, through self-organisation (Almere, 2012). It is therefore important for this research, to define the concept of self-organisation.

The self-organisation approach has originated back to the ideas of Prof. Sergio Porta and dc. Ombrella Romice and their ideas about plot-based urbanism. According to them: “One major characteristic of the different discipline is a focus on self-organization in the formation of urban space. This focus means conceiving the city as the stratification of billions of projects and plans, some large and some small, some collective and some individual, in an endless mutual interaction in time.” (2010, p. 7). Self-organization has thus nothing to do with chaos, but is instead a higher level of order. Most, if not all, lively and successful parts in cities are the areas less planned and more complex. A collection of various initiatives can thus lead to a coherent ensemble. This turnaround from housing

for citizens to housing by citizens symbolizes the empowerment of society. This means strengthening the social, economic, political, educational, spiritual and racial strength(s) of the individual and the whole of society (Almere, 2012). It is important to understand, enable and preserve under present conditions and keep controlling and changing the area. For this, the right structuring principles have to be in place, in which many processes can occur, such as top-down actions which still cherish the local history of the area (Porta & Romice, 2010).

2.2 Social Practice Theory

Explaining behaviour is a difficult task that can be approached at many levels. Because we study the policies of Almere, Arnhem and Nijmegen, theories and concepts are needed to encourage communication and discover possible explanations for, in our case, policy actions. Various theories are used to analyse policies, such as political systems theory, group theory, elite theory, institutionalism and rational-choice theory (Anderson, 1997; Mustafa et al., 2021). Each approach has its own important features to take into account when analysing a public policy (Mustafa et al., 2021).

Systems theory is a broad descriptive theory regarding various parts and levels in a political system interacting with each other (Roskin, 2023). Using the definition of David Easton on the political system, it is clear that Easton's conception of public policy is the response of a political system to the demands of the environment. The political system consists of interrelating institutions and activities in a society that make decisions binding to that society. The environment consists of various systems (social system, economic system, biological setting) linked to the political system (Anderson, 1997). Inputs into the political system can be done through demands and support. Demands are the claims for action by groups and individuals to satisfy their values and interests. Support is done when individuals and groups accept the decisions and actions of the political system. The work of the government is considered as output (Anyebe, 2018).

The group theory emphasises the influence of interest/pressure groups. According to this theory, public policy is the product of the struggle of different social groups of a society. The temporary point of compromise reached in the course of the struggle results in a new policy or an alteration of an old policy (Anyebe, 2018; Mustafa et al., 2021).

Public policy involves the preferences and ethics of the elite class, known as the government. In this model, it is assumed that policy decisions are the sole responsibility of this small class. It is stated in the elite theory that policy is the product of elites, reflecting their values and serving their ends (Anyebe, 2018; Mustafa et al., 2021).

Next to that, public policy is authoritatively determined and implemented by governmental institutions. An institution can be described as a set of regularised patterns of the behaviour of humans, better known as rules or structures. These behaviours persist over time and perform a significant social function or activity. Institutional structures, arrangements, and procedures can affect decision-making and therefore the content of public policy (Anderson, 1997).

Rational choice theory: A rational model suggests that administration should adopt policies that acquire maximum benefits at the lowest costs. Political actors pursue, like economic actors, their own self-interest. Decision makers are guided by preferences and try to maximise the benefits they gain. Even though rational-choice studies are often too narrow and rigid in their assumption, mathematical equations, abstractions and a simple

view on reality, it is important to acknowledge self-interest as a motivating force in policymaking and politics in general (Anderson, 1997; Mustafa et al., 2021).

Public policy is a complex process, differing in context and scope between countries and dependending upon their ideologies and the governing system in place (Mustafa et al., 2021). These theories together, give a general and abstract nature, which gives a good overview over some important facets of a political process. However, they do not say much about the procedures in which decisions are made. While these theories can be somewhat relevant to the practical aspects of policy making and thereby the social practice within, it is not enough to explain the behaviour of people that influence a policy, and how to actually change this. For this, we look more at behavioural theories, starting with the 'theory of planned behaviour' of Ajzen (1991). This theory focuses on the individual's attitude instead of the actual behaviour. The attitude consists of beliefs about the opinion of others of the behaviour, next to the perceived level of control over the behaviour. This theory can be generally applied and is able to include many additional variables. However, this takes away the predictive capacity of the model by its increasing complexity, which makes it less suitable for practical purposes. In addition, the importance of context is becoming more clear and increasingly more variables are added in an individual decision-making process (Hargreaves, 2011). Shove et al. (2012) discusses in their book 'The dynamics of Social Practice' the importance of various social relations, material infrastructures and context, which are important themes within the social practices. In this approach, variables are not merely among many others within an individual's decision-making process (Hargreaves, 2011).

2.2.1 Background

Social practice theorists like Giddens (1984), Reckwitz (2002) and Shove et al. (2012), all try to find the middle level between agency and structure. This is reflected in everyday performances of social practice like cooking, driving, washing, or sports. These practices are our focal point in the analysis, instead of the individuals who perform them or the social structures surrounding them (Hargreaves, 2011). This will be explained, starting with Giddens (1984). His idea that social arrangements are an accumulation of individual decisions about the best course of actions, still plays a big part in everyday discourse, contemporary policy-making and in certain areas in social sciences (Shove et al., 2012). Giddens' structuration theory concludes that activities are shaped and enabled by structures of rules and meaning. This means that through human action, structures are reproduced. The capability to 'go on' through the flow of the routinized social life thus depends on the practical knowledge, along with the structural features, rules and materials (Giddens, 1984). Social practice theory thus diverts attention away from moments of individual decision making and towards the doing of various social practices and the consumption within (Shove & Warde, 2002). Individuals are removed from the centre and are seen as the carriers of social practices. They pass through life and come into contact with, have careers within, get recruited and defect from a wide variety of different practices (Reckwitz, 2002). Social practice theory emphasizes that through these engagements with practices, people come to understand the world they live in and develop a sense of self (Warde, 2005). This conceives people as skilled agents who continually negotiate and perform practices in their daily lives. It indicates that instead of educating or persuading individuals in making different decisions regarding pro-

environmental patterns, it is important to transform the patterns within the practices (Hargreaves, 2011).

Andreas Reckwitz positions practice theories in relation to other cultural theories, in which all emphasise the significance of symbolic structures of knowledge on action and social order (Reckwitz, 2002). He categorises cultural theories into three types, 'cultural mentalism' which locates the social in the mind, 'cultural textualism' locates the social in texts, symbols, discourse and communication,and lastly 'culturalist intersubjectivism' locates the social in interactions through intersubjectivity of ordinary speech acts. Theories of practice, however, claims that the social is situated in practice (Shove et al., 2012). Although the theorists do agree on some areas, there is no unified practice approach. The definition of what a practice actually is, is still under discussion. Some theorists focus on the connections between the elements and others focus more on the bridge between individuals's lifestyles and broader socio-technical systems of provision (Hargreaves, 2011). We focus, like Shove et al., on the elements that form a practice. Practice is hereby seen as a routinized type of behaviour and exists through a pattern of multiple single, and often unique actions (Reckwitz, 2002). It consists, according to Reckwitz (2002), of interdependencies between elements as 'forms of bodily activities, forms of mental activities, "things" and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge' (2002: 249). Practices exist through performances. The regular and repeated performances, the so-called 'pattern', is reproduced and the interdependencies between the elements, which forms the entity of the practice, are sustained over time (Hargreaves, 2011; Shove et al., 2012).

Theories of practice differ from other cultural theories, but have common views of the social and what it includes. The theory focuses more on the importance of understanding, norms, meanings, practical consciousness and purpose and all count as a social phenomenon (Reckwitz, 2002). A key feature in the approach used in our research is the extra dimension of materials (Shove et al., 2012).

2.2.2 Applying Social Practice Theory

Over the course of 40 years men have tried to construct models of human behaviour to understand, in particular, environmental psychology. These models looked at the beliefs, attitudes and values of individuals, predicting one's behaviour. If pro- or anti-environmental beliefs could be identified, it is beliefs that human behaviour can be changed (Hargreaves, 2011). According to Hargreaves et al. (2013), it is noticed that fundamental changes affecting the lives and lifestyles of individuals are often not achieved. This is believed to be the cause of social and cultural factors on our practices and behaviours. It is challenging to change lifestyles of individuals because they always are linked with these social and cultural factors. This challenge also appears in the case of applying an agro-city policy. Generating more sustainable practices is to be only achieved by making and breaking new links of existing and unsustainable practices (Hargreaves, 2011). Warde (2005) explains how the links are made and broken. He explains that change in practices comes from within, with practitioners contesting and resisting routines while they encounter new situations in which they improvise, and from without when different practices encounter one another.

In policy documents, there is a tendency to rely on cause-and-effect type of explanations to explain particular behaviours and how they change. Two schools of

thought in the theory in the search of an explanation, are theories of variance and theories of process. Geels and Schot define theories of variance as 'outcomes as the product of independent variables acting on dependent variables' whereas theories of process emphasises the importance of path dependence and explain outcomes by tracing the stream of events through which a process unfolds. The concept of process allows meaning to undergo a metamorphosis over time whereas according to the theory of variance, the world is made of fixed entities that maintain a unitary identity through time (Geels & Schot, 2010). Within the social theory of practice, attention is drawn to the historic and cultural trajectories of people's action, specifically the accumulation of meaning, materiality and competence and the positioning of one practice with respect to others (Shove et al., 2012).

Facilitating, or hindering the availability and circulation of the elements (materials, meaning and competences) is an important feature in the development of an agro-city, it is a process of various investments in infrastructure, techniques and ideas about what it is to be, in our case, a sustainable city. Post-war urban planning is an example of strategic efforts to provide the elements to enable the desired way of living (Shove et al., 2012). For example, Almere was inspired by Ebenezer Howard's Garden city. This meant restoring people to the land (Howard, 1902). The Garden City movement in Almere was materialised in 1977 with the Ontwerp Structuurplan Almere, where a poly-nuclear layout along with green intra-nuclear areas were chosen for the infrastructure of the city. It was clear the planners wanted to underline the importance of agriculture in and near the city and with this, Almere's path was chosen. The city's infrastructure appears to be a solid basis for the development of a mature, healthy and sustainable city that's prepared for growth (Duivesteijn, 2013).

It is the task of the government to encourage, enable and help citizens with achieving their task. Different instruments are used to remove barriers, share information and provide facilities for citizens to gain knowledge and make informed choices. The outcomes of practices in a society are complex and policy makers are part of this complexity through patterns, systems and social arrangements they govern. It is important to note that transitions in the development of a city is not a process over which a single actor has full control (Shove et al., 2012). Arie Rip, known for his discussion of reflexive governance of sustainability, claims: "[...] instead of the heroism of the policy actor vis-à-vis the system there is a variety of actors and roles, and a distributed coherence which is self-organised. Some actors may contribute more to the self-organisation than others, but there is no general rule," (2006: 87). The interventions by policy makers affect the dynamics of practice. Their work applies historically specific within a landscape of possibilities that is always in transition. It is a process-based summation of short and rapid steps including trial-and-error learning or adjustments within specifics of a practice in question (Shove et al., 2012).

2.3 Conceptual Model

The social practice theory is popular in environmental research, identifying systemic failure of interventions to change behaviour. To conceptualise human behaviour, an ABC model is made up. Here, it is believed that social change is dependent upon values and attitudes (A), driven by different kinds of behaviour (B) which individuals can choose to adopt (C) (Shove, 2010). Because we focus on changing behaviour through policy, we simplified it into three themes: meanings (A), competences (B) and materials (C).

This can be elaborated by describing the interdependencies as ‘forms of bodily activities, forms of mental activities, “things” and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge’ (Reckwitz, 2002: 249). Thereby, it is greatly agreed that practices are connected and interwoven with materials, and therefore cannot be left out of the analysis.

Reckwitz (2002) described ‘meanings’ as mental activities, emotion and motivational knowledge’. Shove et al. (2012) elaborated that the term represents the symbolic significance of participation. Embracing ends, projects, tasks, purposes, beliefs, emotions, and moods are central in the organisations of a practice (Shove et al., 2012). For this analysis, we see the ideas behind the current policy of Almere and Nijmegen, the tasks and projects of citizens and governments and the opinions and values on the matter fall under meanings. Therefore, the principles of Almere, policy documents, like the Food Strategie of Almere and the Vision urban farming & regional food Arnhem together with the views of some of the researchers interviewed, are discussed. Furthermore, some of the values and ambitions of Almere and Arnhem are discussed, such as active government involvement, cooperation, and private initiatives in the cities.

‘Competences’ encompasses know-how, technique, and cultivated skill, better described as understanding of good or appropriate performances (Shove et al., 2012). When analysing the agro-city policy, it is thereby important to consider the agricultural knowledge and the distribution of it, next to the skill needed for implementing such a policy. Skills include cooperation, communication, analytical thinking, and management (including taking responsibility and initiative). These skills are needed to practice urban agriculture and implement the necessary policies to achieve agriculture within a city. These skills can be improved with knowledge. For example, Arnhem focuses on increasing food competences within a city by facilitating and imparting knowledge. Kids are being educated in primary schools about food in primary schools and are given vegetable gardens or visiting farms (Arnhem, 2017). We think the role of the municipality can play a big part within the competences, which is elaborated in paragraph 5.4.

‘Materials’ include objects, infrastructures, tools, hardware, and the body itself (Shove et al., 2012). Because we are analysing the agro-city policy of Almere, we mainly focus on the aspects of infrastructure, available space, resources, tools, technology, rules and money. Areas have taken different paths to form their current infrastructure, which offers different possibilities between cities. For example, Nijmegen is a dense and old city and Almere is one of the newest cities in the Netherlands, in which space was made free for agriculture from the start. Next to the available space, we also consider it important to focus on the resources needed to work the land and to enforce rules within the area. Furthermore, it is important to consider that it takes time to achieve a successful agro-city.

The interdependent relations between materials, competences and meanings define our practice and change in these elements are part a consequence of the integrative work involved. In Figure 2.1 these relations are presented in the conceptual model.

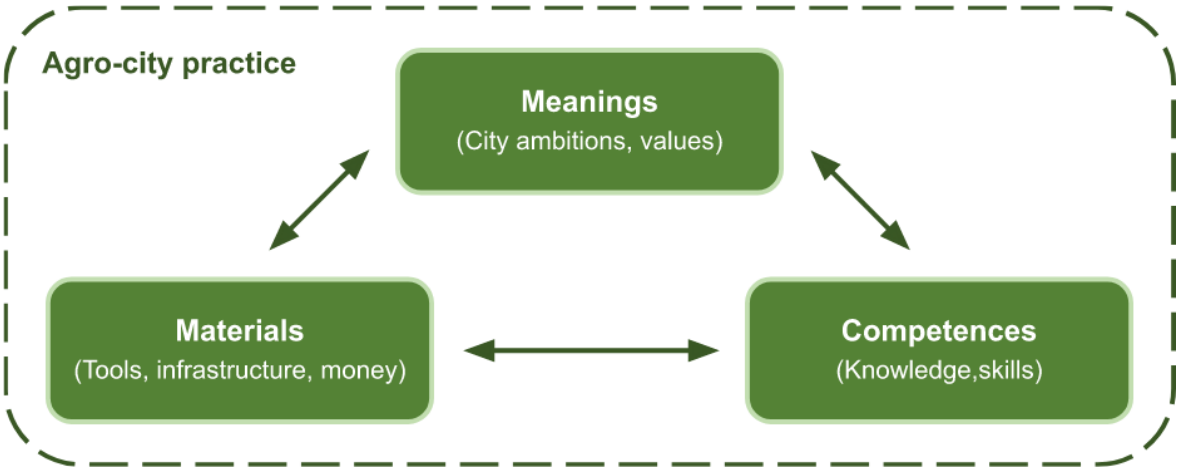

Figure 2.1 Conceptual model depicting how planning practices emerge from meanings, competences and materials and the links between them (authors' work)

Practices emerge, persist and disappear as links between the elements are made and broken (Shove et al., 2012). People are making and breaking links routinely, but instead of following the actors, we focus on the elements of practice. In this approach, humans are not the centre of the analysis but, as was previously mentioned, the elements are linked in and through integrative moments of practice-as-performance (Reckwitz, 2002). New practices involve new combinations with new or already existing elements. These integrations are transformative themselves: materials, meaning and competences are not only interdependent, but also mutually shaping. Diverse elements circulate within and between many different practices, forming a connective tissue between complex social arrangements, or potentially pulling them apart. This attaching and detaching of meaning and signification affects the cultural landscape as a whole. This is similarly happening when forms of competences circulate (as skills transfer) and material elements appear in more than one practice at the same time. The distinction between elements is able to travel, where practices are viewed as necessarily localised and necessarily situated in instances of integration, which are not able to travel. This distinction is able to analyse the roles of consumers, producers and governments in daily life. The institutions involved in developing or circulating the elements within the practices, are rarely controlling the manner in which they are combined. In short, there is something emergent and collective about the different practices which has to do with the relationships of co-existence between the performances together with the context that consists of collectively accumulated experiences. Through the process of doing, the elements of materials, meaning and competences are linked together and make a configuration that works (Shove et al., 2012).

By analysing the broad categories of elements: materials, meanings and competences, we are able to describe and discuss the making and breaking of links, thereby making a clear description on the process of policymaking in Almere and what we can learn from them.

3 Methodology

In this chapter, the methods that were used during research will be explained. Starting with the research philosophy, the underlying theoretical frameworks are explained. This research draws from both a phenomenological as well as a post-positivist framework. The implications that it has on what is seen as truth will be explained. The second paragraph delves into the research strategy. The structure of the research is described and arguments were provided why this structure was chosen. Once the structure is clarified, the methods for data collection are illustrated. Additionally, a clear overview of the collected data is shared, detailing the interviewees, policy documents and other sources that were found. To analyse these documents, a three-step coding strategy was used. This strategy is explained in the fourth paragraph. This coding strategy is inspired by grounded theory, however, it did deviate from the original strategy at certain points. Finally, we reflect on our positionalities and ethics. Since qualitative methods are interpretive by nature, our personal values and ideologies can influence what we (want to) see.

3.1 Research Philosophy

In the field of qualitative research, a number of different theoretical frameworks have been developed and applied. These frameworks are often based on Edmund Husserl's phenomenological philosophy. Therefore, Creswell and Poth (2018) summarise them as ‘interpretive frameworks’. This research relies on two different interpretive frameworks, namely the phenomenological framework, as well as a post-positivist framework.

According to Creswell and Poth (2018), the philosophical assumptions behind the phenomenological interpretive framework are as follows. On the question of ontology, which relates to the nature of reality, they say: “When researchers conduct qualitative research, they are embracing the idea of multiple realities,” (p. 54), meaning that the different interviewees that participate in this research will view Almere and its agro-city planning policy differently. This is due to their different experiences with the planning policy. As such, the researchers “believe in multiple perspectives from participants rather than a single reality,” (p. 59).

By combining these multiple perspectives, a subjective truth can be found. This is the epistemological assumption. Creswell and Poth (2018, p. 55) put it differently: “subjective evidence is assembled based on individual views.” However, the aim of this research is not to get to know individual participants. Instead, subjective evidence is gathered by interpreting semi-structured interviews and policy documents. Still, the epistemological assumption holds.

The axiology will be further elaborated on in §3.6 (Reflections on Researchers’ Positionalities and Ethics). The researchers acknowledge the importance of the role their values play in the process of research. They will position themselves in relation to the context of what is being researched. The researchers’ position is described based on their political beliefs and general values.

While the philosophical assumptions of this research are mostly based on phenomenological interpretive framework, the practices within this research are mostly informed by post-positivism. Rigorous methods of qualitative data collection and analysis were used, by collecting multiple forms of data. Computer programs were then used to

analyse data on multiple levels, going from a narrower analysis to broader themes. The structure of the thesis resembles the form of quantitative reports. According to Creswell and Poth (2018, p.59), these are the characteristics of a post-positivist framework. These methods will be further elaborated on later in this chapter.

3.2 Research Strategy

Qualitative research can be structured through different research strategies. In their handbook, Creswell and Poth (2018) outline five qualitative approaches to inquiry. Of these approaches, the case study is most suitable for the research aim of this thesis. Some might argue that case study research is a research design rather than an approach, like Stake (2005), and Thomas and Myers (2015). However, we choose to see it as a research approach. Part of this case study approach is the grounded theory approach.

Of the other research approaches, narrative research might seem to be partially applicable, if only to analyse the stories residents might tell us during the observations (see §3.3.3). According to Creswell and Poth (2018), narrative research is suited well to explore individuals' experiences and the stories they tell. However, the observations will mainly serve to provide context by collecting pictures and anecdotes from inhabitants. Narrative research is not the main aim of this thesis. Therefore, narrative research was not applied.

Though not mentioned by Creswell and Poth (2018), the discourse analysis approach might also seem to be partially applicable for this research. According to Gee (2011), discourse analysis assumes that reality is to a large degree a social construct and that language plays an important role in this construction. Language itself is therefore highly political. This approach's focus on written language, but also visual material, means that discourse analysis would be suitable to analyse policy documents. However, the goal of analysing the policy documents is not to find how meaning is formed through language. Therefore, this approach and its methods for data analysis are not relevant for this research.

As mentioned above, the research will be approached as a case study. This means that a collection of methods will be used to collect and analyse data. This specific approach is chosen as it provides an in-depth understanding of a case (Creswell & Poth, 2018). As Thomas (2015) states, "Your case study is defined not so much by the methods that you are using to do the study, but the edges you put around the case" (p. 21). The methodologies chosen within this case study design will be elaborated on in the next paragraph. However, in a nutshell, data was collected from semi-structured interviews, policy documents and the literature review. Findings from these sources were complimented by observations from the field.

The data was analysed using techniques from the grounded theory approach. A three-step coding strategy was used to analyse the policy documents and interview transcripts. This was done in Atlas.ti, a computer programme. The grounded theory approach fits with this research' post-positivist philosophy. A philosophy which often relies on computer-aided techniques. Additionally, the grounded theory approach was chosen for its familiarity with the researchers. However, the approach was not used to its intended aim, which is the development of a theory (Creswell & Poth, 2018). Following the aim of this research, the approach was used to develop recommendations. Together, they inform the recommendations for a policy on urban agriculture in the city of Nijmegen.

3.3 Data Collection

This paragraph will elaborate on the data collection strategies that were used. Data was collected in three different ways, namely by conducting interviews, gathering policy documents and doing observations.

3.3.1 Interviews

Potential interviewees were mostly found through snowballing sampling. Creswell and Poth (2018) state that snowballing sampling "identifies cases of interest from people who know people who know what cases are information-rich," (p. 225). In the case of this research, there were two initial interviewees who recommended other relevant candidates. These new interviewees recommended yet again other candidates. However, when snowballing threatened to be unable to provide a candidate from the municipality of Nijmegen, an inquiry was sent out to gather new names. This inquiry was done with professors from the Radboud University, which are familiar with the municipality of Nijmegen. Eventually, snowballing also provided the same names as the inquiry. In the end, interviews were conducted with seven relevant experts and professionals from Wageningen University & Research, and the municipalities of Almere, Arnhem and Nijmegen. An overview of the interviewees can be found below in Table 3.1, as well as a detailed timeline of who recommended whom.

The interviews were semi-structured, allowing for the experts to elaborate on interesting and relevant topics. At the beginning of the interviews, interviewees were made aware of the consent form. Most interviewees chose to sign the form afterwards. A copy of the consent form can be found in the appendix, head 10.1, although in Dutch. The interviews lasted between one and one-and-a-half hours. The goal was to gain knowledge that is not available in the literature or in policy documents. Additionally, the policy documents were tested to see if they really provided their promised advantages. A new interview guide was drafted for each interview, building upon knowledge that was gathered from previous interviews and from new sources. These new sources are listed as finding under Chapter 5. The interview guides themselves are provided in the appendix, headings 10.2 through 10.8, however, in Dutch.

Name	Function	Institution	Interview date	Length recording	Recommendations
J.E. Jansma	Scientist Feeding the City	Wageningen University & Research	8th of May 2023	75 min	A. Dekking, E. van der Ham, H. KleinJan
Y. Sikking	Communications advisor	Gebiedsteam Oosterwold	15th of May 2023	55 min	E. van der Ham, J.A. Blaauw, J. van de Veen
E. van der Ham	Projectmanager Food	Municipality of Almere	26th of May 2023	60 min	J.A. Blaauw, T. Verhoeven,
H. KleinJan	Policy maker urban farming & regional food	Municipality of Arnhem	26th of May 2023	50 min	L. Louwissen, T. Verhoeven
A. Dekking	Researcher rural development, inhabitant of Almere	Wageningen University & Research	1st of June 2023	50 min	-
J.A. Blaauw	Founder, inhabitant of Oosterwold	Coöperatie Stadslandbouw	2nd of June 2023	85 min	-
T. Verhoeven	Policy maker Greenery and Climate Adaptation	Municipality of Nijmegen	9th of June 2023	85 min	-

Table 3.1 The interviewees and their functions, workplaces and date of interviews. The fifth column shows the length of the recording, excluding off-record conversations. The final column shows the result of snowball sampling.

3.3.2 Policy Documents

The second form of data that was collected were planning policy documents. The aim was to get an insight into meanings, competences and materials needed to become an agro-city. Policies from Almere and Arnhem served as inspiration for a potential agro-city planning policy for Nijmegen. Nijmegen's Strategy on Spatial Planning was analysed to see how much room there actually is for urban farming. A list of these documents is provided in Table 3.2. In the process of drafting interview guides, other municipal documents were also collected, such as memos and proposals. These were used for contextualisation and formatting relevant questions for the interviews. Therefore, these other sources were not analysed and only read through. Sources with background information on interviewees were used similarly. These other sources are listed in Table 3.3 below.

Four policy documents were collected and analysed. These documents were selected as their contents related to urban farming. The Inter-municipal Master Plan Oosterwold (Almere & Zeewolde, 2013) is about the neighbourhood (Oosterwold) where agro-city Almere is developed. As the name suggests, Almere's Food Strategy 2021-2025 (Almere, 2020) also describes how the agro-city is approached. Arnhem's Vision on urban farming & regional food (Arnhem, 2017) serves as inspiration for an older city, like Nijmegen. As explained in Chapter 2, Almere is a New Town and therefore hard to compare to a much older city like Nijmegen. Arnhem's approach to urban farming provides an alternative view which could bridge this gap between Almere and Nijmegen.

Lasty, Nijmegen does not have a policy document solely on urban farming. Neither does it have a food strategy. Urban farming is, however, mentioned in the Strategy on Spatial Planning 2020-2040 (Team Omgevingsvisie, 2020). We did find three municipal decrees that were focused on urban farming in Nijmegen. There is also a recent memo on all urban farming related activities in Nijmegen. The municipal decrees can be considered policy, however, they are subordinate to the Strategy on Spatial Planning. Due to time constraints, the decrees were not analysed using the method that will be described in the following paragraph 4.5.

Original title	Translation	Municipality	Source
Intergemeentelijke Structuurvisie Oosterwold	Inter-municipal Master Plan Oosterwold	Almere and Zeewolde	Almere and Zeewolde (2013)
Voedselstrategie 2021-2025	Food Strategy 2021-2025	Almere	Almere (2020)
Visie stadslandbouw & regionaal voedsel	Vision urban farming & regional food	Arnhem	Arnhem (2017)
Omgevingsvisie 2020-2040	Strategy on Spatial Planning 2020-2040	Nijmegen	Team Omgevingsvisie (2020)

Table 3.2 The planning policy documents that were analysed

Title (translated)	Type	Interview	Source
Foraging in the Polder	Interview	A. Dekking	Hummels (n.d.)
Jan-Albert has big ambitions for urban agriculture	Interview	J.A. Blaauw	Holland.com (2023)
Initiative council proposal sustainable food from our own environment	Initiative council proposal	T. Verhoeven	Moerkerk et al. (2022)
Plan of Action Urban Agriculture Desk	Plan of action	T. Verhoeven	Ruivenkamp (2022)
Memo state of affairs urban agriculture Nijmegen 2022	Memo	T. Verhoeven	Verhoeven (2022a)
Urban farming Nijmegen	Executive proposal	T. Verhoeven	Verhoeven (2022b)

Table 3.3 Other sources that were used when formulating relevant questions for drafting interview guides

3.3.3 Observations

In order to get a better understanding of Oosterwold and its context, two rounds of observations were conducted. We found it important to get better acquainted with the neighbourhood, even if the literature is overwhelmingly positive about the agro-city planning policy. The observations did not follow a classical participant observation or structured observation procedure. Rather, observations were conducted in more spontaneous character. Short conversations with local residents were held. Data gathered from the observations is meant to be used as supporting material, rather than as a main source of information, like the interviews are.

The plan was to make use of an observational protocol. This protocol is depicted below and consists of a simple layout of three columns. The first column contains descriptions of events, the second the researchers' interpretations of these events and the last column the reflections on the observation. However, during the observations the protocol was hardly used and the data was recorded as short voice memos, in short notes and as pictures.

The first round of observations was conducted after the interview with Jansma on the 8th of May in the afternoon. During the interview, Jansma suggested that we should visit Vliervelden, a biodynamic farm in Oosterwold. Pictures were taken and data was gathered on a resident's experience with urban farming and selling produce. This data provided some context for future interviews with Sikking and Van der Ham.
The second round took place after interviewing Blaauw on the 2nd of June, again during the afternoon. Blaauw had suggested some spots to observe. Additionally, places that were mentioned during the interviews were visited. Driving through Oosterwold Zuid, the first stop was the farm Uniek Leven. In the accompanying restaurant, a short conversation was held with one of the owners.

The second stop was in a part of the neighbourhood that was developed by a larger developer, resulting in a familiar structure as non-self-organised neighbours. After

briefly visiting Vliervelden again, we moved on to VINDplaats Zenit. This is an archeological site, and therefore buildings are not allowed. Instead, it is a public park where school kids can learn to grow food. The last stop was Onze volkstuinen Almere [Our allotment Almere], which is situated in a former greenhouse where roses were cultivated. Another short conversation was held with a gardener and pictures were taken.

Descriptions	Interpretations	Reflections

Table 3.4 Observational protocol that we ended up not using

3.4 Data Analysis

All the data that was collected in the form of interviews and policy documents had to be analysed. This was done using Atlas.ti. This is a program that allows the coding of different types of data, ranging from text to interview transcripts and images. A three-step coding strategy was used to analyse the policy documents and interview transcripts. This strategy is inspired by the strategy grounded theory used as described by Creswell and Poth (2018). Data from the observation was mainly used to provide context. As such, this type of data did not need to be analysed. Similarly, sources from Table 3.3 were also not analysed.

The first step of the coding strategy is open coding. This is done by quickly reading the document or transcript and coding words, sentences or paragraphs that stand out. While reading the text, the researcher keeps the research questions in mind. This first step limits itself to descriptive codes. After this first round of coding, the codes are polished and similar codes merged.

When the list of codes is tidied up, the second step is analytical coding. Codes that seem to belong together are combined in categories. For instance, all codes relating to an advantage of urban agriculture are grouped together under the category “advantages”. Codes are then renamed by adding the prefix of the group they belong to, e.g., Advantages - Social cohesion. The theoretical framework was taken into account when thinking of these categories. However, many categories were thought up spontaneously as not all data fits immediately into the framework.

The final step of grounded theory analysis is theoretical coding. By creating a network of codes and categories, the core phenomenon can be named that binds the codes. However, for this research, networks were used to form a clear picture for the recommendations. Insights from the analysis of the policy documents were also used in interviews with policy makers. This way, our understanding of the documents could be tested, and new insights could be formed. For instance, interviewees could indicate where reality departed from the policies’ ambitions. This double checking allowed for a greater depth when doing the interviews. The results from the analysis will be shared in Chapter 5.

3.5 Reflections on Researchers' Positionalities and Ethics

Before presenting the findings, we, the three of us, acknowledge our standpoint as educated, middle-class students. We appreciate the idea of garden cities and urban farming. Additionally, we value animal welfare and the preservation of nature, to the point that it influences our shopping habits (at organic grocery shops) and our voting behaviour (the Green and Animal parties). We acknowledge that this positionality influences how we view the results, or even wish to view the results, by projecting our interest in the idea of agro-cities. However, it is also safe to say that during the process of research we were disenchanted as we learned more about the problems that surround Oosterwold.

On the question of ethics, Van Thiel (2014) defines five rules to follow when doing research: (1) beneficence, (2) veracity, (3) privacy, (4) confidentiality, and (5) informed consent. These rules will be studied carefully and applied to all parts of the research. When interviewing, informed consent is especially important.

