

# The Possibilities of Urban Agriculture in Tuinen van West

Thesis Report - Master Landscape Architecture - Judith Bouwman



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# The Possibilities of Urban Agriculture in Tuinen van West

Thesis Report

Master of Landscape Architecture and Planning  
Specialisation Landscape Architecture

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The way food is produced has changed over time. As landscape architect you are concerned with the landscape and this is the place where food is produced. So the landscape architect is indirectly involved with food production. Nowadays urban agriculture is recognized as a way to obtain fresh, healthy, locally produced food. The last few years urban agriculture has been emerging and more and more people are starting to produce their own food and get involved with urban agriculture.

However urban agriculture is ambiguous, there are numerous ways how urban agriculture is executed and can be implemented. I wanted to gain knowledge about how I, as a landscape architect, can make use of urban agriculture as a spatial implementation. The location of my thesis is one where the intention to implement urban agriculture is already present. This location is Tuinen van West, located in city district Nieuw West in Amsterdam. The aim of this thesis was to gain more insight about the implementation of urban agriculture in an area, in such a way that it can be a sustainable solution for the area and desirable for the users of this area.

During this thesis I got familiar with urban agriculture, worked with people in the profession and gained a lot of knowledge about the possibilities for implementation of urban agriculture. Now after months of work my thesis is finished and that would not have been possible without the help and support of several people.

I want to thank my supervisor Sanda Lenzholzer for guiding me through the process, giving support, criticism and inspiration.

Also I want to thank my external tutor Arja Nobel for her expertise and giving me the opportunity to give several presentations during the process at city district Nieuw West. During these presentations I gained very useful knowledge and better insights in the situation of Tuinen van West.

Also I want to thank all the attendants of the meetings at Nieuw West; thanks for all the useful feedback, interest and time.

And last but not least, I want to thank all the people who supported me during my thesis, without their support and help it would not have been possible to write and finish my thesis.

Thanks to my parents, family, Daan, Laura, Iris, friends, club, study mates and Sjarrels.

Thank you all.

# Preface

# Samenvatting

Men vraagt zich tegenwoordig steeds vaker af waar ons voedsel vandaan komt en vaak blijven we het antwoord schuldig. Door de tijd heen zijn we vervreemd van ons eigen voedsel en weten steeds minder wat we precies binnen krijgen. Hier moet verandering in komen en dat is mogelijk met het verkorten van de stappen tussen producent en consument. Dit kan worden gerealiseerd door middel van stadslandbouw. Stadslandbouw komt steeds meer in de belangstelling te staan, maar is niet eenduidig, het kan op meerdere manieren worden toegepast. Deze thesis is een onderzoek naar de inpassing van stadslandbouw in Tuinen van West. Dit gebied is gelegen aan de westkant van Amsterdam, in stadsdeel Nieuw West. De keuze voor dit gebied is gebaseerd op het feit dat men op dit moment al de intentie heeft om stadslandbouw te gaan ontwikkelen in het gebied. De laatste jaren is Tuinen van West onderhevig aan ontwikkelingen en daarom zijn duurzame plannen voor de toekomst van het gebied noodzakelijk.

Kennis over de voedselproductie kan worden gezien als een kans voor de stad. Stadsbewoners kunnen door middel van stadslandbouw in contact komen met de productie van voedsel en daardoor kennis vergaren over de herkomst van hun voedsel en zich beter bewust worden van de positieve effecten van vers gezond lokaal geproduceerd voedsel. Naast de kennis over de voedselproductie, wat gezien kan worden als een kans voor de stad, worden in deze thesis nog twee kansen voor de stad benoemd, namelijk de beleving van het landschap en de connectie van stad en land. Door de inpassing van stadslandbouw kunnen ook deze kansen voor de stad worden verbeterd.

Tijdens mijn thesis heb ik verschillende stappen doornomen, waarbij ik gebruik heb gemaakt van action research. Action research is een proces gebaseerd op het verkrijgen van kennis, informatie en feedback door verschillende stappen te doorlopen. De betrokkenheid van mensen, die bekend zijn met de situatie is belangrijk. Door de uitgevoerde action research heb ik meer kennis en inzicht in de situatie van Tuinen van West verkregen en meer zicht op de mogelijkheden van stadslandbouw in het gebied.

Het proces van mijn thesis ben ik begonnen met een landschapsanalyse van Tuinen van West, met de inpassing van stadslandbouw in gedachten. Zoals eerder vermeld bestaan er verschillende vormen van stadslandbouw, daarom heb ik een definitie van stadslandbouw voor deze thesis gemaakt.

Met de kennis van het gebied en de landschapsanalyse en definitie van stadslandbouw zijn vijf typen stadslandbouw gevormd, die allen inpasbaar zijn in Tuinen van West.

Na deze analysefase konden het eerste ontwerpopties van inpassing van stadslandbouw worden gemaakt. Deze resultaten waren de eerste input voor het action research proces.

De tweede stap van mijn onderzoek bestond uit de verwerking van de feedback van de action research in het ontwerp. Daarnaast heb ik een belevingsonderzoek langs de wegen van Tuinen van West gedaan. Met de uitkomst van het onderzoek kon het ontwerp nog verder aangescherpt worden.

Na deze stap heeft er een omwenteling in mijn proces plaats gevonden. Ik heb er namelijk voor gekozen om in plaats van een oplossing voor de inpassing van stadslandbouw in Tuinen van West meerdere mogelijkheden van de inpassing te laten zien. Daarmee wordt nog duidelijker hoe en op wat voor manier stadslandbouw kan bijdragen aan de toekomst van Tuinen van West en kan inspelen op de kansen van de stad.

In de ontwerpfase heb ik ervoor gekozen om de mogelijkheden van stadslandbouw te laten zien en daarom ook om voor de drie ontwerplocaties meerdere ontwerpen te maken. De in totaal acht ontwerpen laten zien hoe stadslandbouw kan worden toegepast en kan inspelen op de kansen voor de stad. De ontwerpen maken stadslandbouw zichtbaar waardoor stadsbewoners in contact komen met voedselproductie en op die manier bewust worden van hoe voedsel geproduceerd wordt. Daarnaast zullen ze door de inpassing van stadslandbouw het landschap beter gaan beleven en waarderen en kan er een betere verbinding tussen stad en land worden gerealiseerd. Er kan geconcludeerd worden dat er niet één inpassing van stadslandbouw mogelijk is, maar dat meerdere inpassingen mogelijk zijn.

# Summary

The question of where our food originates is nowadays increasingly asked and we often lack the answer. Over time, we have become disconnected with our own food and are increasingly unaware of exactly what we ingest. This has to change which is possible by reducing the steps between producer and consumer. This can be achieved by means of urban agriculture. Urban agriculture is increasingly in the spotlight, but is ambiguous, it can be applied in several ways. This thesis is a research about the implementation of urban agriculture in Tuinen van West. This area is located in the west of Amsterdam, in city district Nieuw West. The choice for this area is based on the fact that the intention for the development of urban agriculture in Tuinen van West is already present. In recent years, Tuinen van West was subject to several developments and therefore a sustainable plan for the future of this area is required.

Knowledge about food production can be seen as an opportunity for the city. City dwellers can come into contact with food production through urban agriculture and thereby gain knowledge about the origin of their food. This way they become more aware of the positive effects of healthy, fresh, locally produced food.

Besides knowledge about food production, which can be seen as a city opportunity, in this thesis two other city opportunities are defined, namely the experience of the landscape and the connection between city and surrounding rural landscape. Through the implementation of urban agriculture these city opportunities can be improved.

During my thesis I have taken several steps, in which I used action research. Action research can be defined as a process of gaining knowledge and information through a process of engagement. Due to the executed action research I have gained more knowledge and understanding of the situation of Tuinen van West and obtained more insight in the possibilities for implementation of urban agriculture in the area.

The process of my thesis started with a landscape analysis of Tuinen van West, with the implementation of urban agriculture in mind. As mentioned earlier, there are various forms of urban agriculture, so I made a definition of urban agriculture for this thesis. With the knowledge on the area, the landscape analysis and definition of urban agriculture five types of urban agriculture could be formed, which all can be implemented in Tuinen van West.

After this analysis phase the first design options for implementation of urban

agriculture could be made. With these results the first input of the action research was made. The second step of my research consisted of processing the feedback of the action research in the design. Besides this a spatial visual experience research was performed along the roads of Tuinen van West. With the outcome of this research the design could be further developed.

After this step, a transition in my process took place. Instead of designing one solution for the implementation of urban agriculture in Tuinen van West I chose to provide multiple possibilities for implementation. In this way it becomes more clear how and in what way urban agriculture can contribute to the future of Tuinen van West and can respond to the opportunities of the city.

In the design phase I chose to explore the possibilities of urban agriculture and therefore to design multiple designs for three locations. The total of eight designs makes urban agriculture visible and give city residents the opportunity to come into contact with food production and thus create awareness of how food is produced. In addition, with the implementation of urban agriculture the landscape can be experienced better and appreciated more and a better connection between city and rural land is realised.

To conclude, there is an ambiguous solution for the implementation of urban agriculture, there are multiple implementation possibilities. The designs provide an indication of the possibilities of implementation of urban agriculture. By making use of several types of urban agriculture and additional landmarks, in the design, it is shown how the city opportunities can be improved.

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# 1 Introduction

## 1.1 Fascination

Before I started my study Landscape Architecture in Wageningen I lived on a dairy farm and was raised on the countryside. I have always been in contact with the open landscape and the production of food.

However the knowledge I have on food production is something citizens often lack. People who were raised in the city are more likely to have less or little contact with the open landscape and have limited knowledge about where food originates and how food is produced.

Nowadays urban agriculture is recognized as a manner to obtain fresh, healthy, locally produced food. In my opinion this is a very positive development in our urbanised environment, where global food production is the standard. Besides the positive effect of visualising the food production, urban agriculture can contribute to a sustainable solution for the future for many places in and near large cities.

As a landscape architect my main interest is on the spaces and places at the interface between city and open landscape and the open spaces within the city itself. Urban agriculture can provide a good integration between these areas.

The choice for my thesis topic is related to my background and interests. I want to focus on how food can be produced near the city and combine this with all the expertise I gained during my study Landscape Architecture.

## 1.2 Site choice

There are a lot of places just outside the city that have relation with the city. These areas are suitable places for implementation of urban agriculture, Tuinen van West is one of them. Tuinen van West is located on the west side of Amsterdam, in city district Nieuw West.

In Tuinen van West the intention for development of urban agriculture is already present. I came in contact with Arja Nobel, project manager of Tuinen van West at city district Nieuw West and she thought it would be interesting for them if I wrote my thesis on the implementation of urban agriculture. This way I could provide them with extra input for their development plans. At city district Nieuw West the people concerned with the developments are curious to what kind of results my thesis could yield.

## 1.3 Purpose

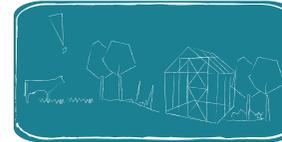
The topic of this thesis is about how to implement urban agriculture in Tuinen van West. This thesis is conducted to gain knowledge about the possibilities of urban agriculture and the possibilities for implementation by landscape architects.

For the city the implementation of urban agriculture can be beneficial in several different areas. In this thesis three city opportunities are defined, namely:

Food production



Experience of the landscape



Connection between city and rural land



Illustration 1.1: The icons used for the three city opportunity

Urban agriculture can have a positive effect on these city opportunities and thereby enhance the knowledge about food production, experience of the landscape and the connection between city and surrounding rural landscape. These city opportunities will be explained in chapter 2.

## 1.4 Urban agriculture

For this thesis urban agriculture is defined as:

**Urban agriculture is the production of fresh and nutritious food around, near and in the city. Urban agriculture answers to the demand of food for the city and is part of the regional and local food system**

Urban agriculture can be implemented in several different ways, for this thesis five types of urban agriculture will be defined that can be implemented in Tuinen van West.

## 1.5 Research questions

This thesis topic is urban agriculture, but the question rose how it can be defined and how it can be implemented. For these issues I have defined two general research questions regarding urban agriculture. Besides the general questions I have defined one research question for each city opportunity.

The general questions are:

What can be considered as urban agriculture in Tuinen van West?

How can Urban Agriculture be implemented in Tuinen van West?

Food production:

How can food production be made visible?

Experience of the landscape:

What can ensure a better experience of the landscape of Tuinen van West?

Connection between city and rural landscape:

What can be done in Tuinen van West to make a better connection between city and surrounding landscape?

## 1.6 Worldview

The worldviews used in this thesis are the pragmatic and constructivists approach.

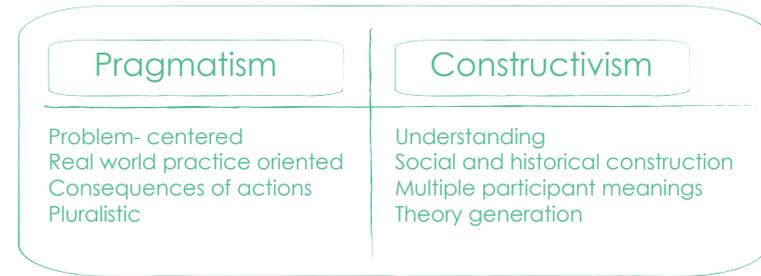


Illustration 1.2: Two used worldviews, (Creswell, 2009, p. 6)

In the pragmatic approach the problem is important, a solution should be found. The emphasis is on the research problem and different approaches can be used to understand the problem. With the pragmatic approach there is no absolute truth, but one which works best for the specific situation. The 'what' and 'how' are important, it is a solution based approach. Practical research questions are formulated and research is done on what works best. The pragmatic approach is not committed to one system or philosophy or reality. A pragmatic researcher can work liberally with quantitative and qualitative approaches and methods. A researcher can choose those methods that provide the best understanding of the research problem. The design and intention within this approach is practice oriented (Creswell, 2009).

In the constructivism approach the understanding of processes is important. Processes and their interactions will be analysed and an interpretation is made. Understanding the context and all aspects involved provides a broad perception of the truth. With this approach there are multiple perceptions of the truth, there is not one truth (Creswell, 2009).

For the construct of the landscape there will be focus gathering as much information as possible about the location. This will be done in the landscape analysis phase. Research about the processes and appearance of the landscape will be based on maps and data. However the interpretation can have a subjective meaning. For example, within this approach social interaction is used for the interpretation and opinion of the people involved. This will be the case during my action research process (Creswell, 2009).

## 1.7 Action Research

I chose to work with action research because this provides the opportunity to engage in an effective dialogue with people who use the environment. At city district Nieuw West a focus groups was formed and all the attendants of my focus group are involved in the discipline of landscape architecture and familiar with the area.

The purpose of this qualitative research process is to understand the possibilities of implementation of urban agriculture and the effects of implementation, like its spatial quality.

The outcome of this thesis will not be one design, but multiple design possibilities, to indicate what kind of opportunities there are for urban agriculture in Tuinen van West. However, the way of implementing, to what extent and in which lay out it has to occur is unknown. The aim of this thesis is to gain more knowledge on how urban agriculture can be implemented and what should be taken into account with the implementation. The action research process will provide more insight on these issues.

## 1.8 Outline of Report

The process of this thesis is divided into three parts.

### Part I Introduction

In Chapter 2 the city opportunities are explained, it will become clear what they are and why these opportunities can be enhanced by the implementation of urban agriculture.

In Chapter 3 urban agriculture is introduced and its different aspects will become clear. In Chapter 4 Tuinen van West will be shortly introduced.

The last chapter of this part is Chapter 5 about action research. Here will be explained what action research exactly is and how it is executed in this thesis. The process will be shown and the steps will be described.

### Part II Results

This part of the report shows the results of the steps taken during my whole thesis. Chapter 6 is the analysis of Tuinen van West. A description of the area is given followed by the landscape analysis. The next chapter, Chapter 7 is about urban agriculture. Here the five defined types are explained and their characteristics are compared. In Chapter 8 the experience research is explained. Along the roads of Tuinen van West a spatial visual experience research is conducted. The result of this research is delineation of desirable locations for the implementation of urban agriculture.

### Part III Design

This part of the report is about the actual design phase, in Chapter 9 important aspects regarding the designs are explained. This is followed by the actual designs in Chapter 10. The design phase is an emergent process, the initial plan will not be followed at all time. The intention to create one plan for Tuinen van West did not work, but it was far more interesting to show multiple possibilities of the implementation of urban agriculture on three different locations, with eight different variants of the implementation of urban agriculture.

The last chapter, Chapter 11 is the conclusion of this thesis, here the research questions are answered, results of this thesis are discussed, recommendations are given and a evaluation is done on the action research process.