4 Contextualisation

This chapter provides the context of Almere and Nijmegen. Firstly, the background information is provided for the development of Oosterwold, the neighbourhood in Almere where urban farming is used to achieve the city's goals. In the second part of this chapter, the history and planning practices of Almere and Nijmegen are compared. The chapter ends with a quick overview of the two cities.

4.1 Agro-city Oosterwold

This paragraph will describe the development of urban agriculture in the city of Almere. As defined in Chapter 2, urban agriculture is located within or on the fringe of a city and grows or raises, processes and distributes food and non-food products. Urban agriculture uses resources and services found in and around that urban area, and in turn supplies resources and services to that same urban area (Mougeot, 2000). Which functions urban agriculture fulfils highly depends on the type of urban agriculture that is put into practice. Nevertheless, urban agriculture is integrated into the urban system, can fulfil multiple functions, and creates diverse and producing city districts (Jansma et al., 2011; Müller et al., 2022).

A project is being developed in Almere where agriculture is fully integrated into urban life. This project is called Agromere and is located in the new neighbourhood of Oosterwold (see Figure 4.1) (Jansma, n.d.). Agromere builds upon the concept of urban agriculture and gives it its own twist: the agro-city. As explained in Chapter 2, agro-cities prioritise urban agriculture as the primary strategy for achieving the city's ambitions, such as fostering climate resilience, circularity, and energy self-sufficiency (Almere, 2022a; Jansma & Visser, 2011). However, while urban agriculture is prioritised in the development of Oosterwold, it is not the only aspect that makes the project unique.

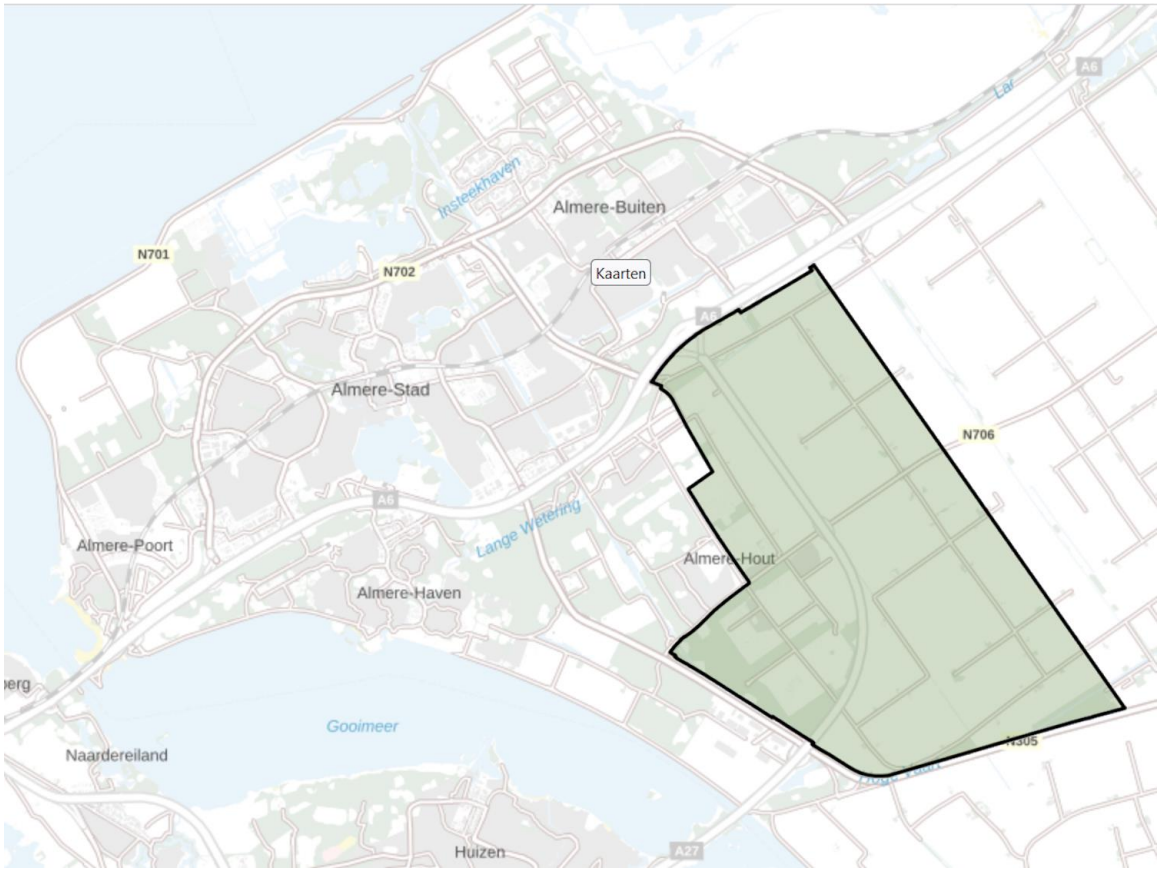

Figure 4.1 The neighbourhood of Oosterwold in green (adapted from Kadaster, 2023, CC BY 4.0)

4.1.1 Self-Organisation in Oosterwold

The city of Almere is a planned city, conceived top-down on the drawing board, in contrast to the traditional way of urban development of the older cities in the Netherlands, which are characterised by gradual, small-scale, organic growth often guided by some top-down structure, but primarily created with the ideas of the citizens themselves in a bottom-up approach (Almere, 2012). Over the years, this urban development approach defined by large-scale planning resulted in a loss of the relationship between citizens and their living environment. As a result, questions arose about the future-proofing of top-down planned cities and whether the idea of “making the city” had gone too far. (Almere, 2012). As an entirely top-down planned city, Almere realised that a change was necessary. Adri Duivesteijn, Alderman responsible for sustainable spatial development in Almere, saw an opportunity to change this approach. In 2006, a new era of urban development began in Almere, where the bottom-up approach and organic way of urban development were the main criteria of spatial planning.

From then, Almere began experimenting with self-organisation where citizens have the freedom to design and construct their own houses. The designs only needed to comply with the technical aspects of the building decree. This successful experiment resulted in a diverse range of high-quality homes (Almere, 2012). Following this, Almere took the next step towards organic development by applying the self-organisation principle to the realisation of an entirely new neighbourhood, now known as Oosterwold.

In Oosterwold, self-organisation goes beyond the design and construction of houses. It also involves the organisation of local infrastructure, water sewage systems, waste systems, energy, urban agriculture, public (green) space, schools and shops, which

are usually the responsibility of the municipality in a more common top-down approach (Almere, 2012; Jansma & Wertheim-Heck, 2020). This means there is no predetermined plan for the area, and it is up to initiators and potential residents to determine how homes, businesses and landscapes are formed. However, these initiators are not entirely free in the self-organisation process, as there are ten rules of the game that enable development while ensuring that the area's ambitions are met (Almere, 2012). These rules are part of a complex web of principles, themes and guidelines which will be explained in paragraph 5.1. Before that, the development of Oosterwold is explained, given the self-organisation principle.

4.1.2 Development of Oosterwold

The initiators in Oosterwold are the leaders in its development as they have the right to self-determination in realising their plans based on the self-organisation principle. In contrast to the standard Dutch way of urban planning approach, the government has a reluctant but supportive role (Almere, 2012). This means the government establishes and maintains only a simple framework that consists of the global vision, rules, process, and basic amenities structures. Within this framework, initiators can design and implement their own plans while the government facilitates and orchestrates the process (Almere, 2012). The framework and process are orchestrated in a top-down manner, starting with the state.

The National Structural Vision roughly shows where houses are to be built in the country. This concerns a global demarcation of building locations and the quantitative number of homes (in thousands) that can be built there. In connection with this, the possible types of residential environments are indicated, in accordance with the qualitative housing needs of, in this case, Almere and the Northern Randstad. The state's vision for Oosterwold thus includes the national housing demand and the different possible types of living environments, in addition to basic indication of road, water and green infrastructure (Almere, 2012).

Following this, the municipality established an assessment framework for the main features that initiators must comply with. To correctly manage these initiatives and ensure a smooth implementation of local plans, the municipality appointed a regional manager for the Oosterwold area who links the government bodies, local residents, and initiators (Almere, 2012). For example, suppose there are problems in the neighbourhood that the residents cannot solve. In that case, the regional manager is the person to contact, and they can arrange help from overarching government bodies like the municipality.

Furthermore, the regional manager is responsible for issuing licences to initiators when they come to an exploitation agreement. To obtain this permit, the development plans of every lot must comply with the rules that apply to the region and the "area passport" (Almere, 2012). This passport contains information about the aim of the spatial and functional qualities of subareas in Oosterwold, which translates into the functional and surface distribution on a specific lot (Almere, 2012). Therefore, although the foundation of this is based on self-organisation, multiple top-down guidelines and demands are still applicable in the area. However, this way of urban development differs from the top-down system usually used in the Netherlands, where the establishment comes before development starts. In Oosterwold, this happens the other way around, as the establishment of development is the continuation of the realisation of multiple plans from initiators.

It is important to note that Oosterwold is being developed in multiple phases, namely Phase 1 and Phase 2 (Almere & Zeewolde, 2013). Phase 1 of Oosterwold is situated to the southwest of the highway, which passes through the area, as depicted in Figure 4.2. This area covers 1375 hectares, approximately 30% of the total area of Oosterwold (Almere, 2016). On the other hand, phase 2 is primarily located in the neighbouring municipality of Zeewolde, encompassing 3000 hectares (Jansma & Wertheim-Heck, 2022). However, phase 2 is still in the process of being developed, and the results evaluation of the first phase will determine the development of this second phase (Platform Oosterwold, n.d.).

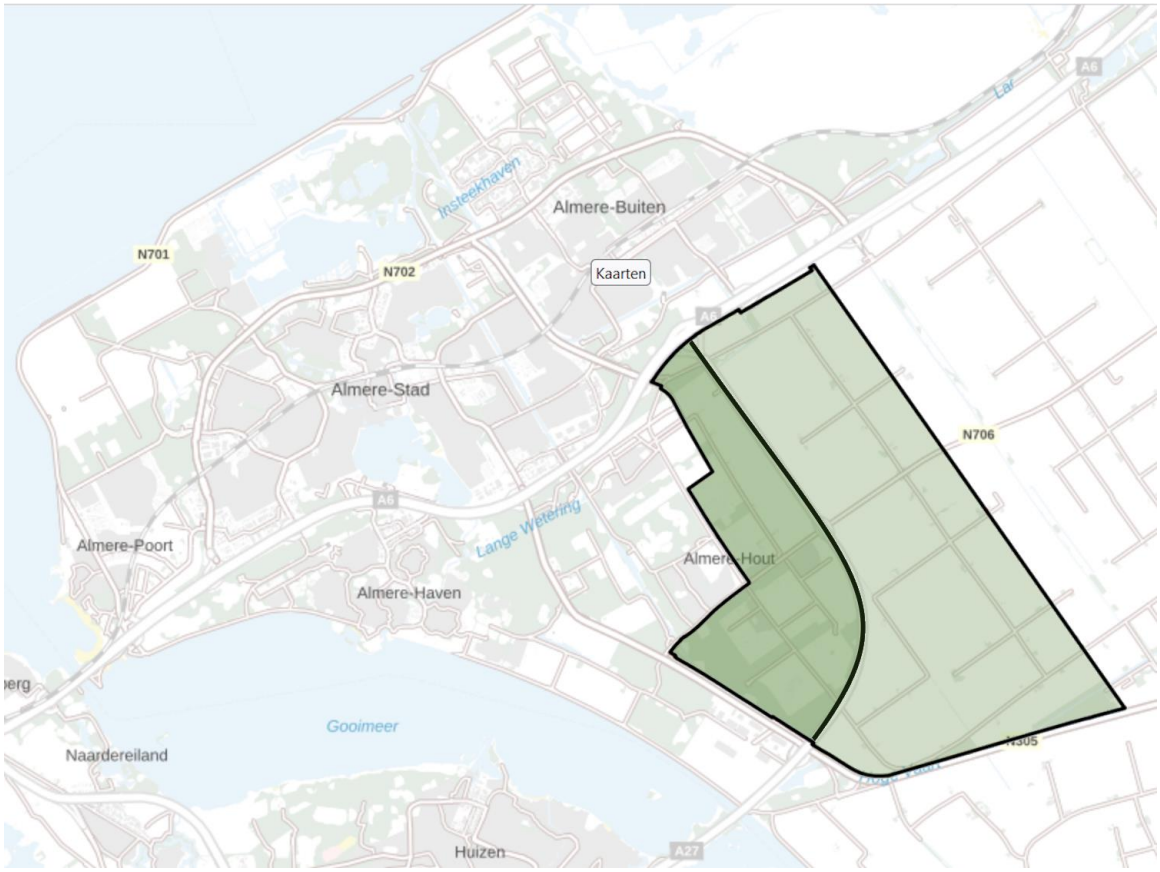

Figure 4.2 The first phase of Oosterwold shaded in dark green and the second phase shaded light green (adapted from Kadaster, 2023, CC BY 4.0)

4.2 Comparing Planning Practices

When looking to implement a certain policy in a different city, it is always important to consider the context. All cities are not created equally and certain local factors might come into play. When comparing the cities of Almere and Nijmegen, great differences will be noticeable, if only because Almere itself is such a unique city in the country of The Netherlands. The historical context of both cities will be discussed in the following paragraphs, which will be summarised in a comparison in the third paragraph.

4.2.1 Almere: Designed on a Drawing Board

Almere was founded in 1972, which makes it the youngest city in the Netherlands. This recent foundation might seem surprising in such a densely populated country. However, the land on which Almere sits was only reclaimed in 1968. Before this artificial island was created, this area used to be part of an artificial lake called the IJsselmeer (Jansma & Wertheim-Heck, 2021). This greatly influenced how the city was planned. As previously mentioned, instead of growing organically over the centuries, Almere is a “New Town” created on a drawing board (Kuijpers, 2012). Jansma and Wertheim-Heck (2021) distinguish four different periods in the planning of Almere.

During the first period, the concept of a city in the south-western part of the Southern Flevo Polder was defined. Its close proximity to the Randstad, a large urbanised area in the central-west of the Netherlands, meant that it could mitigate the expected expansion of the cities Amsterdam and Utrecht. Learning from the mistakes made in the creation of New Town Lelystad, Almere was designed to have a flexible and poly-nuclear layout. This way, the city could react better to its future growth and needs (Jansma & Wertheim-Heck, 2021).

The second period starts with the founding of the city in 1972. The city design in this period was greatly influenced by the Garden City movement. Building further upon the poly-nuclear layout, green intra-nuclear areas were introduced and cemented in the design. Planners also underlined the importance of agriculture near the city, which could be used as a place for recreation. Additionally, agriculture could aid in the creation of attractive landscapes and natural elements, which were naturally absent in this newly reclaimed land (Jansma & Wertheim-Heck, 2021).

The third period began when Almere became a municipality in 1984. The focus on higher planning goals, such as creating a garden city, diminished with the drainage of expertise. The city became more focused on building homes to meet the national housing program objectives. “The discussion about the quality of the city went to the background.” Areas initially earmarked for agriculture were eventually used for city expansion (Jansma & Wertheim-Heck, 2021).

Finally, the fourth period is characterised by a revisioning of where Almere wants to go as a city. After thirty years and after dropping their initial goals/virtues, Almere was now in a situation with too little amenities and too many monotonous residential areas. The focus on housing had also neglected the need for improved infrastructure. The municipality took this opportunity to redefine the vision for Almere’s future. What they came up with was Almere 2.0 (Jansma & Wertheim-Heck, 2021).

The Almere 2.0 Master Plan goes back to its Garden City roots from the second planning period. The vision for agro-city Almere started to emerge, as the focus shifted towards urban agriculture. Especially in the development of the east side, called

Oosterwold, was the integration of agriculture stressed. Fifty percent of each residential parcel of land was required to be dedicated to urban agriculture. Alongside this agricultural focus, the municipality wanted to promote diversity in housing through the self-organisation of private housing development. Residents were involved in the construction of their own homes and the infrastructure of the neighbourhood. This type of development was made possible by the lack of financial risks that were associated with it. Instead, initiators bear the financial risks of the development of the new district (Jansma & Wertheim-Heck, 2021).

4.2.2 Nijmegen: Organic Growth and Big Plans

When comparing Nijmegen to Almere, a striking contrast is the age of the cities. Almere is the youngest city in the country, a New Town only half a century old. Nijmegen, on the other hand, is the oldest city in the Netherlands, and traces its city rights back to the Roman occupation of these low-lying lands (Van Enckevort, 2020). The difference in age between the cities of Almere and Nijmegen could therefore not be greater within this country. The Romans first settled on the Hunnerberg in 19 BCE, where they built a military camp or castrum. Later, Roman officials founded a town two kilometres westward, in the centre of modern-day Nijmegen, to further the integration of the local tribe, the Batavi. It was called *Oppidum Batavorum*, “capital of the Batavi”. Skipping about a century ahead, emperor Marcus Ulpius Trajanus gave the town city rights around 100 CE. Along with the newly acquired rights came a new name, *Ulpia Noviomagus,* the “Ulpic Newmarket”. This makes Nijmegen, whose name is derived from *Noviomagus*, the oldest city of the Netherlands (Van Enckevort, 2020). Although Nijmegen was founded during the Roman age, very little of the original structure remains.

From the twelfth century on out, stone material from the old Roman city started to be used in new constructions in the Medieval city. When Nijmegen obtained city rights for the second time in 1230, use of the stone materials increased. By the seventeenth century, the last of the ruins was mined, erasing the last remains of the Roman settlement (Van Enckevort, 2020). However, the construction of a city wall halfway through the sixteenth century caused Nijmegen to stagnate. The city was not allowed to expand beyond the city walls, even though the population kept rising (Huis van de Nijmeegse Geschiedenis, n.d.; Van Meteren, 2021a). Thus, despite Nijmegen’s long history, only a small part of the city's structure can be traced back to pre-industrial periods.

Most of Nijmegen was developed after 1876, when the Dutch Parliament passed the Fortifications Act. This act allowed for the dismantling and reconstruction of the fortifications of twelve major cities, including Nijmegen. Soon after the Fortification Act was announced, the city council started negotiating with engineers and architects, tasking them with the creation of a Master Plan for the expansion. The plan was altered several times, until private architect Bert Brouwer came up with a design that featured a central boulevard as an axis and Parisian roundabouts. Where the city walls had once stood, spacious parks and boulevards were now constructed. The city council chose the design in order to attract wealthier residents. Brouwer, like many others, was influenced by Haussmann’s grand plans for the reconstruction of Paris. Brouwer’s plans can therefore be seen as part of a larger movement called City Beautiful (Van Der Cammen et al., 2012). This movement would go on to inspire developments in the city for another few decades. Neighbourhoods such as the Waterkwartier and Willemskwartier were designed as garden cities, which is in this context seen as part of the City Beautiful movement.

However, due to housing shortages after WWI, densities were much higher than the garden city ideal prescribed (Vredenberg, 2006). Around 1935, the Age of Modernity began and slowly started influencing urban planning practices. Yet, it was only after the Second World War that modernism completely took over (Van Der Cammen et al., 2012).

That functionalism took the Netherlands by storm stems from both a desire to modernise the country, as well as to tackle the enormous post-war reconstruction task. In order to achieve these enormous tasks, urban planners introduced “blueprint planning”. This approach produces “stamps” of desirable building patterns, which can be repeated multiple times to create new neighbourhoods. An important feature of this planning practice is the segregation of functions, where different uses are separated. Entire zones were marked for solely residential use, alternated with other zones for commercial or industrial uses. Additionally, these solely residential zones were designed through a neighbourhood perspective, or *wijkgedachte* in Dutch, which would promote the formation of communities. However, after twenty-five years it became apparent that the functionalist take on planning and the restrictions of the post-war reconstruction had left cities with undesirable neighbourhoods with poor future value. The neighbourhood perspective had failed to create communities and many residents, mainly middle class, were leaving the cities for the greener countryside (Van Der Cammen et al., 2012).

In renunciations of the monotony created by the technocratic functionalist planners, power was seized in the seventies by sociocratic action groups made up of residents and students. In other words, the local population started to resist the top-down planning practices and advocated for a greater say in (re)developments (Van Der Cammen et al., 2012). Two major developments took place in Nijmegen during this planning era, namely the creation of Dukenburg and its cauliflower layouts, and the renewal of the *Benedenstad*, at that time a dilapidated part of the city after years of neglect and lack of funds. To start off, in reaction to the monotonous blueprint neighbourhoods, new neighbourhoods were designed as what is colloquially known as Cauliflower Districts (*bloemkoolwijken*). These were residential yards (*woonerven*) with plenty of vegetation and child-friendly streets, with little through traffic and low speeds. However, this resulted in a complicated street layout where one was bound to get lost (Van Der Cammen et al., 2012). For the renewal of the *Benedenstad* in Nijmegen, plans had already been drawn as early as the thirties. However, after the Second World War, resources were directed towards the reconstruction of the city centre. Many dilapidated buildings were destroyed during the fifties and sixties without much resistance from local residents. However, with the democratisation of planning, locals were now demanding more participation. The result was quite remarkable. The original street pattern was maintained and the original residents were allowed to return to the new buildings. This way, the original character of the neighbourhood was maintained (Van Meteren, 2021b; mijnGelderland, n.d.).

In 1993, the municipality of Nijmegen decided to expand across the river Waal to the North. This new district was eventually called Waalsprong, meaning leap across the river Waal. A few years later, Tjallingii (1995) published his book Ecopolis: Strategies for Ecologically Sound Urban Development. This heavily influenced the green and blue infrastructure in the Waalsprong. The municipality, GEM Waalsprong and Water Board Rivierenland jointly drew up a water plan that follows this ecopolis strategy. This plan takes into account the greater extremes in temperature and precipitation caused by climate change. In essence, the Waalsprong has a self-supporting water system: rainwater and seepage water from the river are drained via a system of wadis and canals

to a lake area during wet periods. Here, the excess water is stored to maintain water levels during dry periods. As little water as possible is drained to or supplied by areas outside the district. This creates a closed system that also provides recreational value and positively impacts the quality of the living environment (Ontwikkelingsbedrijf gemeente Nijmegen & Grondexploitatiemaatschappij Waalsprong, 2007).

Now, the Waalsprong is almost fully developed. In addition to the closed water-system, new buildings are not gas heated. Instead, they are connected to a sustainable heat network. In the case of mobility, public transport, cycling and walking form the basis for most transportation. However, even though the Waalsprong was designed to be sustainable with an innovative green and blue infrastructure, urban farming was never part of the development (Verhoeven, interview, June 9, 2023). So, even though the developments of new districts in Nijmegen since the dismantling of the fortifications have had some focus on greenery, urban farming was never part of it.

4.2.3 Quick Overview

The table below shows a quick comparison between the cities of Almere and Nijmegen. Statistical data was taken from AlleCijfers.nl (2023a, 2023b). The influential planning practices are taken from the paragraphs above. Striking are the difference in age and the difference in surface area, even though the cities have a similar population.

	Almere	**Nijmegen**
Province	Flevoland	Gelderland
Founded	1972 CE	Around 100 CE
Surface area	248.77 km^2	57.63 km^2
Land area	129.18 km^2	52.81 km^2
Water area	119.59 km^2	4.82 km^2
Population	217,828	179,100
Density	1,686 /km^2	3,392 /km^2
Influential planning practices	- Poly-nuclear layout - Garden city - National housing program objectives - Urban farming and self-organisation	- City Beautiful - Functionalism - Cauliflower Districts and urban renewal - Ecopolis

Tabel 4.1: Comparison of Almere and Nijmegen

5 Results

In this chapter, the results for the literature review and the data analysis are presented. First, the meaning of the term “agro-city” is altered based on the results and a new definition is presented. Following this, the complex web of policies behind Almere’s agro-city is illustrated and summarised. The meanings, competences and materials that define the agro-city are explored in the subsequent paragraphs. These are structured as a conversation between policy and practice. Finally, Nijmegen’s approach to urban farming is explored.

5.1 Redefining Agro-Cities

During the literature review conducted in this research (see Chapter 2), no precise and widely accepted definition of an agro-city could be identified. However, by examining policy documents from Almere and based on research from Wageningen University, a working definition was established: the term "agro-city" refers to a spatial concept that prioritises urban agriculture as the primary strategy for achieving the city's ambitions, such as fostering climate resilience, circularity, and energy self-sufficiency (Almere, 2022a; Jansma & Visser, 2011).

Given the lack of a clear definition, the first interview with J.E. Jansma, a scientist from Wageningen University & Research who frequently employs the term in publications, aimed to clarify the meaning of an agro-city. This interview shed light on the true essence of an agro-city, its origins, and the reasons why the term is not widely used in other scientific literature on urban agriculture

5.1.1 CRFS in Relation to Agro-Cities

As mentioned in Chapter 2, CRFS is an approach that aims to develop sustainable and resilient food systems using the city region's perspective (Blay-Palmer et al., 2018). City regions often embrace bottom-up policy approaches, emphasising subsidiarity and local decision-making as suitable platforms for community engagement (Blay-Palmer et al., 2018). Additionally, the city region concept has been employed to understand resource flows better and minimise environmental impacts by, for example, improving resource utilisation efficiency and waste management (Blay-Palmer et al., 2018).

This notion aligns closely with Jansma's (interview, May 8, 2023) description of agro-cities' contribution to a sustainable future. By utilising multiple sites, including rural and urban areas, to produce food, agro-cities bring food production closer to the people (shorter food chains), thereby minimising environmental transportation impacts. This approach also promotes subsidiarity and circularity, fostering interdependence between each other. For example, waste flows can be preserved and repurposed for agricultural use. Adopting such patterns of thinking contributes to sustainability (Jansma, interview, May 8, 2023). Interestingly, Jansma specifically highlighted Oosterwold as an exemplary agro-city (interview, May 8, 2023), where the bottom-up approach and initiatives play a crucial role in the organic development of the neighbourhood, often linked to the concept of city regions, as mentioned earlier.

CRFS provides a concrete and coherent framework for addressing multiple challenges simultaneously, such as sustainable urbanisation, food and nutrition security, job creation, environmental and natural resource management, rural development,

sustainable agricultural production, distribution, consumption, and marketing. Furthermore, it supports participatory governance (Dubbeling et al., 2016). This objective aligns with Jansma's broader view, emphasising circularity, interdependence, land sharing, and an agricultural landscape close to urban areas, all contributing to a healthy urban environment and liveable cities. This is why the agro-city approach is introduced as a crucial step towards a sustainable future (interview, May 8, 2023).

Jansma also stressed the importance of integrating agricultural practices into urban areas, making urban residents, alongside farmers, responsible for food production and transforming them into "prosumers" who both produce and consume food (interview, May 8, 2023). This perspective resonates with the CRFS literature, highlighting its close connection to alternative food networks, short food supply chains, and a deliberate focus on sustainability.

5.1.2 New Definition

At the outset of this paragraph, we mentioned the initial working definition of an agro-city that we used before conducting any interviews. However, this approach's underlying thought and objective became clear after the first interview. It turned out that "agro-city" and "city region food systems" are essentially two different terms referring to the same concept. Jansma emphasised this by stating, [What is commonly used in the literature is the 'city region food system,' which refers to a food system within a city region. That aligns somewhat with what you call an 'agro-city'] (interview, May 8, 2023).

After the first interview, it became apparent that the working definition was limited applicability in a broader context. In the case of Almere Oosterwold, the primary focus of the agro-city (Agromere) was the reintegration of urban agriculture to strengthen the link between rural and urban areas. From a broader perspective, implementing urban agriculture on such a scale is often unrealistic for existing compact cities, as space is often scarce. Jansma emphasised this challenge by stating, [Anyway, of course, it remains challenging for such a compact city, where functions are very fixed, to find space there] (interview, May 8, 2023). Despite this constraint, urban agriculture encompasses various forms suitable even in space-restricted areas. Jansma mentioned several examples, including traditional allotment gardens, community gardens, community parks, rooftop gardens, and indoor food production within buildings when space is available. But also the integration of fruit and nut trees into public green spaces such as parks or on roadsides and utilisation of rooftops and spaces between logistic companies for food production. Even floating farms could be possible (interview, May 8, 2023).

While there are undoubtedly cities where integrating urban agriculture is difficult, it is still possible to create an agriculturally oriented city where you incorporate food into urban life through alternative approaches. One possible way is facilitating local farmers by ensuring they can sell their products in nearby cities. Therefore, the primary objective of City Region Food Systems and agro-cities is to strengthen the connection between urban and rural areas. So, the revised definition of an agro-city is: An agro-city refers to a planning framework wherein the primary strategy is to strengthen the linkages between urban and rural areas, to foster sustainable and resilient food systems in city regions, which is achievable through various means, including the integration of urban agriculture and the facilitation of services and marketing for local food producers.

5.2 Almere's Agro-City Planning Policy

When delving into the policy documents of Almere, a complex web of visions, principles, themes, and guidelines can be found. This paragraph will provide the hierarchy and explanations of these aspects to determine their relevance for this research and how they contribute to the development of Almere, starting from the beginning.

5.2.1 Principles, Themes and Guidelines

The overarching policy document that first mentioned the expansion of Almere is the spatial development plan Regio-Rijksstructuurvisie Amsterdam-Almere-Markermeer (RRAAM). This plan addresses the region's challenges regarding ecology, accessibility and urban development. The crucial point relevant to Almere is the city's expansion with 60.000 homes and 100.000 jobs (Almere, 2022b). In order to steer this growth in the right direction and ensure its healthy realisation, the municipality, province and state collaborate in the program Almere 2.0. They have established a strategic vision (Almere 2.0), in which the city's spatial quality is the primary development criterion (Almere, 2022a).

Almere 2.0 is also based on the seven Almere principles, as listed in Table 5.1 (Almere, 2012). Since 2007, sustainability and ecology have been essential topics in the development of Almere. These topics were central in establishing the Almere principles in 2008, which have served as the basis for the development and have been the leading guidelines in the development of Almere since then. These principles focus on environmental concerns about climate change, energy, resources, waste, and the city's social and economic stability and prosperity, and have been indispensable in the development of Almere since then. The principles form a framework that aims to guide Almere toward becoming a socially, economically and environmentally sustainable city while claiming the identity as 'the city for the people'. (Almere, 2009; Jansma & Wertheim-Heck, 2020).

The vision Almere 2.0 highlights also the six guidelines, listed in Table 5.3, to put their vision into practice. These guidelines form the basis of an area-specific approach for each of the five neighbourhoods distinguished in Almere 2.0, including the neighbourhood Oosterwold (Almere, 2022a). The approach established for Almere Oosterwold is called "Almere Oosterwold: Land-Goed van initiatieven" (Almere Oosterwold: estate of initiatives) and encompasses the entire idea behind and the organisation of the neighbourhood.

Almere Principles	
1	Cultivate diversity
2	Connect place and context
3	Combine city and nature
4	Anticipate change
5	Continue innovation
6	Design healthy systems
7	Empower people to make the city

Table 5.1: The seven Almere Principles

Green & Healthy Almere - Themes	
1	Waste and circularity
2	Water and greenspace
3	Energy
4	Transportation
5	Health
6	Food

Table 5.2: Key areas in sustainable development Almere

Development guidelines	
1	Sufficient housing in a unique living environment
2	Fostering a good business climate with high-quality facilities
3	Promoting a strong and resilient society
4	Ensuring accessibility from all directions
5	Creating word-class landscapes
6	Climate resilient, circular and energy-supplying region

Table 5.3: Development guidelines Almere 2.0

In addition to the Almere principles and the development guidelines for Oosterwold, the municipality of Almere has a department called Groen & Gezond Almere (Green & Healthy Almere). This department coordinates the city's sustainable development. They created the sustainability agenda to address the sustainability and ecology challenges. This policy document emphasises six key areas crucial in the city's sustainable development: waste and circularity, water and green spaces, energy, transportation, health, and food (see Table 5.2) (Groen Gezond & Almere, 2020d).

The theme of waste and circularity is about reducing waste and conserving resources by keeping them in the city by reusing waste flows (Groen Gezond & Almere, 2020a). All types of waste flows, from household waste to old furniture, are reusable. The city of Almere seeks to find possible solutions or destinations for waste in collaboration with citizens and local entrepreneurs.

The second theme is water and green, which aims to use green and smart water systems to develop a climate-resilient natural system (Groen Gezond & Almere, 2020g). Examples include using vegetation and water to reduce the urban heat island effect and improve biodiversity.