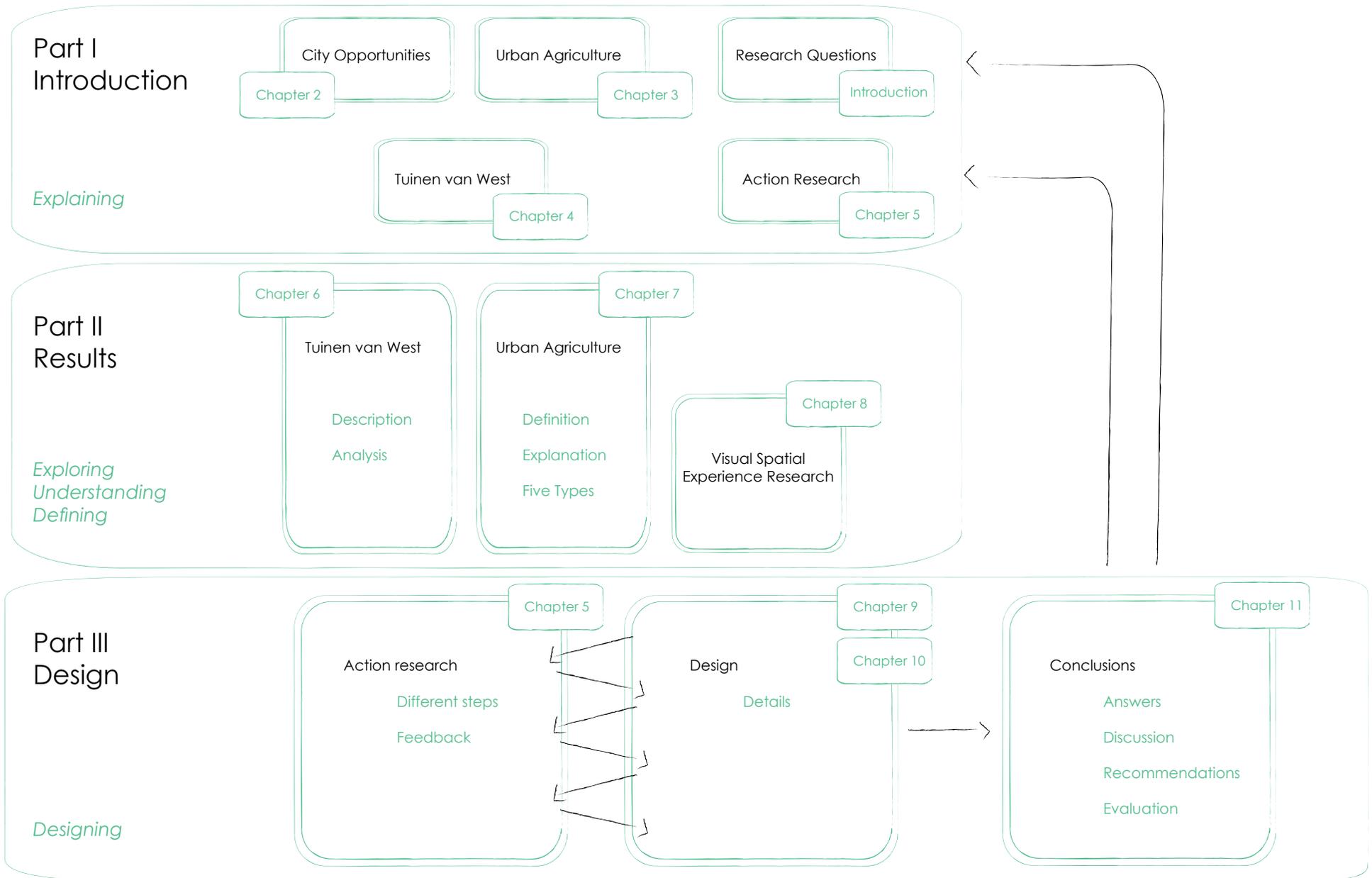


Illustration 1.3: The different part of the thesis





# City Opportunities

# 2

# 2.1 City Opportunities

In the everyday life of our society, there are several issues that can be seen in relationship with the city and its surroundings. These issues can be looked at as city opportunities, that can be beneficial for the future of cities. In this thesis I have defined three city opportunities, which will be explained in this chapter. All these opportunities have been developed through the last past years.

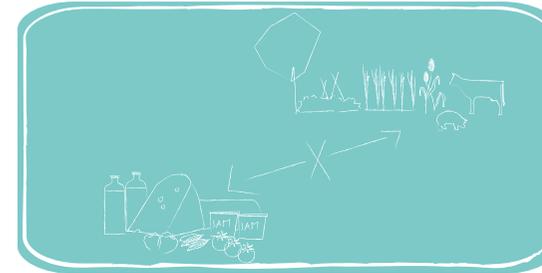
The first city opportunity is about the way people eat nowadays. To be specific it is about what people eat, the amounts of food they eat and the knowledge they have of the food that they daily obtain. According to Steel (2008) our food arrives on our plates as if by magic and we rarely stop to wonder how it got there (Steel, 2008, p. ix). To create awareness under citizens again about what they eat, the whole food production should become visible. The implementation of urban agriculture can contribute to the visibility and therefore provide in knowledge as well as in fresh healthy products.

The second issue that can become a city opportunity is one of recreation. Around all cities there is still a lot of open landscape where people could recreate, however many of these areas can't be entered easily and are not familiar for city residents. To gain a better experience of the landscape outside the city, urban agriculture can be implemented and then provide a better experience of the landscape or surrounding context of the city.

The last city opportunity is about the city developments that are occurring within the last decade. The emphasis of development is not only on the expansion of cities, but also on the development within the cities itself. Nowadays many empty plots appear in, on the border and around cities and provide in open spaces. These vacant locations and the empty places just outside the city could be ideal locations for the realisation of urban agriculture. With the implementation of urban agriculture these locations will have a sustainable fulfilment for the future. Related to this issue is that the development of new neighbourhoods, which have taken place the last decade, form most of the time a very visual barrier with the surrounding open landscape. In the case of this thesis urban agriculture will provide a better connection between city and rural landscape, by making use of the open spaces along the border of the neighbourhood and connect them with the city.

As mentioned before, these three issues can be translated into beneficial opportunities for cities. The three city opportunities will be explained and named as following:

## Food production



## Experience of the landscape



## Connection between city and rural landscape



Illustration 2.1: The icons used for the three city opportunity

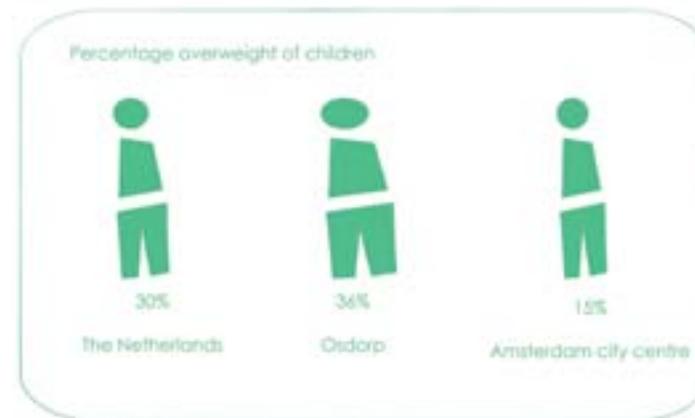
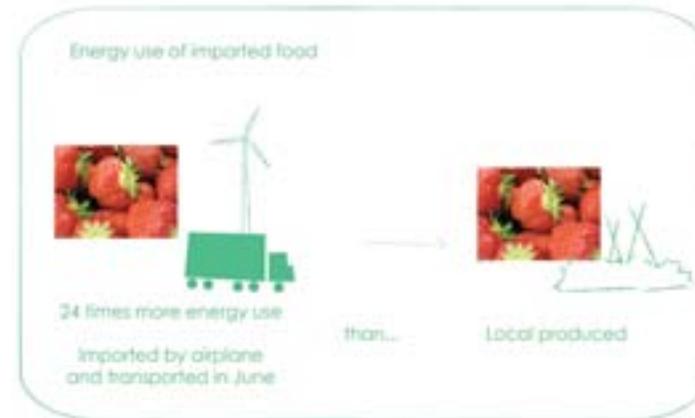
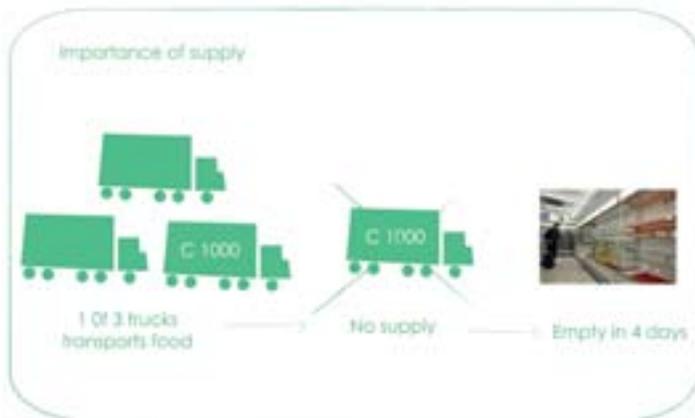
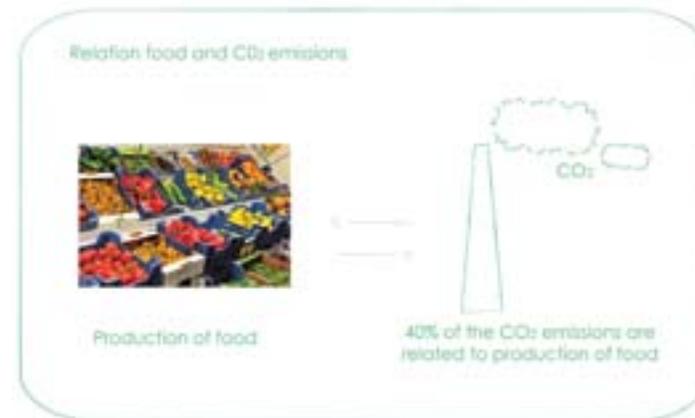


Illustration 2.2: Different facts regarding food (DROAmsterdam, 2011)

## 2.2 Food Production

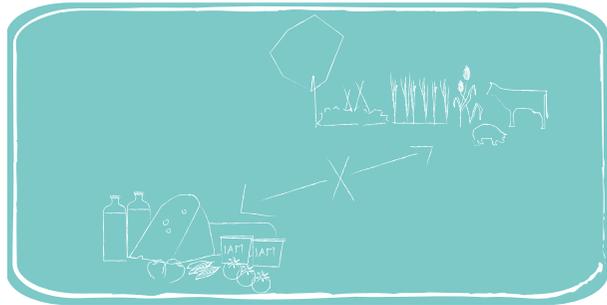


Illustration 2.3: Icon of food production

Nowadays we are living in a consumption society and we mostly consume what the big retail stores offer. The authentic bakery, butchery and grocery have almost disappeared. Due to this development people are less aware of what they eat and what they buy at the supermarket. The supermarket mainly offers produced food instead of fresh food, which leads to a decreased knowledge under the consumers of the food they consume. In other words people have little connection with the food production, and limited knowledge about the issues associated with it (Viljoen, Bohn, & Howe, 2005, p. 21). There is an increased disconnection between consumers and the producers of food. Nowadays there are even children that think that milk comes from the supermarket instead of being produced by a cow. According to Steel (2008), food is the most devalued commodity in the industrialised west, because we have lost touch with what it means (Steel, 2008, p. 51). She states that above all we need transparency in the food system again. For example milk doesn't get into the bottle itself, a transparency of the food chain will make processes visible and understandable again (Steel, 2008, p. 311).

How today the production of our food takes place, is hidden from our view. A worldwide network of producers take care of the food supply and this whole system is practically invisible. Another negative effect is that the products in the supermarket are chosen by a few distributors, we are not able to choose what we want besides the products on display. Also the producers of the chosen products are unknown, so we have no idea where exactly the food is coming from. With the global productions come long transportations, which have a huge impact on the climate. We have no clue

how our food is made and from where it originates, so citizens have become fully detached from the origin of food (Gemeente Den Haag, 2009, p. 25).

According to Steel the modern city dwellers demand is a constant supply of cheap, predictable food and agribusiness has evolved to produce just that. The food we eat today is driven not by local cultures, but by economies of scale, and those economies are applied to every stage of the food supply chain (Steel, 2008, p. 59).

As said before, nowadays people aren't aware of food anymore and due to that disconnection, people lack respect for food. For example, before the industrial revolution people not only thought about food, they were also thinking from food. We have to start thinking like that again. It is important to re-establish the value of food. A way to do this is by bringing people in contact with the production of food which can be done with urban agriculture. The distance towards traditional farmers is too large for citizens to get familiar with them. Urban agriculture however is to be integrated in the urban structure and therefore in close distance to citizens (Gemeente Amsterdam, 05-2010), p. 21).



Illustration 2.4 & 2.5: Respect, appreciation and interest in food

The close distance is needed to re-establish the disconnection between consumer and producer as it is important for citizens to start to get familiar with food production again. Urban agriculture is a simple way to get in contact with food, it can occur in many extends, near or within the city. Urban agriculture, is in contradiction with normal agriculture, a form that is on close distance to people.

A beneficial effect of urban agriculture is that the food chain can be regionalized again. In earlier days food has always played a part in the urban development. How the connection used to be in earlier days is lost nowadays, food and city have become estranged. This disconnection between food and city will have consequences for the climate, economy and liveability of the environment (Gemeente Amsterdam, 05-2010, p. 30).

In *Hungry Cities Steel* (2008) argues that food provide a new structured role. She states that the world is already shaped by food, so we may as well start using food to shape the world more positively. With shaping the world in a more positive way, she refers to the implementation of urban agriculture. (Steel, 2008) Because nowadays most of the people are living in cities, many people have lost their connection with their roots and everything that is happening on the countryside.

When urban agriculture is applied, food is produced on regional and local scale and due to the small scale people can actually see it. The whole chain of production and processing can be made visible to them.

Thus changes have to be made and then the question arises who is able to make those changes? Steel (2008) is convinced that the group of people who can make a difference in the way food shapes cities are ordinary customers, like you and me. It is the money of consumers that drives the food system. We decide what food we buy, from whom, and with this we have a greater influence than we might think (Steel, 2008, p. 150).

If the food production becomes visual people can become aware of the effects of today's way of production. Changes are needed and are within a hand reach, therefore start producing your own food or food for the city on a local base , and help implement urban agriculture.



*Illustrations 2.6-2.8: Children in contact with food production*

## 2.3 Experience of the Landscape



Illustration 2.9: Icon of Experience of the landscape

The liveability of a city depends on the recreational facilities in and around the city, which provide rest and space for residents in close distance to their living environment. The liveability of Amsterdam is in that way related to the metropolitan area in which the city is located. Tuinen van West ( which will be discussed in chapter 4 and 6) is located on the edge of Amsterdam and can fulfil an important function for Amsterdam and its residents as it could be able to improve the liveability (DROAmsterdam, 2010, p. 10).

Cities are surrounded by open landscape which is mainly used for agriculture. However this open landscape can also function as a recreation space for city residents. As there is enough open space people can escape from the busy city for a moment and enjoy the natural landscape. Unfortunately there are some constrains with this experience of the landscape. A landscape in service of the city must be accessible for residents. This to increase the ability for example to experience how food is grown or to experience the agricultural landscape as well as the recreation space (Kamer, 2011, nr 2). This leads to the first requirement of experiencing the landscape namely accessibility. The landscape has to be accessible for citizens to ensure they can go visit and experience it.

By implementing urban agriculture the accessibility of the surroundings can be improved. Urban agriculture can be implemented in such a way that it improves the manner of people accessing the landscape. Urban agriculture has as beneficial effect the ability to improve the liveability according to

Visser et al, (2007). They state that it is important to realise that agriculture not only is something for the city to look at, but also an ability to improve the liveability of the city(A. J. Visser, Dekking, & Jansma, 2007).

Another important factor for a better experience of the landscape is awareness of the surrounding landscape. Awareness should be created by participation, education and communication. As mentioned before in the other city opportunity nowadays the issue of food production getting more important. That issue is related to the experience of the landscape. As people start to know more about food production, for example where it comes from, the place in the landscape where it originates, will be appreciated more and thus the experience of the landscape will change.

When people will visit the landscape that is surrounding their city, they will actually start to know and experience what is happening in this open landscape, they can obtain knowledge about for example how food is grown and produced. Who knows the open countryside because he obtains his food from there, will appreciate it more than someone who only knows it, because he passively enjoys the open countryside as a commuter or a visitor seeking tranquillity in the weekend (Het Landelijk Dagblad, 2010, p. 25-26).

Urban agriculture can contribute to the awareness of the surrounding open landscape where citizens can obtain their food. Urban agriculture provides changes that improve the landscape of Tuinen van West in the future and therefore it can contribute to a better experience of this area. The farms of Tuinen van West are in very close proximity of the neighbourhoods to provide unique experiences of the farm . Urban agriculture is a form of experience agriculture where the relationship with citizens is very important (A. J. Visser et al., 2007, p. 3). Urban agriculture isn't an escape from the urban hectic to the pleasant landscape but more an experience of the combination of rural and urban dynamic, an enrichment of the metropolitan landscape (van der Schans, 2011).

Therefore to improve the experience of the landscape of Tuinen van West urban agriculture can be an important factor. According to Paul de Graaf of Eetbaar Rotterdam (2011) food grown close to home, will give citizens the opportunity to see and experience the process of food production. Thus it can be concluded that when food production is in close proximity you can experience, however if it isn't there people will not come in contact with it (GemeenteRotterdam, 2011, p. 35).

Recreation in the polders, where traditional farms are located, can be combined with an new form of farming, namely urban agriculture. With this new implementation the citizen can gain an unique and authentic experience when recreating in the area (DROAmsterdam, 2010, p. 10).

Urban agriculture can cause that citizens get more involvement with the green elements in the neighbourhood. According to The Netherlands Institute for Social Research (Sociaal Cultureel Planbureau) citizens prefer to recreate in close distance of their living environment. On short distance from their homes they can experience plants growing and flowering, the seasonal changes and discover where their food is coming from. People can start to feel responsible for their own environment (A. J. Visser et al., 2007, p. 4). Urban agriculture can strengthen the relationship between city and landscape and therefore provide in experience with a sustainable solution for the future of Tuinen van West.



Illustrations 2.10-2.12: Experiencing the open landscape

## 2.4 The Connection between City & Rural Landscape

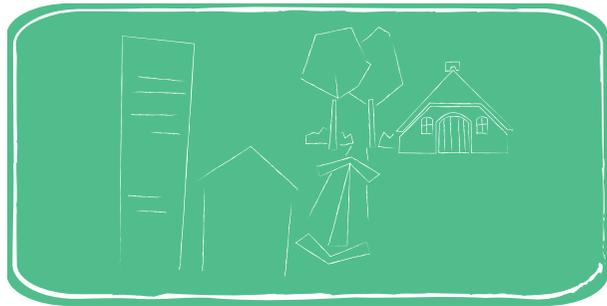


Illustration 2.13: Icon of the connection between city and rural landscape

The spatial development and planning in the Netherlands has a history of clear separation between city and the surrounding landscape. After the Second World War the main Dutch spatial planning policy was to concentrate and cluster, with the emphasis on compact urbanization and restoring the open landscape. Through time this separation and contrast between red (city) and green (open landscape) is extremely well maintained. The majority of all the available open area was used for agricultural purposes and this became iconic for the landscape (J. E. Jansma et al.). The result of this planning tradition is that agriculture is always located in short distance of the city and therefore very vulnerable for city expansion developments. This has also led to extremely sharp fringes between city and countryside, resulting in an increasing distance (mental and physical) between city, citizens and the countryside. Consequence of this increasing distance is that citizens have become estranged of food production, nature and the basic values of rural life, like quietness and the rhythm of seasons (Veeneklaas & Berkhout, 2008, p. 10). It is clear that through time a lot of developments have taken place and the relationship between city and its surrounding has changed. This changing of relationship is a result of developing and expanding cities which led to losing of landscape.

Through of the pressure on the space of the Dutch landscape new neighbourhoods that were realised the last decades, where focussed on themselves or on the city centre. These neighbourhoods are often physical separated from the surrounding landscape.



Illustration 2.14 & 2.15: Sharp separation between city and surrounding land

This results in a sharp separation between urban and rural activities, where in fact the city edge/zone is a perfect area where citizens could get in contact with the agricultural landscape. For example local food production needs the connection and influence of both city and landscape to be able to develop (Holtslag, 2010) (Gemeente Amsterdam, 05-2010, p. 18).

We face a very urban future and have to be aware what that implicates. The most important resource of a city is food, nothing is more essential. According to Steel(2008) the relation between city and landscape in earlier days was natural, however nowadays it isn't present anymore. Before the industrial revolution this relationship was recognized and food supply was the mean priority. No city was built and developed without first exploring where food should come from. Cities were only able to develop on locations where the surrounding area produced a surplus of food for the city. Thus when regarding the history of cities, it should become clear just how closely linked agriculture and cities are (Valentien & Maclean, 2010, p. 221)(Gemeente Amsterdam, 2009).

Nowadays, more than half the world population lives in a city and in the Netherlands already more than 75% of the population. This results in an increasing pressure on still available land. There is a growing need of livable structures for the city and there is a growing demand for recognizable locally produced food (WageningenUR, 2011).

The traditional image of city and landscape where the city is the concentration or focus point of employment, trade, industry, services facilities, working and living and the rural land seen as production landscape for agriculture and nature is not valid anymore (Lensink, et al., 1997, p. 1). The interaction between city and rural land is changing, they become increasingly interwoven The (re) integration of city and agriculture breaks with the old trend of strict

separation of the two, of the red and green or of the food consumption and production. Urban agriculture on the border of urban dynamics and rural tranquillity gives possibilities to new forms of agricultural entrepreneurship which connects food with its surrounding (A. Visser et al., 2007). A statement of Viljoen (2005), 'where we live is where we grow', can be applicable in this sense (Viljoen et al., 2005, p. 97).

Besides the function of production space, a growing proportion of the open landscape is functioning as consumption space by accommodating space for citizens, recreants and tourists. By acting on the needs of these groups, the city and surrounding land can become more interwoven. These interwoven areas are actually the places where the image of agriculture is shaped, and these places are the biggest opportunity to develop sustainable forms of agriculture (Valentien & Maclean, 2010, p. 219).

According to Valentien and Maclean (2010) urban agricultural landscapes that are oriented to the needs of urban residents represent extremely prudent elements of a sustainable city (Valentien & Maclean, 2010, p. 215).

Also Steel (2008) states that of all the resources that a city needs, none is more essential than food. She advocates for using food as a guideline for a new urban development model. According to her food is a social and material instrument to shape the world more effectively. Steel concludes that whatever form human dwelling takes in future the urban-rural paradox will always be at its core, with food as its defining medium (Gemeente Amsterdam, 05-2010, p. 30). That is why implementation of urban agriculture will be beneficial for the connection of city and rural landscape again.

When we have learned about food production, we will realize that the place of food is not in the periphery, but in the heart of the society. This change will also require a review of the relation between city and land (Gemeente Amsterdam, 05-2010, p. 21).

The politicians also have an approach for a more intensive city and land relation. The focus of the approach can be on health, social services and recreation. The politicians see agriculture as the important contributor of the green open space in the urban context. Business, schools and care facilities can play a role as investors, innovation demanders and providers to strengthen the relationship between city and land (SfA, 2011, p. 17).

Urban agriculture should remove the boundary between city and rural landscape in favour of the city. It is important to keep the new relationship of the city and agriculture in mind when implementing urban agriculture. Instead of working against each other, they can strengthen each other (Stedebouw & Architectuur, 2011, p.14).



Illustration 2.16: Connection between city and land and new economic aspects (SfA, 2011, p. 3, from www.xplorelab.nl)

The emergence of urban agriculture marks a turn in thinking of the city developers. Food production returns to the metropolitan landscape, but on a more small scale base and with higher production and experience values. It implicates a gradual transition of city towards landscape (Stedebouw & Architectuur, 2011, p.15).

*Why food?*

*We need food!*





# 3 Urban Agriculture



Illustration 3.1: Impressions of Urban Agriculture

# 3.1 Urban Agriculture

Before going into detail about urban agriculture a definition of urban agriculture is needed: In this thesis the following definition is used:

**Urban agriculture is the production of fresh and nutritious food around, near and in the city. Urban agriculture answers to the demand of food for the city and is part of the regional and local food system.**

When urban agriculture is executed the production, processing and transportation of food can be made visible and tangible. Urban agriculture is for many city dwellers their first encounter with agriculture and can therefore contribute to the integration of agriculture into urban society (Langeveld et al., 2005). In many cities changes are happening related to for example food production at several places artist work at public spaces with urban agriculture. The underlying idea is making people experience the public space in a different way.

Also entrepreneurs see a market in the local food production, for example Willem& Drees, which is an entrepreneur duo (more information about them will be given in the paragraph 3.2). However not only entrepreneurs are taken action, also citizens in the neighbourhood create spots where they grow their own food on small places like squares and around trees in the street. Taking care of our diet, being concerned about our living environment and way of life are often the basics of these initiatives (J. E. Jansma & Veen, 2011).

Urban Agriculture is thriving and according to Han Wiskerke (2008) it can improve the quality of life, as it beneficially influences care, relaxing, sports, education and healthy food. Urban agriculture can be seen as a spatial integration of living and agricultural production in new neighbourhoods (Bayer, 2008). A result is also that urban agriculture contributes to the decrease of the physical and mental distance between consumer and food production. The city utilizes urban agriculture for the local food supply, but also for leisure, health care and maintenance of the green within the city. To conclude; agriculture with a clear reciprocal relation to the city is urban agriculture (J. E. Jansma et al., 2010).

There are several areas of urban agriculture activities and assessments related to economic, social and environmental developments. Here all areas that can benefit from urban agriculture are visualized and a few will be discussed in more detail.

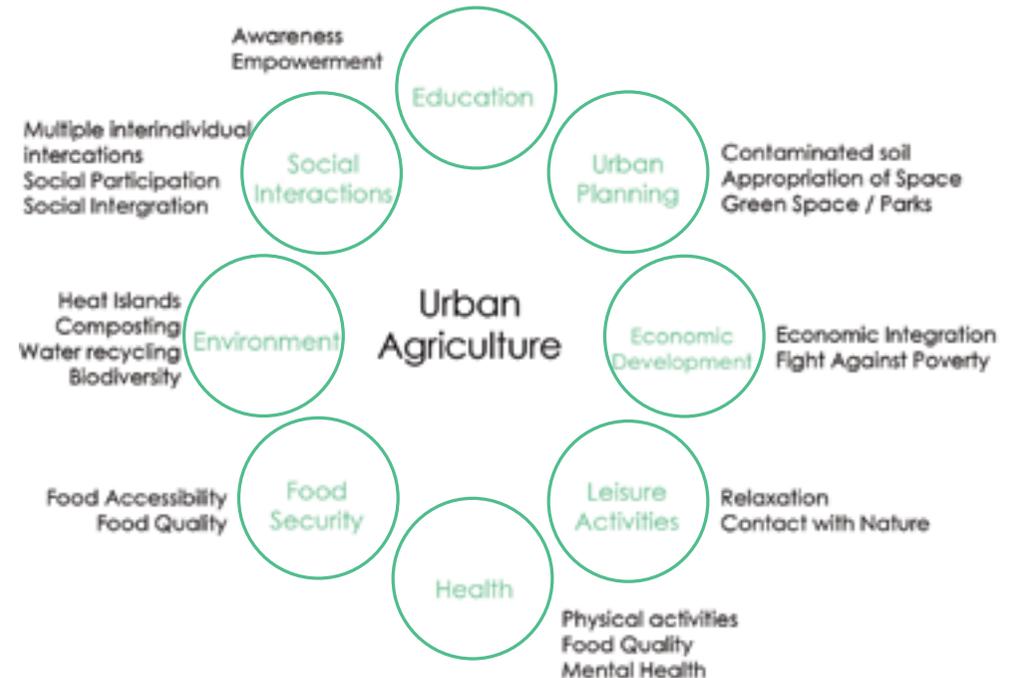


Illustration 3.2: The different areas of urban agriculture activities (Duchemin E., 2009, p. 2)

# 3.2 Areas of UA

## 3.2.1 Social interactions

### Participation

Urban agriculture can have a strong social function. Producing food for themselves or each other provides a way of communication and connection between citizens. People will interact more and therefore get to know their neighbours (Janssens, 2010). Community gardens build reliance and accountability in neighbourhoods. Also it can provide community pride and identity. The social and cultural aspects, like social inclusion, cohesion and interaction will increase due to urban agriculture (J. E. Jansma & Visser, 2010).



Illustration 3.3 & 3.4: Community activities, participation

### Integration

Urban agriculture involves people of all ages and from all sections of the community. Food growing projects have a huge power to bring people together and engender a lost sense of community. They act as a source of learning, and can be an establishment of a relationship between producer and consumer (Viljoen et al., 2005, p. 220). Steel (2008) states that when food loses its social value, it also loses the ability to civilise and bring people together (Steel, 2008, p. 222).



Illustration 3.5 & 3.6: Integration between cultures

## 3.2.2 Environment

Urban agriculture can help to maintain green corridors and spaces, valuable ecological zones and preserve the biodiversity. In the city urban agriculture can help to maintain the environment and green structure in a cost effective way. Because of the regional production and consumption, the transportation will have a reduced carbon use (J. E. Jansma & Visser, 2010). Urban agriculture can even encourage environmental education. According to Valentien and Maclean (2010) it is important to preserve and further develop these qualities. They think it is important to recognize urban agriculture as an urban element and not as a rural relic (Valentien & Maclean, 2010, p. 219).

Urban agriculture gives dynamics and rhythm to the urban green in its own way. The multifunctional character of urban agriculture can help to optimise the use of urban space more efficiently. The positive effects agriculture can have on the city landscape are managing the green spaces in the city, providing recreational environments and enhance the positive effect of the ecology in the city (Croonen et al., 1995).



Illustration 3.7 & 3.8: Maintaining open landscape and education in the countryside

### 3.2.3 Health

#### Food quality

Regarding health issues urban agriculture promotes a healthy nutrition with all fresh products for people in the city. People will learn that products gained from urban agriculture fit in a better and nutritious diet (Valentien & Maclean, 2010, p. 219). Also people may go out more often to get their food, which has a positive effect on the amount of exercise and recreation of people (J. E. Jansma & Visser, 2010).



Illustration 3.9 & 3.10: Obtaining fresh local food

### 3.2.4 Economic development

“A new green area has for a city like Amsterdam also an economic value, especially by attracting and holding employees in the creative and knowledge economic sectors. For them the presence of green is an important reason to establish in the area.”Marijke Vos, alderman municipality Amsterdam

According to Jansma and Visser an economic aspect of urban agriculture is that of the local character. There is local focussed buying and selling of food and food system materials, which will lead to new entrepreneurship and green production (J. E. Jansma & Visser, 2010).



Illustration 3.11 & 3.12: Local initiatives

### 3.2.5 Awareness

There are a few beneficial effects that urban agriculture has compared to the normal traditional agriculture. These effects are mainly beneficial for the city and its residents.

According to Viljoen (2005) it is a fact that when people have access to fresh locally grown fruit and vegetable, they are able to see where, how and when crops are grown. This is likely to raise awareness about food production techniques and provide knowledge which could lead to questioning the advantages of non seasonal imported or processed food compared to locally grown food (Viljoen et al., 2005, p. 60).

With urban agriculture a shorter and more sustainable food chain can be created, which can result in environmental benefits and fewer food miles. Urban agriculture can create opportunities for regional economy, because of the diversification and multi functionality of the implementation and realisation of urban agriculture. The proximity of food production and processing also contributes to greater awareness. It is made visible where our food originates and as a side effect public realisation and awareness can be created. This can also create awareness about the requirements the food production needs. For example the space, energy and water resources that are required for the production and processing of food (Gemeente Amsterdam, 05-2010, p. 30).

With urban agriculture the food production can be made visible far more easily than can be done with agriculture on the countryside.



Illustration 3.13: Seasonal changes in the landscape

### 3.2.6 Different groups of society

Urban agriculture can be beneficial for different kinds of groups in society. The urban agriculture farms can play a role in or be an inspiring place for:

A place where a development chance is offered for children

A place where different nationalities can get in contact with each other.

A working place/ daytime activity for people with an addiction past.

A daytime activity for elderly that suffer dementia.

The care, integration and participation of vulnerable and nuisance groups in urban areas.



Illustrations 3.14-3.19: Different groups that can benefit from urban agriculture





Illustration 3.23: Impressions of urban agriculture activities

# 3.3 Local Production

## 3.3.1 Entrepreneurs

There is no doubt, food and especially the question where it originates and how it is made/ produced has never been as important as today. Nowadays it has become clear how strong food is connected to the daily life in cities. We have become estranged with what we eat. It is important to re-establish the connection there used to be between city and rural land, which we lost through globalization and industrialisation ( SfA, 2011 ) ,p. 56). Local production can help with that.

Two entrepreneurs who are working with local food production are Willem & Drees. This duo provides products of local producers for supermarkets and is focussed on products like potatoes, vegetables and fruit. They work with their own brand name and specific appearance in supermarkets. The sales focus is on distinctive seasonal products of the region. The farmer is made visible by using flyers with information of the farmer. This makes the consumer able to get familiar with the producer of the products. (Schoutsen, Vijn, & Dekking, 2010)

The local produced food is becoming a trend, as other initiatives like Willem & Drees arise, for example Land en Co and MarQt. They all focus on the sale of sustainable and local products.



Illustrations 3.24-3.27: Willem & Drees and their products

### 3.3.2 Something and Nothing

The food world can be divided in a continuum of something and nothing:

Something  
Place



A specialized business

Nothing



Supermarket

Product



Regional product



Microwave meal

People



Restaurateur



Employee of a food chain

Service



Serve the meal



Very fast self service

Illustrations 3.28-3.33: *The food world* (Dagevos et al., 2005, p.35)

The continuum of something and nothing can also be applied on in terms of class and mass food:

Mass Food

Always the same taste  
flavours

Origin ingredients unimportant

Technology is leading

Ingredients adjusted to technic  
quality

Class Food

Richness of different unique  
flavours

ingredients linked with the origin

human care important

Processing is based on natural  
quality

Illustration 3.34: Differences between Mass Food & Class Food  
(Blijham, M., 2004, p. 34.35)

### 3.3.3 Awareness

Urban agriculture, which has a more local character than global production, can provide fresh food with a higher quality for its nearby market. As urban agriculture will have a regional character, the characteristics of the environment will become clearer and visible. The processes of growing, distribution, retail, marketing and buying of agriculture products, will become clearer for consumers when implementing urban agriculture. Within the field of agriculture, the production of organic products is increasing and with this the awareness of the organic way of producing. These changes occur as the resistance of the large-scale intensive agriculture is growing. There is an increasing awareness that biological and small scaled production can have positive effects on environment and wellbeing. The gap between producer and consumer can be decreased with these developments. How and where food is produced is becoming more and more important for consumers. Urban agriculture answers to the demands of the city, while taken farms that are located around the city into account and can give added value to these farms (A. Visser et al., 2007).

This raising of awareness is evident in Amsterdam. There is a growing interest in urban agriculture as shops and restaurants offer local products and farmers' markets arise, all underpinning a shorter food chain that primarily operates at regional level (Gemeente Amsterdam, 05-2010, p. 30). Within the policy of Amsterdam, food is an important spatial planning theme. Alderman Marijke Vos created 'Proeftuin Amsterdam', an initiative where the citizens can taste a bit of the rural land within their city. This is a regional food strategy developed to make the food chain more visible and sustainable. This is done by promoting tastier and healthier food while recommending products from the region and by raising awareness under schoolchildren by teaching them for example what kind of landscape produces what kind of food. The project 'Proeftuin Amsterdam' is just one of many initiatives to make Amsterdam a green, liveable, sustainable and international city of the future (Scheer van der, 2008)



Illustration 3.35-3.37: Impressions of Proeftuin Amsterdam

# 3.4 Agriculture

## 3.4.1 Developments and Changes through Time

After Second World War the food production was primarily based on providing food for people.. In the following decades investments for up scaling were made and high productive farms were established. However nowadays changes are occurring, the production of food has become an economic issue. It is not about crafts anymore but purely about production. The recognition of the negative side effects of production started in 70's and with that the biologic movement started. The changes that are currently occurring are due to pressures caused by up scaling, overproduction and the bio industry. Green products and animal welfare are gaining approval and understanding (Croonen et al., 1995). These current changes have an effect on a different way of thinking; awareness is created about where food is coming from and how it is produced. This is the opportunity for farmers to broaden their farm and contribute to a more sustainable way of producing. The general view of the countryside can change even more with a sustainable way of producing. The awareness has started on a small scale, but overall there is a great unfamiliarity for natural production. Besides all the attention for the processes of food production, farmers are also placed in better perspective. For example the successful program 'Boer zoekt vrouw' gives people a better insight into the reality of living in the rural landscape. The program can also be seen as a kind of marketing strategy for 'Samenleving zoekt boer'. The goal of this program is bringing society closer towards the countryside by making it more visible, recognizable and understandable. (Vuijk et al., 2008)

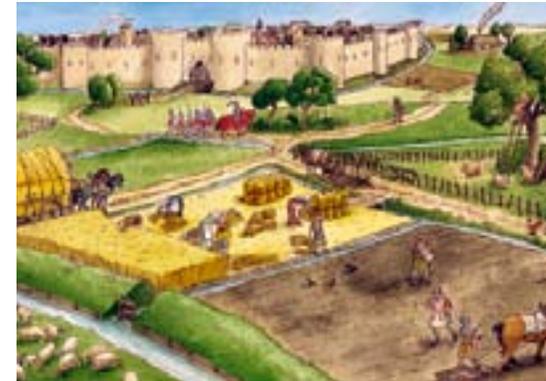


Illustration 3.38 & 3.39: 'Boer zoekt vrouw' participants

Illustrations 3.40-3.42: Development of agricultural farms through time

### 3.4.2 The Farmer

As mentioned already above many changes have occurred in the last decades regarding agriculture. The up-scaling, mechanisation, intensification and internationalization have caused agriculture to lose the role it used to have before, namely the builder and maintainer of the high valued landscape (Croonen et al., 1995). Agriculture nowadays is mainly producing for the national and international market, instead for the city. However the city as market has gained more attraction. With all the global issues and the current situation discussed before it is of importance that agriculture becomes more involved with the city again. For centuries, the farmers had a natural place in the city. That way of living changed with the industrialization in the last century. City and agriculture were separated under the pressure of rapid growth and modernization of cities. Changes are needed again to restore the connection (J. E. Jansma & Visser, 2009). A solution can be found in making the past future again, which indicates that the production of food needs to take place just outside the city, with the result of self-sufficient city which fulfils the urban needs. To return agriculture into the city it requires a change in our thinking and doing (Blauwe Kamer, 2011-2, p. 44-46). The farmer can play an important role within the changes that are taken place due to urban agriculture. According to the project Eetbaar Rotterdam the farmers are at the centre of the food cycle. This cycle offers social (yellow) and environmental (green) benefits that make the city more sustainable and liveable. The urban farmer is a professional that combines agricultural knowledge with an understanding of the possibilities and restrictions of the city (de Graaf, 2011).