The third key area is about generating- and saving energy. The city focuses on using grey and drinking water systems and focuses on solar, wind, and geothermal energy for heating and cooking. Support in the form of subsidies and other arrangements is available to facilitate the transition to sustainable energy use for citizens and businesses.

In the fourth theme, the focus is on a sustainable, safe, and healthy transportation system. The city seeks to encourage citizens to use public transport, bicycles, and footpaths by improving their connectivity (Groen Gezond & Almere, 2020e).

The fifth theme emphasises the importance of creating a city where it’s easy to make healthy choices and live healthy lives. Almere prioritises clean air, space to be physically active, and provide access to healthy food (Groen Gezond & Almere, 2020c).

Finally, the theme of food is integral to developing a sustainable and healthy future. Almere focuses on ensuring citizens have access to affordable, local, healthy, and sustainable food (Groen Gezond & Almere, 2020f). The neighbourhood of Oosterwold is a significant step toward achieving this ambition. An overview of the different policies, themes and principles is shown in Figure 5.1.

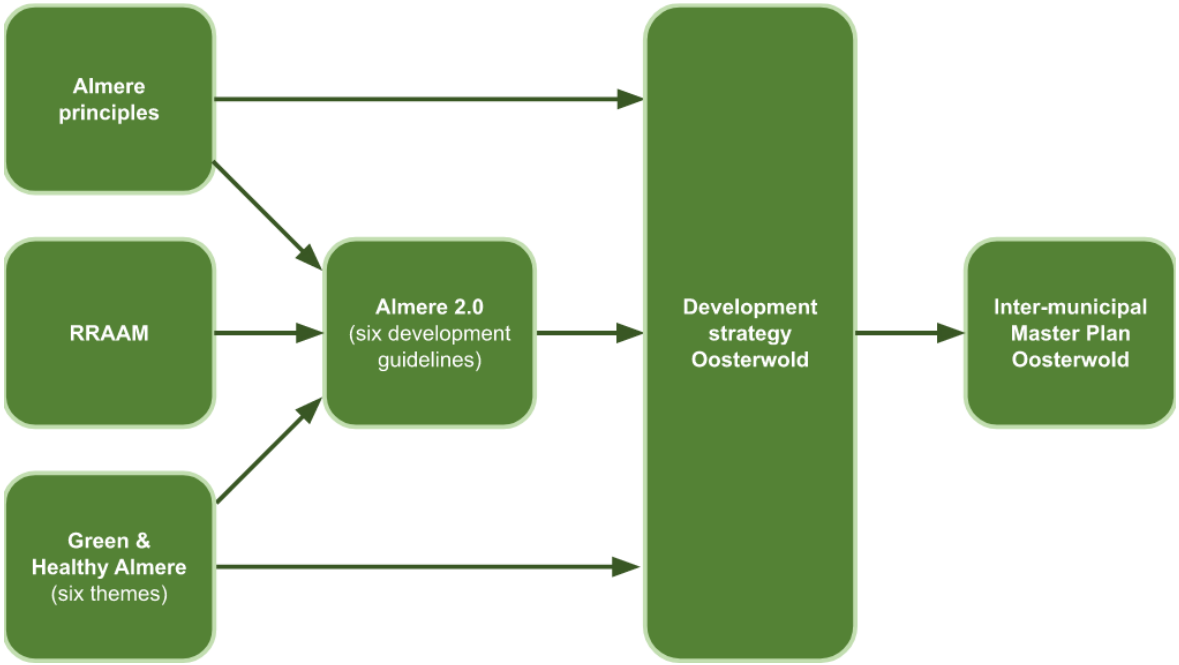

Figure 5.1 An overview of how the policies behind the development of Oosterwold (authors' work)

5.2.2 Master Plan Oosterwold

The development strategy Oosterwold is a simple framework that formulates six substantive ambitions guiding the development, aiming for high quality (Almere, 2012). The strategy is inspired by the previously mentioned principles, themes and guidelines (see Figure 5.1) Ten rules apply to Oosterwold to ensure that the area's ambitions are achieved. Initiators must only follow these global requirements and parameters in the self-organisation process and are, therefore, free to develop within these guidelines. The ambitions, inspired by the Almere principles (Almere, 2012), are as follows:

The first ambition concerns the organic development of the neighbourhood. Land users, such as residents, entrepreneurs, and organisations, are responsible for designing and implementing plans for the further development of Oosterwold at their own pace (Almere, 2012). Responsibility is an essential aspect of the area, as every land user has some responsibility for developing and maintaining communal facilities such as infrastructure and the landscape. Therefore, the expectation is that multiple types of cooperation between initiators will arise, which could be beneficial, and that the neighbourhood will grow organically from a social point of view (Almere, 2012).

The second ambition for Oosterwold is that the area provides space for initiatives. Oosterwold offers a rural living and working environment with opportunities for all housing types, from detached houses to high-rise buildings and small residential areas, for low-income to high-income households (Almere, 2012). Also, there are opportunities for businesses and other facilities, other than agricultural businesses, to take advantage of and improve the green living environment (Almere, 2012).

The third ambition concerns the guarantee of a continuous green landscape in Oosterwold. The development of living and working is directly linked to the development of the landscape, realised with the simple rule that initiatives related to housing and businesses are always surrounded by a zone for infrastructure, water, green space, and urban agriculture (Almere, 2012). The aim is to create a diverse, unique, multifunctional green landscape with a high ecological value.

This fourth and essential ambition is about urban agriculture as a driving force of urban development in Oosterwold. The area is the designated place that, in the future, will be characterised by quantitative and qualitative urban agriculture that produces ten percent of regional food demand (Almere, 2012). To accomplish this ambition, fifty percent of the area's surface is allocated to urban agricultural practices. Urban agriculture in Oosterwold responds to the demand for high-quality, sustainably produced food. It simultaneously offers services like healthcare, recreation, education, hospitality, and a connection between urban life and nature (Almere, 2012). Urban agriculture's functions directly relate to ambition five, as residents fulfil their food demands.

The fifth ambition concerns the self-sufficiency and sustainability of the region. Oosterwold should be a CO2-neutral and energy-supplying region for the rest of the city (Almere, 2012). How and with whom the initiators will generate energy is a question that initiators should answer. They do know that energy production should happen sustainably and that multiple energy systems are necessary to meet the energy demand. Also, the energy systems should be flexible to grow with the neighbourhood's development. Additionally, the initiators organise systems related to waste flows. The goal is to close cycles and reuse waste from the neighbourhood in the same area. However, these systems must comply with guidelines regarding public health, surface water quality, and soil quality (Almere, 2012).

The final ambition concerns the financial stability of Oosterwold. The vision for this area differs from the current Dutch financial system for urban development. Since there is no clear direction or blueprint for the area's development, unlike the typical case, investments from the government and private developers are made only when necessary (Almere, 2012). In other words, a different order of development ensures the experience of the benefits before investments are made, resulting in a financially stable system (Almere, 2012). For instance, infrastructure expansion is carried out only when required due to increased traffic instead of being planned and executed in advance.

Because the development strategy for Oosterwold is not a formal framework, the next step was for the municipalities of Almere and Zeewolde to draw up a joint master plan. This is the Inter-municipal Master Plan Oosterwold, which was analysed for this research. The results from this analysis are provided in paragraph 5.3. As explained before, the second phase of Oosterwold will be developed on land of the neighbouring municipality of Zeewolde, hence a joint master plan was created. The Master plan includes the six ambitions from the development strategy and the role of self-organisation is further anchored. The master plan also provides broad outlines for the desired spatial development of Oosterwold. This way, the master plan provides the grounds to critically assess spatial decisions, such as e.g., the issuing of a building permit (Almere & Zeewolde, 2013).

In order to achieve the ambitions and to allow organic growth, ten rules apply. These rules aim to maintain a healthy balance between private and collective interests, ensure coherence between individual initiatives and the entire region, and foster a positive relationship between the initiators (Almere, 2012). The ten rules are outlined in Table 5.4 below. Some of these rules are enforced by the Gebiedsteam Oosterwold (District-team Oosterwold), who is responsible for the sale of lots. However, the third rule relating to space utilisation is not enforced due to a lack of means. As a result, new residents are only encouraged to participate in urban farming when buying their plot of land. Afterwards, the responsibility to comply with the rule to use fifty percent of a lot for urban agriculture completely falls on the residents (Sikking, interview, May 15, 2023). The consequences of

this lack of enforcement will be elaborated on later in this chapter. First, there will be reflected on Oosterwold's ambitions.

Rules of the game	
1	Initiators that are committed to the area in the long-term develop Oosterwold
2	Each initiator is free to choose their lot
3	Each lot adheres to basic rules for space utilisation
4	Deviations from these rules for space utilisation are possible for various reasons
5	The initiators are responsible for building and managing local infrastructure
6	There are both freedoms and restrictions on the built-up area
7	Oosterwold is a green area
8	Each lot must be almost entirely self-sufficient
9	The development of each lot is financially self-sufficient
10	The public investment follows the development of the area

Table 5.4 Rules of the game

5.2.3 Reflecting on Oosterwold's ambitions

Urban agriculture as a driver of urban development is the fourth ambition of Almere Oosterwold as mentioned before, but what does this mean for the area? Most of a plot, fifty percent, is allocated to urban agriculture, which initiators have to use for food production (Almere, 2012). This allocation directly influences the total price of the plot, as the agrarian price is paid for the fifty percent of the plot where urban agriculture should be performed (Jansma, interview, May 8, 2023).

Figure 5.2 shows a generic plot with the distribution of functions. This division of space serves as a guideline for the development of the plot. The initiator has to realise the following five spatial functions on his plot: 20% buildings, 6.5% pavement, 2% water, 20.5% public green spaces and 51% urban agriculture or horticulture. With this generic plot as a building block, the desired programmatic and spatial interpretation of Oosterwold can take shape without heavy management. How this percentage of the plot is filled is up to the initiator, which results in a high diversity of land-use visible in, for example, the area's types of houses (Almere, 2012; Almere & Zeewolde, 2013).

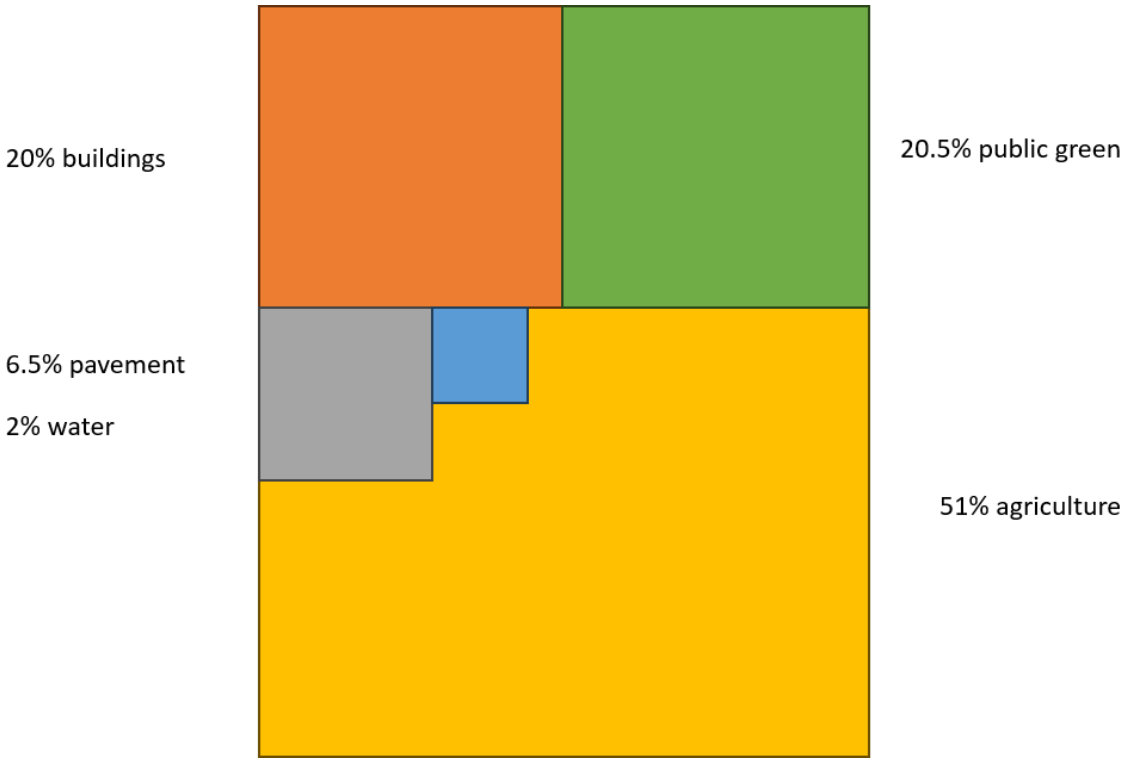

Figure 5.2 A generic plot with on the right the distribution of functions (authors' work)

"Er is hier verderop iemand die heeft een kasteel gebouwd, je hebt hier ufo's, je hebt hier van alles. Earth Ships, die half onder de grond zitten. En dat mag allemaal, tiny houses, alles mag. En je kan het verschrikkelijk vinden want het is volstrekt ongepland en ongecoördineerd. Ja ik vind het super leuk." [Someone down the road built a castle, there are UFOs, they build all sorts of things. Earthships, which are submerged underground. It's all allowed. Tiny houses, anything. You may hate it because it is completely unplanned and uncoordinated. I really enjoy it] (Blaauw, interview, June 2, 2023). Figure 5.3 presents the UFO Blaauw referred to.

Figure 5.3 Picture of a house in the shape of a UFO (authors' work)

Urban agriculture in the area can be described using the characterisation by Müller et al. (2022), who distinguished six types of urban agriculture in Europe as urban agriculture depends on the different local and national contexts. These types are based on ten characteristics categorised into the four dimensions; spatial, operational, production and community dimension. Following this characterisation, Almere Oosterwold is a do-it-yourself garden or farm where initiatives focus more on food production and offer fewer activities or leisure services (Müller et al., 2022). These types are mostly located in peri-urban areas, and products, mainly vegetables, are grown for own consumption, neighbours or family. This type of do-it- yourself urban agriculture is possible in Almere Oosterwold as it is a new urban neighbourhood starting from just a piece of land. Therefore, there is a lot of space in the area to practise urban agriculture.

This self-organisational principle and the agro-city policy make Oosterwold a truly unique place. Also, underlined by Blaauw. “Maar er is nog nooit tegen zo’n grote groep mensen gezegd van: je mag hier wonen, maar dan ga je voedsel verbouwen voor jezelf en voor je omgeving.” [Never before has such a large group of people been told that they have to grow food for themselves and their environment, in order to live somewhere] (Interview, June 2, 2023).

During the interviews, it became apparent that the self-organisation principle can be separated from urban farming, as stated by J.E. Jansma (Interview, May 8, 2023). However, the municipal approach of developing this neighbourhood through self-organisation impacts people's ability to do urban farming. (Sikking, interview, May 15, 2023). The combination encourages people to challenge themselves and develop ideas that match their needs. Jansma suggests it's beneficial for the area to let the municipality take a step back (Interview, May 8, 2023). However, it was shown that in phase 1, residents were given too much freedom, which resulted in difficulties in organizing certain aspects, such as sewage and roads, on their plots (Sikking, interview, May 15, 2023). For public health and the accessibility of the area, it appears that the municipality should arrange certain things well. Jansma suggested facilitating and supporting policies would be best, with the municipality raising questions and listening to residents without imposing solutions. Ultimately, it should come from the residents (Interview, May 8, 2023).

“Heel veel dingen gaan wel goed, maar niet alles gaat goed, dus dan moet je tussentijds bijsturen en dat maakt het een heel afwisselend project." [Many things go well, but not everything, so you have to keep adjusting and that results in a very variable project.] (Sikking, interview, May 15, 2023). Despite the focus on self-realisation, the municipality does facilitate the process to some extent later in the process (Sikking, interview, May 15, 2023).

However, it has been a struggle for the agro-policy to get off the ground in Oosterwold (Dekking, interview, June 1, 2023). This struggle has multiple causes related to meanings, competencies, and materials, further elaborated later this chapter. First, the importance of additional policies and networks for achieving Almere's ambitions will be explained.

5.2.4 Additional policies

Alongside the development of Oosterwold, it became clear in 2012 that Almere would be the stage for the world horticultural exhibition Floriade Expo 2022. The overarching theme of the expo became 'Growing Green Cities', which focused on innovations and solutions

for a sustainable and liveable city. One of the four themes of the expo was 'Feeding the city', which sparked more interest in the topic and led to the establishment of the Flevo campus in 2017. This knowledge institute addresses urban food challenges to develop and generate more knowledge on theme food. These three 'iconic' projects had two purposes: to contribute to the substantive objectives already set by the municipality of Almere and to ensure visibility within and outside the city limits. Soon after that, food policies were seen increasingly in Dutch cities, resulting in Almere's own 'Voedselstrategie 2021-2025'. This food policy includes the ambitions and goals of Almere, the three iconic projects, and their planning. This planning consists of two phases, the period before the Floriade and after

The focus shifted between the objectives as soon as the Floriade was over. The municipality portrays Almere as the heart of food. Therefore, Almere is developed as an edible city and a space of innovation around urban food issues. They started working on the economy around food together with the Flevo Campus, which brings knowledge and business to the city. Their focus has also shifted to establishing a local food supply by shortening the food chain and selling local products on the market. It was previously meant for the government to focus on public health as well. However, due to the issue's complexity, their focus mainly lies on education about food consumption and a healthy food environment (van der Ham, interview, May 26, 2023; Floriade BV, 2022).

The importance of having a similar policy, such as Almere's Food Strategy, becomes apparent. Its purpose is not yet to achieve big goals and ambitions but to put food issues on the agenda (van der Ham, interview, May 26, 2023). With related policy, it becomes possible to stimulate change in that direction and realise the city's ambitions (Jansma, interview, May 8, 2023). It is essential to name and embrace the things already happening in the city in the Food Strategy because the policy will only succeed if the municipality and the initiators work together. “Wij hebben iets aan hen en zij moeten ons aan de voedselstrategie hebben om hun project te kunnen laten vliegen” [They add something to our goal and they need our Food Strategy to help make their project fly] (van der Ham, interview, May 26, 2023).

The networks surrounding Almere also help shape the city into the envisioned 'food heart.' Some of the most important networks in Almere include the City Deals, a program of the national government that addresses issues related to an unhealthy food environment. 'Voedsel Verbind' [Food Connects] collaborates with the metropolitan region to address food-related challenges. 'Duurzaam Door' [Sustainable by] is a network where the municipalities of Flevoland gather money to enable and improve food education. 'The Milaan Urban Food Policy Pact' claims cities can significantly influence the food transition. Cities sign an international document through this network to work on this food transition. Together with initiatives around the agro-city policy, entrepreneurs and the network around the municipality, they try to achieve Almere’s ambitions. Van de Ham did not explain who the actors in this network are (van der Ham, interview, May 26, 2023).

5.3 Meanings

To brush up, meanings consist of mental activities, emotion and motivational knowledge (Reckwitz, 2002). For the purpose of this research, we are looking for the ideas, ambitions and values behind an agro-city planning policy (see Chapter 2). These meanings can be found in the municipal policy documents, but the interviews provided a more nuanced perspective on the implementation of the policies.

The interviews gave an insight into two parties with separate values, sometimes aligning with each other, sometimes conflicting. See, where policy is created by the municipality with its politicians and civil servants, the policy is experienced by the initiators in Oosterwold. Of course it would be false to regard the initiator-party as homogeneous: different initiators have different meanings. Similarly, the municipality is also a heterogeneous entity. Policy might say one thing, politicians or civil servants can act another way. What is described as meaningful in policy, might not be carried out. However, before this opposition is explored, we will first explain which meanings are attached to agro-cities.

5.3.1 Self-Organisation as a Meaning

We have already seen that Almere's Inter-municipal Master Plan Oosterwold contains six ambitions. These ambitions can be roughly separated into two themes: the self-organisation principle and urban farming. The two themes indicate different ideologies, but cannot be seen as fully separate. Though self-organisation of the living environment is not the topic of this research, it does affect the outcome of urban farming. Therefore, it is still included in the analysis.

Under the self-organisation principle, Oosterwold residents are allowed maximum freedom for initiatives. "Maximum" is of course relative, as certain rules still apply. The aim is for the driving force to be bottom-up. The initiatives can be individual or communal. Inhabitants determine for themselves how they live, for example, in separated homes or in communities. This high amount of freedom is combined with a high amount of responsibility for the residents. This combination is meant to result in an organically developed neighbourhood. To allow for this organic development, the municipality takes into account that the realisation will take twenty to thirty years. The municipality states that it will have a modest but crucial role in this process. They will guard these principles and facilitate initiatives through an "area director" (gebiedsregisseur) (Almere & Zeewolde, 2013). Here we see the following values: freedom of initiatives, private responsibility, organic development and little government interference. These values shape the agro-city practice, by determining the tasks for different actors.

The master plan further details ten principles that are applied to the development of Oosterwold. As explained before, one principle focuses on the layout of the parcels. The initiator has to realise the following five spatial functions on his plot: buildings, traffic access, water, energy supply, public green spaces and urban agriculture or horticulture. To ensure a high quality living environment, the initiator has to reserve a certain percentage of land for each of these functions (Almere & Zeewolde, 2013). These principles represent meanings of their own, but are outside of the scope of this research. Therefore, they will not be further elaborated. However, from these principles stems the rule that 50% of a parcel should be allocated to urban farming.

The Food Strategy (Almere, 2020) also recognises the importance of citizen initiatives. It references the existing food related initiatives in Almere and underlines the importance of cooperating with them. They state that without them, Almere cannot fulfil its ambitions. The policy clearly defines the following ambition: to actively support and make visible initiatives that bring the supply from short chains to the attention of consumers. Additionally, the policy calls for the creation of a regional food hub, which it calls an icon project.

We interviewed two Almere residents who have their own food related initiatives, namely J.A. Blaauw and A. Dekking. Blaauw is founder of *Coöperatie Stadslandbouw Oosterwold* (Cooperative Urban Farming Oosterwold). It is his regional food hub that ended up in the Food Strategy as an icon project (J.A. Blaauw, interview, June 2, 2023). Dekking's *Almeerse Weelde* (Almere's Opulence) is mentioned twice in the Food Strategy as a local producer that should be supported.

So, the meanings around self-organisation in the Food Strategy relate to supporting and taking advantage of an already existing network of food initiatives. Rather than focusing on private responsibility and little government interference, the Food Strategy values cooperation. The Inter-municipal Master Plan Oosterwold and the Food Strategy might seem to deviate from each other. How can these different meanings be combined? It is important to note when both policies were enacted. The master plan is already ten years old. Blaauw was one of the first residents in Oosterwold and has lived there for just six years now (interview, June 2, 2023). The Food Strategy is of a more recent date, being published in 2020. Between the two policy documents, we see a shift in meanings. This shift will be further illustrated in the following subparagraph. But first, let us look at Arnhem's meanings for self organisation.

In the Vision urban farming & regional food (Arnhem, 2017), Arnhem takes a more active position than Almere. Self-organisation is not extensively mentioned, but private initiatives are welcomed and given the space to act. When approached, the municipality will look for opportunities together with innovators and entrepreneurs by means of 'quick scans' and 'brainstorming'. Spatial planning procedures for initiatives are simplified through special zoning laws (*parapluplan voor stadslandbouw*). Neighbourhood initiatives are also facilitated and even stimulated. The policy explicitly states that the initiative to start a picking garden is up to the neighbourhoods themselves. However, the municipality is quick to pick up the proposals. The goal is for all neighbourhoods to have their own picking garden (*pluktuin*) and special budgets are allocated for this purpose.

Here we see the following values: active government involvement, cooperation, facilitating private initiatives. These values are important meanings, since they outline tasks and projects for actors to help shape the urban agriculture practice in Arnhem. Arnhem is actively looking to work together with private initiatives on urban farming. They put different resources towards this goal, such as man power, legislation and money. Though they view urban farming as important, Arnhem does not force it upon its citizens. Rather, they are eager to help. This is where Arnhem Vision urban farming & regional food differs from Almere's Inter-municipal Master Plan Oosterwold. Almere first sets the rules and then lets the Oosterwold residents figure out the rest. The Food Strategy gives more room to help successful initiatives, but it still seems less concrete than Arnhem's vision.

5.3.2 Changing Attitudes Towards Self-Organisation

The policy documents outline the municipalities' ambitions. However, interviews can provide a more nuanced perspective based on reality. We already noticed a shift in the role of the municipality between the Inter-municipal Master Plan Oosterwold (Almere, 2013) and the Food strategy (Almere, 2020). This shift is acknowledged by the interviewees.

J.E. Jansma (interview, May 8, 2023) tells us that the development of Oosterwold initially did follow the ambitions of the master plan. It is the people that make the city, not the developers and the architects. In other cities the municipality determines everything, sometimes even down to the colour of the roof tiles. In Oosterwold, people really are given all the freedom to develop their own parcels, as long as the design does not cause nuisance to the neighbours. Furthermore, the limited government interference meant that the municipality decided not to invest into the neighbourhood. Roads, sewage systems, electricity, residents had to develop these utilities between themselves. Residents are required to start some sort of cooperative to develop the roads, but the municipality does not facilitate the creation of these cooperatives. If things go wrong, residents can go to the area director. If problems escalate further, residents have to go to court. This laissez faire attitude extended to urban farming, where people also have to rely on themselves (Jansma, interview, May 8, 2023). It is unclear whether this policy reinforces inequalities.

Y. Sikking (interview, May 15, 2023) complements this story by explaining that Oosterwold was originally meant as a pilot. A type of experiment to see what happens if residents are given large amounts of freedom and responsibility. When we asked Sikking if the district-team facilitates urban farming in any type of way, she replied with a laugh: "Dat zien wij niet als onze taak: wij verkopen grond." [We don't see that as our job: we sell land.] She was quick to add that there are some budgets available. Additionally, the Food Strategy does facilitate urban farming.

Both stories clearly follow the values of little government interference, freedom of initiatives and private responsibility. However, the interviewees also explain that self-organisation comes with some problems. Jansma (interview, May 8, 2023) explained that the realisation of roads caused some troubles. To enhance accessibility, some main roads need to be developed by the municipality. It is not feasible to let residents decide whether a main road should be made of asphalt or gravel. In other parts of the neighbourhood roads are still developed by the locals. As a result, a hodgepodge is created of asphalt, gravel and brick roads (Jansma, interview, May 8, 2023). Sikking (interview, May 15, 2023) adds to this that accessibility is also under pressure due to a lack of coordination. In practice, she says, residents realise quite a few roads around their parcels, but not pathways for pedestrians and cyclists. Furthermore, some paths are not realised in the end, resulting in dead ends. She calls it unfortunate and not as intended.

Learning from their mistakes, the municipality will take a larger role when the next phase of Oosterwold is developed. It will construct more main roads. There is also the idea to work together with residents on designing the road network. Still, without taking control, as residents should still be allowed maximum freedom. Afterwards, the municipality can also construct the roads for the residents. Residents will still have to pay for the roads to be developed, but this way a higher quality network could be achieved (Sikking, interview, May 15, 2023). This illustrates the changing attitude towards self-organisation, which is also reflected in the Food Strategy. Freedom of initiatives remains important, but private responsibility is decreased and government interference increased.

A new value of cooperation between the municipality and the Oosterwold residents emerges.

Another policy idea even ended up being unlawful. Instead of creating a sewage system, Oosterwold residents opted for septic tanks. Though septic tanks are legal in the Netherlands, they are only meant to be used in the more sparsely populated countryside. Lawyers pointed out that Almere has a duty of care, meaning that the municipality is obligated to construct a sewage system. Each household having a septic tank does not suffice. The municipality now has to construct a sewage system in already built-up parts of the neighbourhood, costing them €6 million (Sikking, interview, May 15, 2023). In this case, the municipality is forced to adopt a more active role.

This concludes the role of self-organisation in Oosterwold. Agro-city Almere cannot be viewed separately from this overarching theme. Self-organisation impacts the success of urban farming in this neighbourhood and seems to cause some problems. Additionally, it influences the practice of the agro-city as it is part of the meanings; it determines the roles for different actors. The meanings and behind urban farming will be further elaborated on in the following paragraphs.

5.3.3 Food production as Meaning

Self-organisation was one major theme in the Inter-municipal Master Plan Oosterwold, urban farming the other. Of the six ambitions outlined in the master plan, two clearly mention urban farming. The third ambition is for Oosterwold to have a continuously green landscape. Every development in Oosterwold, whether it is a house or an office building, should be surrounded by a zone for water, greenery and urban agriculture. In this case, urban agriculture is a means to reach a goal, but not a goal in itself. The fourth ambition calls urban agriculture a green bearer, presumably as urban agriculture will bear some achievements for the municipality. Among the achievements, the master plan names the retention of almost 50 percent of the agricultural lands. This land is to supply the city and region with 10 percent of food consumption. Additionally, urban agriculture is to restore and strengthen the relationship between city and countryside, which aligns neatly with our new definition of the agro-city (see 5.1) These are just a few of the achievements Almere hopes to accomplish through urban farming.

The Inter-municipal Master Plan Oosterwold (Almere, 2013) further cements the role of urban agriculture in Oosterwold in its principles. As mentioned before, one of the principles is for residents to reserve half of their parcels for urban agriculture. Four other principles keep mentioning agriculture as an integral part of the development. In total, half of the principles mention urban agriculture.

The Food Strategy (Almere, 2020), which was written seven years later, reflects on these ambitions for Oosterwold. An evaluation of Oosterwold shows that regional food production proves difficult to realise. The neighbourhood is still unable to provide 10 percent of food consumed in Almere. It is concluded that the values of local production of food and being self-sufficient should be more central. Other than this reflection, the policy does not mention specific ambitions for Oosterwold or with urban agriculture as a goal. The document starts with a contextualisation and the explanation that food strategies are no longer synonymous with agriculture strategies. Rather, food strategies have an increasingly integral focus. Values such as transparency, animal well-being, biodiversity, health and sustainability have become more important.

This shift in values also signifies a shift in the ends that are embraced by the municipality. However, these “new” values are still fitting for an agro-city as defined in paragraph 5.1. The Food strategy (Almere, 2020) defines three core ambitions: healthy food options for everyone, a sustainable food economy, and being proud of local and regional products and initiatives. These ambitions are further elaborated with other sub-ambitions. The first ambition mainly relates to promoting healthy food options for inhabitants. The second one is about improving the production and consumption of local produce. The goal is to increase the added benefits of agriculture to the local economy, as well as reaching sustainability goals, such as a decrease in emissions. This ambition also invests into edible greenery in the city. Citizen initiatives are to cover management and maintenance. The last ambition is the aforementioned support of local initiatives, such as Almeerse Weelde and Coöperatie Stadslandbouw Oosterwold.

When we asked H. KleinJan (interview, May 26, 2023) about Arnhem’s food strategy, he had to correct us and explained that Arnhem does not have a food strategy. Rather, food is an overarching theme for their Vision urban farming & regional food. Within this vision, urban farming is one subject. The vision (Arnhem, 2017) focuses on three topics: knowledge and accessibility, creating space, and facilitating and connecting. Creating space was previously mentioned when discussing self-organisation.

Knowledge and accessibility has a focus on food education. Children are taught how to grow food in school gardens and several programs are in place to teach young people healthy lifestyles in order to prevent overweight. This way, food competences within the municipality increase. Accessibility refers to having at least one picking garden within each neighbourhood where residents can harvest some fruits, nuts and berries. The third ambition of facilitating and connecting is exactly what you would expect from the name. The municipality wants to work together with innovators and entrepreneurs (see 5.3.1). How are these ambitions translated into practice?

5.3.4 Urban Farming Ambitions in Practice

J.A. Blaauw (interview, June 2, 2023) remarked that Oosterwold is unique, not because of the self-realisation principle, but because of urban agriculture. Never before has such a large group of people been told that they have to grow food in order to live somewhere. Self-realisation on the other hand happens in more places in the Netherlands. However, all of our Almere interviewees agreed that urban farming through self-organisation has had a hard time coming off the ground (Blaauw, June 2, 2023; Dekking, June 1, 2023; Jansma, May 8, 2023; Sikking, May 15, 2023; Van der Ham, May 26, 2023). This despite the fact that residents made the obligation, as half of each parcel was sold for the agrarian land price (Sikking, interview, May 15, 2023).

During the interviews, several reasons came up why this is the case. Jansma (interview, May 8, 2023) explained that residents might not produce food, because they have busy jobs, children and large gardens to take care of. Sikking (interview, May 15, 2023) adds to this that residents are already busy enough with self-organisation. They will first build their house and construct all the necessary facilities. The development also takes longer than regular developments, as residents have to wait on their neighbours. Once that is all done, residents have time again to focus on other things, such as urban farming. There are also more fanatic residents that start earlier with their farms. Sikking stressed that the neighbourhood is still young and developing. During our observation on June 2, 2023, we did notice some areas were still under construction. Figure 5.4 below

shows an empty plot, with some finished houses in the background. Figure 5.5 shows a tiny house under construction. Some other lots had finished houses but unfinished gardens. All in all, the neighbourhood carries an unfinished atmosphere.

Different types of people are attracted for different reasons. Blaauw (interview, June 2, 2023) differentiates three types of people. There are the aforementioned fanatics who have started their farms on their own. Nonetheless, according to Blaauw, most people that move to Oosterwold are attracted by the self-realisation principle. They want to build their own houses and take urban farming for granted. A part of them is frankly uninterested in urban farming and will not start their own farms without enforcement. In the case of this type of resident, the personal ambitions do not align with the ambitions as defined in the Inter-municipal Master Plan Oosterwold. However, Blaauw believes that most people are willing to do something with urban farming, but lack the knowledge. They might start a small kitchen garden, but will not produce food at a larger scale.

Figure 5.4 Picture of a construction site in Oosterwold with finished houses in the background (authors' work)

Figure 5.5 Picture of a tiny house under construction (authors' work)

Other explanations focus more on the role of the municipality itself. According to Dekking (interview, June 1, 2023) it is good that an urban farming policy exists in Almere, however, it is barely implemented, if at all. According to Dekking, this is due to the poor image of the city of Almere. As a result, working for Almere is often a lesser choice for civil servants. This ensures that both the board and the bureaucratic apparatus function poorly, to say the least. Additionally, by linking subsidies to the agro-city policy, the dynamics have changed and the wrong parties are attracted. They take the subsidies, but continue doing what they were doing to begin with. Due to the way the bureaucratic apparatus works, it is barely monitored if the money is used well. In the end there is a policy on urban agriculture, but it is barely executed.

However, Dekking (interview, June 1, 2023) is still of the opinion that Oosterwold cannot be seen as a failure. It did not help that the municipality has not enforced the rule to use 50% of a parcel for urban agriculture. As a result, only a small proportion of the residents got started with urban farming. Sikking (interview, May 15, 2023) explained that the reason for the absence of any enforcement is the lack of means. New residents do have to write a development plan in which they detail what they are going to do with urban farming on their parcel. After that, guidance stops. But just like Sikking, Dekking stresses the fact that the neighbourhood is still young. Residents might start farming once their houses are built and everything is tidied up. He points out that the number of urban farming initiatives is still growing.

Like Blaauw, Dekking (interview, June 1, 2023) adds that residents lack the knowledge to start their farms. Due to the self-organisation principle and the high amounts of private responsibility, it was up to the residents to create the educational infrastructure. It would have helped if the municipality had played a larger role. Now, urban farming

related developments happen late or do not happen at all. Dekking warns that it is much harder to repair things in hindsight, than to anticipate the desired developments.

That the municipality should have had a larger role in the development of Oosterwold is acknowledged by all five Almere interviewees (Blaauw, June 2, 2023; Dekking, June 1, 2023; Jansma, May 8, 2023; Sikking, May 15, 2023; Van der Ham, May 26, 2023). Blaauw, founder of the Coöperatie Stadslandbouw Oosterwold, is of the opinion that his cooperative is the only one that takes responsibility for the ambition to provide Almere with 10% of its food consumption. He told us that he had to lobby for three years to get his ideas off the ground, even though his ideas were already in line with the municipality's policies.

Van der Ham (interview, May 26, 2023) also touched on this. The municipality is quite inert and slow, entrepreneurs have a different pace and also different interests. They need each other, but it takes some effort to work together towards the same goal. As an example she explained that the Coöperatie Stadslandbouw Oosterwold would like their food hub to be realised today, so that they have a place to process this year's harvest. However, the municipality has to follow certain procedures. Furthermore, they are not allowed to just donate a building. All this red tape slows the municipality down. She also stated that the collaboration between the municipality Oosterwold should be improved. Urban agriculture is not reflected in the Food Strategy at the moment. The Food Strategy does work with Oosterwold on the creation of a food hub, but there the collaboration stops.

Meanwhile, Blaauw (interview, June 2, 2023) does notice that the municipality makes more effort to support urban agriculture than before. The Food Strategy describes the creation of a food hub as an icon project. This hub is meant to contribute to the ambitions and to increase visibility. The municipality has now accepted the cooperative's idea for their food hub as part of the Food Strategy. The municipality helped with finding a location for the food hub and now aids the construction. The cooperative was able to buy some greenhouses and a unit building from the remnants of the Floriade, an international exhibition and garden festival that was organised by the municipality in 2022. Additionally, the municipality will subsidise part of the construction of a pavilion that will be part of the food hub as a knowledge centre. However, while Blaauw thinks that the municipality should be more active, he does appreciate the space for private initiatives. The municipality should facilitate more without taking over, a sentiment which is also shared by the municipality itself (Sikking, interview, May 15, 2023).

5.3.5 Discussing the policies

Another reason why the agro-city has a hard time coming off the ground is that the policies are unclear. Firstly, the concept of urban farming is not clearly defined and as a result "urban agriculture" is up for interpretation (Jansma, interview, May 8, 2023). This can be seen as a lack of a common meaning. As a result, the practice of urban agriculture diverges among different actors. Secondly, Blaauw (interview, June 2, 2023) is of the opinion that it is unclear why Almere wants its residents to produce food in the first place. The municipality focuses too much on the benefits of local food production and does not ask the more fundamental question. On the other hand, the policies did clarify administrative ownership of urban agriculture (Dekking, interview, June 1, 2023). Before the policies were drafted, no alderman at the municipality associated himself with urban agriculture. This created a barrier to effectively communicate about the topic. Due to the

policies, urban agriculture is part of an alderman's portfolio, which creates a clear communication.

Van der Ham (interview, May 26, 2023) explained that the Food Strategy will be made more concrete in the future. The current version was approached on a higher level, meaning that general priorities and topics were addressed. The residents' well being and a healthy, sustainable economic climate are important, and food can offer a solution to accomplish these goals. Certain topics were also left out of the Food Strategy. The policy now has a more social economic approach, rather than an ecological or climate approach. Van de Ham thinks this is done as the environmental department already had an agenda of their own. The Food Strategy's focus on accessibility and inclusivity also stems from the population's needs. Almere has a diverse population which is on average socio-economically weaker than the rest of the country.

Even Though the Food Strategy is not concrete yet, it still puts food on the agenda. By expressing your ambitions as a municipality, related initiatives already come off the ground without any further stimulation. This is because initiators use the existence of the policy as motivation for their initiatives (Van der Ham, interview, May 26, 2023). Still, KleinJan (interview, May 26, 2023) does set the condition that there must be a demand for the policy under residents. He explained that in Arnhem a small group of people started a few urban agriculture related initiatives. Ten years later, the amount of initiatives improved both in quantity and quality. This is due to a snowball effect, where more and more people come in contact with urban agriculture, creating initiatives of their own. These new initiatives go on to inspire even more people, resulting in a boom of initiatives.

In addition to demand from the city, political will within the municipality is also important. "Waar een politieke wil is, is een weg." [Where there is a political will, there is a way.] (J.E. Jansma, interview, May 8, 2023). The municipal executive and the aldermen have to stand for the policy, in this case urban agriculture. At the moment, Almere has an alderman from the Party for the Animals on urban agriculture who thinks it is important. As a result, more resources are put towards urban agriculture (Van der Ham, interview, May 26, 2023). Similarly, Arnhem has a "dark green" municipal executive that highly values nature and urban agriculture. This creates momentum to adjust the existing policy, either by making a new one or by expanding the current one (KleinJan, interview, May 26, 2023). Then again, the policy will still have to compete with other interests. Every policy maker will stand up for their own field, which means that it can be hard to get attention for food and urban agriculture. Van der Ham has to keep lobbying to be able to accomplish the ambitions set in the Food Strategy.

5.4 Competences

As discussed in Chapter 2, competences encompass know-how, techniques, and the cultivation of skill of which the combination and application of these three competences lead to good or appropriate performances (Shove et al., 2012). When examining policy documents and conducting interviews, our focus is directed toward knowledge and the skills of individuals and municipalities. Skills include, for example, cooperation, communication, analytical thinking and management, where the latter include taking responsibility and initiative, and being a leader in the field. Developing these competences through training, education, or experiential learning is crucial as they play a vital role in achieving desired outcomes when implementing and executing policy. However, research on the capacity of individuals to acquire these skills is beyond the scope of this research. Therefore, only skill and knowledge will be examined.

Practising urban agriculture and implementing agro-city or food-related policies necessitates knowledge and skill. The municipalities of Almere and Arnhem acknowledge this and emphasise its importance in their policy documents. However, it is important to note that there is a difference between the ambitions using competences, as described in paragraph 5.3, and actually being competent. In this paragraph, the role of the competences knowledge and skill will be described as identified in the analysed policy documents. Subsequently, we will draw insights from the interviews to reflect on the competences described in the policy documents.

5.4.1 Competences in Policy Documents

The integration of urban agriculture into the city and the implementation of food-related policies require knowledge and skills. The municipality of Almere recognizes this and emphasises the importance of increasing food knowledge in its Food Strategy (2020). To achieve this, they have established the Flevo Campus, a knowledge and research institute to enhance the city's knowledge capacity, invest in education, and address urban issues through research and education. The municipality also actively participates in various networks to access and share knowledge and expertise, such as being part of the Ellen McArthur Foundation's Cities & Circular Economy for Food program, participating in City Deals, and signing the international Milan Urban Food Policy Pact (Almere, 2020). Municipalities in the Netherlands work together through City Deals to make the food environment healthy, by sharing knowledge and thinking of solutions with each other (Almere, 2020). The Milan Urban Food Policy Pact is a commitment to work on the food transition within the city (Van der Ham, interview, May 26, 2023).

On the other hand, Arnhem takes a slightly different approach in its Vision urban agriculture and regional planning (2017). While they do not explicitly mention how the municipality generates knowledge, they focus on increasing food competences within the city, as stated in paragraph 5.3.3. This includes facilitating and imparting knowledge by incorporating environmental and food education into the curriculum of primary schools. Some schools have school vegetable gardens, and others visit urban farms or receive a teaching box with materials for environmental education (Arnhem, 2017). The goal is for every primary school in the city to have a vegetable garden and utilise it for environmental and food education.

Regarding the policy document for the case of Oosterwold, Almere's Inter-municipal Master Plan, knowledge, and skill are not specifically addressed. However,

communication, collaboration, management, analytical thinking, and leadership skills are crucial for practising urban agriculture and leading policy in the right direction. The municipality of Almere cooperates with various parties, such as the Flevo Campus, to acquire knowledge and work towards their goals. Conversely, Arnhem actively enables and supports initiatives, utilising their knowledge and resources to foster connections between individuals with similar or complementary plans. Besides cooperation and leadership, they also employ analytical skills through quick scans and brainstorming sessions to develop urban agriculture and food policy.

In conclusion, knowledge and skills are mentioned in the policy documents of Almere's Food Strategy (2020) and Arnhem's vision of urban agriculture and regional food (2017). It is worth mentioning that Arnhem takes a more active role in explaining the necessary competences and steps for achieving their ambitions, unlike Almere. Additionally, it is noteworthy that the policy document for Almere's Inter-municipal Master Plan Oosterwold does not explicitly address the competences required for practising urban agriculture, despite it being a primary development strategy for the area. So, how do these competences manifest in practice?

5.4.2 Knowledge in practice

The two residents of Almere, J.A. Blaauw and A. Dekking, who have their food-related initiatives, Cooperative Urban Farming Oosterwold and Almeerse Weelde respectively, discussed the role of knowledge and skills among the municipality and residents in the realisation of urban agriculture and food-related policies. Blaauw identifies a lack of competence as one of the main barriers that keep residents from starting their farms (Interview, June 2, 2023). Dekking stated that people currently lack the necessary level of knowledge to engage in urban agriculture. This has resulted in residents handling everything themselves, with limited support from the municipality, leading to things that do not happen or happen too late to get the desired outcomes. As a result, the major shortcoming in Almere lies in the lack of knowledge sharing and the absence of facilitated knowledge and networks (Interview, June 1, 2023). Which can be translated into the shortcomings of cooperation, communication and management skills, further discussed in 5.4.3.

According to Blaauw, there are no real knowledge institutions where residents can learn about farming. The focus of the Flevo Campus is primarily on research rather than specifically addressing the needs of Oosterwold (Interview, June 2, 2023). Dekking agrees, further stating that the research conducted by Flevo Campus does not aim to elevate the city to a higher level. They have their own agenda, and their perspective is unsuitable for the city, as the knowledge primarily comes from external sources (Interview, June 1, 2023). There seemed to be some frustration surrounding the lack of municipal effort with multiple interviewees. However, the private initiative of the Cooperative Urban Farming Oosterwold aligns well with the principle of self-organisation explained in paragraph 5.3.1.

Jansma believes that the positive side of the do-it-yourself approach is indeed beneficial as residents come up with their own ideas and take responsibility. Despite this, he also thinks that the municipality relied too much on the self-organisation principle and suggests that having a knowledge centre with available experts to ask questions or borrow materials would be beneficial (Interview, May 8, 2023). E. van der Ham, Project Manager of Food at the municipality of Almere, acknowledges this perception of the

residents and admits that the cooperation between the municipality and Oosterwold could be improved. She also mentions the municipality's intention to provide more facilitation in the future, such as establishing a place where people can acquire knowledge (Interview, May 26, 2023).

Combining the interviewee's thoughts with the policy analysis, we can conclude that the municipality of Almere acquires knowledge with the assistance of the Flevo Campus, but there is a gap in effectively passing it on to the residents involved in urban farming. Furthermore, a contradiction emerged between the experiences of the interviewees and the Food Strategy (2020), which claims that the Flevo Campus assists food entrepreneurs in addressing questions related to food knowledge. Interviewees, however, do not see the added value of the Flevo Campus, as mentioned before.

H. Kleinjan, a policy maker for urban farming & regional food in Arnhem, also emphasised the importance of knowledge and exchange of experience in promoting urban agriculture. Arnhem has a core team of individuals with expertise who put everything related to urban agriculture on the agenda, which is also closely related to the skills and the active role of the municipality discussed in subparagraph 5.4.1(Interview, May 26, 2023). Furthermore, Arnhem, as described in their vision of urban agriculture and regional food (2017), starts at a young age with teaching about nature, the living environment and food by including these themes in the school curriculum of primary schools. According to Kleinjan, this approach has proved to be very successful and very important as it shapes the development of a child and how they will look at food and nature when they are adults. [Sharing, awareness and education form the basis of change. If you can teach people, especially young people, about where food comes from, how healthy it is, what constitutes healthy nutrition, and so on, you can create a much better society in the long run.] (Interview, May 26, 2023).

To our knowledge, Almere does not incorporate nature, environmental and food education in school curriculums and does not have a core team dedicated to urban agriculture and food. Instead, Van der Ham pointed out that she consistently has to lobby for attention to food-related policies (Interview, May 26, 2023). Therefore, adopting Arnhem's active approach could be beneficial for Almere. However, Kleinjan views Wageningen as a better example of how to share knowledge and put it into practice, along with experience and expertise (Interview, May 26, 2023).

Based on the findings, it is evident that residents' lack of knowledge is often the primary reason for their non-participation in urban farming. Municipalities, on the other hand, possess sufficient knowledge acquired through various means. However, it is important to note that it is crucial to determine where knowledge comes from as knowledge from external sources is often unsuitable for the city. Additionally, the municipality needs to improve in effectively facilitating knowledge and networks for the residents to achieve the desired outcomes of the integrated policy, which is an issue closely related to competence skills.

5.4.3 Skills in practice

The shortcoming to provide residents with knowledge and the excessive reliance on the self-organisation is closely related to a lack of competence in cooperation, communication and management skills. The municipality failed to take responsibility, take initiative and show leadership to guide urban agriculture and food-related practices in the right direction. The municipality did not encourage people to engage in urban agriculture

(Dekking, interview, June 1, 2023), indicating a deficiency in management and cooperation skills. Important to note is the determination of where the responsibility lies and to what extent as the self-organisation principle is created to give residents freedom to take responsibility and initiative of their own, described in paragraph about meanings. However, according to Blaauw, the municipality has neglected its role in facilitating urban agriculture in Oosterwold. Once people committed to living in Oosterwold with the obligation of urban agriculture, the municipality completely ignored the execution of the policy. The Cooperative Urban Farming Oosterwold is the only one that took responsibility and initiative for assisting inexperienced residents who lack the necessary skills to produce food, aiming to achieve the regional food production goal of 10%. Without the leadership shown by the cooperative, residents may have only started small kitchen gardens and would not have engaged in food production on a larger scale (Blaauw, interview, June 2, 2023). However, the cooperative primarily focuses on willing but inexperienced residents who were attracted by the principle of self-organisation (see paragraph 5.3.1) and took urban farming for granted.

The cooperative also welcomes enthusiasts who came to Oosterwold to grow their food as it aligns with their ideology. However, they are not the primary focus of the cooperative. On the other end of the spectrum, some disinterested residents only purchased land in Oosterwold to build their homes. These residents will only engage in farming if the municipality enforces it. The cooperative does not consider it their responsibility to involve these uninterested residents (Blaauw, interview, June 2, 2023). To get these residents on board, the municipality must utilise its management skills by, for example, enforcing the policy, which will be addressed in the following paragraph 5.5 materials.

Dekking offered valuable advice during the interview, stating that the municipality benefits itself by being more active and working more quickly. Active involvement is crucial from the start; otherwise, realising urban agriculture will become more complex. Fixing things afterward is more challenging than anticipating beforehand (Interview, June 1, 2023), and thus utilising their management skills. Van der Ham highlighted the slow pace of the municipality, which differs from that of entrepreneurs, making cooperation between initiators and the municipality a challenge. However, they acknowledge the need to cooperate more closely with initiators, particularly in the case of Oosterwold, as they have a lot of knowledge (Interview, May 26, 2023).

Cooperation can also be sought with the national government, provinces, and other municipalities, like Almere and Arnhem do, through initiatives like city deals. This way, you can unite against governmental bodies, the food industry or even convey a message to Brussels, urging these parties to take more steps towards sustainable food policies. This could involve, for example, implementing a ban on promotions for meat consumption or fast-food chains (van der Ham, interview, May 26, 2023; Kleinjan, interview, May 26, 2023).

Based on these findings, management and cooperation skills emerge as the most crucial skills required to achieve the desired outcome of integrated policy. The municipality should assume greater responsibility, initiative and show leadership by realising urban agriculture, utilising their management skills and adopting a more proactive role. This entails facilitating and supporting initiatives and residents as necessary. So, cooperating by sharing knowledge and experience among various parties such as educational institutions, organisations, foundations, companies, governmental bodies and

entrepreneurs to achieve the best solutions and advancements possible is essential in successfully implementing urban agriculture and food-related policy.

5.5 Materials

As was discussed in Chapter 2 ‘Theoretical and conceptual framework’, ‘materials’ include objects, infrastructures, tools, hardware, and the body itself (Shove et al., 2012). In which we mainly focus on the aspects of infrastructure, available space, tools, technology, and money. We look at the material value of Almere’s policy, focusing on the agricultural character of the city and the importance of the Food Strategy of the city. However, the neighbourhood Oosterwold in Almere is still young and misses the necessary structure and knowledge. Almere gives us a great example of what is needed to implement an agro-city policy, which we then will compare with the policy implemented in Arnhem.

5.5.1 Materials in Almere’s Policy

Oosterwold is sparsely made up, the agricultural character and the associated infrastructure can still be recognized in the design of this green residential and working area. Spread over an area as large as 4363 hectares, of which the program assigns 1,800 hectares for urban agriculture, there are 15,000 homes that show an enormous variation in shape, size and use. All plots have something in common, they have plenty of space to grow their own vegetables or to develop green initiatives together with others. You will not see the residents complain that the government intervenes too much, this is because the government keeps its distance. In the development of Oosterwold, few rules are established which offer a lot of scope from bottom-up initiatives. The principles discussed have been put into a global program for the entire area as a guideline. Residents have made unconventional use of this freedom, sometimes in harmony with the neighbours, sometimes with strong contrasts. Everyone has the same freedom and responsibility. The neighbourhood offers plenty of space for greenery and nature. Gardens, public green areas and agricultural areas alternate and are connected to the large surrounding nature reserves. Nature blooms on the rich soils, through the variation of small-scale agriculture. The Oosterwolders praise the area for its comfortable living, working and recreational environments and it is much more affordable than the surrounding areas. Oosterwold is meant as a thriving centre of urban agriculture, where high-quality products are finding their way to discerning consumers in the metropolitan region. A key figure is the area director, his role is to stimulate the initiatives necessary to achieve their goal and advise where necessary. The freedom initiators are given goes hand in hand with their own responsibility (Almere & Zeewolde, 2013).

The Food Strategy of Almere 2021-2025, whose importance was emphasized in paragraph 5.2, is in line with the identity and context of Almere: the entrepreneurial spirit, the origins as a garden city, the diversity and the unique location of the city. Important is the network around the municipality, the network of food changers and citizen initiatives that were already rooted in the capillaries of the city before the strategy. This also applies to the regional initiatives and partners in Flevoland and the Amsterdam Metropolitan Area. Almere can only realize its ambitions together with these involved parties. To enable organic development, the municipality is taking into account that the realization will take about twenty to thirty years (Almere, 2020).

5.5.2 Materials in *Arnhem*

Arnhem is a green circular city that gives plenty of space to urban agriculture and regional food. The city owns approximately 200 hectares of agricultural land and uses it for sustainable urban agriculture. This applies to the agricultural areas around the city, but also to fields and meadows in and adjacent to the city parks (Arnhem, 2017). Arnhem has quite a few leased lands. Particularly in the countryside the municipality has hundreds of hectares of leased land, next to the already beautiful forests and parks within the city. Because of this green character, there is also room to develop initiatives in the field of urban agriculture in terms of greenery (Kleinjan, interview, May 26, 2023). In Arnhem, the municipality has an administrative advisor 14 hours a week available for urban agriculture. He is the point of contact internally and externally and stimulates, connects and facilitates initiatives and entrepreneurs. The management advisor works closely with the Urban Agriculture Core Team (Arnhem, 2017). Kleinjan also stated that it is important for a city to have, not only a political will, but also that of the residents. This is where the importance of having, among other things, a policy document in order to put the concept on the agenda (interview, May 26, 2023). For this, they have a core team urban agriculture Arnhem, which is a knowledge platform consisting of various participants; the municipality, a council member, a few entrepreneurs, a few educational institutions and a few non-governmental organizations. In this way, Arnhem makes it possible to have a place in which people can bundle and exchange knowledge, experiences and put certain things on the map. Furthermore, they try to educate people about nature and the environment, this appeared a successful way of creating awareness in the city.

Arnhem recognises also the importance of a network surrounding urban agriculture. The city wants to join the City Deal in the future, which is a partnership between the central government together with a number of provinces and local authorities. The goal of this partnership is to persuade the central government to take more steps towards a sustainable food policy. In addition, Arnhem is busy with tenants and other farmers to take a step towards nature-inclusive agriculture, which appears a long-term process. Companies are often not equipped for a nature-inclusive model and often practice regular farming. This is challenging, because it requires a lot of time, money and space. Another challenge is land availability. You can still have so many great initiatives, but if there is no land available, then the challenge is even bigger. Moreover, not all land is suitable for agriculture, different kinds of lands result in different challenges. Arnhem has, for example, a lot of soil pollution because of its history with industry (Kleinjan, interview, May 26, 2023). Every zoning plan has its own challenges. Kleinjan often looks at what is possible within a zoning plan and discusses it with colleagues from soil, ecology and archaeology (Kleinjan, interview, May 26, 2023).

5.5.3 Materials Needed for the Agro-City

“Als je het hebt over echt hoog stedelijke ontwikkeling, dan is voedsel nooit een thema.” [When you talk about high urban development, food is never an issue] according to van der Ham (interview, May 26, 2023). There is talk about how to include food in your area development, for example when you build a park instead of ornamental green, functional green is used. Arnhem also mentions this absence in their policy document vision on urban agriculture. It is a hard task for compact cities in which functions are strongly segregated, to find space for the production of food. Producing food is a task that requires

a lot of space, so the questions municipalities should ask themselves: how are you going to deal with the space available within the municipality? (Jansma, interview, May 8, 2023). What makes it even harder to find space for farming within a city, is that it often is not a priority. Space is scarce and expensive and is therefore often given another purpose instead of using it for the production of food, such as buildings or recreation. Furthermore, in the recreational areas the implementation of nature is often chosen over combining the area with farming (Van der Ham, May 26, 2023).

The political will within the municipality is thus necessary to get the project off the ground and make space and money available. Van der Ham adds: “Het kan dus ook best wel eens zijn dat je dat niet krijgt, of dat zo'n "Ja!" op zich laat wachten.” [It may well be that you do not get that, or that such a ‘yes’ awaits] (interview, May 26, 2023). In the case of Almere, the city had an alderman who thought urban agriculture was important and made more space and money available (Jansma, interview, May 8, 2023).

Furthermore, money is an important resource to have available within a city in order to achieve the city’s ambitions and facilitate initiatives within the city. Because Almere has to grow from 220.000 inhabitants to 350.000, the province was given money from the national government, called the Almere Urbanization Fund. This fund is to build, next to homes, the facilities necessary to obtain a liveable area. A part of that fund goes to the Food Strategy of Almere (Van der Ham, interview, May 26, 2023). Almere is unique with its fund because the city is still growing very fast and therefore is given a large sum that helps pay for the Food Strategy (Van der Ham, May 26, 2023). However, according to Dekking, there is a downside in having a fund. Money you put into such a policy attracts different kinds of people, such as fortune seekers who do what they like and not what the city has asked for. In his experience, money often becomes more of a burden than a joy when it comes to volunteering. Next to that, it makes people lazy and uncreative (Dekking, June 2, 2023). Thus, volunteering could end up being a burden, but for projects within a municipality to work, it is still a necessary resource. Van der Ham emphasized: “Ja dat <geld> is heel belangrijk, helaas draait alles om geld” [Yes that <money> is very important, unfortunately everything revolves around money] (interview, May 26, 2023).

5.5.4 Material Shortages in Oosterwold

Oosterwold has many guidelines and few rules with no enforcement, which resulted in residents that do not comply with the 50% urban farming rule. Although we do have to take into account that the neighbourhood is still young and fully in development, as was mentioned in paragraph 4.2.1 Almere is the youngest city of the Netherlands. Part of the reason why residents do not do urban farming is that they are busy with self-organisation and focus on their roads and houses first. Once they are finished with those issues, they have time to work on urban farming (Sikking, interview, May 15, 2023). Dekking added that there are indeed increasingly more initiatives in Oosterwold (Dekking, interview, June 1, 2023). However, Oosterwold does miss some necessary structure. Momentarily, the district-team does not possess enough resources to enforce the 50% urban farming rule, if they eventually want to achieve a neighbourhood in which urban agriculture can feed 10% of Almere. Sikking stated that it is not their role to enforce the rule anyway. Blaauw feels the municipality has been negligent in facilitating urban agriculture in Oosterwold, as there was no enforcement. After people signed up to live in Oosterwold with the urban agriculture obligation, he feels like the municipality has completely let it go. The Cooperative Urban Farming Oosterwold, of which Blaauw is part of, feels like they are the

only one that has taken responsibility for achieving the 10% ambition (Blaauw, interview, June 2, 2023). It is still a dilemma how you will ultimately enforce that people do 50% of their land for urban agriculture, after all it is their land. Ideally, you want to leave enforcement to the neighbours, to keep each other sharp (Jansma, interview, May 8, 2023).

Another reason that the urban agriculture in Oosterwold might not take off, as mentioned in paragraph 5.4, is because of the absence of the knowledge required to farm. It would be good for the neighbourhood to have a centre where experts are located, where you can borrow material or where you can ask questions (Jansma, interview, May 8, 2023). These experts are still missing, but the Cooperative Urban Farming Oosterwold tried to fill in that gap and thereby make the residents more capable in farming. Additionally, the cooperative wants to aid residents by working the soil, ordering and delivering materials and selling and distributing the produce. All there is left for residents to do is planting the crops, taking care of them and harvesting. If residents want to work the soil themselves, they can also borrow equipment. In order to streamline the production of food over so many different members, the cooperative is also creating a cultivation planner. This planner gives an oversight of how many of which crops are planted when and where. In other words, the cooperative will have a good indication of the supply of crops. Additionally, they can move people to plant crops that are in demand, in order to prevent an oversupply of e.g., carrots and a lack of cauliflowers. By working together with larger organic farmers in the region, the cooperative hopes to create a more dependable stream of goods. The large farmers will create scale and the Oosterwold residents can grow specialty crops. Blaauw has to lobby a lot to get his ideas off the ground, even though it is in line with municipal ambitions (Blaauw, interview June 2, 2023).

But as mentioned, everything needs time (Blaauw, interview, June 2, 2023). The municipality works at a slow pace and entrepreneurs often work a bit faster. The municipality notices that the cooperative wants to begin as soon as possible in order to start the year before the harvest. Van der Ham added: “Alleen, ja, je hebt te maken met vergunningen, procedures, je mag niet sturen, dus je mag niet zomaar het gebouw aan iemand schenken. Je moet aanbesteden. Er zitten heel veel dingen die er dan bij komen kijken.” [You have to deal with permits, procedures, you are not allowed to steer, so you cannot just donate the building to someone. You have to be tender. There are a lot of things to deal with.] (interview, May 26, 2023). There are in addition obstacles due to legislation and regulations and changes in organisations. Jansma stated that the Netherlands has very segmented regulations, you have zoning plans for agricultural areas and you have zoning plans for urban development. But a mixed destination is just very difficult to make. It is either one or the other and agriculture and each destination has its own rules. You have to take into account that smell, animal diseases, noise, and the use of pesticides which are even a bigger issue in the city, in which you also have to reckon with the urban pollution from the city on the crops (Jansma, interview, May 8, 2023). In addition, land prices are rising, the plots are getting smaller and with that, the possibilities to do something with urban agriculture are also getting smaller. This results in Oosterwold becoming more of a hobby farm area than the ambition to produce 10% of Almere’s food (Dekking, June 1, 2023). As was made clear, the municipality wants to start facilitating more and providing resources so that products can be purchased (Van der Ham, interview, May 26, 2023). This is already noticeable according to Blaauw: “Dat <het proces> duurt langer dan dat je wil, maar aan de andere kant werken ze nu wel echt mee, hoor." Het team Oosterwold, dat is een beetje een afsplitsing van de gemeente zelf, daar

hebben ze nu een trainee voor een deel van de tijd, anderhalve dag in de week, twee dagen, vrijgemaakt om mij hierin te ondersteunen om die voedsel hub voor elkaar te krijgen. En ik krijg er nu ook voor betaald. "Weliswaar niet volledig, maar toch wel dat je zegt, Nou, dat is wel weer een hele verbetering ten opzichte van een half jaar geleden." [That <the process> takes longer than you want, but on the other hand they are really cooperating now, you know. The Oosterwold team, which is a bit of a split off from the municipality itself, have now released a trainee for part of the time, one and a half days a week, two days, to support me in this in order to that food hub. And now I get paid for it too. Although not completely, but still that you say, "Well, that's quite an improvement compared to six months ago."] (interview, June 2, 2023).

Based on these findings, Oosterwold does have the space available to combine agriculture within a neighbourhood. The agricultural character of the city makes it more manageable to let the agricultural policy thrive. However, Oosterwold does miss some necessary structure to let the policy really come off the ground. The city has many guidelines, but few rules with no enforcement. Furthermore, it is still hard for residents to gain knowledge of farming, because of the absence of a place in which people can share knowledge. Next to that, the neighbourhood does have the money to fund agricultural projects. In conclusion, the neighbourhood does miss the necessary structure, which could be partly explained by the city's young age. The neighbourhood is still fully into development and improvement is already noticeable. Where the government in instance did not facilitate and provide the right resources, it is now their plan to improve this. According to Blaauw, this improvement is already notable within his initiative.