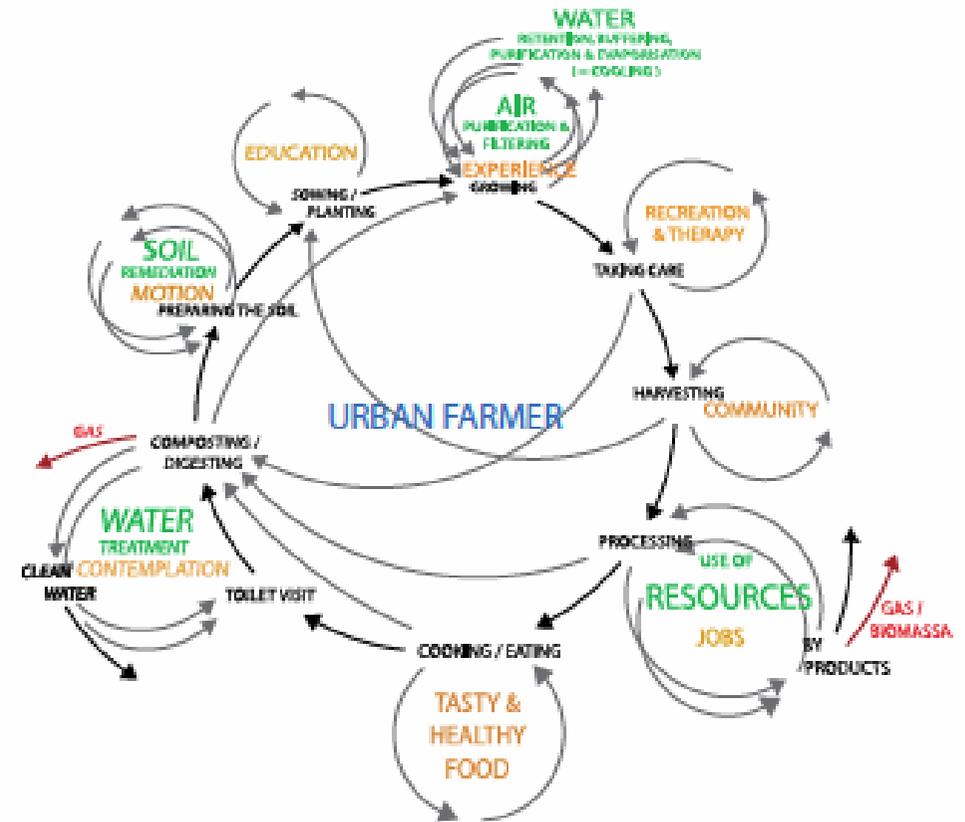


Illustration 3.44: The fields in which the urban farmer is involved (Graaf de, 2011, p.2)



Illustration 3.43: Traditional farmer



Illustration 3.45: Modern farmer

### 3.4.3 Branches of Agriculture

There are several different forms of agriculture; different branches are for example dairy, pigs, chicken, greenhouses, arable lands, floriculture, and horticulture. All these branches have a certain spatial lay out and construct in the landscape. They are of a certain scale as the farms have to be of a certain extend to provide a sufficient income for the farmer. Those forms of large extend agriculture are usually not the ones that provide urban agriculture. Urban agriculture occurs more on a hobby base, for example the more semi farms, like children's farm. Besides different branches of agriculture also different types can be defined.



Illustrations 3.46-3.51: Different branches of agriculture

### 3.4.4 Forms of Agriculture

Croonen defines four different forms, namely the high tech agriculture, current ground bounded agriculture, biologic adapted agriculture and hobby part time agriculture (Croonen et al., 1995). Especially the last two types are very suitable for urban agriculture. In most occasions these two are already producing for a small market or being located in close proximity of the city. Also another division can be made, according to Jansma (2008) there are in the Dutch agriculture and horticulture sector two development directions. On one hand the rationalization, with enlargements and cost reduction and on the other hand the diversified agriculture. The last one is not only focused on efficient production but also on creating a higher value of producing, urban agriculture as an implementation will strengthen this direction (Scheer van der, 2008)



Illustrations 3.52-3.55: The four forms of agriculture  
The bottom illustrations, the biologic adapted and hobby part time agriculture, are suitable for urban agriculture

### 3.4.5 Importance of Agriculture

In the Netherlands there is no policy that protects agricultural fields. In spatial terms agriculture has a second place. This indicates that when developments have to take place the agriculture fields are the first ones to disappear. A contradiction is the fact that agriculture has the important function of providing the city with food as well as a differentiated landscape and contributing in making the city sustainable. City and landscape could have a better symbiotic relationship and urban agriculture can contribute positively to this relationship (Het Landelijk Dagblad, 2010, p. 24).

Agricultural land is often merely seen as land that has not yet been built upon instead of a long term urban component (Valentien & Maclean, 2010, p. 215).

It should be recognized that the agricultural production is an absolute term for the existence of the urban society. The way of production will change, but production should continue to exist (Lensink et al., 1997, p. 16).

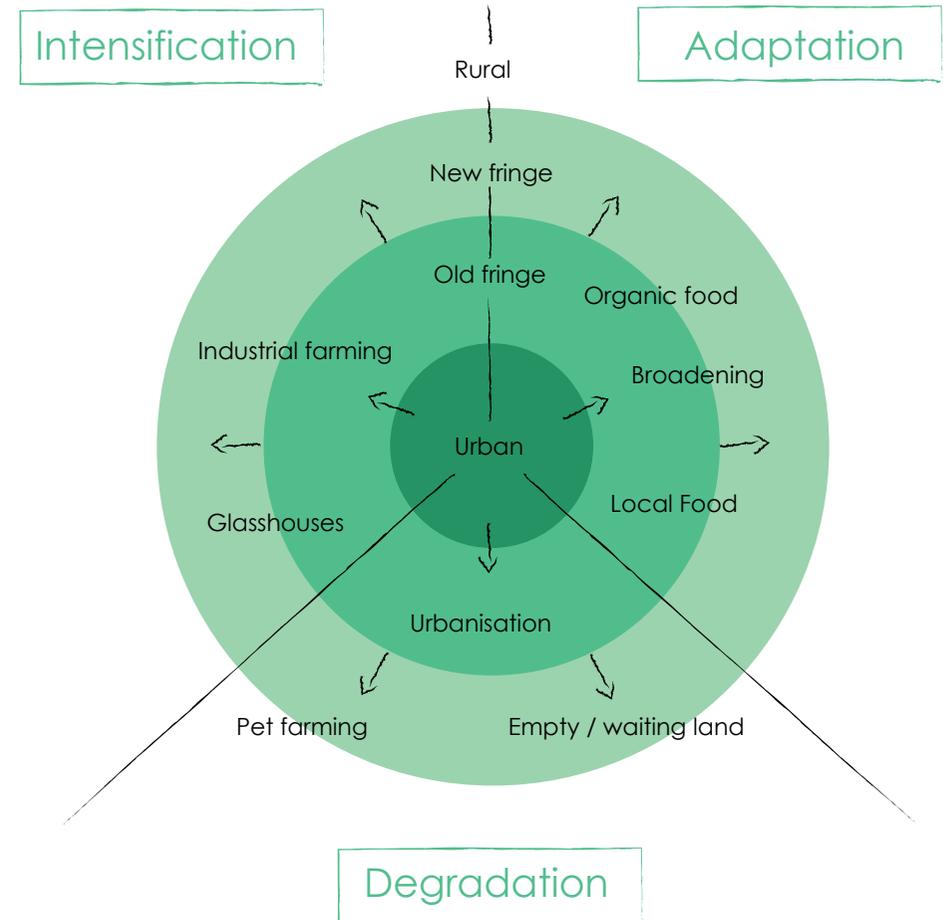


Illustration 3.56: Directions of development for agriculture in the city edge (Holtslag, 2010)





# Tuinen van West 4

# 4.1 Tuinen van West

Tuinen van West is a rural attractive area, with special characteristic elements located in the West of Amsterdam. The 400 hectare big area of Tuinen van West is formed by four polders and is situated between the build-up area of the Westelijke Tuinsteden, the Ringvaart Haarlemmermeer and the Haarlemmertrekvaart. Each of these polders are beautifully maintained remnants of the peat landscape that formerly was located in the west of Amsterdam.

A few years ago the decision was made to develop Tuinen van West into a green recreation area. The principles for the developments were fixed in 'Programma van Eisen' (2008), 'Beeldkwaliteitplan' (2010) and 'Natuurvisie' (2010).

The last years some processes and developments are taken place in Tuinen van West. The current situation of the Tuinen van West is under pressure and this results in an acceleration of the developments. The main factors for developing Tuinen van West into a sustainable green area are mentioned below.

The first factor is the realisation of the Westrandweg, which will cross Tuinen van West and form a barrier. The Westrandweg will be a highway that connects Schiphol with the Amsterdam harbor area and the Coen tunnel. In 2010 a start was made with the construction of the Westrandweg. After completion, the Westrandweg will form an additional visual barrier in the area. The highway is situated on a high dike element and will therefore have an enormous spatial impact. The already existing spatial relationships in the landscape must be maintained or enhanced in the future (DROAmsterdam, 2010).

The second factor is the decrease of importance of the agricultural sector as economic backbone of the area. The last few decades a decrease in the amount of farms and agricultural activities took place, which caused cluttering and a development of small scaled economic activities. Stopping this decrease is possible by giving the area a destination for the future or encouraging the still existing farms to broaden their farms with for example urban agriculture.

The last factor is the developments in the Westelijke Tuinsteden. In 2001 the renewal of the area started and is still ongoing. The renewal is focused on

compaction and densification. With this compaction and the changes in the composition of populations, the requirements and wishes for recreation have changed. The densification and urbanization affects the Tuinen van West (DROAmsterdam, 2010, p. 6 and 10).

The overall goal is to make Tuinen van West, which can now be seen as a fragmented rural city edge, into a contemporary green recreation area. In 'Structuurvisie Amsterdam 2040', the policy intent to stimulate urban agriculture for Waterland, Amstelland and Tuinen van West can be found (Gemeente Amsterdam, 05-2010, p. 15). Currently the city district Nieuw West is working on the development and implementation of urban agriculture in Tuinen van West which is in line with 'Structuurvisie Amsterdam 2040'. With my thesis I want to provide a new input for the whole process.



Illustration 4.1 & 4.2: Impressions of the realisation of the Westrandweg

During my research I didn't use all the policy documents and their restrictions for my research to ensure I would have a blank view towards Tuinen van West. My research can be characterised as looking at everything with a helicopter view. It will be done from a distance and with different knowledge in mind. People of Nieuw West are curious what the result will be.

In Tuinen van West agriculture is still the main land use, which is now more than ever needed to respond to the urban needs. With the implementation of urban agriculture a more efficient supply of food for the city can be created which will result in more efficient spatial developments (Gemeente Amsterdam, 05-2010, p. 15). The implementation of urban agriculture is chosen because agriculture is not foreign in Tuinen van West. Traditionally many gardeners lived in the area and there was a connection with the city for the direct supply of food. This link is still existing, although it is weak. For example the last decades, the Osdorperweg made a transformation, from a majority of horticulture companies to mainly companies that collect car wrecks.

With the choice and plan to invest in the Tuinen van West, a specific character image can be made, and with that they can profile and promote developments for the future. By implementing urban agriculture, the social and physically climate and liveability will be improved. This gives Tuinen van West the opportunity to profile itself as the wedge with urban agriculture in contradiction to other wedges of Amsterdam (the wedges will be discussed in chapter 6) The intent is to create an atmosphere of 'De boer op'.

As it became clear in the developments of Tuinen van West, urban agriculture will have an important role in it. With urban agriculture people can re-contact with production of food and this can make them aware of the new way of producing. Urban agriculture will connect the area with the surrounding neighbourhoods. With the implementation of urban agriculture, there is the possibility to visualize the food chain and connect with the city. Many greenhouses and companies are already located/situated in Tuinen van West and can function as the base for development.

For the future of Tuinen van West it is important that visitors upon entering the area will get a feeling of being outside the city and of entering a quiet area. The openness, the green and the landscape elements provide visitors a place to relax and enjoy. The whole area will have a clear and understandable identity, however it is also important that every polder will be maintained and will improve their own character (DROAmsterdam, 2010, p. 37).



Illustrations 4.3- 4.5: Impressions of Tuinen van West

*Learning  
by  
Doing*





# 5 Action Research

# 5.1 Action Research

## 5.1.1. Explanation

According to Sanoff (2008) participatory action research is proposed as a new paradigm for effectively utilizing the knowledge generated by the community through the integration of design, planning, research and participation (Sanoff, 2000, p. 62). Action research is increasingly popular and accepted. The desire to know is very important and a focus is on the production of new knowledge based on processes of direct engagement. Its motives are simultaneously pragmatic and emancipatory (Deming & Swaffield, 2011, p. 192). Action research is a proactive strategy in which research utilization has social relevance (Sanoff, 2000, p. 63).

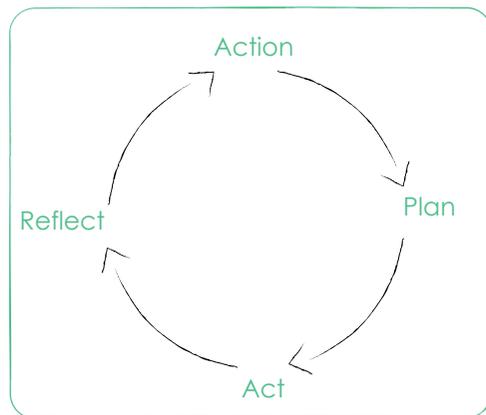


Illustration 5.1: Iterative process of action research

Action research is seen as a cycle of action and reflection, which integrates knowing and acting. It is an iterative process, with affective collaboration and engagement; different reflective stages are worked through. It can be seen as a spiral of steps, each composed of a circle of planning, action, act and reflection on the results of the action (Deming & Swaffield, 2011, p. 192). The actions and effects of these actions are examined/reflected and improved.

People are working together to address key problems of a specific issue. Action research in fact can be seen as a set of practices that respond to

people's desire to act creatively regarding practical and often pressing issues (Reason & Bradbury, 2008, p. 3).

Engagement is an important element within this approach; the dialogue between the attendants is very useful. Practical solutions to issues have to be found and in that regard it is an empirical and logical problem solving process (Reason & Bradbury, 2008). There are different ways of conceiving knowledge, but with all the approaches it is about gaining practical knowledge for practical outcomes (Reason & Bradbury, 2008).

Action research is an empowerment process that involves participants in research and decision making (Sanoff, 2000, p. 103). The people who participate do this because the issue treated is significant to them. Interconnections between different disciplines is very meaningful to gain new knowledge (Deming & Swaffield, 2011, p. 49) With participation action research all relevant parties are involved in actively examining current situations or actions in order to change and improve it. (Deming & Swaffield, 2011, p. 200)

Participation has a few principles that are summarized in the following statements:

- There is no best solution to a design problem
- Expert decisions are not necessarily better than lay decisions.
- The process is continuous and ever changing (Sanoff, 2000, p. 13)

These principles are taken in mind during my process.

People who use the environment should be active participants in the research. This idea is based on the belief that user groups have an expertise equal to, but different from, the expertise of the professional. Conventional design and planning practice usually undervalues the expertise of users (Sanoff, 2000, p. 63). The product is not the end of the process, it must be managed, re-evaluated and adapted to changes that are needed (Sanoff, 2000, p. 14).

The method of action research engages people and opens new collaborative opportunities in which dialogue and development can flourish. (Paassen van, et al., 2011) Participation can be seen as direct public involvement in decision making processes. Using a process of participation can function if it is active and those who get involved experience a sense of achievement. With action research participants have the ability and power to steer and shape research processes (Deming & Swaffield, 2011).

## 5.1.2 Intent

I have chosen to work with action research because it provides the opportunity for engaging in an effective dialogue with people who use the environment. All the participants of my focus group are familiar with Tuinen van West and are involved in the developments of Tuinen van West.

The goal and purpose of my action research is mainly gaining knowledge from the people of my focus group. I wanted to find out what their opinion is regarding the implementation of urban agriculture and how this can be done in Tuinen van West. At the end I looked back on how the whole process of action research went and in chapter 11, an evaluation on the process is given.

## 5.1.3 Execution

The whole process will be one of learning, gaining information and with that there is the possibility of changing my opinion or assumptions. A positive aspect of working together with the focus group is the out of the box thinking, instead of only using my own landscape architect approach. Also it provides a reflection on my work, process and outcomes.

Through my process I organized several meeting with a selected group of people at Nieuw West.

To be able to gain valuable knowledge and have a workable situation focus groups usually consist of a small amount of people that are concerned and familiar with the situation. The group consisted of people that are familiar with Tuinen van West and the developments that are ongoing in the area. Arja Nobel made a selection of participants.

The persons who participated are:

Arja Nobel	Program manager Tuinen van West
Chris van de Hoef	Designer
Pieter Boekschooten	Landscape architect
Femke HaccoÛ	Landscape architect/designer dRO
Niek Bosch	Planner policy team city (Beleidsteam Stad) dRO
Astrid Vermeulen	Senior Policy employee Green and Public Space (Sr. Beleidsmedewerker Groen en Openbare Ruimte)
Luit Tabak	Project assistant
Mike Klazema	Policy employee Urban Development (Beleidsmedewerker Stedelijke Ontwikkeling)
Inge Beelen	Urban Designer (Stedebouwkundige)
Gart Jan Bouwmeester	Project manager

By entering the dialogue with several different persons who are all involved in the developments of the Tuinen van West I gained a lot of extra knowledge on different levels.

The meetings at Nieuw West were based on face to face interaction. Each meeting I gave a presentation followed by a discussion with the whole group or separated smaller groups. It can be characterized as a kind of workshop.

For the process it had to be clear what the role of the focus group would be. The focus group will give their insight on the situation and feedback on the different stages of my process. The next aspects were taken into account through the process.

During the first meeting I explained the process and roles expected from the group. I clarified my expectations of the feedback. These were providing feedback on my results and ideas and giving more insight in the desirable solution for the Tuinen van West. During the whole process it is important to be flexible, to be able to make changes. It is important to respect each others opinion, the meeting will be arranged in a feedback and brainstorm setting, so being open minded to new ideas and opinions is essential. There also have to be clear boundaries to what is possible. Boundary objects are valuable and necessary for action research because they connect the bridging points between the diverse values, languages, expectations, interests and viewpoints of the different actors involved. (Paassen van, et al., 2011)

In the next paragraph all the steps taken will be described and explained. And the next chapters will provide in the results of the steps taken.

# Own Process

## Step I

- Analysis
- Different types of Urban Agriculture
- Three options of implementation

## Step II

- Experience along the road
- Adjustments Urban Agriculture types
- Urban Agriculture Plan

## Step III

- Explanation choices
- Design Principles
- Details different possibilities

## Step IV

- Adjusted designs
- Recommendations
- Answering research questions
- Conclusions

- SWOT Analysis
- Discussion

- Experience
- Phases

- Multiple possibilities
- Total image Sphere

Transition: not one solution, but multiple possibilities

# Action Research Presentations NW

Illustration 5.2: The different steps taken in the action research process

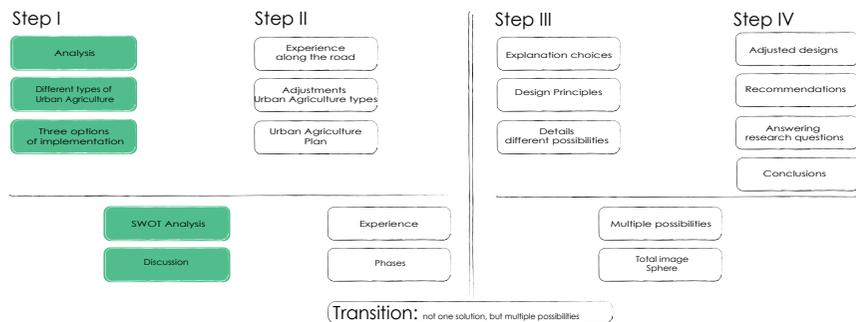
# 5.2 The Process

The action research I have done is based on gaining knowledge about the possibilities for implementation of urban agriculture in Tuinen van West. What are the possibilities and opportunities for urban agriculture in this area? The whole process of action research consisted of three presentations for the focus group in Nieuw West.

I will now shortly explain all the steps I took during the action research process of my thesis, with the feedback that was most useful and noteworthy in the story of this report. All the presentations and the extensive feedback of the meetings are added in the appendix.

## 5.2.1 Step I

Own Process



Action Research Presentations NW

Illustration 5.3: Step I of the action research process

## Content of the presentation

During the first meeting with the focus group I started with an introduction about myself, my thesis topic and the expectations with respect to the process of action research and the contribution of the focus group. After the introduction, the actual presentation could start, during which I first made clear why I chose Tuinen van West and what, in my opinion, was necessary for Tuinen van West.

The outline of the presentation was:

- My definition of urban agriculture

To clarify on what kind of urban agriculture I wanted to focus and how and too which extent I wanted to work with urban agriculture.

- General analysis of the landscape of Tuinen van West

All the relevant issues regarding the implementation of urban agriculture were taken into account. After the analysis I was able to define limiting factors regarding urban agriculture. These limiting factors include the soil and water level qualities and the infrastructure of Tuinen van West.

- Five Types of urban agriculture

With all the knowledge of Tuinen van West, landscape analysis and literature research I was able to define five types of urban agriculture that can be implemented in Tuinen van West.

- Three options for implementation

The outcomes of the analysis combined with the different types of urban agriculture resulted in the first options for the implementation of urban agriculture. Three different options were developed.

After the presentation the attendants were divided into three groups. With a SWOT analysis the three options and the types of urban agriculture were analysed. Maps of the different options were used to annotate and identify positive as well as negative features, the opportunities and threats. We ended with a plenary discussion about all the issues that popped up at the several discussions.

At the end of the presentation I also asked to come up with three questions during the discussion in groups. The answers to these questions were also discussed during the plenary discussion.

## Results of the meeting

From this meeting I gained a lot of knowledge about the situation of Tuinen van West. For example, it became clear that some places are very important and characteristic to the area. These places have to be maintained, so even implementation of urban agriculture is not desirable. However on the other hand the focus group remarked that at some places urban agriculture should be implemented, to ensure maintaining the spot. According to all the people attending the meeting urban agriculture is more than only food production, it can have a lot of side effects and should be profitable. The advice was to take this into account when designing the different types of urban agriculture and take it into account during the whole process. Also feedback on the different types of urban agriculture was given, one comment for example was given on the type City Park. This type was not clear for everyone and had to be defined better. I had to take into consideration that I should not

design a second Sloterpark. Within the types of urban agriculture more differences had to be made, the city park and experience type were too similar. All types should have the atmosphere of urban agriculture to some extent. Also a lot of ideas popped up, for example the idea of a 'Superboer'. The area could function as a supermarket for the city in which several farmers all produce their own specific products. People could go to Tuinen van West to obtain their groceries at several farms.

The questions and main answers to the questions discussed are:

- Make a top three of what urban agriculture should mean for Tuinen van West:
  - Urban agriculture is agriculture close to the city, which means a short distance of transport. Urban agriculture facilitates people in gaining knowledge about how crops are grown. For gaining experience citizens can go to the farmer and get familiar with urban agriculture.
  - Urban agriculture can contribute to maintaining the openness of the landscape of Tuinen van West. Urban agriculture can be implemented as a form of management by a farmer to maintain the landscape.
  - Urban agriculture is concerned with food production in combination with care and recreation. It will give a variation in experience and provide alternation.

- Are the designs of the different options in correlation with the existing landscape?

For designing it is important to focus on the landscape with implementation of urban agriculture. The entertain factor of urban agriculture is a possible secondary effect, the landscape conditions are most important to take into consideration. For the designs all the places of Tuinen van West should be taken into account, so a statement should be given for every part of Tuinen van West. Another element that has to be taken into account are the existing greenhouses. The landscape in Tuinen van West have a lot of experience to offer, but it is the people who have to actually experience it.

## 5.2.2 Step II

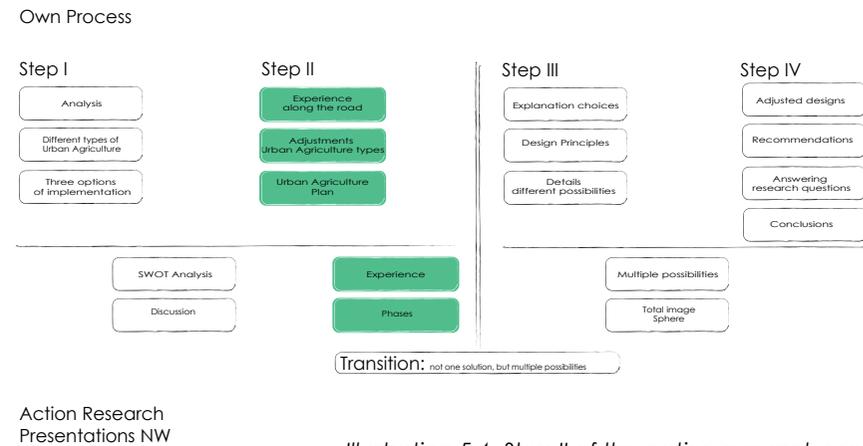


Illustration 5.4: Step II of the action research process

During the second presentation the focus was on the adjustments made in contrast with the first meeting and the elaboration on the urban agriculture plan. After the presentation a plenary discussion started about the progress and design I made.

The outline of the presentation was:

- Feedback and conclusions of the previous meeting
- The urban setting of Tuinen van West, the imbedding of the entrances of Tuinen van West
- Spatial visual experience along the roads in Tuinen van West
- The adjusted and tightened different urban agriculture types
- Characteristics of the types in relation to the others
- One new version of the urban agriculture plan
- The development of urban agriculture in Tuinen van West in phases
- Stepping stones through the whole of Tuinen van West

## Results of the meeting

An important outcome of the meeting was that I made a lot of progress. The types of urban agriculture were better executed and defined. However, a remark was made that it is important that the image you show of each type is in correlation with the idea people should form of the type of urban agriculture. The image and the idea behind the types have to correspond with each other and convince people.

The attendants liked the fact that the whole of Tuinen van West was taken into account, however it is important to make one coherent plan and create unity with the different elements, for example the dike entities through the entire plan. The development in phases was seen as nice additional information.

The idea of the stepping stones can create one story throughout Tuinen van West. People have to be triggered to really explore whole Tuinen van West; this can be a selling point. These stepping stones can tell the story of urban agriculture.

The spatial visual experience research is very useful, since it provides more information about the condition of the area and the interesting places become clearer.

For the type City Park the comment was that it can be realised in many different forms, it is interesting to show these possibilities. And it is important to take into account the existing landscape with its different characteristics and parts. The different landscape entities should not be separated by the designs. The landscape entity in the northern part of Tuinen van West has very attracting factors, which can be used in the designs. The experience research and the phasing part of the presentation were very well appreciated and considered useful within my plans.

## 5.2.3 Transition

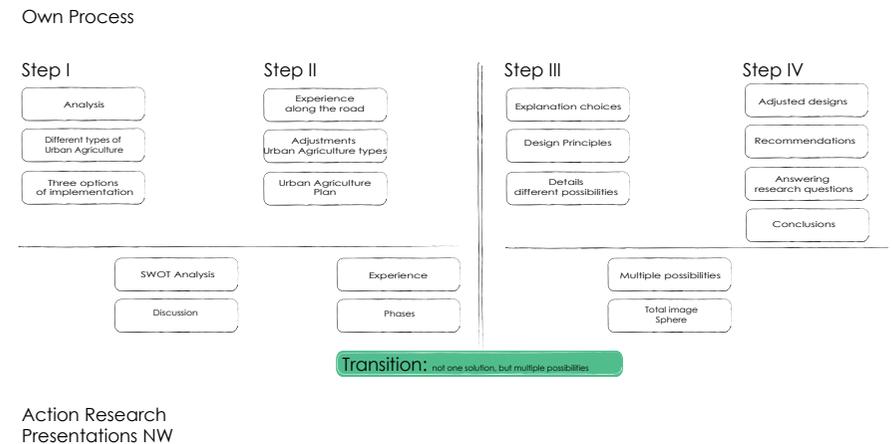


Illustration 5.5: The transition in the action research process

Throughout the process it became clear that working with one design for an urban agriculture plan was not going to work, and would not give the desired outcome. I was not able to make solid substantiated choices for locations and I could not frame one complete detailed plan for the implementation of urban agriculture. Therefore, a transition in the whole process took place. Creating one plan with one implementation of urban agriculture in Tuinen van West, which would result in one solution, was not desirable. No such thing exists as one solution for urban agriculture implementation, there are multiple possibilities and it is more desirable and useful to show these multiple solutions. Also the developments that are taking place at Nieuw West should be taken into account, it is far more desirable to show different opportunities than one solution. At Nieuw West it is being explored how urban agriculture can be realised in Tuinen van West, with showing different possibilities some ideas and solutions can be gained.

With this in mind I started to work on the different possibilities for implementation of urban agriculture. Locations were chosen for the design phase and for each location multiple designs were made. All the newly gained input was used for the third presentation in Nieuw West.

## 5.2.4 Step III

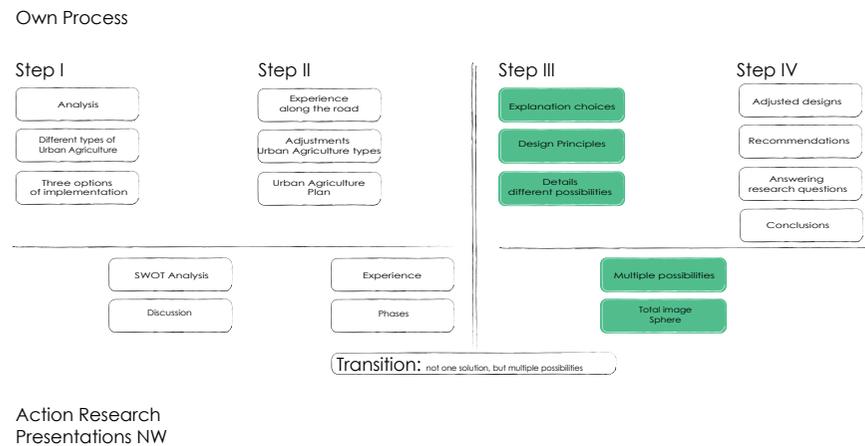


Illustration 5.6: Step III of the action research process

## Content of the presentation

The main focus of the third presentation was on explaining my choices for the transition in the process and explanation of all the design I made. First I gave my presentation and afterwards we discussed all the designs that I displayed on the wall of the meeting room. After explaining one of the design variants we discussed the design together and in the end a comparison of all the designs was made and a discussion followed. In these discussions there were some leading questions, which will be answered below.

The outline of the presentation was:

- Reflection on the first and second presentation and the feedback of the last presentation
- Explanation of the transition in the process
- Explanation of the city opportunities
- Explanation of these opportunities in combination with The implementation of urban agriculture
- Explanation of location choices and design principles
- Provisional answers to the research questions
- The importance of awareness
- Explanation and argumentation of all the design options and variations of implementation of urban agriculture

## Results of the meeting

The focus group was in favour of the transition made in the process. The decision to show multiple possibilities and give multiple options for the implementation of urban agriculture in Tuinen van West was very much appreciated. An important other outcome of this meeting was the fact that urban agriculture should provide the right atmosphere. A variety of can come to mind when thinking about urban agriculture, these are rather specific images and ideation. The different designs should be able to enhance this image so that a good association can be made with urban agriculture. The total image should be correct.

Each design was explained separately and immediately discussed afterwards. For all the design options the focus group had useful feedback. Not only about the actual implementation of the variations and the technical realistic implementation, but also the differences between the designs and the correlation with the neighbourhood and surrounding context. We discussed the design layout and structure of each design and the differences in implementation.

At the end of the presentation I also asked the participants to come up with five questions during the discussion of each design. Below the question and outcomes of the discussions are given:

- Which experience of urban agriculture is essential?

The complete picture of urban agriculture has to be right and complete, people should be able to recognize it. As mentioned before the atmosphere is very important, the image in mind has to be coherent with the actual situation to get an optimal experience of urban agriculture.

- Which variation shows the most desirable implementation of urban agriculture?

There was not one most desirable implementation. There was a slight preference for the Urban Agriculture Park of detail I, however according to the focus group all designs contained some very interesting parts.

- Is enough connection created with the neighbourhood?

The focus group thought it could be very useful for detail III to take the neighbourhood into consideration more, to be able to form a gradual start of urban agriculture in the neighbourhood. Also a connection should be made with the business park.

- The most important positive and negative elements of each detail?  
 During the discussions of each design several points were mentioned and comments were made. For some combinations of elements and implementations it should be considered if this is the most logical choice. For some of the options elements should be switched, to get more coherent designs. For example in detail I several elements of the Estate and Urban Agriculture Park could be combined better. More specific comments are explained in the appendix.

- How is the spatial impact and experience for each design?  
 According to the focus group this is different for each design. When a whole new structure was placed on the landscape the spatial impact and experience was very different than when implementation was adjusted and became part of the existing landscape.

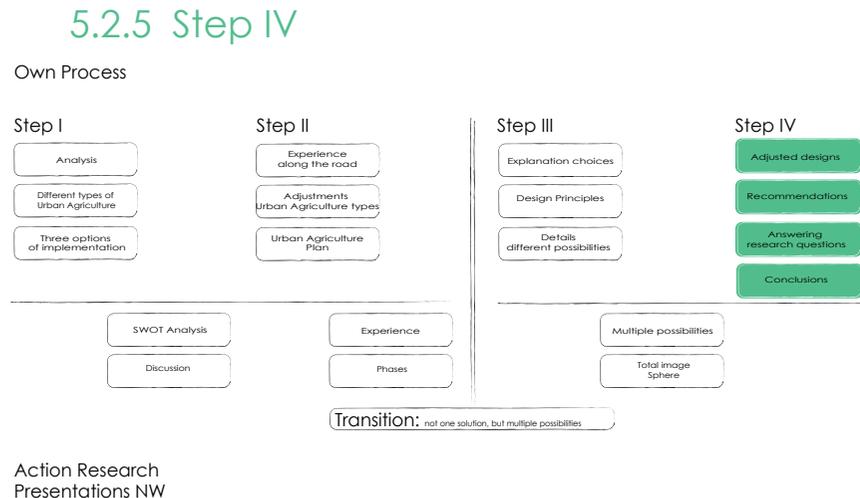


Illustration 5.7: Step IV of the action research process

In the last step of the process I have taken all the feedback into account and adjusted the designs. After the completion of the designs recommendations could be made about how to implement urban agriculture. At the end of the process the research questions could be answered and conclusions regarding the whole thesis process could be drawn. During the last step I went to Nieuw West once more. Because the landscape architect Pieter Boekschooten was not in the opportunity to attend the last meeting I went to Nieuw West again after revising the designs with the

feedback of the third and last presentation and discussed the details with him. The most important feedback he gave was the following:

- Show the relation with the plans that were made in the past. The Algemeen Uitbreidings Plan(AUP) was already talking about the importance of food production, take this into account.

- The Osdorperbinnenpolder Noord is a very specific area, urban agriculture will fit here very well, make use of that. The Urban Agriculture Park of detail I is a whole new park system that can tell a story, make use of that and tell the story. The implementation of urban agriculture in this design has characteristics of the English Landscape Garden/Style. The places of urban agriculture are like islands within the whole structure, they are a kind of chambers where something takes place. Within this story of chambers 'Roeden 1800' and the location of the teahouse should be taken into account.

- The designs of detail II are not correct, they do not fit in the landscape. The design should correspond with the landscape patterns, so it can function as a part of the landscape by fitting into the structures of the existing landscape. The borders of the design are now chosen randomly and do not correspond to the landscape or the structure of the landscape. The connection between city and land can be figurative in detail II, because there is no literal connection with the neighbourhood. Here the connection can be made between the build-up settlement ribbon and the surrounding landscape.

- Experience can be a difficult subject in designing with urban agriculture. It is important to look at the landscape and take it into account or to design a whole new, different structure. The design can refer to the landscape, but can also be something totally different, a newly added structure to the landscape that can be experienced.