5.6 Nijmegen's Approach to Urban Farming

In the previous paragraphs we explored the meanings, competences and materials of urban farming in Almere and Arnhem. This was done to find out what is needed to become an agro-cit. However, in order to make relevant recommendations for Nijmegen, it is important to understand the meanings, competences and materials that are already in place in the municipality regarding urban farming. The following paragraphs will elaborate on these three topics, starting with Nijmegen's meanings.

5.6.1 Meanings

Nijmegen's Strategy on Spatial Planning 2020-2040 was analysed to see what the potential is for urban farming in this city. Unlike Almere and Arnhem, Nijmegen does not have a specific policy document on food or urban farming. Instead, the one hundred pages long strategy describes the development of its physical living environment for the long term. It covers not only physical aspects, but also societal aspects such as health, and economic aspects such as resilience. Covering such a wide range of topics means that some topics are reduced to a single sentence. Nonetheless, every mention of urban farming or food, however small it may be, is still official policy.

The strategy defines four greater challenges for Nijmegen: the economically resilient city, the social and healthy city, the attractive city, and the sustainable city. The first two challenges hardly state any ambition related to urban farming. However, one of its economic ambitions is for Nijmegen to be fully circular by 2050. Circularity is part of the agro-city. A health-related ambition is to prevent health risks. Nijmegen wants a liveable, safe and clean city with attention to air quality, soil quality, noise and the consequences of climate change, such as the urban heat island. This also aligns with agro-city ambitions. However, both circularity and prevention of health risks can be achieved through other means than urban farming. The same goes for the Attractive city, where it is mentioned multiple times that the city wants to maintain and integrate nature in and around the city. This goal can also be achieved through other means than urban farming. Since Nijmegen does not have much nature within its city borders, it wants to cooperate with neighbouring municipalities to maintain their nature as well (Team Omgevingsvisie, 2020).

The first real mention of urban farming is in the Sustainable city. Here, the ambition to become fully circular by 2050 is repeated. However, it is specified that the city wants to become circular on every front, even striving for circular agriculture. Later, the strategy states that urban farming, vegetable gardens and local food initiatives in the neighbourhoods will provide healthy food and social cohesion. Short-chain projects on the outskirts of the city and in the region will offer healthy and climate-friendly food and will restore the relationship with the countryside and the farmer and the horticulturist. It is also acknowledged that greenery contributes to health and well-being, as it reduces heat stress and improves air quality. This perfectly aligns with the new definition of the agro-city in 5.1. However, this is as far as the ambitions go. Besides these few sentences, not much more is mentioned. This is in stark contrast to Almere's and Arnhem's policies, which are much more elaborate. Nonetheless, the policy is still binding and provides a framework and inspiration for initiators (Team Omgevingsvisie, 2020).

The Strategy on Spatial Planning 2020-2040 goes on to formulate integral solutions. These solutions target multiple ambitions at once and provide a direction for alternative solutions. One solution is to facilitate food initiatives, such as vegetable

gardens at primary schools and community centres, or food landscapes, such as circular farms close to the neighbourhoods. This solution tackles three problems at once: a healthy supply of food, sustainable mobility and less pressure on the natural system. As another solution, Nijmegen aims to supply climate-friendly and healthy food in neighbourhoods where this is not yet available (Team Omgevingsvisie, 2020). A surprising finding was that Nijmegen wants to use greenery in public spaces that simultaneously serves as a food source for animals. Almere already uses edible plants in its public spaces, which are harvested by Dekking's Almeerse Weelde (interview, June 1, 2023). However, the focus on animal welfare was new to us.

From this strategy, it seems that urban farming is not a goal in itself, but more a means to an end for Nijmegen. The ends being the four greater challenges: an economically resilient, social and healthy, attractive, and sustainable city. These can be seen as the meanings. Nonetheless, with a focus on restoring the relationship with the countryside, the strategy does lay the groundwork for an agro-city.

Following the Strategy on Spatial Planning 2020-2040, a few food and urban agriculture related documents were produced by the municipality of Nijmegen. Table 5.5 shows an overview of these documents in chronological order. At the beginning of 2022, GroenLinks submitted an initiative council proposal together with PvdA, SP and PvdD (the Green, Labour, Socialist and Animal Parties) (Moerkerk et al., 2022). The proposal was for the municipality of Nijmegen, together with at least the neighbouring municipality of Heumen, to develop a vision for sustainable and innovative urban agriculture and food with short chains between producer and consumer. The emphasis being on the Nijmegen-South area and the Head of Malden (See Figure 5.6). The proposal was passed.

GroenLinks' initiative council proposal (Moerkerk et al., 2022) also provides a definition of urban farming: urban farming is understood to mean the production of food within and along the edges of the city. This also includes the trade in, processing and distribution of the food produced in urban agriculture, with a lively, versatile, fertile, sustainable relationship with neighbouring urban residents. This definition closely follows Mougeot's (2000) definition of urban farming in Chapter 2, though the proposal does not call urban farming an industry. Since the proposal was passed by the city council, it seems to be the official definition of urban farming in Nijmegen. It is unclear whether this definition is clearly communicated to initiators to create a common understanding.

At the end of 2022, the executive proposal for Urban Farming in Nijmegen was also passed. This proposal solidified the budget for the development of a vision for the Head of Malden. Additionally, it proposed the establishment of a Loket Stadslandbouw (Urban Agriculture Desk). This Urban Agriculture Desk will provide information about the rural area of Nijmegen and neighbouring municipalities, where the food producers are located, and about the social food projects in the city. In addition to providing information, the desk will also provide education and encouragement of initiatives. The Desk is scheduled to be opened in September 2023 (Verhoeven, 2022b). The proposals were not further analysed. Instead, they were used as background information for the interview with Verhoeven, Policy maker Greenery and Climate Adaptation.

Title (translated)	Type	Source
Strategy on Spatial Planning 2020-2040	Strategy on spatial planning	Team Omgevingsvisie (2020)
Initiative council proposal sustainable food from our own environment	Initiative council proposal	Moerkerk et al. (2022)
Plan of Action Urban Agriculture Desk	Plan of action	Ruivenkamp (2022)
Memo state of affairs urban agriculture Nijmegen 2022	Memo	Verhoeven (2022a)
Urban farming Nijmegen	Executive proposal	Verhoeven (2022b)

Table 5.5 A list of food and urban agriculture related documents from the municipality of Nijmegen in chronological order

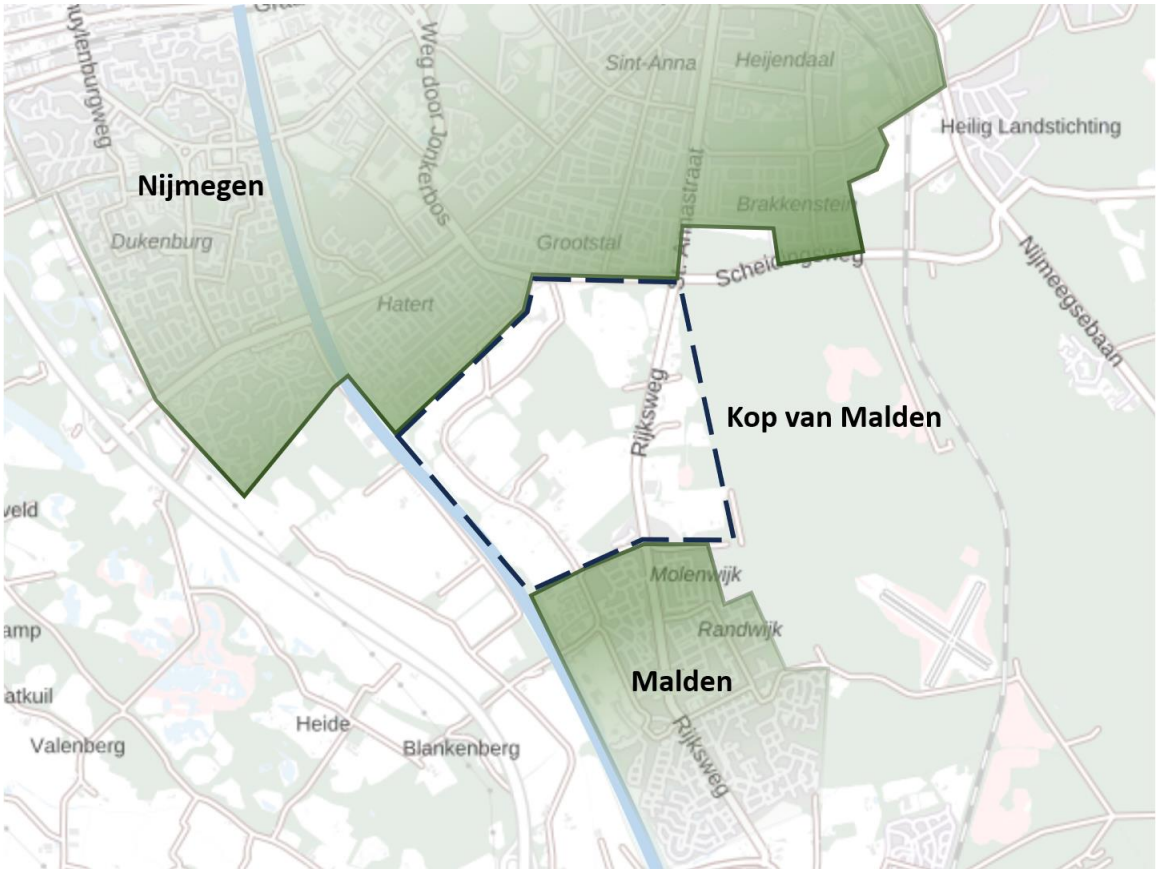

Figure 5.6 The area between Nijmegen and Malden called Kop van Malden (adapted from Kadaster, 2023, CC BY 4.0)

Verhoeven (interview, June 9, 2023) explains how Nijmegen became more focused on urban farming. Ten years ago, around 2012, a memorandum on urban agriculture was drafted, but it was never followed up. Verhoeven suspects that it had been made on the request of some residents, rather than being a priority for policy makers. At this time, farming related initiatives were mostly bottom-up and organised by residents. This all changed when Nijmegen became European Green Capital in 2018. This meant that Nijmegen had to follow certain conditions and one of them was to organise a few

international conferences. Nijmegen decided to host the European Agroforestry Conference. According to Verhoeven, this is the moment that urban agriculture was put on the agenda in Nijmegen and that a network with farmers was set up.

Eventually, urban agriculture became part of the Strategy on Spatial Planning. Even though urban agriculture is only mentioned in a few sentences, Verhoeven (interview, June 9, 2023) emphasises the fact that the strategy is binding. He did add that an evaluation of strategy concluded that it is not yet directive enough, meaning that it is inadequate at the moment. The strategy will thus be made more concrete in the future. Another possible cause for the increase in political will is the fact that the coalition agreement is not set in stone. As a result, there is more space for initiative council proposals, such as the one by GroenLinks.

On the topic of GroenLinks' initiative council proposals, Verhoeven (interview, June 9, 2023) explained that the proposal had some peculiarities. This is due to the fact that it proposed to draft a vision on the territory of a neighbouring municipality. Nijmegen can only cooperate with neighbouring municipalities on policies for neighbouring territories. Council members from both Nijmegen and Heumen worked together and submitted their proposals at the same time in their respective councils. That is how Nijmegen is able now to work on the vision for Kop van Malden. This case illustrates Nijmegen's dependency on neighbouring municipalities. Nijmegen is one of the few cities in the Netherlands that does not have a countryside. It does have some farms, but they are regarded as regular businesses.

Though it is clear that there is political will, both in the municipalities of Nijmegen and Heumen, not everyone sees greenery and urban agriculture as a priority (Verhoeven, interview, June 9, 2023). As already mentioned in Chapter 4, Nijmegen's newest district, the Waalsprong, is based on the ecopolis strategy. This means that the district has an above ground rainwater system. Shareholders of the development of the district tried to increase profits by getting rid of this system and putting it underground. The alderman responsible for this project stood his ground, resulting in the above ground rainwater system to be realised as planned.

It is hard to get everyone involved, and some parties in the Kop van Malden would like to enforce urban farming policy from the top down (Verhoeven, interview, June 9, 2023). However, Verhoeven and his aldermen do not think rules are the way to achieve cooperation. "Heb ik daar een voedselraad van burgers nodig die ons dwingt om dit of dat te doen? Nee. Dat denk ik niet. Daar zie ik de meerwaarde niet van in. Daar zien mijn wethouders ook niet direct de meerwaarde van in." [Do I need a food council of citizens that forces us to do things? No. I don't think so. I don't see the added value in that. My aldermen also don't see the added value in that.] (Verhoeven, interview, June 9, 2023).

He would much rather see a bottom-up approach, like the Urban Agriculture Desk (Verhoeven, interview, June 9, 2023). By expanding and reinforcing the network of regional farmers by including restaurants and consumers. Even if some traditional farmers are not ready to transition yet, Verhoeven believes Nijmegen can already start the process. The city needs to keep expanding the network, sharing knowledge and involving citizens.

We asked Verhoeven if he would prefer a more concrete policy on urban agriculture, similar to Almere or Arnhem. He responded that such policies have pros and cons. On the one hand, it can be helpful, as the municipal executive has approved it. On the other hand, it can also be too rigid. In practice, as soon as there is a policy, it will not be altered for a few years. Especially now, with the new Omgevingswet (Environment and

Planning Act) coming up, policy advisors are hesitant to pass new binding pieces. Another argument in favour of not having a policy is that it allows for organic growth. However, this requires a seasoned policy advisor that can keep track of developments. He needs to be able to guide the development in the right way. However, as the Strategy on Spatial Planning 2020-2040 is not concrete enough, the municipality is working on setting norms for biodiversity and climate adaptation strategies (Verhoeven, interview, June 9, 2023).

In summary, the municipality does not have a concrete policy on urban agriculture like Almere and Arnhem. However, there are already meanings in place that positively impact the practice of urban agriculture in the city. The Strategy on Spatial Planning 2020-2040 values urban agriculture as a means to an end; it is not a goal in itself. This changes slightly with GroenLinks' initiative council proposal, which defines urban agriculture as a goal in itself, one that is able to achieve other goals as well. Due to Nijmegens given circumstances, it values cooperation as well and actively seeks cooperation with neighbouring municipalities. Rather than a top-down approach, Nijmegen seeks to grow the movement bottom-up and facilitates this with their Urban Agriculture Desk. Networks are to be expanded and strengthened and knowledge is to be shared. Eventually, citizens and other actors are involved in the cause. However, not all actors agree on the importance of urban agriculture. Developers and shareholders might prioritise profit. Contrastingly, some actors in the Kop of Malden would rather see a top-down approach, to make sure that urban agriculture is prioritised. Now that the meanings have been explored, what about the competences in Nijmegen?

5.6.2 Competences

As mentioned in the previous paragraphs, integrating agro-city policy into the city requires knowledge and skills. The Strategy on Spatial Planning 2020-2040 of Nijmegen offers limited information regarding urban agriculture and the competences necessary for integrating and facilitating urban farming. However, upon analysing the document, it became evident that the municipality is focusing on cooperation skills and utilising knowledge within the city to achieve its ambitions, as outlined in paragraph 5.6.1. The analysis of Nijmegen's urban agriculture policy document, which illustrates the potential implications of urban agriculture for Nijmegen and the municipality's role in this context, provided a more comprehensive understanding of the required competences and their practical application. Moreover, management skills such as leadership were identified as well. For example, the municipality emphasises the importance of stimulating and facilitating knowledge for initiators, among other aspects. Management and cooperation skills are considered key competences for fostering initiatives and professionalising urban agriculture in the city. The document also highlights the significance of cooperation with neighbouring municipalities, considering Nijmegen's limited space for urban agriculture (Gemeente Nijmegen, 2022).

However, it is important to note that this document is primarily exploratory and will serve as the foundation for the implementation agenda. So it showcases the city's ambitions for using competences, simultaneously demonstrating the interrelation between the three components of social theory as described in Chapter 2. The interview with T. Verhoeven provided a better understanding of the current situation regarding competences related to urban agriculture in Nijmegen.

As such, it became clear that knowledge about urban agriculture in the city primarily comes from existing networks mainly consisting of local food-related

organisations and initiators, which will soon be connected to the urban agriculture desk established by Nijmegen that will be launched in September 2023. This centre aims to strengthen and expand the network, serving as a hub for nature and environmental education and urban farming activities. Additionally, Nijmegen aspires to cooperate closely with knowledge institutes in the future to acquire knowledge through student research, such as this thesis. So, the city's knowledge about urban agriculture stems from local existing networks and, soon, knowledge institutes. The acquired knowledge will be utilised and shared to facilitate and stimulate initiators and other actors in the city (Verhoeven, interview, June 9, 2023), aligning with the main focus of Nijmegen's agricultural policy.

Verhoeven emphasises the exchange of knowledge and cooperation among actors, municipalities, and knowledge institutes multiple times, with the primary goal of remaining aware and learning from projects and innovations in urban agriculture. For instance, Verhoeven mentioned being unaware of the neighbourhood Oosterwold and its requirement to engage in urban agriculture on half of one's parcel. This lack of knowledge highlights the importance of sharing knowledge with institutes to stay informed and engage in research collaborations, such as working with WUR, HVNL, or other universities of applied sciences involved in urban agriculture (Interview, June 9, 2023).

Nijmegen actively cooperates with multiple actors in the city, expands networks, and promotes knowledge exchange. They have conducted several knowledge sessions and follow a bottom-up approach to connect consumers and hospitality entrepreneurs with urban agricultural initiators, facilitating the exchange of knowledge and products (Verhoeven, interview, June 9, 2023). This approach aligns with the Strategy on Spatial Planning 2020-2040 statement, emphasising innovative cooperation, the use of new technologies, and knowledge sharing to achieve collective ambitions (Team Omgevingsvisie, 2020). While the ambitions for urban farming in the Strategy on Spatial Planning 2020-2040 are not concrete (see paragraph 5.6.1), according to Verhoeven, it serves as a basis to kick-start the urban agriculture policy (Interview, June 9, 2023).

Cooperation and management skills among actors already play a role in exchanging knowledge, as already demonstrated in this paragraph and Chapter 2 of this research. This illustrates the difficulty in separating knowledge and skill, as all skills require some form of knowledge, and acquiring and sharing knowledge necessitates specific skills. With this in mind, in the interview with Verhoeven, several skills were identified when considering the skills necessary to implement urban agriculture policy. The most crucial skill identified is the ability to cooperate with other actors and parties, as already highlighted in the preceding part of this paragraph, where knowledge exchange relies on cooperation. Given Nijmegen's limited space for urban agriculture, cooperation with neighbouring municipalities is essential, as stated by Verhoeven in the interview: "The green space of Nijmegen is located in neighbouring municipalities" (Interview, June 9, 2023). Something already mentioned in Nijmegen's urban agriculture policy document (2022). This understanding has led to an executive proposal to establish collaboration between the municipality of Nijmegen and Heumen, creating a spatial strategy for the area between Nijmegen and Malden, as shown in Figure 5.6 (Verhoeven, 2022b). Although this area falls outside Nijmegen's jurisdiction, the municipality contributes using its financial resources to help establish the spatial strategy (Verhoeven, interview, June 9, 2023); (Verhoeven, 2022b).

This ambition aligns closely with the management skills of the municipality of Nijmegen, as they take responsibility and initiate cooperation with surrounding

municipalities, which is only possible if someone within the municipality continues driving the policy forward. Verhoeven stated, [Constant effort is necessary. Otherwise, nothing will happen and the policy will fail. People are too busy discussing or holding meetings, but someone must remain actively involved] (Verhoeven, Interview, June 9, 2023). So, an active role of the municipality, using their management skills, is crucial for realising the full potential of urban agriculture policy. To facilitate this, the appointment of a project manager focused on "The green and healthy city," in the case of Nijmegen, could ensure continuous advocacy for urban agriculture policy. Verhoeven considers this an area for improvement in Nijmegen's upcoming spatial strategy (Interview, June 9, 2023).

So, the policy documents of Nijmegen align with the detailed information provided by interviewee Verhoeven that shows a clear understanding and application of the competences required to implement urban agriculture. The municipality of Nijmegen has thoroughly considered all aspects related to competences for successfully implementing urban agriculture policy. Taking responsibility and initiative, and remaining active as a municipality to drive the policy forward is the takeaway message from the findings to fulfil the full potential of urban agriculture.

5.6.3 Materials

Within the municipality of Nijmegen, there are a few large departments including the urban development department in which Verhoeven is part of as an ‘Green and Climate Adaptation’ employee. The focus of the urban development department is on the management of public space (Verhoeven, interview, June 9, 2023). However, there is a disagreement within the municipality on how to manage the city. According to Verhoeven, one of the biggest mistakes the municipality makes is that the city is still managed on the basis of project development instead of policy (interview, June 9, 2023). Verhoeven emphasizes that in an already existing city, a lot has to be managed, which has to be fixed both via management and policy (interview, June 9, 2023). Within the position as a ‘Climate Adaptation’ employee is green policy, which includes urban agriculture. In this department, two employees and an urban ecologist operate (Verhoeven, interview, June 9, 2023).

Even though Nijmegen does have its initiatives regarding urban agriculture within the city, the municipality does not have its own urban agriculture department. In addition, not much time is given to the project, which also is the case in surrounding municipalities. Only Arnhem has its own urban agriculture department, which is picked up by Kleinjan. However, according to Verhoeven, these cities cannot be compared with each other. Arnhem has 400 hectares of farmland available outside of their city and has three urban farms and many more agricultural activities. Organizing urban agriculture in Arnhem has thus been done for much longer and in a completely different way. Nijmegen is thereby unique, because it is one of the few cities with no outlying area. Which makes projects for urban agriculture difficult in the city, there are only a few farmers within Nijmegen and there is no agricultural policy, no zoning plan for the countryside and no landscape development plans (Verhoeven, interview, June 9, 2023).

Even though Nijmegen is a dense city, it does have its share of urban agriculture projects, even with all the greenery surrounding the city belonging to other municipalities with the exception of a few small pieces of countryside. In the North-West side of the city, the city has ‘Kinderdorp Neerbosch’ [Children’s Village Neerbosch], with a bit of surrounding land used for farming. Within this area, the initiatives ‘Eet meer Bos’ and

‘Stadsboer Jelle’, who are agricultural producers. There also appears to be a farmer with a lot of land in which urban agriculture is very well described in the ambition document. So, Nijmegen does have some patches of land fit for urban agriculture, however priority is often given to buildings or solar parks. “En dan hebben wij een heel groot buitengebied, alleen dat noemen wij de Waalsprong en Nijmegen Noord, alleen dat zijn wij helemaal aan het volbouwen.” [And then we have a very large rural area, we call the Waalsprong and Nijmegen Noord, only we are completely building it up] (Verhoeven, interview, June 9, 2023) (Verhoeven, interview, June 9, 2023).

As mentioned in paragraph 5.6.1, Kleinjan emphasises the importance of a political and residential will for creating an urban agricultural area, for which a policy document is necessary to put the concept on the agenda (interview, May 26, 2023). In Nijmegen, such a policy document is still absent. However, Nijmegen did look into urban agriculture by Martin Ruivenkamp. This research included what the citizens wanted regarding urban agriculture, which resulted in the idea of creating an ‘Urban Agriculture Desk’, located in Warmoes and meant for the surrounding municipalities. This location is selected for its natural infrastructure in which environmental education already takes place. The area has a character in which urban agriculture already plays a big part and is meant to stimulate people to start farming themselves. Nijmegens is not planning to regulate any rules with implementation of an urban agriculture policy in the city, but they try to facilitate and stimulate it naturally via the desk by sharing knowledge and resources. These initiatives generate a lot of money, but are in need of a lot of guidance. In the ‘Urban Agriculture Desk’, one person is assigned who manages the project by maintaining the website and expanding their network.

Furthermore, the approach plan of the ‘Urban Agriculture Desk’ project is very ambitious, but is handled step by step to keep it feasible, which does make it a long process. The project also appeared to be difficult to launch, because it required a lot of cooperation with the neighbouring municipalities as it concerned them as well. The surrounding municipalities all contribute in launching the desk, including Nijmegen. In addition to the ‘Urban Agriculture Desk’, money is being collected to fund a distribution centre in which the lack of space also makes it difficult to launch. However, the city does have its yearly budget concerning urban agriculture and with the money, the city is able to support many parks and raise awareness for the cause. In addition, extra money has been given to climate adaptation, not specifically urban agriculture, but it does include greening the city (Verhoeven, interview, June 9, 2023).

Nijmegen does have its environmental vision, which is binding. This vision includes urban agriculture, but is not yet concrete and steering enough for it to work. In the view of the property developers, policy costs only money and gives no benefit. This adds to discussion on appointing project leaders to the ‘green’ and ‘healthy’ city instead of only to the construction project. These project leaders and a voice in the joint coordination consultations, are still lacking (Verhoeven, interview, June 9, 2023).

So, within the municipality of Nijmegen there is still a discussion about the means in which the city should be managed and currently lacks a joint coordination consultation and project leaders assigned to the ‘green’ and ‘healthy’ city. Furthermore, Nijmegen does have the financial resources to start with urban agriculture, for the city gets a yearly budget for urban agriculture. However, the city lacks the space to start urban agriculture on a larger scale, since it does not have an outlying area. Therefore, projects with neighbouring municipalities are in progress. In addition, there are initiatives regarding urban agriculture already taking place within the city, but the priority is often given to other

causes. To facilitate and stimulate urban agriculture, the ‘Urban Agriculture Desk’ has been set up with the neighbouring municipalities.

6 Discussion

The literature already mentions a few lessons that can be drawn from Oosterwold. Jansma and Wertheim-Heck (2022) found that residents in the first phase of Oosterwold have limited experience with urban agriculture. In combination with their interpretation of what urban agriculture is, this resulted in predominantly hobby-like, garden-style farming. This matches our findings in 5.3, where this problem was attributed to a lack of common meaning. However, the literature does not mention how the municipality plans to address this issue and transition to a more serious approach to food production. Other concerns raised by Jansma and Wertheim-Heck (2022) include the cost of acquiring a plot and the limited availability of land. However, Jansma and Wertheim-Heck do not explain how these issues can be solved in the future.

Regarding urban agriculture, Jansma and Wertheim-Heck (2022) also mention obstacles related to the self-organisation principle and the allocation of functions on plots. First, the residents primarily focus on constructing houses and infrastructure, urban agriculture having a lower priority. This problem was acknowledged by Jansma again during his interview (May 8, 2023), but also by other interviewees (Sikking, interview, May 15, 2023; Dekking, interview, June 1, 2023; Blaauw, interview, June 2, 2023). The second issue raised by Jansma and Wertheim-Heck (2022) is that although greenhouses are used for food production, they are considered "red" functions, meaning their construction contributes to the 20% limit on built-up space. The literature does not provide information on how the municipality plans to address these challenges in the further development of Oosterwold. However, during his interview, Jansma (May 8, 2023) explained that greenhouses and sheds for cattle are now recognised by the municipality as urban agriculture, contributing towards the 51% limit. What other lessons can be learned from the interviews?

6.1 Meanings

Though Almere's agro-city is still young and under development, there are a few lessons to be learned from Almere's approach to the agro-city and Arnhem's approach to urban agriculture. Firstly, a vision on food and urban agriculture communicates that the municipality values these topics. The agenda-setting potential of the vision makes it easier to take steps and reserve a budget (KleinJan, interview, May 26, 2023; Van der Ham, May 26, 2023). The policy should be by and for the city (Dekking, interview, June 1, 2023). As such, the policy should build upon the city's context. What is already there? What are the problems? How can food be a solution? (Van der Ham, interview, May 26, 2023). Additionally, the policy has to tie in with the story of the city. In doing so, it creates more political will to develop an agro-city. The policy does not need to copy Almere's example, there are many ways to create an agro-city (Jansma, interview, May 8, 2023). Furthermore, there needs to be a demand under residents for urban agriculture, otherwise the policy will not get picked up. Then, time must be allowed for initiators to inspire and stimulate others to follow suit, which can create a snowball effect (KleinJan, Interview, May 26, 2023).

Almere's Food Strategy touches a lot of topics. Van der Ham (interview, May 26, 2023) would like the strategy to be more concrete in the future. However, she stresses that goals should not be too concrete. Some of the ambitions in the Food Strategy are so

specific, that they are unachievable. Keep your ambitions in mind and make them realistic and concrete. Jansma (interview, May 8, 2023) also stresses the importance of a specified definition of urban agriculture. Without a definition, a lack of a common meaning can arise, resulting in diverging practices. Additionally, Blaauw (interview, June 2, 2023) advises to work out the potential of the vision. In his eyes, aldermen and civil servants sometimes forget the enormous potential of such a large neighbourhood as Oosterwold. This causes them to regard it as more of a side project, losing track of their ambitions.

Regarding the role that the municipality should take, interviewees agree that Almere should take a more active position (Jansma, interview, May 8, 2023; Sikking, interview, May 15, 2023; Van der Ham, interview, May 26, 2023; Dekking, interview, June 1, 2023; Blaauw, interview, June 2, 2023). According to them, the municipality should facilitate and support initiatives more. However, Dekking does specify that especially initiatives that already exist should be supported. In his experience, simply subsidising initiatives can attract fortune seekers that are not actually invested in the cause. Additionally, the bureaucratic apparatus is not able to monitor whether the money is actually used effectively. The municipality should focus on parties that already work on food and urban agriculture without any subsidies. They should be given a mandate, which allows them to work with the municipality on the policy.

Taking a more active role does not mean the municipality should revert back all control to itself. Blaauw (interview, June 2, 2023), resident of Oosterwold, greatly values the room for private initiatives. Sikking (interview, May 15, 2023) also observes that residents attach great value to control and influence over their own environment. However, without any government interference, problems can emerge. Repairing these problems is harder than anticipating the desired outcomes. Support from the municipality remains necessary, but they should allow room for private initiative where possible (Sikking, interview, May 15, 2023). Furthermore, Blaauw and Sikking agree that the municipality should enforce its rules. This can be done softly, for example by asking for a yearly progress report. They both believe that this type of soft control is able to persuade a portion of the residents to start farming.

How are these lessons relevant for Nijmegen? In chapter four “Sustainable city” of the Strategy on Spatial Planning 2020-2040, Nijmegen already states the ambition to realise urban agriculture and food with short chains between producer and consumer (Team Omgevingsvisie, 2020). As such, the strategy already has an agenda-setting potential for urban agriculture. However, this potential can also be leveraged to draft a larger and more concrete vision on food and urban agriculture. Jansma (interview, May 8, 2023) said that if Nijmegen wants to implement an agro-city planning policy, that it should tie in with the story of Nijmegen. For example, Nijmegen’s story is one of cooperation with their neighbouring municipalities, since the city lacks agricultural land (KleinJan, interview, May 26, 2023).

Van der Ham’s lesson to make policy concrete, although not too concrete, also applies to Nijmegen’s Strategy on Spatial Planning. The strategy is at the moment not concrete and guiding enough (Verhoeven, June 9, 2023). In addition, the strategy lacks a clear definition of urban farming. Even if Nijmegen sees the absence of a policy as an opportunity to allow for a more organic development of urban agriculture (Verhoeven, June 9, 2023), the definition of what urban agriculture even is would create a common meaning, which supports the practice of urban agriculture in the city. GroenLinks’ initiative council proposal (Moerkerk et al., 2022) does define urban farming (see 5.6.1) Since the proposal was passed by the city council, it seems to be the official definition of urban

farming in Nijmegen. It is unclear whether this definition is clearly communicated to initiators to create a common understanding.

Nijmegen's current approach to urban farming resembles Arnhem's and has a focus on bottom-up initiatives. This means that Nijmegen takes a more active position than Almere. Through the Urban Agriculture Desk, which will be opened in September 2023, the municipality hopes to support existing initiatives by strengthening their network (Verhoeven, interview, June 9, 2023). The Urban Agriculture Desk likely fits Dekking's perspective, as it supports initiatives that are invested in the cause without subsidies. Dekking's other advice was to give existing parties a mandate. This can be applied to the new vision that is to be drafted for the Kop van Malden. Some parties that are located there already asked for the establishment of a food council (Verhoeven, interview, June 9, 2023). They are likely to be willing to cooperate with the municipalities of Heumen and Nijmegen on the vision.