All these comments were taken into account, but I was not able to implement them all. For detail II this would entail making totally new designs, which was not possible anymore in that part of the process





# 6 Analysis

# 6.1 Analysis

With an intensive landscape analysis I have gained more knowledge about the spatial layout, identity and character of Tuinen van West. I have looked especially at all the relevant issues regarding the implementation of urban agriculture. Although it is a general landscape analysis, the issues related to urban agriculture are taken into account. I haven't looked specifically at things separately, but at the relationships among things.

Already a lot of information is available about the location, but I will do my own research as well. Looking at the landscape myself and analyse it instead of taken the information available for granted. I want to make my personal vision about the Tuinen van West, because than I can construct an own argumentation about how and why to implement urban agriculture in a certain way in the design phase.

With all the knowledge of the analysis of Tuinen van West, I was able to define limiting factors that would influence the implementation of urban agriculture. After paragraph 6.5 every part of the analysis will be explained and conclusions will be formulated regarding each part and as a result the limiting factors will become clear. Before starting with the analysis more background information on Tuinen van West is needed. Therefore first a more elaborative introduction is given of Tuinen van West, containing some background information about history and development.



Illustration 6.1: Location of Tuinen van West



Illustration 6.2: Historical map dated from 1739 (Speet, 2010)

# 6.2 Tuinen van West

In 2006, Tuinen van West is the name chosen by the coordination team (stuurgroep) Tuinen van West for the green recreational area that is going to be developed within the next few years. This coordination team was directed by the city of Amsterdam, district Geuzenveld-Slotermeer and Osdorp. Until 2006 the area was named 'Westrand'. The area of Tuinen van West is formed by the four polders between the build-up area of the Westelijke Tuinsteden, Ringvaart Haarlemmermeer and Haarlemmertrekvaart. It is a rural attractive area with special characteristic elements.

At this moment Tuinen van West is a very diverse city edge area. It is a varied small scaled landscape with an open character and contains all kind of different elements like arable lands, meadows, allotment parks and greenhouses (Gemeente Amsterdam, 2009).

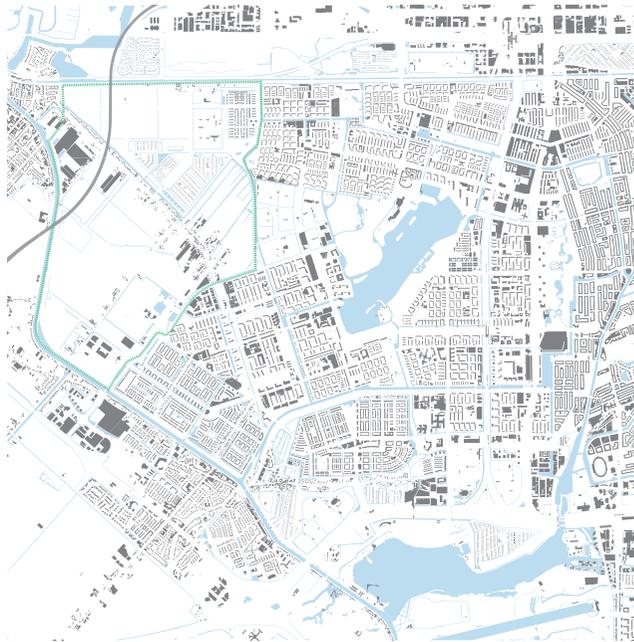
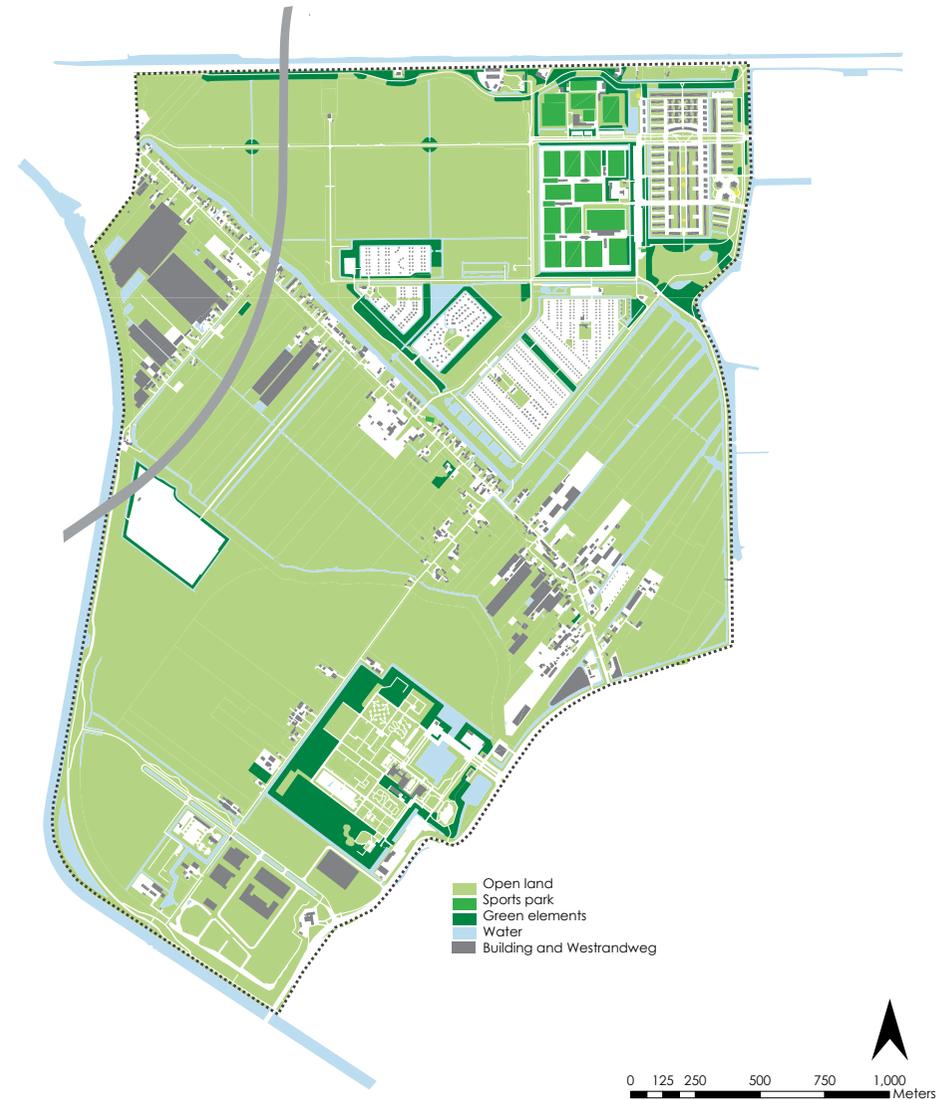


Illustration 6.3: The borders of Tuinen van West

## General Map of Tuinen van West



## 6.3 The context

Thousand years ago a impassable peat fen was located in the west of Amsterdam. From the Kennemerland the land was claimed and around 1100 Osdorp was founded. Amsterdam is located in the west of the country and with that in the lower part of the Netherlands. To be able to live in these lower parts of the Netherlands land had to be reclaimed. Already in the middle ages in the area of Tuinen van West the extraction of peat started, but increased within the sixteenth century. The dredging of peat far under the groundwater level resulting in degradation of the land. In the nineteenth century the peat claiming was combined with new reclamation, which resulted in a series not completely peat claimed polders with rational parcelling like the Osdorperbovenpolder.

In 1567 the area between the IJ and Osdorperweg was diked and the Osdorperbovenpolder dates from the same period, namely 1570.

The Haarlemertrekvaart was digged in 1631, the polder south of this water was named Osdorperbinnenpolder.

After the reclamation of the Haarlemmermeerpolder in 1852, the Lutkemeerpolder followed. The youngest polder, the Lutkemeerpolder origins from 1865 and was created by draining the Lutkemeer (DROAmsterdam, 2010, p. 19).

In 1896 the disappearing of peat in Osdorperbovenpolder started. After completion a start was made in 1920 with Osdorperbinnenpolder Noord, which was completed in 1941. The parceling in blocks was an experiment for the design of the Noordoostpolder (Gemeente Amsterdam, 2009, p. 8).



Illustration 6.4: Historical map (DROAmsterdam, 2010, p. 6)

## 6.4 The Wedges

Through time Amsterdam has been through huge developments. From the glory days in the golden age Amsterdam developed as a city. The spatial layout of Amsterdam is special as well. The development of the city started around the canals and expanded around the already existing city towards the surrounding countryside, as a zoning pattern. Due to the expansions, the typical layout of the wedges was developed.

The current urban area around Amsterdam is build-up of urban lobes and between these lobes, green wedges enter deeply into the urban structure from all different directions. This structure of wedges originates from Algemeen Uitbreidings Plan (AUP), that was made by the city planner Cornelis van Eesteren and presented in 1934. He designed a plan for a large garden city belt (tuinstadgordel). The ideas of AUP are still recognizable within the urban structure and are an unique element as it is not seen in other cities (Architectuur Amsterdam, 2010).

Characteristic for the main structure of the AUP are these green wedges. The city grows and expands in the shape of a hand where the fingers are residential areas with between them green wedges. These wedges provide the residents easy access to open and green spaces.

The AUP is distinguishable from all the other development plans, as it is a total plan where all aspects of urban life are taken into account. These aspect are for example living working, infrastructure and recreation (Speet, 2010, p. 66).

During the development of AUP food production was seen as a natural connector of the city and the surrounding land. The presence of greenhouses and horticultural companies in close proximity to the city, was of importance for the urban supply of fresh vegetables. The area Osdorperbinnenpolder was assigned as agricultural land and until the sixties horticulture was part of the spatial policy. After 1986 the agriculture land disappeared in the spatial planning as developments of the city, nature and recreation were favoured. At this moment changes are happening as due to urban agriculture several bottom-up initiatives for producing food in the city and for the city pop up. Also just outside the city the traditional agriculture is re-focussing on the city again (Gemeente Amsterdam, 2009, p. 8).

As the wedges of Amsterdam enter the city towards the city centre, it is possible to reach a green area within ten minutes from the city centre. This structure is very unique and therefore it is of high importance to maintain these wedges and to strengthen them and their recreation purposes.

Unfortunately there are some constrains as the wedges are under pressures and infrastructure is crossing them. Another constrain is that in some cases they aren't well known (Metropolitane Landschap, 2007, p. 40-41). Nevertheless the wedges are an important part of the recreational network of Amsterdam. The citizens use these green wedges to enjoy the landscape, the rest and the space they provide. In the wedges many recreational and landscape facilities are present that provide a vital and liveable landscape (DROAmsterdam, 2010, p. 10).

As mentioned before Amsterdam's green structure is built up according to the structure of wedges and the Tuinen van West are located within one of these wedges, namely the Sloterscheg. The Sloterscheg are the polders between Geuzenveld-Slotermeer and Osdorp, and between the ringvaart Haarlemmermeer and the Haarlemmervaart. The most important function of this wedge is recreation. It consists of two parts: the Tuinen van West, which is located near the city edge, and the actual beginning, which is located within the Westelijke Tuinsteden near the Sloterplas and sports park Ookmeer (DROAmsterdam, 2010, p. 10).

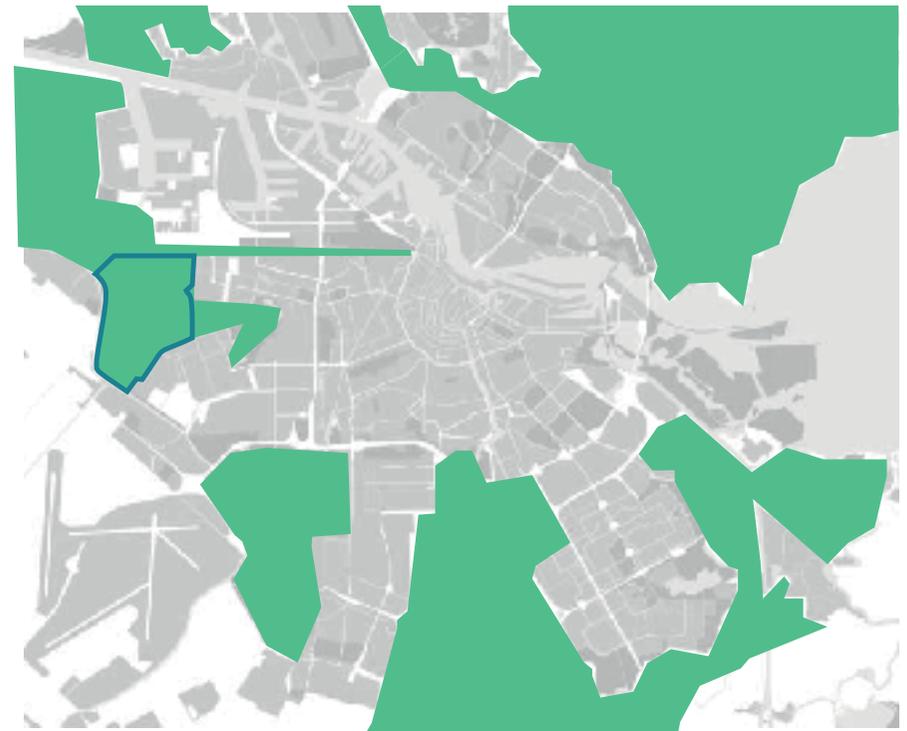


Illustration 6.5: The wedges structure of Amsterdam

# 6.5 Westelijke Tuinsteden

Between 1935 and 1970 one of the largest urban expansion of time was developed in the west of Amsterdam which was designed by Cornelius Eesteren and part of the Algemeen Uitbreidings Plan (AUP). Typical for this design were the elongated residential buildings. All residents would equally benefit from light, air and space. The standardized housing was combined with public outdoor space, because living and recreating were important factors. The Westelijke Tuinsteden are grouped around the landscape park Slotermeer, as a natural component in the plans (ArchEX, 2011).

De Westelijke Tuinsteden border on the Tuinen van West and therefore its residents will be the largest user group of Tuinen van west. In 2001 the renewal of the area started and still ongoing. The redevelopments result in a new groups of residents. The densification and urbanization affects the Tuinen van West as the context of the area is changing from city edge to landscape park, which results in an intensification of the facilities for urban recreation (DRO Amsterdam, 2010, p. 10).



Illustrations 6.6-6.8: Westelijke Tuinsteden and its residents

# Polders

Tuinen van West is divided into four polders, which vary in history, land use and function. The characteristics of the different polders are very explicitly visible and recognizable. The differences are taken into account in the designs. All special elements of the different polders will be maintained and used to define the different polders in an even better extend. The four polders will be explained on the next pages.



Osdorperbinnenpolder Noord



Osdorperbinnenpolder Zuid



Osdorperbovenpolder



Lutkemeerpolder

Illustrations 6.9-6.12: Impressions of the different polders

## The Different Polder of Tuinen van West



# Osdorperbinnenpolder Noord

The Osdorperbinnenpolder Noord was completely dug out at the beginning of the 20th century. The parts that still have an agricultural function are used for arable land or livestock farming. Several allotment gardens are located in this polder. These gardens are hidden in the closed worlds behind green hedgerows. Little is visible of the gardens, however there is the possibility to take a walk on the complexes and see the gardens.

Another element in the polder is sport park De Eendracht, which is located in the south-east part of the polder. The sports park will be transformed in the coming years, but how this will be done is not yet certain.

Characteristic elements in this polder are the lanes of ash trees. The parceling pattern in blocks of this polder was an experiment for the design of the Noordoostpolder. The dimensions of Osdorperbinnenpolder are very unique and therefore have to be maintained.

In the north of the polder the cultural area of '1800 Roeden' is located. Here are several activities, like gallery and restaurant, located.

Near this polder in the east a park called 'De Kuil' is situated. In this thesis this park will become the location where part of the activities of the polder will take place.

In the west of this polder, the Westrandweg will be realised and this will cross the Osdorperbinnenpolder Noord. to compensate the area that is lost to the Westrandweg, there are wetlands created on the west side, These wetlands play an important role within the whole ecological structure of the Groene As (DROAmsterdam, 2010, p. 34).

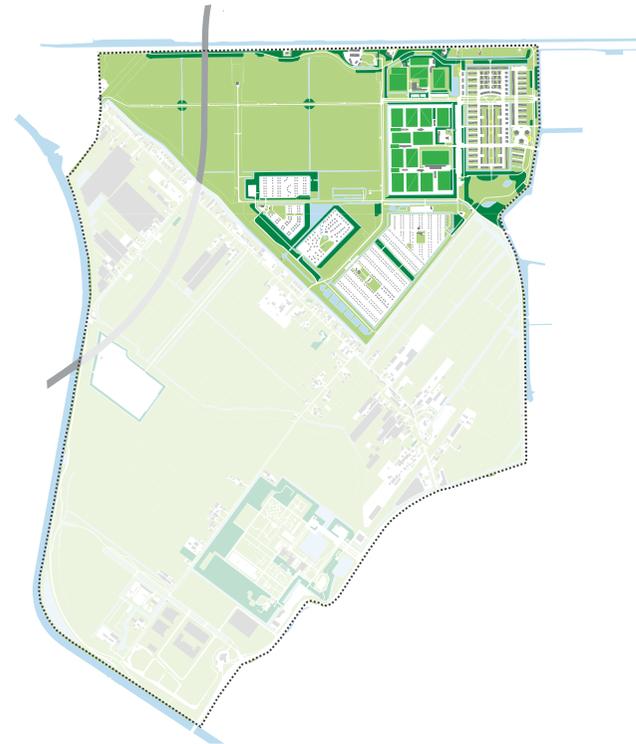


Illustration 6.13: A lane of ashes in Osdorperbinnenpolder Noord



Illustration 6.14: Meadows in the Osdorperbinnenpolder Noord

# Osdorperbinnenpolder Zuid

The Osdorperbinnenpolder Zuid hasn't been dug out and is the largest peat land in the Tuinen van West and the west of Amsterdam. The area has both an exceptional cultural historic and natural value, but also extensive livestock farming is still present (GemeenteraadAmsterdam, 2008).

In the polder eleven threatened bird species can be found, the high biodiversity is caused by the differences between wet and dry parts. Seasons dictate presence of the different birds. In the spring breeding birds are present, in the fall migrating birds and in the winter the birds that stay. Looking in all directions the polder is visible, except for places where the build-up ribbon settlement is blocking the view. This polder has a nice landscape in close distance to the city and is/could be sometimes seen as a living painting in the urban frame (Gemeente Amsterdam, 2009) , p. 14).

For this polder it is important that the visual open landscape is maintained.