6.2 Competences

Research on urban agriculture and food-related policy in Almere and Arnhem showed that facilitating and supporting initiators or residents is, therefore, essential to successfully implement the policy. Especially, a place where people can go to ask questions, exchange ideas, acquire knowledge and share knowledge with others would be beneficial (Jansma, interview, May 8, 2023). The case study Almere Oosterwold shows the urge for this as the implementation of urban agriculture has not really taken off due to residents not knowing where to begin or what to do (Dekking, interview, June 1, 2023; Blaauw, interview, June 2, 2023). Nijmegen has already considered this and anticipated by launching first an online agriculture centre in September 2023 where an expert is available to help residents or answer questions related to urban agriculture. However, the centre is connected to a physical place for social activities and education related to urban agriculture, called Warmoes. So, Nijmegen facilitates and supports residents in this way (Verhoeven, interview, June 9, 2023).

Another approach Nijmegen could consider, similar to what Arnhem did, is to incorporate nature- and environmental as well as food and lifestyle related education into the school curriculums. Arnhem proved this approach to be a successful way to raise awareness among children and parents about the food, and the green and healthy living environment. Moreover, awareness and, thus, education forms the basis of change and a different approach to food (Kleinjan, interview, May 26, 2023). Nijmegen could learn from this successful approach, especially, given the limited space to implement actual urban agriculture. Raising awareness about food and healthy lifestyle choices among children and parents is then a promising alternative, thus a more food related policy in general.

To continue, the research in Almere highlighted the importance of local knowledge and a local perspective to properly evaluate the city's needs. So, policy for a city should be formulated by the city itself. Almere generally relies on external resources as the employees of the Flevo Campus mainly come from other cities and conduct research that does not aim to bring urban agriculture in the city to a higher level (Dekking, interview, June 1, 2023). Furthermore, Almere does not yet use the knowledge and local perspective from Oosterwold yet (van der Ham, interview, May 26, 2023). So, Almere's approach to acquire knowledge is not proven to be successful.

Nijmegen already does have a local approach when it comes to acquiring knowledge as the municipality uses the local existing networks. Instead, Nijmegen

suggested seeking more collaboration with other cities and knowledge institutions outside the city to stay informed about developments and learn from urban agriculture initiatives elsewhere. For instance, the municipality was unaware of the existence of Oosterwold, which offers valuable lessons (Verhoeven, interview, June 9, 2023). Nijmegen could also seek partnerships through City Deals, like Almere and Arnhem does (Kleinjan, interview, May 26, 2023; van der Ham, May 26, 2023). Especially considering the limited space for urban agriculture, focusing on the overall food landscape could then be a significant step. So, it appears that local and external knowledge is important for developing and implementing successful urban agriculture policies, where collaboration between educational institutions, organisations, foundations, companies, entrepreneurs, national government, provinces, and other municipalities is essential, which brings us to competency skills.

Cooperation and management skills can be identified as the most important skills to implement agro-city policy in Almere, Arnhem and Nijmegen. Where Almere is negligent in taking responsibility and initiative, Nijmegen and Arnhem seem to already have found the right level and form of support and facilitation. Nijmegen understands the capabilities of its residents and initiators and how they can facilitate as a municipality. Therefore, we can conclude that those two municipalities take a proactive role compared to Almere, which has proven to be more effective and crucial as anticipating beforehand is easier than fixing things afterwards (Dekking, interview, June 1, 2023).

However, it's important to note that Almere of course relied on a different approach for Oosterwold as described in the paragraph meanings. Here, self-organisation is also applied to urban agriculture policy, which is why the municipality consciously took a step back. This role is, regarding urban agriculture, ineffective, as the neighbourhood residents do not yet possess the full capacities to implement the urban agriculture policy (Dekking, interview, June 1, 2023; Blaauw, interview, June 2, 2023). However, in one way it is effective as residents come with creative initiatives themselves, the goal of the approach (Jansma, interview, May 8, 2023). Nevertheless, the municipality of Almere should improve or utilise their cooperation and management skills a bit more, because now they rely too much on the self-organisation principle (Jansma, interview, May 8, 2023).

In conclusion, Nijmegen seems to have figured everything out based on the findings. The municipality takes an active role in facilitating and supporting initiators and residents, and uses their cooperation and management skills in the right way. Almere can learn from Nijmegen in this regard. However, Nijmegen can learn from Almere by engaging in more collaborations with other cities and knowledge institutes outside of Nijmegen to stay updated on what is happening elsewhere and the recent developments in urban agriculture policy. Additionally, they could focus on nature and environmental education and incorporate education on food and lifestyle in school curriculums to create more awareness. An interesting finding is that Nijmegen seems to be in a better position on urban agriculture policy than Almere. This can be supported by a quote from van der Ham. [Almere is a real city of pioneering, we have a lot of pilot projects, experimenting a lot. That’s not bad, but at a given moment you have to go to a structural approach and that is not always happening.] (Interview, May 26, 2023).

6.3 Materials

Producing food requires a lot of space (Jansma, interview, May 8, 2023), because Almere is a young city in which space for food is made free from the beginning, urban agriculture

fits well into the city's infrastructure. For this space to be made free, it is important to have the political and residential will to start urban agriculture. For this to happen, people are needed from the municipality to facilitate and stimulate the process. In Almere, this was not always the case, but this is slowly improving (Blaauw, interview, June 2, 2023). Because the facilitation has been lacking, people did not meet the guidelines set in Oosterwold, mainly the guideline in which 51% of the plot is to be assigned to urban agriculture. It thus seems necessary to enforce this and stimulate farming to achieve their ambition to grow 10% of Almere's food supply. To stimulate people to start farming, they require the right knowledge, which could be in the form of a knowledge centre. Furthermore, the 'Food Strategy in Almere appeared to be an important step in the process of creating an agro-city, since it puts the concept on the agenda and starts the process.

So even though space within a city is scarce, there are still ways to engage in urban farming. There are ways to promote healthy and sustainable food consumption in the city that do not require space, such as having a vision on food (van der Ham, May 26, 2023). This vision entails how the municipality deals with the food landscape and can include allowing less fast-food chains within the city and encouraging people to eat healthier. Arnhem has, for example, a school garden for every primary school class to teach children at a young age how to farm (Jansma, interview, May 8, 2023). It is about propagating the municipality's objectives and ambitions, as to give the people something of a hook to support why they should act that way. Every municipality is different and has different initiatives, so every municipality therefore will have a different vision on food (van der Ham, May 26, 2023). The vision thus does not necessarily have to be purely food production, but can focus on changing the food landscape as a whole. And certainly in cities where there is little space, the vision could eventually make space free for and change it into policy (Jansma, interview, May 8, 2023).

To start the urban agriculture progress, a city first has to look at the city's context. Nijmegen has a past with the garden city idea of Ebenezer Howard. This idea is not as extensive as Almere, but can still offer possibilities. It is important to look at the resources already within the city. The municipality can ask itself the question: what do we already have? And what do we want to improve? Based on this, a vision can then be drawn up that names and embraces the existing initiatives. For example, the municipality benefits from the initiators, they do not start from scratch, and the vision also benefits the initiators. Think of supporting and facilitating the initiatives by the municipality. For Nijmegen, this could mean making an inventory of what initiatives are already in place in the city and aligning a vision or policy with this. In this way you build on the resources you have there, you support the initiators in the city and you do not start from scratch.

Nijmegen is a compact city in which functions are defined precisely and there is little room for urban agriculture in the form of Oosterwold. In addition, the space within a city is expensive and there is a lot of competition for it. For example, a lot of space is needed for the housing task, which is at the expense of space for urban agriculture. For example, initiatives require space to form. In the case of Nijmegen, collaborations with areas that are less densely built up can present opportunities and organize the space properly according to what the area needs. Think of the head of Malden, the Ooij, the municipality of Heumen and the Grootstal district.

Time is not a material in the literal sense, but here we see it as one of the most important resources needed to establish urban agriculture, in which case it belongs to materials. You cannot just change something that has been built up over decades or

hundreds of years. The development of an area is a process in which you have to deal with long procedures and permits. Change happens gradually and takes time. Having a long-term vision is therefore crucial within the municipality. In this way, you can already move in a certain direction and prepare for changes in the future. Therefore, it is important that the municipality actively formulates and implements policy, so that they can better respond to certain challenges or developments. Initiators can thereby also be steered in the right direction.

Lastly, it is important for the municipality to actively participate in their policy and not to set rules that they cannot enforce. Enforcing rules costs resources, such as manpower and money. A beautiful vision without the means to execute it eventually dies out. Enforcement can be done in different ways, depending on the rule, a gentle hand may suffice, for example by getting people to report or by asking people why they do not follow the rules. Enforcement goes hand in hand with the remaining responsibilities of the municipality, such as facilitating residents to do things properly.

7 Conclusion and Recommendations

In this chapter, the research will be concluded. The first paragraph answers the research questions by providing a summary of the results. The recommendation for policy makers in Nijmegen will be given in the second paragraph.

7.1 Summary of the Results

The aim of this research is to acquire knowledge on how Almere became an agro-city in order to draw lessons on how a similar type of policy could be implemented in Nijmegen. Arnhem serves as an example to bridge the gap between the two cities. The central question of this research is as follows: How can an agro-city planning policy be applied in Nijmegen and what can be learned from Almere and Arnhem? To answer this question, there are seven sub-questions. The first six will be answered in this paragraph, the last one is answered in the following paragraph.

What are agro-cities? Agro-cities can be understood as a planning framework that primarily aims to strengthen the connection between urban and rural areas to foster resilient and sustainable food systems within city regions. This approach brings food closer to the people. It engages urban residents in food production by integrating agricultural practices into metropolitan areas, promoting subsidiarity and circularity, and fostering interdependence. Agro-cities also emphasise alternative food networks, short food supply chains and consider rural needs alongside urban centres. Showing that agro-city policy can address multiple challenges simultaneously. This can be achieved through various means, including incorporating multiple forms of urban agriculture or developing an agricultural-oriented city by incorporating food into urban life through alternative approaches, such as facilitating local food producers' services in more space-restricted areas.

So, the agro-city can be defined as a planning framework wherein the primary strategy is to strengthen the linkages between urban and rural areas, to foster sustainable and resilient food systems in city regions, which is achievable through various means, including the integration of multiple forms of urban agriculture and the facilitation of services and marketing for local food producers.

What does Almere’s agro-city planning policy look like? Almere portrays itself as the heart of food and aims to be a city in which space is made to innovate around urban food issues. The Food Strategy of Almere puts these issues on the agenda and has a stimulating effect. For this, it is important to look at what the city already possesses. Almere has always had a green infrastructure and the newly made province made it possible to form a neighbourhood like Oosterwold. This was not possible without the networks surrounding the city and initiatives around the agro-city policy, which helped the city shape the city in the ‘food heart’ that it wants to become.

Oosterwold has a few conditions, most importantly that 51% of the plot has to be assigned for agriculture. Next to these conditions, citizens have full freedom to create an environment that matches their needs, which is later facilitated by the municipality. It was made clear that a policy that is both facilitating and supporting is needed and the municipality should raise the question, respond to it and listen carefully to the demands of the citizens, without imposing it.

Which meanings are needed to become an agro-city? Almere's Inter-municipal Master Plan Oosterwold can be separated into two themes: the self-organisation principle and urban farming. The attitude towards self-organisation has changed over the years. In the beginning, there was little government interference and the responsibility to develop the neighbourhood lay with private initiators. However, self-organisation is not required to become an agro-city. The Food Strategy came seven years later and emphasises cooperation with initiators. Learning from their mistakes, the municipality now takes a larger role. This trend will be extended to the development of the next phase of Oosterwold. Arnhem goes a step further and actively looks to work together with private initiatives on urban farming. The initiative is up to citizens, but the municipality is quick to pick up proposals. So, a higher degree of government involvement is desirable as compared to complete self-organisation.

Regarding urban farming, all Almere interviewees agreed that it has had a hard time coming off the ground in Oosterwold. This is partially due to the neighbourhood being young and under development. Residents first build their homes and urban farming comes later, as it is not their highest priority. There are also residents who are completely disinterested in urban farming and probably will not start farming. Another reason for the lack of urban farming is that the concept of urban farming is not clearly defined. As a result, there is a lack of a common meaning between the municipality's policy and the citizens. Additionally, there also needs to be political will to reserve enough resources to execute and enforce the policies. Now, the policies are not executed and rules are not enforced. In order to become an agro-city, policies need to be more concrete and the municipality should enforce the rules. However, citizens also value the space for private initiatives. Municipalities can cooperate with these bottom-up initiatives. Nonetheless, the municipality should take responsibility when private responsibility fails.

Which competences are needed to become an agro-city? Knowledge among initiators and municipal officials is essential for fully realising the potential of urban agriculture policies. Research on agro-city policy in Almere has shown that residents' lack of knowledge often serves as the primary reason for their non-participation in urban farming. Urban residents frequently require a deeper understanding of urban agriculture and guidance from the municipality. This highlights the major shortcoming within the municipality: the lack of knowledge exchange and the absence of mechanisms to provide residents with valuable knowledge and networks. This, in turn, necessitates a certain level of knowledge within the municipal framework. However, it's crucial to note that the source of knowledge is influential, as knowledge from external sources might not always suit the city's context. Conversely, knowledge from local food-related or urban agricultural organisations and initiators is often better aligned with the city's interests.

Acquiring and facilitating knowledge and guidance for urban residents is closely tied to the competency of skill. Utilising the municipality's management and cooperation skills has emerged as crucial for achieving the desired integrated policy outcomes. Especially the management skills of taking responsibility and initiative have proven important in guiding urban agriculture and food-related practices in the right direction. This proactive role is exemplified in Blaauw's initiative, where he took on the responsibility of assisting people in implementing urban agriculture, as the municipality did not feel responsible and let the policy run its course. A similar proactive approach is also evident in Arnhem, which successfully outlines the steps for implementing food-related policy.

So, possessing and acquiring suitable knowledge and sharing it is crucial to utilise the full potential of urban agriculture policy. Effective cooperation skills are essential in this

context. Additionally, management skills such as taking responsibility and initiative play a crucial role in successfully implementing urban agriculture policies, highlighting the significance of an active role. Based on these findings, the competencies of knowledge, cooperation, and management skills are essential for a city to transition into an agro-city.

Which materials are needed to become an agro-city? Money is an important resource in order to achieve the city's ambitions, facilitate initiatives within a city and fund policies regarding urban agriculture. For example, Almere has the 'Almere Urbanization Fund', from which part of the Food Strategy is funded. The political will is important to secure these types of funds to get urban farming related projects off the ground. Another important resource is land. A challenge when implementing an urban agriculture policy is the land availability. Oosterwold is a large area, 4,363 hectares is assigned to the neighbourhood, of which 1,800 hectares is meant for urban agriculture. All plots within the neighbourhood therefore have plenty of space to grow their vegetables and develop green initiatives. This makes the neighbourhood unique in the Netherlands, as this amount of space and money for urban agriculture is not always available in other cities.

As discussed before, Oosterwold is developed through self-organisation. However, there are guidelines and rules to follow. Enforcing rules requires materials, such as manpower and money. Due to a lack of these materials, rules regarding urban farming were not enforced. This resulted in some initiators in Oosterwold not always following the rules on urban farming. If a municipality wants to set rules on urban farming, it should also reserve the funds to enforce these rules. Lastly, it is important to consider that it takes time to change something that has been built up over decades or hundreds of years, the development of an area is a process in which you have to deal with long procedures and permits. Having this long-term vision is therefore crucial within the municipality.

What is Nijmegen's current approach to urban farming? Nijmegen currently does not have a policy to become an agro-city. The municipality does have the ambition to increase urban farming, which consists of a few sentences in the Strategy on Spatial Planning 2020-2040. Nonetheless, with a focus on restoring the relationship with the countryside, the strategy does lay the groundwork for an agro-city. Besides, there is political will and several urban agriculture related proposals have been passed by the city council. The GroenLinks' initiative council proposal is more concrete and contains a definition of urban farming which closely resembles Mougeot's. Like Almere and Arnhem, Nijmegen focuses on bottom-up initiatives. Nijmegen seeks to actively cooperate and facilitate initiatives, for example, through their Urban Agriculture Desk, which will be opened in September 2023. Not only that, the municipality also wants to cooperate with neighbouring municipalities on urban farming policies to overcome its lack of agricultural land.

The ability to cooperate effectively with various stakeholders, including neighbouring municipalities, is the most critical skill for Nijmegen. The municipality cooperates with multiple actors within and beyond the city, expands networks, and fosters knowledge exchange. This proactive stance involves taking responsibility and initiative to promote urban agriculture within the city and its neighbouring municipalities. They achieve this by supporting and facilitating initiators using knowledge acquired from existing local networks, such as food-related organisations, and initiators with experience and expertise in urban agriculture.

While Nijmegen excels in cooperation within its municipality and neighbouring municipalities, its engagement with external actors like knowledge institutes and municipalities from other country regions is limited. However, they acknowledge this

shortfall and aspire to broaden their perspective, primarily focusing on staying informed and learning from urban agriculture projects and innovations in other parts of the country, such as Almere Oosterwold. Moreover, the municipality recognizes the need to refine its management of urban agriculture policy to maintain continuous momentum. One potential solution is appointing a project manager, leading us to discuss Nijmegen's' resources to become an agro-city.

Regarding materials, one striking aspect is the lack of agricultural land in Nijmegen. It is one of the few cities in the Netherlands that does not have a countryside. However, though the space reserved for urban agriculture in Oosterwold is good to produce food at a larger scale, it is not a requirement for an agro-city. There are other ways to engage in urban farming when land is scarce in cities, such as a vision on food. This vision entails how the municipality deals with the food landscape and can include restricting the amount of fast-food joints in the city and encouraging people to eat healthier. Another material that can support the creation of an agro-city is to have a place to spread awareness on urban farming. Nijmegen is already working on such a place, called the Urban Agriculture desk. This is a place where people can bundle and exchange knowledge and experiences, as well as put their initiatives on the map. Furthermore, the place also functions as a centre to educate people about nature and the environment.

Nijmegen does not have a dedicated department within the municipality specifically assigned to urban agriculture; instead, it falls under the domain of the urban development department. However, it holds a relatively minor role within the municipality, and limited time is allocated to urban agriculture. Given Nijmegen's compact urban layout and absence of outlying areas, creating an agro-city poses challenges. Despite these constraints, the city has initiated various urban agriculture projects and is starting to explore this area.

7.2 Recommendations

This paragraph answers the question what Nijmegen can learn from Almere’s and Arnhem’s planning policies. These recommendations are the result of the discussion in Chapter 6. Lessons from Almere and Arnhem are combined with Nijmegen’s context to make the recommendations.

There are many ways to create an agro-city. As such, there is no need to copy Almere’s example. In Nijmegen, there is both political will as well as a demand from citizens for urban agriculture. Use the agenda-setting potential of the Strategy on Spatial Planning 2020-2040 to draft a larger and more concrete vision on food and urban agriculture. This vision should build upon Nijmegen’s context and tie in with the city’s story. The definition for urban farming from GroenLinks’ initiative council proposal should be embedded in this new vision, so that it can be clearly communicated to create a common meaning. The ambitions in this new vision should be realistic and achievable. Additionally, it is important to work out the potential of these ambitions as a reminder why the municipality wants to facilitate urban farming to begin with.

Regarding participation, citizens attach great value to space for private initiatives. Luckily, Nijmegen already pursues a bottom-up strategy and wants to actively facilitate and support initiatives. Nijmegen’s Urban Agriculture Desk is a great way to support initiatives that already exist by strengthening and expanding their network. Subsidies, on the other hand, might attract fortune seekers that are not invested in the cause. Additionally, the municipality should take responsibility when citizens are not able to.

Though it is unclear whether Nijmegen wants to draft a vision on food and urban agriculture, it does want to draft one for the Kop van Malden. Consider giving existing parties in this area a mandate to work with the municipalities of Heumen and Nijmegen on this vision. Be careful with implementing rules. They are only helpful when they are enforceable. If the municipality does not have the resources to enforce the rules, the rules might as well be left out.

Nijmegen's scope is currently limited to urban agriculture. It does not encompass a broader understanding of food, as seen in Almere's food strategy and Arnhem's vision of urban agriculture and regional food. Nijmegen could benefit from taking inspiration from these cities and expanding its perspective beyond urban agriculture to embrace the broader theme of food, as it is proven effective. Therefore, the recommendations for competences for Nijmegen go beyond urban agriculture and also encompass the theme of food.

Nijmegen could do more in the field of education and, thus, broaden its focus beyond urban agriculture to encompass the overarching theme of food. Arnhem has demonstrated that nature and environmental education is very successful and can create awareness of a healthy and green living environment and food, which is fundamental to change and people's approach to food. Nijmegen could achieve this by incorporating these themes into the curriculum of primary and secondary schools. Since it is impossible to provide every school with a vegetable garden, which has yet to be accomplished in Arnhem, the municipality could ensure that every school has access to a community garden or urban farm for this type of education. Providing educational resource kits for nature and environmental education is also an option. So, there are multiple ways to provide education about nature, a green living environment, and food.

The following two recommendations concern the competency of collaboration. Nijmegen excels in partnership with surrounding municipalities and the city's existing food and urban agriculture networks. As discussed, this local perspective is crucial for the further development of urban agriculture policy. However, collaboration with other cities and knowledge institutions outside of Nijmegen has also proven highly important. The municipality of Nijmegen needs to gain more knowledge of developments in urban agriculture across the Netherlands, such as the project in Almere Oosterwold. By seeking collaboration beyond the municipality and immediate neighbours, Nijmegen can stay informed about the latest developments, learn from other cities' experiences, and stay updated on innovations in urban agriculture. There is room for improvement in this aspect for Nijmegen.

Additionally, Nijmegen can seek collaboration with other cities through City Deals. In doing so, you can join forces against governmental bodies and the food industry or even convey a message to Brussels, urging these parties to take more steps towards sustainable food policies. This could involve, for example, implementing a ban on promotions for meat consumption or fast-food chains.

Regarding materials, space within Nijmegen is scarce, but this does not mean urban agriculture is not possible, for there are multiple ways to engage in urban farming. This could already be done by promoting healthy and sustainable food consumption, or having a vision on food as discussed above. This vision should entail how the municipality would want to deal with the food landscape, which could include allowing less fast-food chains within the city or encouraging people to eat in other ways. Next, enforcing rules costs materials such as manpower and money. The municipality should not set rules it cannot enforce if there is a lack of these materials. Enforcing rules can be done in

different ways depending on the rule. Sometimes, only a gentle hand can suffice. Furthermore, when applying a policy it is important to give the process time. Change happens gradually, so developing an area is a long process in which you have to deal with various procedures and permits. Making long-term vision is thereby a requirement.

Lastly, it is important for the municipality to provide the right resources to citizens. This could be creating a place in which people can meet and share knowledge and tools, such as the Urban Agriculture Desk. The municipality should in addition set money aside as it could help facilitate existing initiatives through subsidies. So, facilitating urban agriculture is not just done by providing the knowledge and space, but also by providing the right resources such as money and tools required for farming.

8 Reflection

8.1 Research process

The first part of the research went smoothly. We quickly had a clear topic, research question, and research approach in mind, which gave a clear direction to how the literature review and methods chapter should look. Unlike these chapters, the theoretical framework was more of a challenge as we struggled to find the appropriate theory to connect our ideas and topic to. Eventually, we found the social practice theory that best suited our ideas. As the research progressed, primarily due to this theory and the in-depth interview with Jansma, the research took more shape, leading to some adjustments to the research question and sub-questions.

This first interview with Jansma led to multiple other interviewees closely involved with policy making who could provide us with the right information. The interview preparations received significant attention to ensure the effective organising of information from policy documents and the literature. Every interview had a different interview guide based on previous interviews and the analysis of the policy documents concerning the city. The literature review before the interviews was thorough to ensure that we could ask critical questions and gather as much information as possible during the interviews, which proved successful as we collected the information we wanted and received compliments from multiple interviewees about our preparation and background knowledge. Therefore, we consider gathering information from the literature, policy documents, and during interviews a strength of our research.

Another strength that was particularly evident when creating interview guides was our ability to respond flexibly and find solutions when obstacles arise. During the process of creating the interview guide for Nijmegen, it became clear that Nijmegen is engaged in urban farming, as we found some policy documents about urban agriculture in Nijmegen that we could not find before. Until this point, we had been under the impression that Nijmegen did not have a policy for urban agriculture and did nothing related to this topic. We thought this would give an unexpected twist to our research, but eventually, we found a workaround and approached the interview differently. In response, we read and critically reflected on the policy documents and devised an interview guide with critical questions about Nijmegen's policy. We combined this information with the lessons from Almere and Arnhem, ultimately resulting in a recommendation for Nijmegen. For this reason, not all policy documents of Nijmegen are analysed or analysed using Atlas. Had there been more time, the municipal decrees of Nijmegen could have been analysed.

In addition to our strengths, there are points for improvement, starting with the observations. Although the method was well thought out and executed well in most aspects, we stumbled with the observations. The observations could have been conducted more effectively and thoroughly. Currently, they mainly serve to provide visual context. The residents' experiences could have been utilised to offer an alternative perspective on the planning policy and, thus, shed light on the other side of the policy. Nonetheless, the research's literature review and method have remained strong aspects.

The main areas for improvement in the research process concern the theoretical framework and the analysis of policy documents and interviews. The theory should have been fully developed earlier to facilitate an easier and more efficient analysis of the

interviews and the selection of necessary findings. The theory was too concise, leading to consuming unnecessary time for analysing the documents and interviews.

Also, the analysis could have been more thoughtfully executed because we did not have a plan for developing and organising the codes in Atlas. For this reason, there were too many codes, sometimes even with the same meaning, to effectively gather the needed findings. This could be the downside of working together, as everyone interprets the findings differently. However, after coding, we discussed our findings and came to a consensus about the meaning of our findings so that we were on the same page heading into writing the chapter on the results. Additionally, we could have gotten more out of Atlas to, for example, establish networks to illustrate relationships between meaning, competencies, and materials. This could have enhanced our analysis as well. These learning moments, so to speak, will undoubtedly be taken into consideration for our master's thesis.

After analysing the collected information, we proceeded with writing the results. Structuring and connecting the results chapter posed a challenge, which felt like solving a large puzzle. However, it made it also an enjoyable process, albeit occasionally frustrating. The structure of the chapter was established quickly, in contrast to the structure of the preceding chapters. Feedback on the draft version from our supervisor greatly aided us in organising all the information to create a coherent narrative, which is much different from the concept version we handed in.

8.2 Collaboration

Collaboration is crucial when working on a joint thesis. Moreover, it has proven to be highly beneficial, as it offers the opportunity to discuss with each other when encountering difficulties or to brainstorm about specific aspects, helping to structure thoughts, for example. We used multiple forms of communication to do this.

We scheduled a regular meeting every Monday to discuss matters and outline tasks for the rest of the week. Additionally, we arranged extra in-person or online meetings as needed, along with frequent phone calls and WhatsApp communication. This collaboration went very well. However, there is always room for improvement. Looking critically, we could have been more engaged with one another. We should have asked each other more for help when getting stuck in the process. Some issues could have been resolved if we had reached out earlier or sought more input from others. Also, providing appropriate support to another person without them asking for it, assessing and responding to each other's needs, is an area where we can still improve. However, we did recognise each other's strengths and used them for the better of the thesis.

Further, there is room for improvement regarding planning efficiency and time management. We underestimated the time needed for each thesis segment, leading to tasks taking longer than anticipated. However, we do not see this as a shortcoming, but rather as a valuable lesson to conduct your own research. Everything takes longer because while conducting research and writing a thesis, you figure out how everything should be done. Despite this, we showed that we can manage time well in some aspects. For instance, we decided when to conclude data collection and interview processes, even with numerous possible options for delving deeper into the topic. So, prioritisation emerged as a strength, especially as we approached the concept deadline. The takeaway message is to reserve extra time for tasks if you are new to doing it.

8.3 Relating findings to theory

The social practice theory used in this research aligned well with the gathered data. This alignment was possible due to the theory's capacity to broadly outline the interactions among diverse components and levels within a political system. Within the framework of social practice theory, emphasis is placed on the historical and cultural pathways of individuals' actions, particularly the accumulation of meanings, materiality, and competence, as well as the placement of a given practice concerning others. In our study, delving into these historical and cultural trajectories was relevant, as it explained the possibilities of practising urban agriculture within the cities. The theory was, therefore, well applied in our research.

However, given the broad applicability of the theory, not all connections were relevant within our study. This became evident when considering meanings, as the emotional link was no part of our research. Similarly, in competencies, where the connection with cultivated skill was irrelevant, and in the context of materials, aspects such as hardware and the human body appeared unrelated to our research.

In the future, a more detailed description of the theory could enhance its alignment with the chosen subject. However, viewing the data through this theoretical lens provided a coherent overview, enabling us to formulate recommendations for Nijmegen to achieve our intended goal.

8.4 Research recommendations

This research on urban agriculture answered questions and raised questions for further research. To begin with, we asked multiple interviewees if the agro-city policy in Almere Oosterwold could be considered a success. It became clear that Oosterwold is still too young to determine whether it is successful. Multiple interviewees, such as Jansma, Sikking, and Blaauw, stated this. [Come back in ten years] (Jansma, interview, May 8, 2023). In the future, a study should be conducted to determine whether Oosterwold's agro-city policy was successful.

Secondly, the component competencies of social practice theory require more in-depth attention in subsequent research. Specifically, identifying competencies within policy documents did not emerge clearly from our analysis. While the interviews provided additional insights, there is room for further elaboration. Moreover, future research should emphasise assessing the competencies of city residents and initiators to determine whether they possess the necessary level of knowledge and skills for effective engagement in urban agriculture.

While we did interview two residents from Almere, both individuals fulfil dual roles as residents and initiators assisting those with limited knowledge and skills in urban agriculture. Therefore, they do not represent the entire resident population of the city. To comprehensively understand the knowledge and skill levels of the city's population, subsequent research should focus on evaluating residents' competencies. This could be achieved by interviewing individuals involved and not involved in urban agriculture and assessing their knowledge and skill levels through either qualitative or quantitative research. The same approach should be applied to Nijmegen, where our research is limited to only a policymaker from the municipality. So, currently, we only possess insights into the municipality's level of knowledge and skill, leaving room for exploration of the competence levels among the residents.

Furthermore, exploring meanings could also be more extensively developed in this context. What motivates individuals to participate or prevents them from performing urban agriculture practices? And what is the role of meanings, competencies, and materials in this regard? Does an 'urban agricultural desk' encourage people to practise urban agriculture? If not, what other factors contribute to this motivation?

Thirdly, questions about political support as an important condition to let agro-city policy succeed emerged during multiple interviews. The three cities investigated in this research were all 'green' municipalities, with board members supporting urban agriculture policy. The question remains about how important political support is, which can be investigated by researching cities with different political affiliations.

Finally, further research could focus on the effective collaboration between universities, universities of applied science, and municipalities in addressing real-time urban challenges. The interview with Verhoeven, Policymaker Greenery and Climate Adaptation, showed that Nijmegen aspires to cooperate closely with knowledge institutes in the future to acquire knowledge through student research. Questions emerge about how these institutions can assist municipalities in developing the city. What role can students play in this regard? And how can research assignments from the municipality become part of the curriculum?

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10 Appendix

10.1 Consent Form

U bent uitgenodigd om deel te nemen aan een onderzoeksproject waarin onderzoek wordt gedaan naar het stadslandbouwbeleid in Almere en hoe een dergelijk beleid ook in Nijmegen toegepast kan worden. Dit onderzoeksproject wordt uitgevoerd door studenten Kyra van Houten, Rosa van Engelshoven en Tim van Ark van de Radboud Universiteit. De procedure omvat worden geïnterviewd. De vragen gaan over het stadslandbouwbeleid van Almere. Het gesprek duurt ongeveer één uur. Het interview zal worden opgenomen op een geluidsband. Uw contactgegevens zoals naam en e-mailadres worden veilig opgeslagen door de hoofdonderzoeker.

Vertrouwelijkheid van de onderzoeksgegevens
Als we informatie gebruiken, zoals gespreksgegevens, die naar u kunnen worden herleid zullen we expliciet uw toestemming vragen voor publicatie. De onderzoekers die betrokken zijn bij dit onderzoek zullen deze onderzoeksgegevens gebruiken voor academische publicaties en presentaties. De gegevens worden niet gebruikt voor andere onderzoeken, tenzij we hiervoor expliciet toestemming hebben gekregen. De onderzoeksgegevens zullen veilig worden opgeslagen volgens de richtlijnen voor het beheer van onderzoeksgegevens van de Radboud Universiteit en alleen toegankelijk zijn voor de academische gemeenschap voor de controle van de onderzoeksintegriteit gedurende een periode van tien jaar.