Illustrations 6.15-6.17: Impressions of Osdorperbinnenpolder Zuid

# Osdorperbovenpolder

The Osdorperbovenpolder is a partially dug out polder. the middle part of the polder was/is mainly used as pasture and has special ecological values. The Osdorperweg is the most important linear build up ribbon settlement (bebouwingslint) through the area. Expansion or development along this road has led to business premises and greenhouses prominently entering into the polder at several places. The build-up ribbon settlement now has become a combination of the old ribbon (lint) with rustic buildings and the greenhouses and garages that were built in between the old ribbon The open character of the polder has suffered under this development. Nevertheless at a few places the open landscape is still visible.

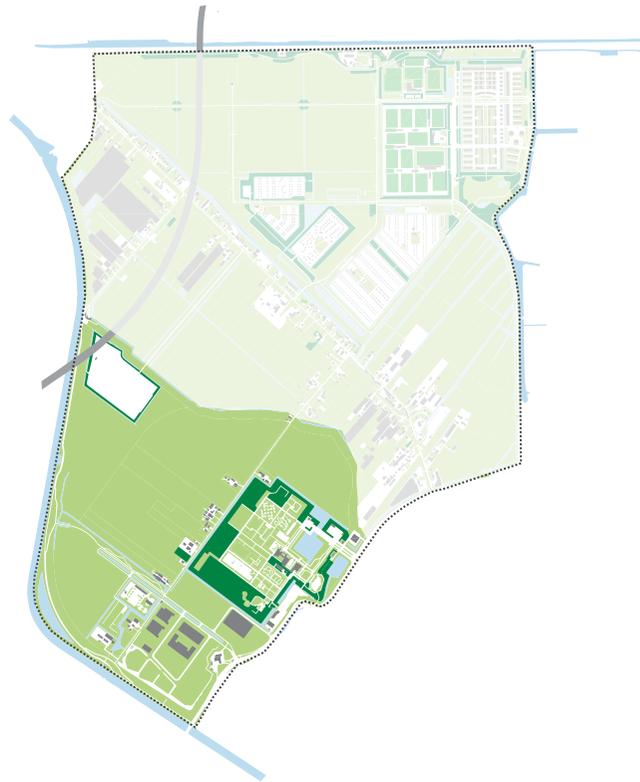


Illustrations 6.18-6.20: Impressions of Osdorperbovenpolder

# Lutkemeerpolder

The Lutkemeerpolder is a small (droogmakerij) polder, that is mainly used as arable land. The scale and openness of Lutkemeerpolder has to be maintained as mentioned before.

In the polder are the cemetery Westgaarde and a small utility garden complex located. A future destination for the polder will be a business area and nature. Along the Lutkemeerweg linear building patterns (lintbebouwing) are located, with some monumental farms along this pattern. This polder is often characterised as a mini haarlemermeer polder at the south of the Wijsentkade. The scale of the polder is crucial to experience its size. The Wijsentkade is the important visual element in the polder, which is situated within the open space of the polder and thus clearly visible.



Illustrations 6.21-6.23: Impressions of Lutkemeerpolder

# Soil

The four polders of Tuinen van West have as discussed before all their own origin. As a result they all differ in soil condition which can be seen in the geomorphological map.

The Osdorperbinnenpolder Noord consists of the type 'kalkrijke poldervaaggronden, which contains a soil of clay and loam.

The Lutkemeerpolder and Osdorperbinnenpolder Noord have a plain area with tidal deposits. The soil in these two polders consist of clay and loam.

The Osdorperbovenpolder is a remaining peat area. The soil in this polder is a sphagnum peat bog.

The Osdorperbinnenpolder Zuid is a mined peat surface, partly covered with clay and sand or with peat on loam or clay.

To conclude Tuinen van West has very different soil types, that all have a certain quality. For the implementation of urban agriculture the condition of the soil is important and therefore a division is made regarding the soil quality. The division is made into good, average, sufficient and insufficient quality. A soil of clay and loam is good for urban agriculture, however a soil that contains peat is less desired for the implementation of urban agriculture. The map shows what polders are of sufficient soil quality of the implementation of urban agriculture.

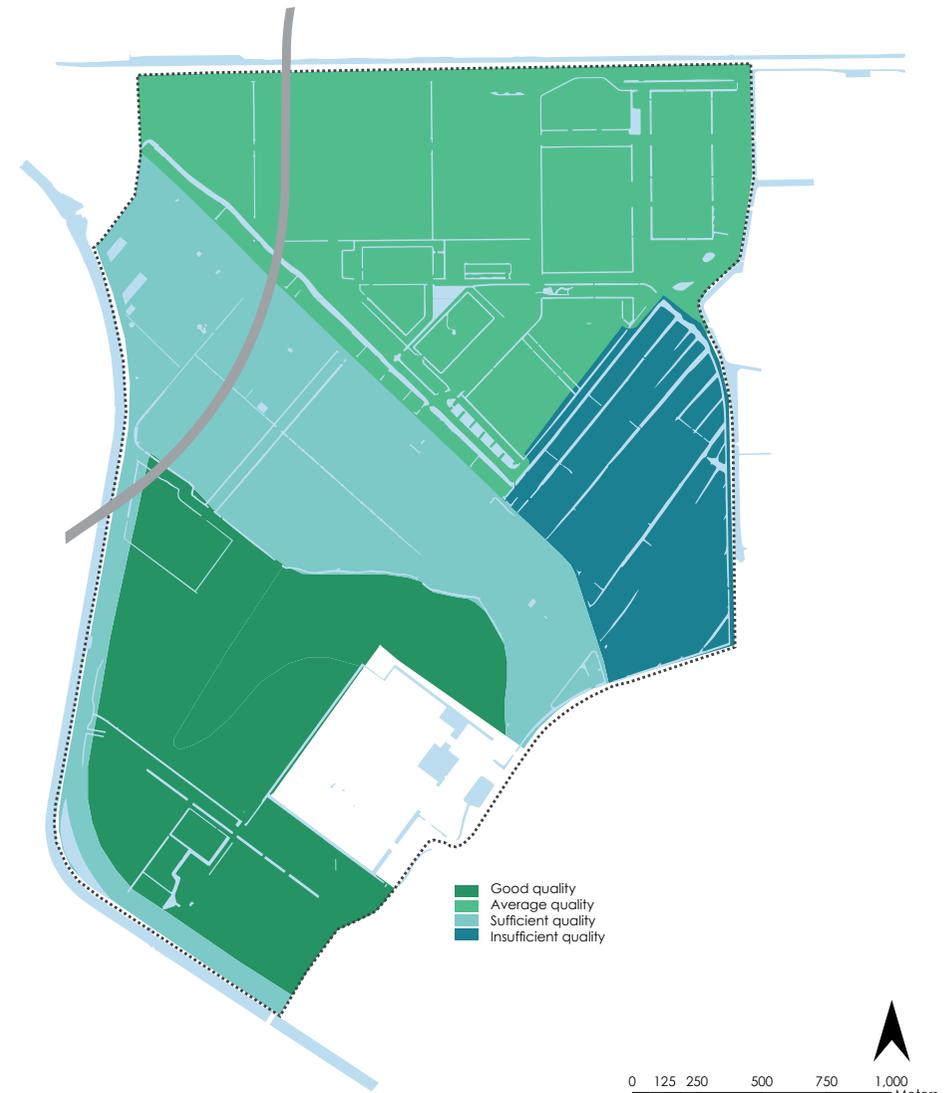


Illustrations 6.24-6.26: Different soils and land use in Tuinen van West

## Composition of the Soil



## Soil Quality



# Water Level

The four polder all have their own water characteristics, that contribute to the image of the polders. These characteristics are caused by the soil quality as well as with the water level. These two entities are related and give the visual result of the polder. The water systems in Tuinen van West are small scaled as a result of the four polders and in that way rather complex (DROAmsterdam, 2010, p. 31).

Tuinen van West is a area with a lot of water elements, but the levels differ. Each polder has its own system and with that its own water level, as shown in the map.

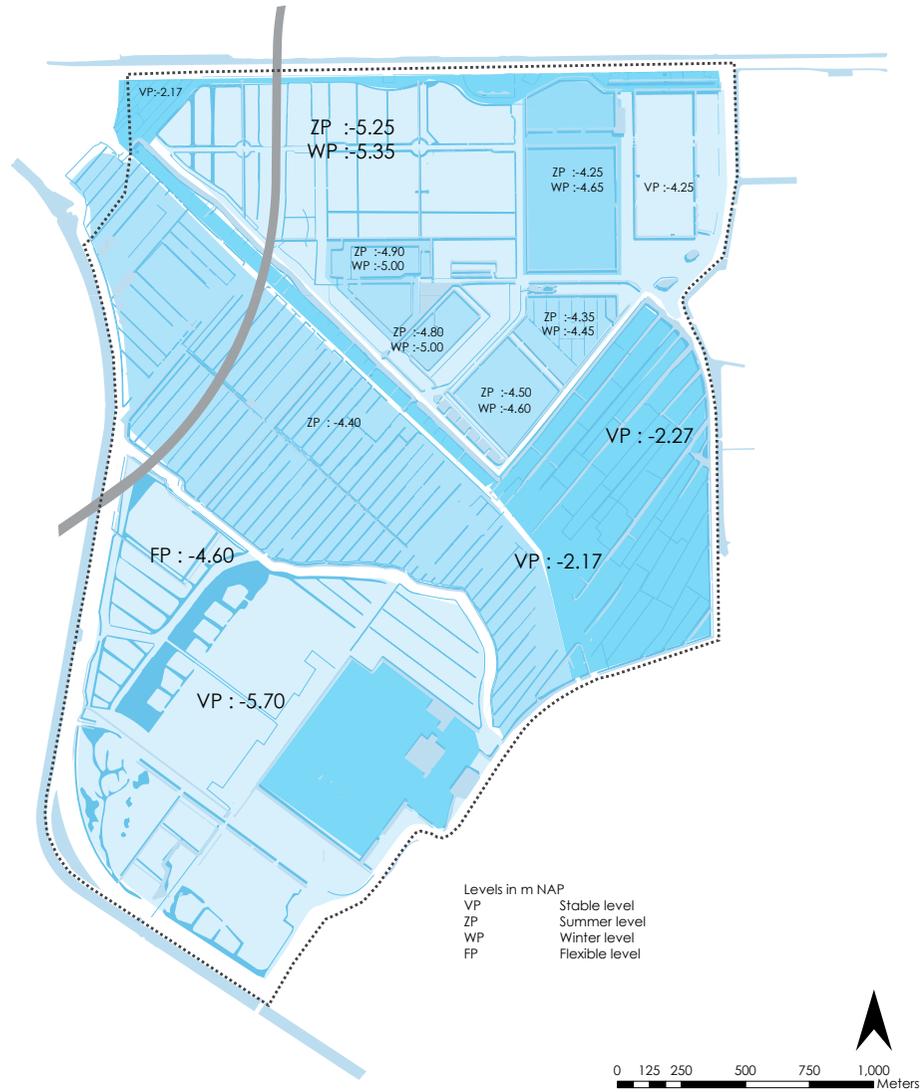
For the implementation of urban agriculture the water level is important and therefore a division is made regarding it different levels. The division is made into good, sufficient and insufficient quality. For example the water level of Osdorperbinnenpolder Zuid is insufficient for the implementation of urban agriculture, it is too wet in that polder.

The map shows the quality of the polders regarding their water levels.

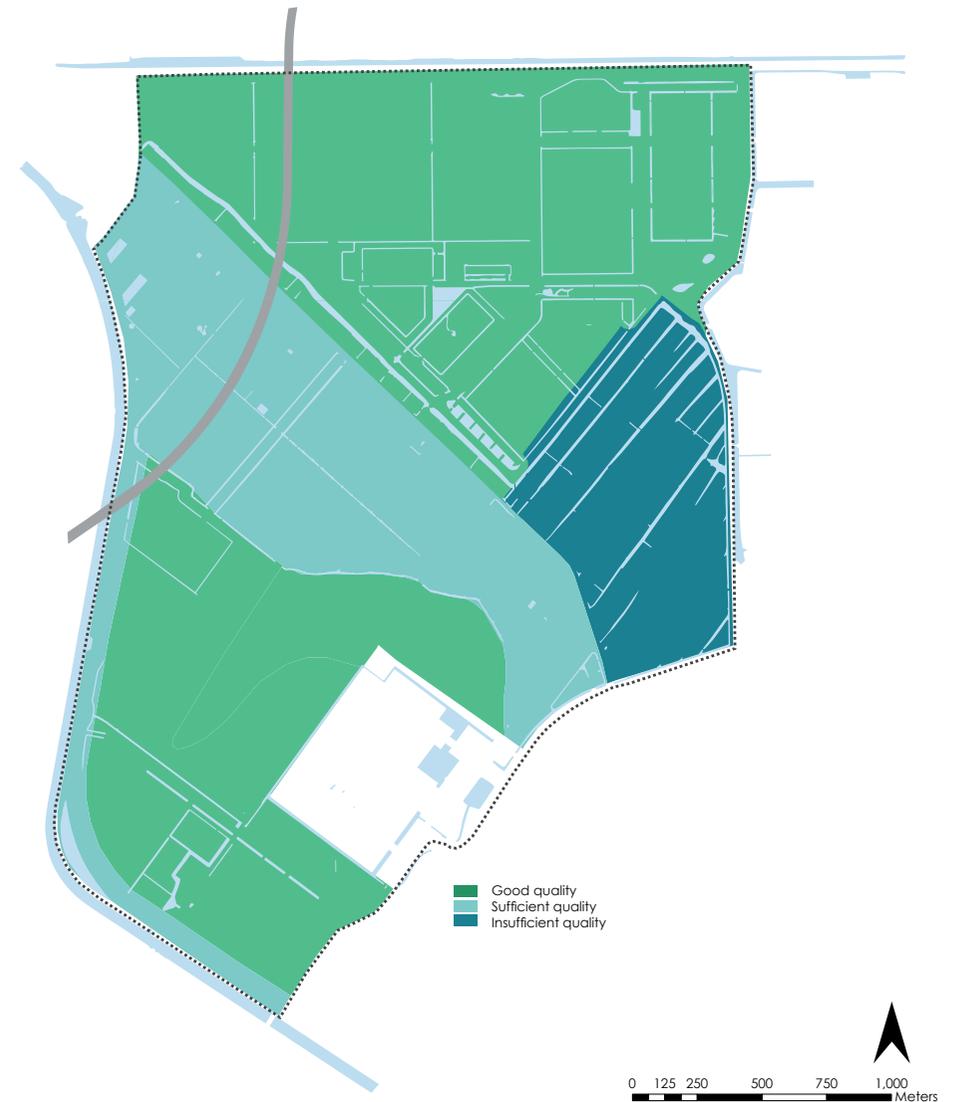


*Illustrations 6.27-6.29: Different water structures with their characteristic water levels*

## Different Water Levels



## Water Quality



# Ground Water Level

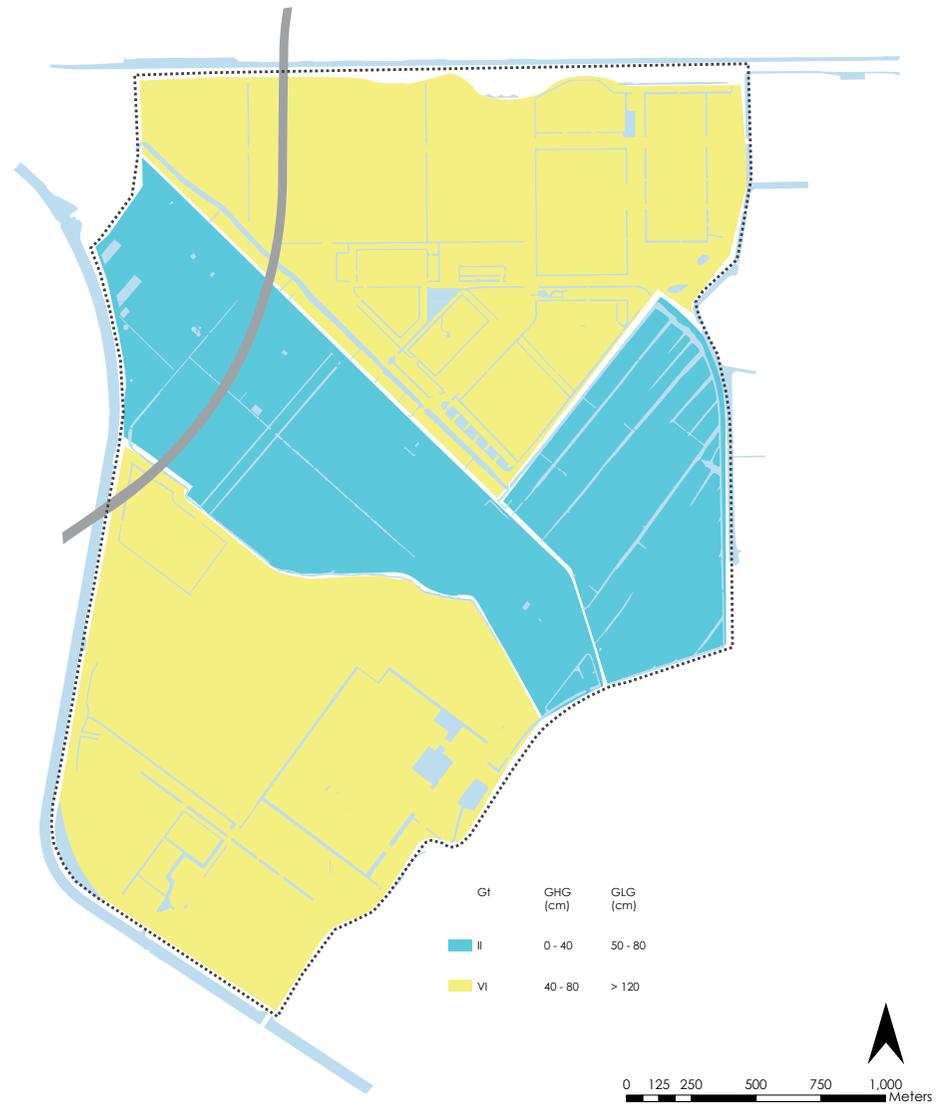
The ground water gradients are described with the average highest (GHG) and average lowest (GLG) water gradient. The groundwater levels (Gt) are divided into 5 levels, where level II and VI are present in Tuinen van West.

For the implementation of urban agriculture the ground water level is important en therefore a division is made in polders that have good, sufficient or insufficient groundwater level for the implementation of urban agriculture. Ground water level II is not sufficient enough for good implementation of urban agriculture.