Vrijwillige deelname
Uw deelname aan dit onderzoek is vrijwillig. Dit betekent dat u uw deelname en toestemming op elk moment tijdens de periode van het verzamelen van gegevens kunt stopzetten en intrekken, zonder opgave van reden. Tot zes weken na deelname kunt u uw onderzoeksgegevens en contactgegevens laten verwijderen door een verzoek te sturen naar [contactinformatie].

Meer informatie
Heeft u vragen naar aanleiding van dit onderzoek, nu of in de toekomst, neem dan contact op met [contactinformatie]

Als u klachten heeft over dit onderzoek, neem dan contact op met de onderzoeker.

Toestemming
Door te klikken op de knop ‘Akkoord’ geeft u aan dat:
• u deze informatie hebt gelezen en begrepen
• u vrijwillig instemt met deelname
• u ten minste 18 jaar bent

10.2 Interview guide J.E. Jansma

Een korte introductie: wij zijn drie derdejaars GPM studenten uit Nijmegen. Voor onze bachelor thesis doen wij onderzoek naar het agro-citybeleid van Almere en hoe een vergelijkbaar beleid toegepast kan worden in Nijmegen. Ons doel is om te achterhalen welke stimulerende en beperkende factoren van belang zijn voor de implementatie van een dergelijk beleid.

We zullen u een aantal vragen stellen met betrekking tot dit onderwerp. Voor dit interview zijn we met name benieuwd naar uw expertise op dit gebied. Het interview zal ongeveer een uur duren. De data zal gepubliceerd worden (op de thesis repository van de Radboud Universiteit).

We zouden graag de audio van dit interview opnemen, zodat we het later terug kunnen luisteren. Geeft u daar toestemming voor?

à Nee? Dan zullen wij meeschrijven.
à Ja? Dan starten we met het interview.

Om te beginnen zullen we een aantal introducerende vragen stellen. Vervolgens zullen we dieper ingaan op verschillende aspecten van het agro-citybeleid. Ten slotte is er tijd voor eventuele vragen of voor u om extra informatie te geven over zaken die tijdens het interview ter sprake zijn gekomen. Heeft u bij voorbaat al vragen?

à Ja? [Beantwoord de vragen]
à Nee? Dan starten we nu de recorder.

Om op te warmen,

1. Kunt u vertellen wie u bent?

2. Wat is uw functie?
    a. Hoe lang bent u al actief in dit vakgebied?
    b. Hoe bent u in aanraking gekomen met de agro-city/stadslandbouw?

We willen u graag vragen naar het concept van de agro-city. In de literatuur bestaat hier geen eenduidige definitie voor.

3. Hoe zou u een agro-city definiëren?
    a. Wat zijn de focuspunten (key areas) in het beleid van een agro-city?
    b. Wat zijn de ambities van een agro-city?
    c. Vergelijking met onze definitie van een agro-city: de term agro-city wordt gebruikt om te verwijzen naar een ruimtelijk concept waarin stadslandbouw de primaire strategie is voor het realiseren van de ambities van de stad, zoals de ontwikkeling van een klimaatbestendige, circulaire en energieleverende regio.

4. Waar komt de term/concept agro-city vandaan?

5. Hoe draagt het agro-citybeleid bij aan de ontwikkeling van de stad?
    a. Voedselvoorzieningen, economie, duurzame toekomst?
    b. Wat verstaat u onder een duurzame toekomst?

6. Wat zijn de belangrijkste doelstellingen van een agro-city?
    a. Wat zijn de gewenste resultaten van het beleid?

7. Hoe worden de belangen van de verschillende stakeholders (zoals boeren, consumenten en de gemeenschap) gewaarborgd binnen het agro-citybeleid?

8. Hoe wordt er samengewerkt tussen verschillende overheidsinstanties en andere belanghebbende bij de implementatie/ontwikkeling van het agro-citybeleid?

9. Wat zijn uitdagingen en beperkingen van het agro-citybeleid?
    a. Beetje sturing eventueel: Wat zijn uitdagingen en beperkingen van het beleid in de realisatie van een duurzame stad?
    b. Hoe kunnen deze worden aangepakt?

Nu duidelijk is wat u verstaat onder een agro-city, willen we meer weten over de toepassing hiervan in de stad Almere.

8. In beleidsdocumenten etc. komt met name de wijk Oosterwold terug als een plek voor stadslandbouw. Welke wijken van Almere vallen volgens u onder het agro-city principe?
    a. Wat maakt Oosterwold de geschikte locatie voor de toepassing van dit idee?

9. Oosterwold is erg ruim opgezet en een nieuw ontwikkelingsgebied. Is het mogelijk om het agro-city principe toe te passen in al bestaande delen van de stad?
    a. Zo ja, hoe zou dit principe toegepast kunnen worden in bestaande delen van de stad?
    b. Zo nee, kunt u uitleggen waarom dit principe niet toe te passen is in bestaande delen van de stad?

10. Welke veranderingen in het beleid van Almere hebben er plaatsgevonden om de het idee van een agro-city te realiseren?

11. Op de website van de Wageningen Universiteit wordt geschreven dat agro-cities worden geconfronteerd met regelgeving op het gebied van ruimtelijke ontwikkeling, milieu en water management. Wat zijn voorbeelden van dit soort regelgeving waar rekening mee gehouden moet worden in de ontwikkeling van een agro-city?
    a. Wat zijn voorbeelden van regelgeving waar rekening mee gehouden moest worden in Oosterwold?
    b. Hoe heeft dit de ontwikkeling van het gebied beïnvloed?

We hebben gelezen dat er in Oosterwold twee innovatieve ideeën voor gebiedsontwikkeling samenkomen, namelijk het zelf-organisatieprincipe en stadslandbouw.

12. Wat kunt u ons vertellen over het zelf-organisatieprincipe?
    a. Waar zijn de bewoners allemaal verantwoordelijk voor?
    b. Hoe wordt de samenwerking tussen initiatiefnemers georganiseerd? Worden er afspraken gemaakt tussen initiatiefnemers onderling of is hier een soort platform voor?
    c. Waar kunnen de initiatiefnemers terecht dat er iets misloopt in de ontwikkeling?
    d. Wanneer wordt de gemeente ingeschakeld?

13. Hoe belangrijk is het zelf-organisatieprincipe voor stadslandbouw in de wijk?
    a. Kan het zelf-organisatieprincipe en stadslandbouw los van elkaar gezien worden?
    b. Kunt u ons vertellen waarom het zelf-organisatieprincipe wel/niet belangrijk is voor de stadslandbouw in de wijk?

14. Heeft het zelf-organisatieprincipe ook een beperkende factor voor het slagen van stadslandbouw in de wijk?
    a. Zo ja, wat is de beperkende rol van het zelf- organisatieprincipe in het slagen van stadslandbouw?

15. Heeft het zelf-organisatieprincipe ook een stimulerende rol voor het slagen van stadslandbouw in de wijk?
    a. Zo ja, hoe draagt het zelf-organisatieprincipe bij aan het slagen van stadslandbouw in de wijk?
    b. Zo nee, kunt u ons vertellen waarom het zelf-organisatieprincipe geen stimulerende rol heeft?

16. Kan het agro-city beleid in Almere als een succes worden gezien?
    a. Wat zijn de belangrijkste redenen waarom het beleid als succesvol/ niet succesvol kan worden beschouwd?
    b. Kan nog niet worden gezegd: Wanneer is het juiste moment om hier conclusies over te trekken?

Stadslandbouw

We hebben gelezen dat stadslandbouw een drijvende krachtis van de ontwikkeling in Oosterwold.

18. Wat verstaat u onder stadslandbouw?
    a. Wat zijn de functies van stadslandbouw?

19. Waar komt het idee van stadslandbouw als drijvende kracht van de ontwikkeling vandaan?

20. Grond is schaars in steden. Hoe kan landbouw concurreren met ander stedelijk landgebruik?
    a. Is hier een verschil tussen bestaande steden en nieuwe steden/wijken?

22. Hoe draagt stadslandbouw bij aan de voedselvoorziening en voedselzekerheid van de stad?

23. Hoe kan stadslandbouw de gezondheid en het welzijn van een gemeenschap verbeteren?

24. Hoe draagt stadslandbouw bij aan de lokale economie?
    a. Hoe draagt stadslandbouw bij aan de werkgelegenheid in het gebied?

25. Hoe draagt stadslandbouw bij aan de vermindering van de ecologische voetafdruk van de stad?
    a. Hoe draagt stadslandbouw bij aan de vermindering van de ecologische voetafdruk van de bewoners in de stad?
    b. Wat zijn andere ecologische voordelen van de implementatie van stadslandbouw?

Er is veel te zeggen over de duurzaamheid van de huidige manier van landbouw. Vragen over water, afvalstromen, plagenbestrijding, energiegebruik etc. komen steeds vaker naar voren.

24. Hoe draagt stadslandbouw bij aan de verduurzaming van de landbouwsector?
    a. Welke duurzame landbouwtechnieken worden er toegepast?
    b. Hoe wordt er omgegaan met het energieverbruik in stadslandbouw en in hoeverre worden duurzame energiebronnen ingezet?
    c. Hoe wordt er omgegaan met het gebruik van water in stadslandbouw en hoe wordt er voor gezorgd dat dit gebruik duurzaam is?
    d. Welke rol spelen afvalstromen in stadslandbouw?
    e. In hoeverre is de productie van voedsel in Oosterwold natuurlijk? Is het toegestaan om bijvoorbeeld bestrijdingsmiddelen en kunstmest te gebruiken in Oosterwold?

25. Wat zijn de uitdagingen en beperkingen van stadslandbouw in termen van duurzaamheid?
    a. Hoe kunnen deze uitdagingen en beperkingen worden aangepakt voor de bevordering van duurzame stadslandbouw?

25. Welke vormen van stadslandbouw bestaan er?
    a. Welke vormen van stadslandbouw komen terug in Oosterwold?

We hebben gelezen dat 50% van de kavel bestemd is voor stadslandbouw en dat het doel is om 10% van de voedselvraag van de regio in Oosterwold te produceren.

26. Wat kunt u ons vertellen over de haalbaarheid van dit doel?

a. Wat is de meerwaarde van stadslandbouw ten opzichte van de huidige manier van voedselproductie?
b. Is stadslandbouw een effectieve manier van voedselproductie?
c. Hoeveel procent van de voedselvraag kan worden geproduceerd met stadslandbouw?
d. Wat is de meest efficiënte manier om voedsel te produceren in de stad? Welke vormen?

27. Welke vormen van stadslandbouw zijn er nodig om te voldoen aan de doelstelling om 10% van de voedselvraag te produceren?

27. Hoe is de productie van voedsel in de wijk georganiseerd?
    a. Is de productie van voedsel beperkt tot alleen kavels van de bewoners? Of is er buiten de kavels ook ruimte voor voedselproductie?
    b. Is er sprake van samenwerkingsverbanden tussen bewoners? (bv. de ontwikkeling van gezamenlijke landbouwruimte? Of is iedereen verantwoordelijk voor een bepaald type product en vervolgens wordt voedsel onderling verdeeld?)
    c. Bestaan er in de wijk afspraken tussen bewoners wie verantwoordelijk is voor welk type product?
    d. Zo ja er zijn afspraken, Hoe wordt er voor gezorgd/ gecontroleerd of bewoners zich aan de afspraken houden?
    e. Wat voor type voedsel wordt er in de wijk geproduceerd?
    f. Is er ook sprake van voedselverwerking in de wijk? Aan wat voor producten kunnen we dan denken?

28. Hoe kan een gemeenschap het best worden ondersteund om de effectiviteit van stadslandbouw te vergroten?
    a. Welke rol spelen gemeenschappen in de bevordering van duurzame stadslandbouw?

29. Welke rol kunnen overheidsinstanties spelen bij het bevorderen van stadslandbouw en het maximaliseren van de effectiviteit hiervan?
    a. Welke rol spelen deze instanties in de bevordering van duurzame stadslandbouw?

29. Welke rol speelt kennis bij een succesvolle uitvoering van stadslandbouw?
    a. Wat voor kennis is er nodig bij de bewoners om voedsel te kunnen produceren voor de regio?
    b. Hoe komen mensen aan de kennis om zelf producten te verbouwen?

30. Wat voor regels zijn er verbonden aan de productie van voedsel voor de regio?
    a. Wat betekent dit voor het produceren van voedsel in de wijk?

Implementatie van beleid

31. Hoe ziet het proces vanaf idee tot uitvoering eruit?

32. Wat zijn de belangrijkste uitdagingen bij het implementeren van het beleid?
    a. Waar liggen de oorzaken van deze uitdagingen?
    b. Hoe worden deze aangepakt? Hoe zou de implementatie soepeler kunnen verlopen?

33. Hoe worden de doelstellingen van het beleid gecommuniceerd naar de betrokkenen?
    a. Hoe worden betrokkenen op de hoogte gehouden van eventuele veranderingen in het beleid?

34. Wie is er verantwoordelijk voor de uitvoering van het beleid?
    a. Hoe wordt de uitvoering van het beleid gecontroleerd?

De lessen van Oosterwold

De ontwikkeling Almere 2.0 is nu al zo'n 20 jaar onderweg. Ook hebben we gelezen dat de eerste fase van het project Oosterwold is afgerond en wordt geanalyseerd om te besluiten hoe fase 2 wordt ontwikkeld.

33. Hoe wordt de effectiviteit van het beleid gemeten en geëvalueerd?
    a. Hoe wordt het beleid aangepast en bijgesteld om de gewenste resultaten te verkrijgen?

34. Welke lessen kunnen er worden getrokken uit fase 1 Oosterwold?
    a. Wat zijn de belangrijkste lessen die worden getrokken uit het project betreft zelf-organisatieprincipe?
    b. Wat zijn de belangrijkste lessen die kunnen worden getrokken uit het project betreft stadslandbouw?

We hebben gelezen in uw publicatie ‘Feeding the city: A social practice perspective on planning for agriculture in peri-urban Oosterwold, Almere, the Netherlands dat te weinig ervaringen van de bewoners met stadslandbouw, een andere interpretatie van wat stadslandbouw inhoud, prijs van een kavel en beperkte ruimte buiten de kavel voor stadslandbouw heeft geleid tot vooral het type hobby farming als invulling van de stadslandbouw in Oosterwold.

34. Wat wordt er bedoeld met dat de prijs van de kavel invloed heeft gehad op de invulling van de stadslandbouw door de bewoners?
    a. Is de wijk toegankelijk voor alle inkomensgroepen?

35. Wat wordt er bedoeld met dat beperkte ruimte buiten het perceel voor stadslandbouw heeft geleid tot een andere invulling van stadslandbouw?

36. Wat zijn de belangrijkste veranderingen richting fase 2?
    a. Kunt u ons vertellen waar in het proces van de ontwikkeling veranderingen moeten plaatsvinden?
    b. Hoe worden deze veranderingen doorgevoerd?

Nu wordt stadslandbouw/ het agro-city beleid alleen op een wijk toegepast,

37. Wat is uw visie op de implementatie en haalbaarheid van dit concept op grotere schaal?
    a. Wat zijn de uitdagingen en beperkingen voor stadslandbouw in termen van schaalbaarheid?
    b. Hoe kan stadslandbouw geïntegreerd worden in een bredere visie van de stad? (Dus meerdere wijken) Waar liggen de mogelijkheden?
    c. Geen visie: Kunt u ons vertellen waarom het hier nog te vroeg voor is?

38. Hoe kijkt u aan tegen de implementatie van stadslandbouw in parken en recreatiegebieden?
    a. Zijn deze vormen van stadslandbouw ook geschikt voor de productie van een deel van de voedselvraag?

39. Hoe kijkt u aan tegen stadslandbouw op daken?
    a. Zou deze manier van voedselproductie ook in het agro-citybeleid kunnen terugkomen?
    b. Is deze vorm van stadslandbouw ook geschikt voor de productie van een deel van de voedselvraag?

40. Hoe kijkt u aan tegen de productie van voedsel in steden door middel van verticale landbouw?
    a. Zou deze manier van voedselproductie ook in het agro-citybeleid kunnen terugkomen?
    b. Kunt u ons vertellen waarom dit wel/niet in een agro-city thuis hoort?
    c. Is deze vorm van stadslandbouw ook geschikt voor de productie van een deel van de voedselvraag?

Toepassing van het beleid in andere steden

In uw publicatie ‘Feeding the city: A social practice perspective on planning for agriculture in peri-urban Oosterwold, Almere, the Netherlands’ wordt geschreven dat de context van Oosterwold niet gemakkelijk te vergelijken is met veel andere stedelijke gebieden.
Toch zijn wij geïnteresseerd in hoe een vergelijkbaar beleid kan worden toegepast in Nijmegen. Dit is een historische stad met een hoge dichtheid. Het grootste gedeelte van de stad is ontwikkeld, op een nieuwe uitleglocatie in Lent na (het noorden van Nijmegen, boven de rivier). Wel is er in de stad redelijk wat groene ruimte met meerdere parken, lanen en grasvelden.

40. Hoe kan worden bepaald welke locaties geschikt zijn voor de implementatie van soortgelijk beleid?

41. Welke obstakels voorziet u voor historische steden als Nijmegen?

41. Hoe biedt agro-citybeleid kansen voor dergelijke steden?
    a. Hoe biedt de implementatie van stadslandbouw kansen voor dergelijke steden?

Wat betreft het implementeren van een vergelijkbaar beleid,

42. Wat zijn de belangrijkste punten waar andere gemeenten op moeten letten?

43. Wat kunnen andere gemeenten aan het beleid verbeteren voor dat het wordt geïmplementeerd?

44. Hoe moet het beleid aangepast worden om toegepast te kunnen worden in een andere gemeente?

Afsluiting

45. Wat zijn de grootste take-aways van de toepassing van het beleid in Almere?

46. Wat is uw visie op de agro-city?
    a. Waar ziet u het concept heen gaan in de toekomst?
    b. Hoe voorziet u de toekomst van stadslandbouw?

47. Heeft u misschien nog opmerkingen of vragen over dingen die tijdens dit interview ter sprake zijn gekomen?

48. Kent u eventueel nog andere betrokkenen bij Oosterwold die we kunnen interviewen?

10.3 Interview guide Y. Sikking

Wij zijn Kyra, Rosa en Tim, drie derdejaars bachelorstudenten van de opleiding Geografie, Planologie en Milieu aan de Radboud Universiteit in Nijmegen. Voor onze bachelor thesis doen wij onderzoek naar het stadslandbouwbeleid van Almere en hoe een vergelijkbaar beleid geïmplementeerd kan worden in Nijmegen. Ons onderzoeksdoel is om te achterhalen welke stimulerende en beperkende factoren van belang zijn voor de implementatie van een dergelijk beleid. We zullen u een aantal vragen stellen met betrekking tot dit onderwerp. Voor dit interview zijn we met name benieuwd naar uw expertise op dit gebied. Het interview zal ongeveer een uur duren.

Voordat we aan het interview beginnen, willen wij u eerst wijzen op het toestemmingsformulier. Hierin staat wat wij met de data uit dit interview gaan doen. Voor het gemak hebben we ook een digitaal formulier gemaakt dat u eenvoudig kan ondertekenen via een link. De link naar het formulier kunt u vinden in de chat. Zou u dit formulier willen doornemen en ondertekenen?
à Nee? Dan gaat het interview niet door.
à Ja? Start met opnemen.

Om te beginnen zullen we een aantal introducerende vragen stellen. Vervolgens zullen we dieper ingaan op verschillende aspecten van het stadslandbouwbeleid in Oosterwold. Ten slotte is er ruimte voor u om vragen te stellen of om extra informatie te geven over zaken die tijdens ter sprake zijn gekomen. Heeft u bij voorbaat al vragen?

à Ja? [Beantwoord de vragen]
à Nee? Dan starten we nu de vragen.

Start

Oké, om op te warmen:

1. Kunt u vertellen wie u bent?
    a. Wat is uw functie?
    b. Hoe lang bent u al actief in dit vakgebied?
    c. Hoe bent u in aanraking gekomen met stadslandbouw?

Ruimtelijke Transformaties

Met het beleid Almere 2.0 sloeg de gemeente zo'n twintig jaar geleden een nieuwe richting in. Dit heeft zich uiteindelijk geuit in de realisatie van Oosterwold, in samenspel met ander beleid.

2. Waarom was er behoefte aan dit nieuwe beleid?

3. Welke maatschappelijke ontwikkelingen speelden er?
    a. De gemeenteraadsverkiezingen in 2006, reflectie, en de financiële crisis van 2008.

4. Speelden er problemen in Almere (die het beleid hebben geïnspireerd)?
    a. Welke problemen waren er?

5. Welke oplossingen werden geopperd voor deze problemen?
    a. Zelfrealisatie, stadslandbouw etc.

6. Hoe kwamen deze maatschappelijke ontwikkelingen, problemen en oplossingen uiteindelijk samen in Almere 2.0?
    a. Wat had stadslandbouw hiermee te maken?

7. Zijn er nog andere factoren die invloed hadden op de vorming van het nieuwe beleid?

8. Waren er nog andere visies of beleidsstukken die in reactie op deze periode ontstonden?

Theory of spatial development: Ontwikkeling beleid

Voor uw begrip: we proberen het de totstandkoming van het beleid dat uiteindelijk resulteerde in Oosterwold, met alle ambities op het gebied van stadslandbouw, vanuit meerdere perspectieven duidelijk te krijgen. De vragen die nu volgen zijn wellicht vergelijkbaar, maar met opzet zo gesteld.

9. Lagen er eisen vanuit zowel de politiek als het publiek die het beleid Almere 2.0 hebben beïnvloed?
    a. Almere Principes
    b. RRAAM
    c. Groen en Gezond Almere
    d. Voedselstrategie

10. Werd het beleid ondersteund vanuit de politiek en het publiek?
    a. Op welke manier?
    b. Waren er onderdelen/plannen die niet werden ondersteund?

Als gevolg van deze eisen en ondersteuning heeft de gemeenteraad van Almere besloten om Almere 2.0 door te voeren.

11. Wat houdt dit beleidsdocument precies in?
    a. En met betrekking tot stadslandbouw?

12. Welke andere acties heeft de gemeenteraad ondernomen?
    a. Zou je kunnen zeggen dat de gemeente er juist voor heeft gekozen om niks te doen, in relatie tot de zelfrealisatieplicht van de bewoners?

13. Wat zijn de belangrijkste uitdagingen bij het implementeren van het beleid?
    a. Waar liggen de oorzaken van deze uitdagingen?
    b. Hoe worden deze aangepakt? Hoe zou de implementatie soepeler kunnen verlopen?

14. Is de zelfrealisatieplicht nodig om een soortgelijk beleid door te voeren? Hoe werkt de zelfrealisatieplicht in de praktijk?

15. Zouden al bebouwde steden, zoals Nijmegen, een soortgelijk beleid kunnen toepassen?

Theory of spatial development: Verbetering beleid

De ontwikkeling Almere 2.0 is nu al zo'n 20 jaar onderweg. Ook hebben we gelezen dat de eerste fase van het project Oosterwold is afgerond en wordt geanalyseerd om te besluiten hoe fase 2 wordt ontwikkeld.

16. Kan het agro-city beleid in Almere als een succes worden gezien?
    a. Wat zijn de belangrijkste redenen waarom het beleid als succesvol/ niet succesvol kan worden beschouwd?

17. Welke lessen kunnen er worden getrokken uit fase 1 Oosterwold?
    a. Wat zijn de belangrijkste lessen die kunnen worden getrokken uit het project betreft stadslandbouw?

Vorige week maandag hebben wij Jansma van de Wageningen University & Research geïnterviewd. Hij is expert op het gebied van stadslandbouw en heeft uitvoerig onderzoek gedaan naar Oosterwold. Hij gaf aan dat “[...] als je echt die voedselproductie serieus wil nemen, dat je de bewoners moet steunen, alternatieven moet bieden, bijvoorbeeld de afname moet organiseren, of kennis, of praktische ondersteuning moeten bieden.” Naast deze extra ondersteuning voor de bewoners, gaf hij ook aan dat gestegen grondprijzen wellicht een belemmering zullen vormen voor fase B van Oosterwold.

18. Heeft dit gevolgen voor het handelen van de gemeente?
    a. Wordt het beleid aangepast of aangevuld?
    b. Gaat de gemeente ook actie ondernemen?
    c. Wat zijn de belangrijkste veranderingen richting fase B?

19. Wat zouden andere gemeenten hiervan kunnen leren?
    a. Wat zijn de belangrijkste punten waar ze op moeten letten?
    b. Wat kunnen ze beter doen tov het stadslandbouwbeleid van Almere?

Afsluiting

Dan zijn we bij de afsluiting gekomen. Om het interview af te ronden:

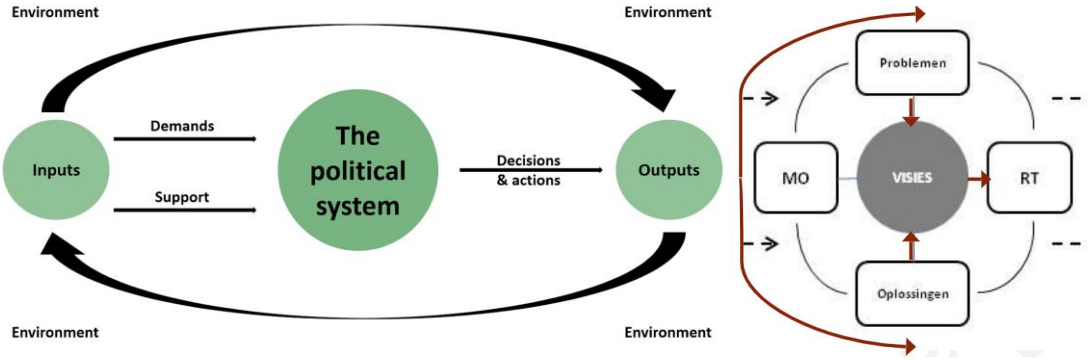
20. Wat zijn volgens u de grootste take-aways van het stadslandbouwbeleid in Almere/Oosterwold?

21. Heeft u misschien nog opmerkingen of vragen over dingen die tijdens dit interview ter sprake zijn gekomen?

22. Kent u eventueel nog andere betrokkenen bij Oosterwold die we kunnen interviewen?

Hartstikke bedankt voor uw deelname! U heeft ons enorm geholpen.

23. Mochten we in de toekomst nog vragen hebben, zouden we dan weer contact met u op mogen nemen?



10.4 Interview guide E. van der Ham

Wij zijn Kyra, Rosa en Tim, drie derdejaars bachelorstudenten van de opleiding Geografie, Planologie en Milieu aan de Radboud Universiteit in Nijmegen. Voor onze bachelor thesis doen wij onderzoek naar het stadslandbouwbeleid van Almere en hoe een vergelijkbaar beleid geïmplementeerd kan worden in Nijmegen. Ons onderzoeksdoel is om te achterhalen welke stimulerende en beperkende factoren van belang zijn voor de implementatie van een dergelijk beleid. In voorgaande interviews zijn we erachter gekomen dat de voedselstrategie van een stad een belangrijke rol kan spelen in de ontwikkeling van een duurzame en gezonde stad en dat een voedselstrategie veel meer omvat dan stadslandbouw. We zullen u een aantal vragen stellen met betrekking tot dit onderwerp. Voor dit interview zijn we met name benieuwd naar uw expertise op dit gebied. Het interview zal ongeveer een uur duren.

Voordat we aan het interview beginnen, willen wij u eerst wijzen op het toestemmingsformulier. Hierin staat wat wij met de data uit dit interview gaan doen. Voor het gemak hebben we ook een digitaal formulier gemaakt dat u eenvoudig kan ondertekenen via een link. De link naar het formulier kunt u vinden in de chat. Zou u dit formulier willen doornemen en ondertekenen?

> à Nee? Dan gaat het interview niet door.
> à Ja? Start met opnemen.

We zouden graag dit interview opnemen, zodat we het later terug kunnen luisteren. Geeft u daar toestemming voor?

> à Nee? Dan zullen wij meeschrijven.
> à Ja? Dan starten we nu de opname

Om te beginnen zullen we een aantal introducerende vragen stellen. Vervolgens zullen we dieper ingaan op verschillende aspecten van de voedselstrategie. Ten slotte is er ruimte voor u om vragen te stellen of om extra informatie te geven over zaken die tijdens ter sprake zijn gekomen. Heeft u bij voorbaat al vragen?

> à Ja? [Beantwoord de vragen]
> à Nee? Dan starten we nu de vragen.

Start

Oké, om op te warmen:

1. Kunt u vertellen wie u bent?
    a. Wat is uw functie?
    b. Hoe lang bent u al actief in dit vakgebied?
    c. Hoe bent u in aanraking gekomen met stadslandbouw/ beleid rond voedsel?

De voedselstrategie

2. Kunt u ons vertellen waarom Almere een voedselstrategie heeft?
    a. Wat is het belang van een voedselstrategie?
    b. Als ik het goed begrijp, is de strategie dan aangepast sinds de Floriade?

3. Welke factoren hadden invloed op de vorming van de voedselstrategie?
    a. Hoe draagt de voedselstrategie bij aan de ontwikkeling van Almere?

4. Voor welke doeleinden kan een voedselstrategie worden vastgesteld?
    a. Jansma benoemde in het interview dat we bij hem afnamen dat een voedselstrategie veel meer omvat dan alleen het voedsellandschap-educatie, weg houden van fastfoodketens zijn volgens hem ook onderdelen die terugkomen in de voedselstrategie. Hoe komen deze onderwerpen terug in de voedselstrategie van Almere?

5. Wat zijn thema's/onderwerpen waarop wordt gefocust in de voedselstrategie?
    a. Wat maakt het focussen op deze thema's belangrijk?
    b. Kunt u wat meer vertellen over de benoemde punten?
    c. Wat zijn de belangrijkste punten?

6. Hoe is de voedselstrategie ontwikkeld?
    a. Welke belanghebbende waren betrokken bij het opstellen van de voedselstrategie en hoe zijn ze betrokken?

7. Wat zijn de stappen die een gemeente moet nemen om tot een voedselstrategie te komen?

Verdiepende vragen voedselstrategie

8. Welke maatschappelijke ontwikkelingen en/of problemen in de gemeente hebben geleid tot de voedselstrategie?
    a. Hoe biedt de voedselstrategie oplossingen voor deze problemen?
    b. Hoe kwamen deze maatschappelijke ontwikkelingen, problemen en oplossingen uiteindelijk samen in de voedselstrategie?

9. Hoe verhoudt stadslandbouwbeleid tot de voedselstrategie?
    a. Is stadslandbouwbeleid de voedselstrategie of is stadslandbouwbeleid een onderdeel van de voedselstrategie?

10. In de voedselstrategie wordt geschreven"Steden – als kleinste bestuursorgaan – bevinden zich tegenwoordigin de frontlinie van de omgang met voedselproblematiek". Kunt u uitleggen wat deze uitspraak inhoudt?
    a. Hoe draagt de voedselstrategie bij aan het aanpakken van deze voedselproblematiek?

11. Hoe wordt er in de voedselstrategie rekening gehouden met de ecologische houdbaarheid van het voedselsysteem en de waarde van consumenten?

a. hou deze vraag maar kort

12. Wat betekent de stedelijke identiteit en context van een stad voor de voedselstrategie?
    a. Ondernemersgeest, de oorsprong van de tuinstad, de diversiteit, de unieke ligging van de stad, etc.
    b. Kunt u voorbeelden noemen uit de voedselstrategie die specifiek aansluit op de stedelijke identiteit van de stad?

13. Eerder hebben wij Jansma van de Wageningen University & Research geïnterviewd. Hij is expert op het gebied van stadslandbouw en heeft uitvoerig onderzoek gedaan naar Oosterwold. Hij gaf aan dat “[...] als je echt die voedselproductie serieus wil nemen, dat je de bewoners moet steunen, alternatieven moet bieden, bijvoorbeeld de afname moet organiseren, of kennis, of praktische ondersteuning moeten bieden.”
    a. Is de gemeente verantwoordelijk voor het bieden van deze alternatieven?
    b. Hoe pakt de gemeente dit aan?

14. In de voedselstrategie komt naar voren dat betrokkenheid van bewoners, ondernemers en lokale initiatieven cruciaal zijn om de ambities benoemd in het voedselbeleid waar te kunnen maken. Wat wordt er verwacht van bewoners, ondernemers en lokale initiatieven?

15. Wat zijn de grootste uitdagingen waar de gemeente tegenaan loopt bij de realisatie van de ambities benoemd in de voedselstrategie?
    a. Hoe gaat de gemeente hiermee om?

16. Wat zijn de stimulerende factoren (wat maakt het makkelijk)in de stad voor de realisatie van de ambities benoemd in de voedselstrategie?

17. Lokaal voedsel is vaak duurder dan producten uit de supermarkt. Afgelopen woensdag hebben wij een rondleiding gekregen over een landgoed in Malden (naast Nijmegen) dat producten aanbiedt op het landgoed. Zij stelde ook de vraag: hoe kunnen wij concurreren met de Jumbo die op driehonderd meter hiervandaan ligt?Wat kan, of doet, de gemeente Almere om lokaal voedsel uit korte ketens aantrekkelijk te maken voor iedereen?
    a. Hoe kan een gemeente dit soort lokale initiatieven ondersteunen?

18. Wat maakt het voor een gemeente belangrijk om een voedselstrategie te hebben? Of voedsel onderdeel te laten zijn van de stad?
    a. Zou elke gemeente een voedselstrategie moeten hebben?
    b. Werkt de gemeente Almere ook samen met andere gemeenten aan het voedselbeleid?
        i. ja: Wat is het belang van samenwerking tussen gemeenten?
        ii. nee: Wat is de reden hiervoor?

19. Wat zouden andere gemeenten kunnen leren van het voedselbeleid van Almere?
    a. Wat zijn de belangrijkste punten waar ze op moeten letten?

b. Wat kunnen ze beter doen tov het stadslandbouwbeleid/ voedselstrategie van Almere?

20. Kan de voedselstrategie ook relevant zijn in volgebouwde steden, zoals Nijmegen
    a. Wat zijn aspecten waar compacte, volgebouwde steden op kunnen focussen in het voedselbeleid?

Theorie

21. Hoe komt het dat de gemeente Almere een van de eerste gemeenten is met een voedselstrategie?
    a. Heeft het ontwikkelingsconcept van de garden city hier iets mee te maken?
    b. Flevoland is ooit aangelegd voor voedselproductie, waardoor agro & food één van de sterkste economische sectoren is in de provincie. Draagt dit bij aan de ontwikkeling van de voedselstrategie en de integratie van stadslandbouw?

Voor het succes van het beleid is het van belang dat een gemeente beschikt over de juiste middelen, vaardigheden en ambities.

22. Onder middelen verstaan we ruimte, infrastructuur, monetaire middelen (geld) etc.
    a. Over welke middelen beschikt Almere in relatie tot stadslandbouw en de voedselstrategie?
    b. Welke middelen komt Almere juist te kort?

23. Vaardigheid heeft te maken met de praktische kennis en de vaardigheid om het uit te voeren. In hoeverre beschikt Almere over deze vaardigheden?
    a. Is er genoeg kennis in huis om dit beleid mogelijk te maken?

Afsluiting

Dan zijn we bij de afsluiting gekomen. Om het interview af te ronden:

24. Heeft u misschien nog opmerkingen of vragen over dingen die tijdens dit interview ter sprake zijn gekomen?

25. Kent u eventueel nog andere betrokkenen bij Oosterwold die we kunnen interviewen?

Hartstikke bedankt voor uw deelname! U heeft ons enorm geholpen.

26. Mochten we in de toekomst nog vragen hebben, zouden we dan weer contact met u op mogen nemen?

10.5 Interview guide H. KleinJan

Fijn dat we zo snel een afspraak konden maken voor een interview.

Wij zijn Kyra, Rosa en Tim, drie derdejaars bachelorstudenten van de opleiding Geografie, Planologie en Milieu aan de Radboud Universiteit in Nijmegen. Voor onze bachelor thesis doen wij onderzoek naar het stadslandbouwbeleid van Almere en hoe een vergelijkbaar beleid geïmplementeerd kan worden in Nijmegen. Ons onderzoeksdoel is om te achterhalen welke stimulerende en beperkende factoren van belang zijn voor de implementatie van een dergelijk beleid. In voorgaande interviews zijn we erachter gekomen dat de voedselstrategie van een stad een belangrijke rol kan spelen in de ontwikkeling van een duurzame en gezonde stad en dat een voedselstrategie veel meer omvat dan stadslandbouw. We zullen u een aantal vragen stellen met betrekking tot dit onderwerp. Voor dit interview zijn we met name benieuwd naar uw expertise op dit gebied. Het interview zal ongeveer een uur duren.

Voordat we aan het interview beginnen, willen wij u eerst wijzen op het toestemmingsformulier. Hierin staat wat wij met de data uit dit interview gaan doen. Voor het gemak hebben we ook een digitaal formulier gemaakt dat u eenvoudig kan ondertekenen via een link. De link naar het formulier kunt u vinden in de chat. Zou u dit formulier willen doornemen en ondertekenen?

> à Nee? Dan gaat het interview niet door.
> à Ja? Start met opnemen.

We zouden graag dit interview opnemen, zodat we het later terug kunnen luisteren. Geeft u daar toestemming voor?

> à Nee? Dan zullen wij meeschrijven.
> à Ja? Dan starten we nu de opname

Om te beginnen zullen we een aantal introducerende vragen stellen. Vervolgens zullen we dieper ingaan op verschillende aspecten van de voedselstrategie. Ten slotte is er ruimte voor u om vragen te stellen of om extra informatie te geven over zaken die tijdens ter sprake zijn gekomen. Heeft u bij voorbaat al vragen?

> à Ja? [Beantwoord de vragen]
> à Nee? Dan starten we nu de vragen.

Start

Oké, om op te warmen:

1. Kunt u vertellen wie u bent?
    a. Wat is uw functie?
    b. Hoe lang bent u al actief in dit vakgebied?
    c. Hoe bent u in aanraking gekomen met stadslandbouw/ beleid rond voedsel?

De voedselstrategie

2. Kunt u ons vertellen waarom Arnhem een voedselstrategie heeft?
    a. Wat is het belang van een voedselstrategie?
    b. Even voor mijn beeld: Wat doet Arnhem met stadslandbouw?
    c. En welke vormen van stadslandbouw komen er voor in Arnhem?

3. Welke factoren hadden invloed op de vorming van de voedselstrategie?
    a. Hoe draagt de voedselstrategie bij aan de ontwikkeling van Arnhem?

4. Voor welke doeleinden kan een voedselstrategie worden vastgesteld?
    a. Jansma benoemde in het interview dat we bij hem afnamen dat een voedselstrategie veel meer omvat dan alleen het voedsellandschap - educatie, weg houden van fastfoodketens zijn volgens hem ook onderdelen die terugkomen in de voedselstrategie. Hoe komen deze onderwerpen terug in de voedselstrategie van Arnhem?

5. Wat zijn thema's/ onderwerpen waarop wordt gefocust in de voedselstrategie?
    a. Wat maakt het focussen op deze thema's belangrijk?
    b. Kunt u wat meer vertellen over de benoemde punten?
    c. Wat zijn de belangrijkste punten?

6. Hoe is de voedselstrategie ontwikkeld?
    a. Welke belanghebbende waren betrokken bij het opstellen van de voedselstrategie en hoe zijn ze betrokken?

7. Wat zijn de stappen die een gemeente moet nemen om tot een voedselstrategie te komen?

Verdiepende vragen voedselstrategie

8. Welke maatschappelijke ontwikkelingen en/of problemen in de gemeente hebben geleid tot de voedselstrategie?
    a. Hoe biedt de voedselstrategie oplossingen voor deze problemen?
    b. Hoe kwamen deze maatschappelijke ontwikkelingen, problemen en oplossingen uiteindelijk samen in de voedselstrategie?

9. Is er een stadslandbouwbeleid in Arnhem?
    a. Hoe verhoudt stadslandbouwbeleid tot de voedselstrategie?
    a. Is stadslandbouwbeleid de voedselstrategie of is stadslandbouwbeleid een onderdeel van de voedselstrategie?

10. Hoe wordt er in de voedselstrategie rekening gehouden met de ecologische houdbaarheid van het voedselsysteem en de waarde van consumenten?

11. Wat is de stedelijke identiteit en context van Arnhem voor stadslandbouw en voeding?

    a. Wat betekent deze stedelijke identiteit en context van een stad voor de voedselstrategie?
    b. Kunt u voorbeelden noemen uit de voedselstrategie die specifiek aansluit op de stedelijke identiteit van de stad?

12. Wij hebben gelezen dat de gemeente Arnhem stadslandbouw stimuleert, onder andere door kinderen er via natuur- en milieueducatie over te vertellen op scholen.
    a. Hoe succesvol is deze educatie gebleken?

13. Ook hebben we gelezen dat elke wijk en elke buurt een pluktuin tot hun beschikking zou moeten hebben.
    a. Hoe succesvol zijn de pluktuinen?
    b. Hoeveel pluktuinen zijn er ondertussen gerealiseerd sinds de invoering van dit beleid (2017)?

14. Wat zijn de grootste uitdagingen waar de gemeente tegenaan loopt bij de realisatie van de ambities benoemd in de stadslandbouw visie?
    a. Hoe gaat de gemeente met deze uitdagingen om?

15. Er is een parapluplan opgesteld dat het mogelijk maakt om planologische beperkingen weg te nemen of op z'n minst terug te dringen.
    a. Welke planologische beperkingen zijn er?
    b. Hoe kan dit eventueel relevant zijn voor Nijmegen?

16. Wat zijn de stimulerende factoren (wat maakt het makkelijk)in de stad voor de realisatie van de ambities benoemd in de voedselstrategie?

17. Wat maakt het voor een gemeente belangrijk om een voedselstrategie te hebben? Of voedsel onderdeel te laten zijn van de stad?
    a. Zou elke gemeente een voedselstrategie moeten hebben?

18. Werkt de gemeente Arnhem ook samen met andere gemeenten aan het voedselbeleid? Bijvoorbeeld met de regio Food Valley.
    a. ja: Wat is het belang van samenwerking tussen gemeenten?
    b. nee: Wat is de reden hiervoor?

19. Wat zouden andere gemeenten kunnen leren van jullie visie op standslandbouw en voedsel?
    a. Wat zijn de belangrijkste punten waar ze op moeten letten?
    b. Wat kunnen ze beter doen tov het stadslandbouwbeleid/ voedselstrategie van Arnhem?

20. Wat zijn aspecten waar de gemeente Nijmegen op zou kunnen focussen in hun voedselbeleid?

Theorie

Voor het succes van het beleid is het van belang dat een gemeente beschikt over de juiste middelen, vaardigheden en ambities.

21. Onder middelen verstaan we ruimte, infrastructuur, monetaire middelen (geld) etc.
    a. Over welke middelen beschikt Arnhem in relatie tot stadslandbouw en de voedselstrategie?
    b. Welke middelen komt Arnhem juist te kort?

22. Vaardigheid heeft te maken met de praktische kennis en de vaardigheid om het uit te voeren. In hoeverre beschikt Arnhem over deze vaardigheden?
    a. Is er genoeg kennis in huis om dit beleid mogelijk te maken?
    b. Je had het al eerder over Kernteam Stadslandbouw en over de kennis van Ede-Wageningen. In hoeverre beschikt Arnhem over kennis van stadslandbouw en voedsel?

Afsluiting

Dan zijn we bij de afsluiting gekomen. Om het interview af te ronden:

23. Heb je misschien nog opmerkingen of vragen over dingen die tijdens dit interview ter sprake zijn gekomen?

24. Je hebt ons al doorverwezen naar Verhoeven. Ken je eventueel nog andere betrokkenen bij stadslandbouw in Nijmegen? Linda van het stadslandbouwloket van Nijmegen

Hartstikke bedankt voor uw deelname! U heeft ons enorm geholpen.

25. Mochten we in de toekomst nog vragen hebben, zouden we dan weer contact met je op mogen nemen?

10.6 Interview guide A. Dekking

Wij zijn Kyra, Rosa en Tim, drie derdejaars bachelorstudenten van de opleiding Geografie, Planologie en Milieu aan de Radboud Universiteit in Nijmegen. Tim kon vandaag helaas niet bij dit interview zijn. Voor onze bachelor thesis doen wij onderzoek naar het stadslandbouwbeleid van Almere en hoe een vergelijkbaar beleid geïmplementeerd kan worden in Nijmegen. Ons onderzoeksdoel is om te achterhalen welke stimulerende en beperkende factoren van belang zijn voor de implementatie van een dergelijk beleid. We hebben begrepen dat u als onderzoeker aan de WUR én als inwoner van Almere betrokken bent bij de stadslandbouw in deze stad. We zullen u een aantal vragen stellen met betrekking tot dit onderwerp. Voor dit interview zijn we met name benieuwd naar uw expertise op dit gebied. Het interview zal ongeveer een uur duren.

Voordat we aan het interview beginnen, willen wij u eerst wijzen op het toestemmingsformulier. Hierin staat wat wij met de data uit dit interview gaan doen. Voor het gemak hebben we ook een digitaal formulier gemaakt dat u eenvoudig kan ondertekenen via een link. De link naar het formulier kunt u vinden in de chat. Zou u dit formulier willen doornemen en ondertekenen?

à Nee? Dan gaat het interview niet door.
à Ja? Start met opnemen.

We zouden graag dit interview opnemen, zodat we het later terug kunnen luisteren. Geeft u daar toestemming voor?

à Nee? Dan zullen wij meeschrijven.
à Ja? Dan starten we nu de opname

Om te beginnen zullen we een aantal introducerende vragen stellen. Vervolgens zullen we dieper ingaan op stadslandbouw in Oosterwold en uw visie daarop. Ten slotte is er ruimte voor u om vragen te stellen of om extra informatie te geven over zaken die tijdens ter sprake zijn gekomen. Heeft u bij voorbaat al vragen?

à Ja? [Beantwoord de vragen]
à Nee? Dan starten we nu de vragen.

Start

Oké, om op te warmen:

1. Kunt u vertellen wie u bent?
    a. Wat is uw functie?
    b. Hoe lang bent u al actief in dit vakgebied?
    c. Hoe bent u in aanraking gekomen met stadslandbouw/beleid rond voedsel?

2. In een interview met Avanti noemt u uzelf een ‘actie-onderzoeker’ (Hummels, n.d.). Wat bedoelt u daarmee?

Medewerker WUR

We willen u een aantal vragen stellen die met name betrekking hebben op uw werk als onderzoeker aan de WUR. In het interview van Jansma kwam naar voren dat u een andere kijk op het stadslandbouwbeleid van Almere heeft dan hijzelf.

3. Wat vindt u van het stadslandbouwbeleid van Almere?
    a. Kunt u ons vertellen waarom het niet echt van de grond komt?
    b. En hoe ziet u dit terug in de wijk Oosterwold?
    c. Dus als ik het goed begrijp ziet u het stadslandbouwbeleid dus als niet succesvol?

4. Kan het agro-citybeleid in Almere als een succes worden gezien?
    a. Wat zijn de belangrijkste redenen waarom het beleid als succesvol/ niet succesvol kan worden beschouwd?

5. Welke lessen kunnen er worden getrokken uit fase 1 van Oosterwold?
    a. Wat zou er volgens u moeten gebeuren om mensen wel aan de 50% stadslandbouw te laten voldoen
    b. Wat zijn de belangrijkste lessen die kunnen worden getrokken uit het project betreft stadslandbouw?

6. Wat zouden andere gemeenten overnemenvan het stadslandbouwbeleid van Almere?
    a. Wat kunnen ze overnemen?
    b. Wat zouden ze beter kunnen doen?

Uit het interview met Kleinjan, beleidsadviseur stadslandbouw van de gemeente Arnhem, kwam naar voren dat de vraag vanuit de bewoners/stad belangrijk is om überhaupt iets met voedsel te gaan doen.

7. Hoe was dit in Almere?

8. Als de vraag er van uit de stad niet is hoe kan een gemeente mensen stimuleren om iets met stadslandbouw/voedsel te doen?

Inwoner & wildplukker

We zijn ook benieuwd naar uw rol als inwoner van Almere.

9. Wat merkt u als inwoner van het stadslandbouwbeleid?

10. Kunt u een aantal voorbeelden van initiatieven rondom stadslandbouw benoemen?

    a. Hoe verandert het aantal stadslandbouw initiatieven over de tijd? (toename?)

11. Merkt u als inwoner van Almere en als initiatiefnemer dat u mensen aanspoort om ook iets met stadslandbouw te doen?
    a. Beginnen mensen zelf iets of sluiten ze sneller ergens bij aan?

12. Bent u alleen bij Almeerse Weelde betrokken? Welke initiatieven bent u zelf betrokken?
    a. Wat kan u betekenen voor deze partijen die om uw hulp vragen?

13. Kunt u wat meer vertellen over het wildpluk collectief Almeerse Weelde?
    a. Wat is uw rol in dit collectief?
    b. Wat is het doel van Almeerse weelde?

14. Even terug naar Almeerse Weelden. Beschikt het collectiefover voldoende middelen om hun werkzaamheden uit te voeren? (Geld, materiaal, gereedschap etc.)
    a. Waar komen deze middelen vandaan?
    b. Welke middelen komen nog tekort?

Theorie

15. Komen de ambities van de stad met betrekking op stadslandbouw overeen met die van de inwoners?
    a. Hoe ziet u stadslandbouw zich uitwerken in een stad van de toekomst?

16. U noemde al kennis, kleinere kavels en organisaties met een eigen belang als belemmeringen. Zijn er anderebelemmeringen voor inwoners om met stadslandbouw aan de slag te kunnen?

17. Naar uw idee, beschikken inwoners over voldoende kennis om aan stadslandbouw te doen?
    a. Vormt een gebrek aan kennis een belemmering?
    b. Kunnen inwoners ergens terecht met hun vragen?

18. Op welke manieren worden inwoners gestimuleerd om zich met landbouw bezig te houden?

19. Almere is in eerste instantie ontworpen als garden-city. In hoeverre bepaalt deze oorspronkelijke planning de richting van de stad?

Afsluiting

Dan zijn we bij de afsluiting gekomen. Om het interview af te ronden:

20. Heeft u misschien nog opmerkingen of vragen over dingen die tijdens dit interview ter sprake zijn gekomen?

21. Kent u eventueel nog andere betrokkenen bij Oosterwold die we kunnen interviewen?

Hartstikke bedankt voor uw deelname! U heeft ons enorm geholpen.

22. Mochten we in de toekomst nog vragen hebben, zouden we dan weer contact met u op mogen nemen?

10.7 Interview guide J.A. Blaauw

Wij zijn Kyra, Rosa en Tim, drie derdejaars bachelorstudenten van de opleiding Geografie, Planologie en Milieu aan de Radboud Universiteit in Nijmegen. Voor onze bachelor thesis doen wij onderzoek naar het stadslandbouwbeleid van Almere en hoe een vergelijkbaar beleid geïmplementeerd kan worden in Nijmegen. Ons onderzoeksdoel is om te achterhalen welke stimulerende en beperkende factoren van belang zijn voor de implementatie van een dergelijk beleid. Eerder zijn we erachter gekomen dat het stadslandbouwbeleid van Almere een aantal uitdaging met zich meebrengt, onder andere voor de inwoners van Oosterwold zelf. We zullen u een aantal vragen stellen met betrekking tot dit onderwerp. Het interview zal ongeveer een uur duren.

Voordat we aan het interview beginnen, willen wij u eerst wijzen op het toestemmingsformulier. Hierin staat wat wij met de data uit dit interview gaan doen. Voor het gemak hebben we ook een digitaal formulier gemaakt dat u eenvoudig kan ondertekenen op een tablet. Zou u dit formulier willen doornemen en ondertekenen?

> à Nee? Dan gaat het interview niet door.
> à Ja? Start met opnemen.

We zouden graag dit interview opnemen, zodat we het later terug kunnen luisteren. Geeft u daar toestemming voor?

> à Nee? Dan zullen wij meeschrijven.
> à Ja? Dan starten we nu de opname

Om te beginnen zullen we een aantal introducerende vragen stellen. Vervolgens zullen we dieper ingaan op verschillende aspecten van de voedselstrategie. Ten slotte is er ruimte voor u om vragen te stellen of om extra informatie te geven over zaken die tijdens ter sprake zijn gekomen. Heeft u bij voorbaat al vragen?

> à Ja? [Beantwoord de vragen]
> à Nee? Dan starten we nu de vragen.

Start

Oké, om op te warmen:

1. Kunt u vertellen wie u bent?
    a. Wat is uw functie?
    b. Hoe lang bent u al actief in dit vakgebied?
    c. Hoe bent u in aanraking gekomen met stadslandbouw/ beleid rond voedsel?

Vragen over de Coöperatie Stadslandbouw

2. Wat kunt u ons vertellen over Coöperatie Stadslandbouw?
    a. Hoe gaat de coöperatie te werk?

3. Waarom heeft u deze coöperatie in het leven geroepen?

4. Waren er problemen waar u tegen aanliep op het gebied van stadslandbouw?
    a. Hoe vormt de coöperatie hier een oplossing voor?

5. Waren er ook aspecten die juist hielpen met stadslandbouw?

6. Wat regelt of organiseert de coöperatie momenteel voor initiatiefnemers in de wijk?
    a. Hoe wordt bijvoorbeeld de productie van producten afgestemd op elkaar? Zijn hier afspraken voor gemaakt?

Wij hebben al eerder met een bewoner van Oosterwold gesproken. Zij gaf aan dat het lastig was om biologische producten uit de wijk te krijgen. Op zich zijn er wel bewoners die biologisch produceren, maar die hebben niet het certificaat “biologisch” omdat het kostentechnisch niet de moeite waard is.

7. Wat kan de coöperatie hiervoor betekenen?

8. Wat betekent het hebben van een coöperatie voor de toekomst van stadslandbouw in Oosterwold?

9. Hoe kan de coöperatie zich nog verder ontwikkelen?
    a. Waar ziet u de coöperatie over tien jaar?

Inwoner

In een interview met ons gaf Sikking, Communicatieadviseur gebiedsteam Oosterwold, aan dat er in de praktijk voor een aantal inwoners onvoldoende druk achter zit om aan stadslandbouw te doen. Ze hebben meestal wel een moestuin of een paar fruitbomen, maar ze voldoen niet aan de 50%.

10. Wat merkt u daar zelf van?

11. Hoe kan je deze stimuleren om toch aan de 50% stadslandbouw te voldoen?
    a. Wat kan de coöperatie voor deze mensen betekenen?

12. Hoe zit dat bij de mensen die zich willen aansluiten bij Coöperatie Stadslandbouw?
    a. Hoe fanatiek zijn zij met die 50%-regel?
    b. Heeft het toetreden tot de coöperatie effect op de deelnemers?

Sikking gaf ook aan dat mensen er meer plezier in krijgen als ze collectieven organiseren.

13. Bent u het eens met deze uitspraak?

We hebben gelezen dat dat het doel is om 10% van de voedselvraag van Almerein Oosterwold te produceren. Deze ambitie is ook opgenomen in de intergemeentelijke structuurvisie die dateert uit 2013. Jansma zei in het interview dat we bij hem afnamen dat 10% van de totale voedselvraag vrij ambitieus is, omdat je daar heel veel ruimte voor nodig hebt.

14. Hoe kijkt u tegen de haalbaarheid van het doel om 10% van de voedselvraag te produceren in Oosterwold?

Theorie

Voor het succes van het stadslandbouwbeleid is het van belang dat een gemeente beschikt over de juiste middelen, vaardigheden en ambities.

15. Onder middelen verstaan we ruimte, infrastructuur, monetaire middelen (geld) etc.
    a. Over welke middelen voor stadslandbouw beschikken de inwoners van Oosterwold?
    b. Komen inwoners ook middelen tekort?

16. Vaardigheid heeft te maken met de praktische kennis en de vaardigheid om het uit te voeren. In hoeverre beschikken inwoners over deze vaardigheden?
    a. Is er genoeg kennis in huis om stadslandbouw mogelijk te maken?

17. De stad Almere heeft een aantal ambities voor Oosterwold, zowel op het gebied van zelforganisatie als voor stadslandbouw.
    a. In hoeverre komen de ambities van de inwoners overeen met die van de gemeente zelf?
    b. Als deze ambities afwijken, waardoor zou dat kunnen komen?

Afsluiting

Dan zijn we bij de afsluiting gekomen. Om het interview af te ronden:

18. Heeft u misschien nog opmerkingen of vragen over dingen die tijdens dit interview ter sprake zijn gekomen?

19. Kent u eventueel nog andere betrokkenen bij Oosterwold die we kunnen interviewen?

20. Wij gaan na dit interviewin de wijk observeren. Zijn er plekken waarvan u zegt daar moet je echt eens gaan kijken? En waar moeten we met name op letten op deze locaties?

Hartstikke bedankt voor uw deelname! U heeft ons enorm geholpen.

21. Mochten we in de toekomst nog vragen hebben, zouden we dan weer contact met u op mogen nemen?

10.8 Interview guide T. Verhoeven

Wij zijn Kyra, Rosa en Tim, drie derdejaars bachelorstudenten van de opleiding Geografie, Planologie en Milieu aan de Radboud Universiteit in Nijmegen. Voor onze bachelor thesis doen wij onderzoek naar het stadslandbouwbeleid van Almere en hoe een vergelijkbaar beleid geïmplementeerd kan worden in Nijmegen. Ons onderzoeksdoel is om te achterhalen welke stimulerende en beperkende factoren van belang zijn voor de implementatie van een dergelijk beleid. Ons onderzoek is gebaseerd op een voorstel van de WUR, waarin ze benadrukte dat het stadslandbouwbeleid van Almere in de wijk Oosterwold uniek is in de wereld, en dat er meer onderzoek nodig is voor andere steden om in hun voetsporen te treden. Wij hebben deze suggestie opgepakt en hebben zelf de combinatie met Nijmegen bedacht. De afgelopen maand hebben we zes interviews afgenomen met onderzoekers, ambtenaren en bewoners, en op basis hiervan hebben we een aantal aanbevelingen kunnen distilleren. We willen u nu een aantal vragen stellen om de aanbevelingen verder toe te spitsen op de Nijmeegse context. Het interview zal ongeveer een uur duren.

Voordat we aan het interview beginnen, willen wij u eerst wijzen op het toestemmingsformulier. Hierin staat wat wij met de data uit dit interview gaan doen. Voor het gemak hebben we ook een digitaal formulier gemaakt dat u eenvoudig kan ondertekenen op een tablet. Zou u dit formulier willen doornemen en ondertekenen?

à Nee? Dan gaat het interview niet door.
à Ja? Start met opnemen.

We zouden graag dit interview opnemen, zodat we het later terug kunnen luisteren. Geeft u daar toestemming voor?

à Nee? Dan zullen wij meeschrijven.
à Ja? Dan starten we nu de opname

Om te beginnen zullen we een aantal introducerende vragen stellen. Vervolgens zullen we dieper ingaan op verschillende aspecten van de voedselstrategie. Ten slotte is er ruimte voor u om vragen te stellen of om extra informatie te geven over zaken die tijdens ter sprake zijn gekomen. Heeft u bij voorbaat al vragen?

à Ja? [Beantwoord de vragen]
à Nee? Dan starten we nu de vragen.

Start

Oké, om op te warmen:

1. Kunt u vertellen wie u bent?
    a. Wat is uw functie?
    b. Hoe lang bent u al actief in dit vakgebied?
    c. Hoe bent u in aanraking gekomen met stadslandbouw/beleid rond voedsel?

2. In het interview van Van der Ham (gemeente Almere) kwam naar voren dat, nadat zij zo'n 2 a 3 jaar geleden een interview met u heeft afgelegd, u een aantal jaar geleden niet veel tijd had om aan stadslandbouw te werken en dat u ook de enige was.
    a. Hoe zit dat nu?

Kern

3. Jansma deed de uitspraak: "Waar een politieke wil is, is een weg."
    a. In hoeverre is er in de gemeente Nijmegen een politieke wil met betrekking op stadslandbouw?
    b. In hoofdstuk drie "Groene, gezonde stad" van de Nijmeegse omgevingsvisie wordt beschreven dat Nijmegen meer natuurinclusief wil bouwen, bijvoorbeeld door planten te gebruiken die als voedsel dienen voor dieren. In hoeverre kan deze visie op "functioneel groen" ook toegepast worden als argument voor stadslandbouw?

4. Op welke schaal doet Nijmegen al aan stadslandbouw?
    a. Welke initiatieven zijn er al in of rondom Nijmegen?
    b. In hoeverre wordt er ruimte voor stadslandbouw vrijgemaakt?

5. Op 12 januari 2022 heeft GroenLinks samen met de PvdA, SP en PvdD het raadsvoorstel "Duurzaam voedsel uit eigen omgeving" ingediend.
    a. Wat was het doel van dit raadsvoorstel?
    b. Hoe vormt dit raadsbesluit nu de basis voor de verdere acties van Nijmegen op het gebied van stadslandbouw?
    c. Is er al sprake van een beleid of visie op voedsel en/of stadslandbouw?

6. In dit raadsvoorstel staat de volgende definitie van stadslandbouw: "[..] de productie van voedsel binnen en langs de randen van de stad. Hieronder valt ook de handel in en het verwerken en verspreiden van het in de stadslandbouw geproduceerde voedsel, met een levendige, veelzijdige, vruchtbare, duurzame verhouding met aangrenzende stedelijke bewoners."
    a. In hoeverre is dit de definitie die de gemeente hanteert?

7. We zagen dat Nijmegen van plan was om Loket Stadslandbouw op te richten
    a. Kunt u een beknopte omschrijving geven van de bedoeling van dit loket?
    b. Waar komt de politieke wil van het Loket Stadslandbouw vandaan?
    c. Voor wie is het loket bedoeld? Worden kinderen ook betrokken?
    d. Wat voor kennis kan je daar opdoen?
    e. De grote hoeveelheid aan rollen van het Loket Stadslandbouw klinkt vrij ambitieus. In hoeverre is dit een haalbaar doel?
    f. Zijn deze rollen/doelen niet te concreet?
    g. Het was vrij lastig om informatie te vinden over stadslandbouw vanuit de gemeente. Hoe willen jullie mensen bereiken die nog niet betrokken zijn?
    h. In hoeverre faciliteert dit Loket Stadslandbouw ook de distributie van goederen?

8. Hoe is de verantwoordelijkheid geregeld?
    a. Is er ruimte voor een collectief dat de verantwoordelijkheid draagt voor het beheer van groen en voedsel?
    b. Is het duidelijk wie binnen de gemeente verantwoordelijkheid draagt voor verschillende onderdelen van de visie op stadslandbouw?

9. Met welke gemeenten werkt Nijmegen samen als het om stadslandbouw gaat?
    a. Waarom met die gemeenten?
    b. Wat is het gezamenlijke doel?
    c. Wat is het belang van deze samenwerking?

10. In hoeverre is Nijmegen van plan om regels op te stellen met betrekking tot stadslandbouw? Bijvoorbeeld een verplichting tot stadslandbouw?
    a. Heeft de gemeente wel genoeg middelen om deze regels te handhaven?

Theorie

Voor het succes van het beleid is het van belang dat de gemeente beschikt over de juiste middelen, vaardigheden en ambities.

11. Onder middelen verstaan we ruimte, infrastructuur, monetaire middelen (geld) etc. Heeft Nijmegen voldoende middelen om aan stadslandbouw te doen? (Waalkade? Groene plekken? Floating farm op de nevengeul).
    a. Aan welke middelen ontbreekt het?

12. Waar komt de competentie vandaan binnen Loket Stadslandbouw? Worden experts ingehuurd of kregen de medewerkers een training?

13. Net als in Almere zijn delen van Nijmegen ontworpen met het Garden City idee in het achterhoofd. Wijken als Dukenburg en Zwanenveld zijn ook groen opgezet. In hoeverre bepaalt dit verleden van Nijmegen de potentie van stadslandbouw?

Afsluiting

14. Hoe ziet u stadslandbouw zich uitwerken in de toekomst van Nijmegen?

15. Uiteindelijk werd het ons duidelijk dat Nijmegen al best wel veel doet op het gebied van landbouw, hoe hebben ontwikkelingen op het gebied van stadslandbouw in andere steden bijgedragen

16. Heeft u misschien nog opmerkingen of vragen over dingen die tijdens dit interview ter sprake zijn gekomen?

Hartstikke bedankt voor uw deelname! U heeft ons enorm geholpen

17. Mochten we in de toekomst nog vragen hebben, zouden we dan weer contact met u op mogen nemen?