Illustrations 6.30-6.32: Different water structures with their characteristics

## Different Ground Water Levels



## Water Quality



# Infrastructure

The infrastructure in Tuinen van West is divided into roads, bicycle paths and walking paths. There are several roads to access the area, of which the Osdorperweg is the main car route. The roads can be seen as lines in the landscape and are therefore structuring elements.

Tuinen van West is easily accessible due to the roads through the area, however there are a few places where no roads are located. These parts of Tuinen van West are thus not easily accessible and useless for urban agriculture.

For urban agriculture the accessibility is important and by that it can only be located on places that won't lack in accessibility.

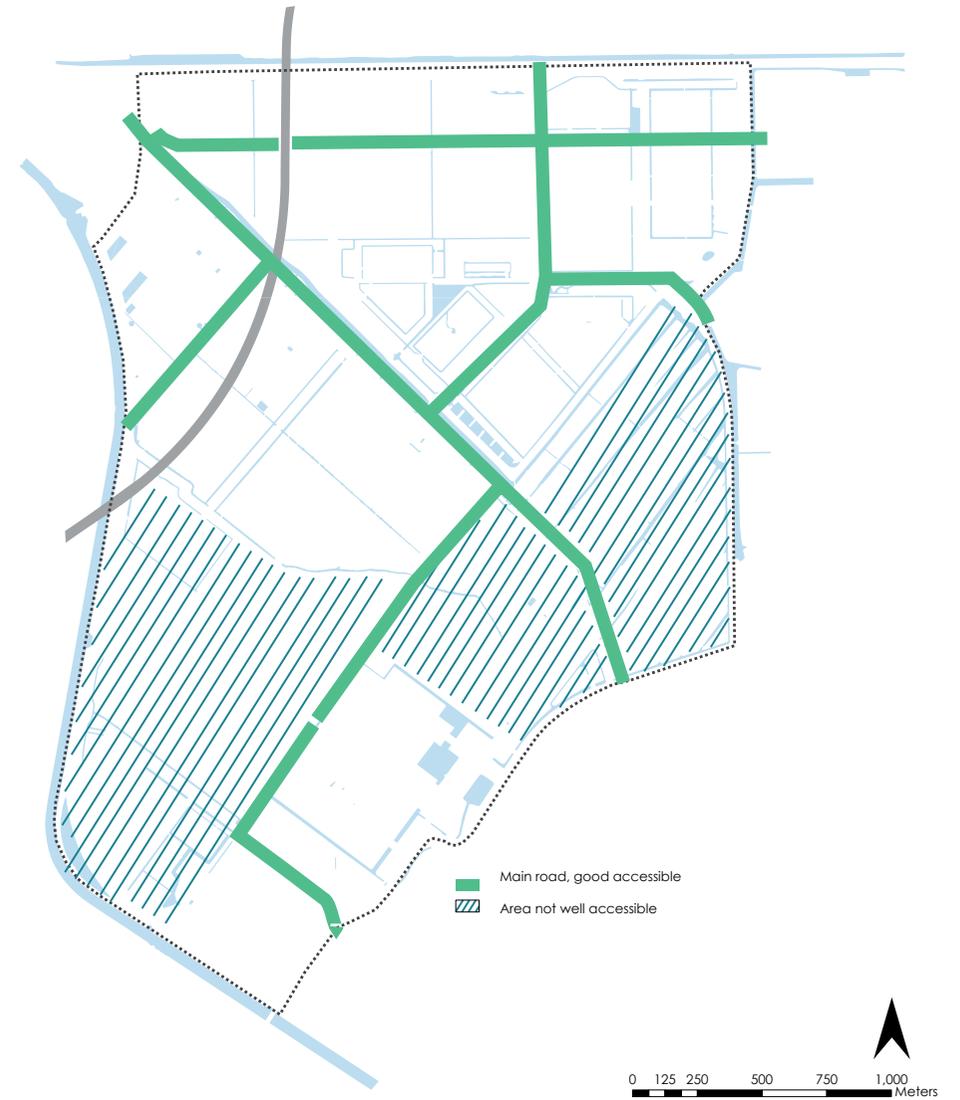


Illustrations 6.33-6.35: Different roads in Tuinen van West

## Infrastructure



## Accessibility



# Dikes

As Tuinen van West is divided by polders, there are a few dike entities within the landscape. These elements are clearly visible in the landscape, because they are higher than the surrounding landscape. Some dikes are even higher as the level of the land decreased because it contains peat. The Wijsentkade and the dike of Osdorpbinnenpolder Noord have a characteristic look and are therefore special.

For the designs it should be taken into account that there are no possibilities for planting trees on the dikes, the structure can hold them. The dikes can provide in connecting walking paths in the future.



Illustration 6.36 & 6.37: The dike of Osdorpbinnenpolder Noord

## Dikes



# Ecological Zones

Several parts of Tuinen van West have a natural value, with Osdorperbinnenpolder Zuid as the place with an extreme high value of nature. The 'Groene As', which will be discussed later in this paragraph, is crossing the landscape of Tuinen van West and because of that there are several parts of Tuinen van West that can be developed as high potential ecological areas, like the wetlands.

The connection of the dike entities through the whole landscape can result in an overall connection of the different valuable parts. It is desirable that nature will become one of the most important aspects of the identity of Tuinen van West in the future (DROAmsterdam, 2010, p. 29).



Illustration 6.38 & 6.39: New wetlands in Osdorpbinnenpolder Noord

## Ecological Zones



# Potential Areas

There are several places, besides all the agricultural grounds, where urban agriculture can be implemented. It can be the green banks along the roads but as well small left over spaces in the landscape.

The green areas in Tuinen van West are shown, what are not only the arable fields but also all the rest green spaces/plots. Besides the arable fields several places can be useful as locations for the implementation of urban agriculture.

There are several places, besides the agricultural grounds, where urban agriculture can be implemented. It can be located in the green banks along the roads, as well as in small left over spaces found in the landscape. The map shows all these green places.



Illustration 6.40 & 6.41: Potential places for urban agriculture

## Potential Areas for Urban Agriculture



# Agricultural Land

This map shows the exact locations of all the intense agriculture that currently takes place. These plots can fulfil all different forms of agriculture, like arable land, meadows or horticulture. Also the extent in which the agriculture activities take place differs from plot to plot.

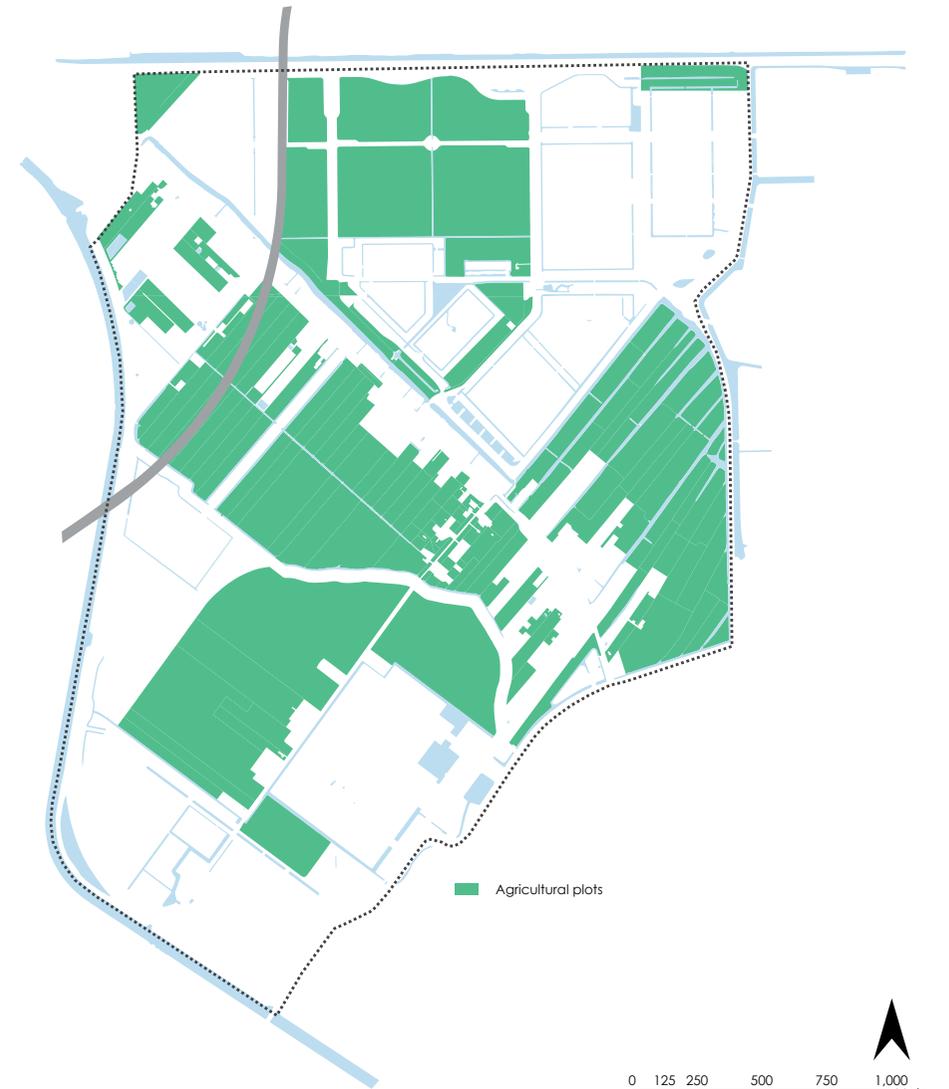
Not all the places are suitable for the development of urban agriculture, the selection therefore will be made in chapter 9.

This map shows the exact locations of all the intense agriculture that currently takes place. These plots can have a purpose for several different forms of agriculture, like arable land, meadows or horticulture. Also the extent in which the agriculture activities take place differs from plot to plot.



Illustration 6.42 & 6.43: Agriculture fields in Tuinen van West

## Agricultural Land



# Plantation

A landscape is build-up of important areas/surfaces, lines and points. The four polders of Tuinen van West can be seen as different areas. These areas have their own characteristics and can be easily recognized by the manner of use and the plantation structure within the polders.

For example the rows of hedges that outline the allotments, the sports park and cemetery, define a clear frame. The lanes of ashes trees along the Tom Schreursweg are very characteristic in combination with the medallions.

With the vertical elements in the landscape a differentiation between open and closed is created. The vertical plantation can be divided into lanes and screens. For the future implementation these characteristic appearance of the landscape will be the basic start for developing, which could result in a bigger contrast and higher spatial readability of the landscape (DROAmsterdam, 2010, p. 25).



Illustration 6.44: A lane of trees in Osdorperbinnenpolder Noord

## Green elements in Tuinen van West



# Closed Parts and Barriers

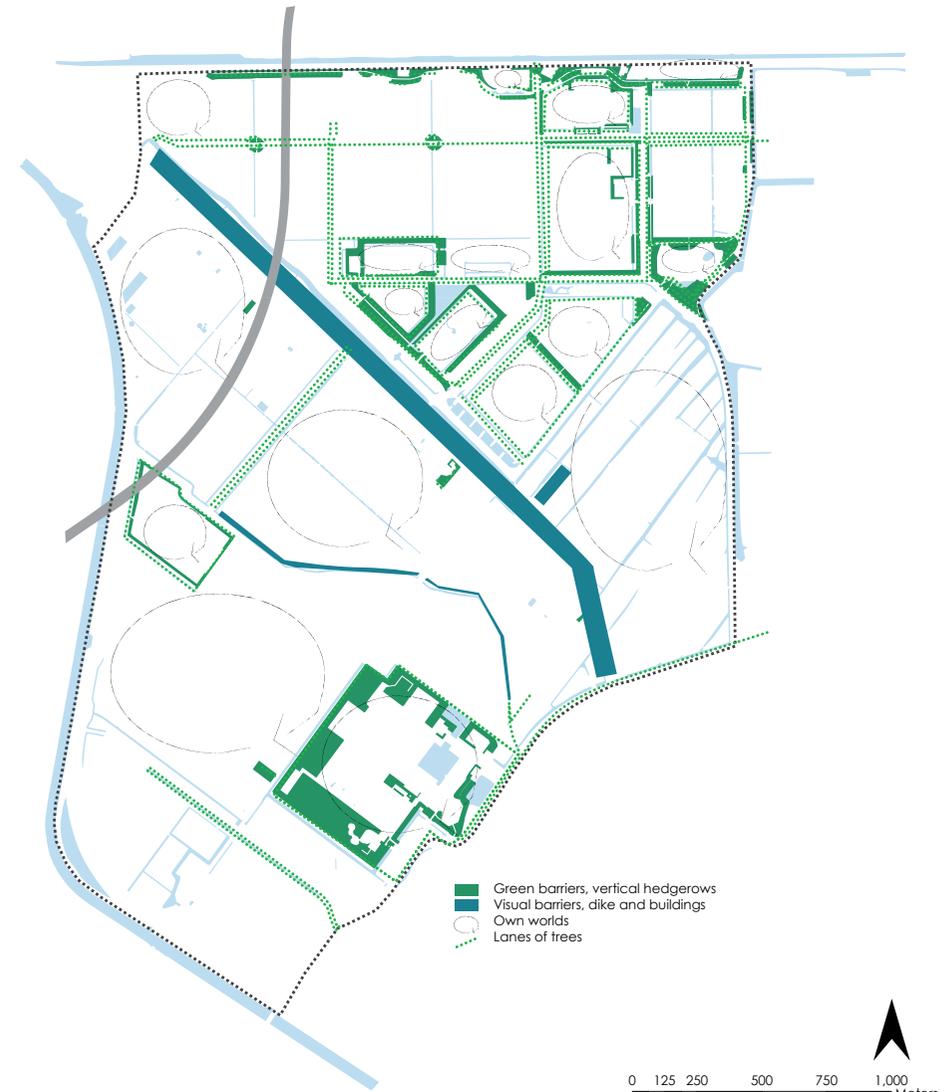
As a result of all the lanes and screens of planting and the small scaled landscapes of the polders, a lot of closed independent worlds are situated within the landscape. These places can function on their own and have most of the time little connection or relation with the surrounding context. The build-up ribbon settlement of Osdorperweg is as a barrier within the landscape. In chapter 8 the visual spatial experience research will give a detailed explanation .

These visual barriers have to be taken into account in the design. Important is to prevent that more own worlds and barriers are created, because the visibility of the place is essential.



Illustration 6.45 & 6.46: Visual barriers in Tuinen van West

## Closed World and Visual Barriers



# Special Places and Elements

There are several special places and elements in the landscape of Tuinen van West, these accents within the landscape are important orientation places for the users and therefore connected to the experience of the landscape.

The history of the landscape is still recognizable, for example in the polders the traditional parcelling is still visible. Other clearly visible elements in the landscape are the accents within the landscape, like the Wijsentkade and the historical dike of Osdorperbinnenpolder Noord.

Also some cultural historical artefacts are still present in the landscape, in the form of elements or structures. The structure of the Osdorperbinnenpolder Zuid is with its characteristic 'slagenverkaveling' still a very visible structure in the landscape.

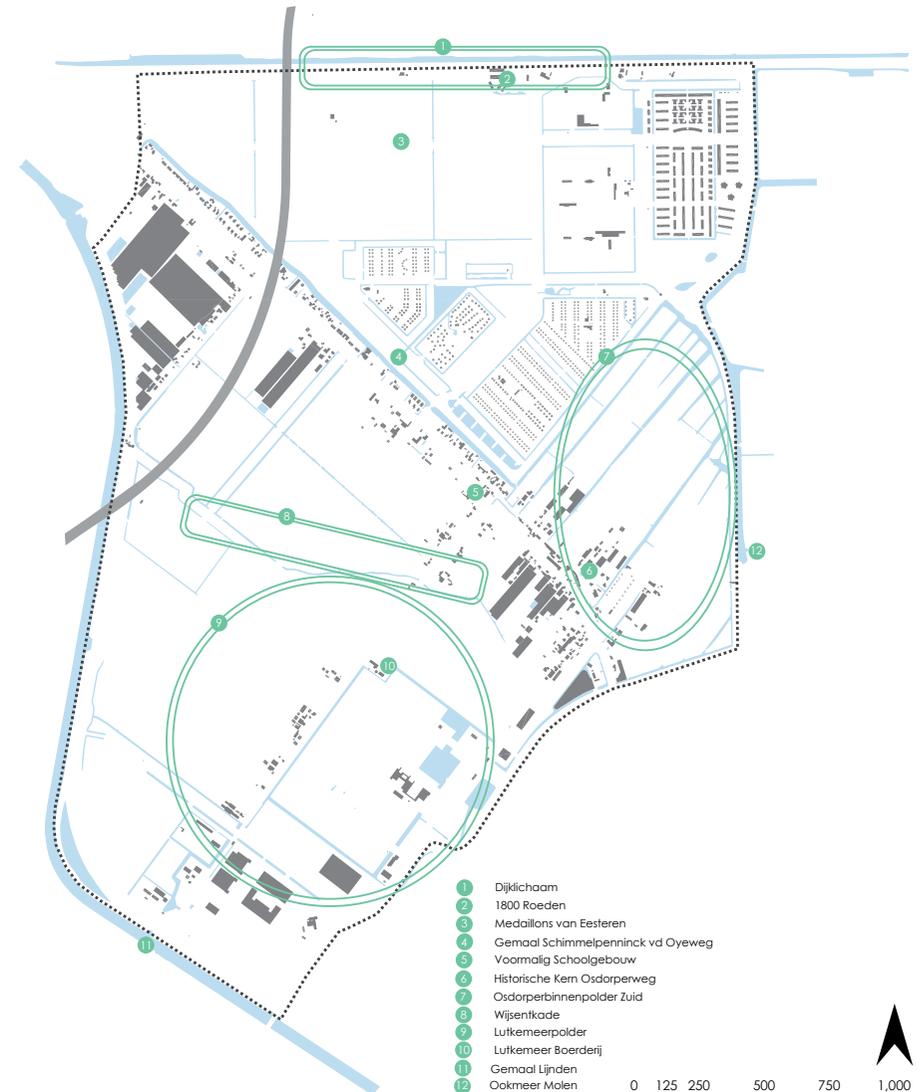
An other example of a cultural historical element is the build-up ribbon settlement of Osdorperweg, where old farms are located along the road in the historical centre. An other historical element that still exist is, for example the farm at the Lutkemeerweg, with special ornaments on the façade, the Water pumping station 'Haarlemmermeer bij Lijnden' or '1800 Roeden'. A natural special element are the medallions of Van Eesteren in the Osdorperbinnenpolder Noord.

All these special places and elements are taken into account and will be maintained or even strenghtened in the design phase.



Illustration 6.47: Old farm in Lutkemeerpolder

## Special Places and Elements



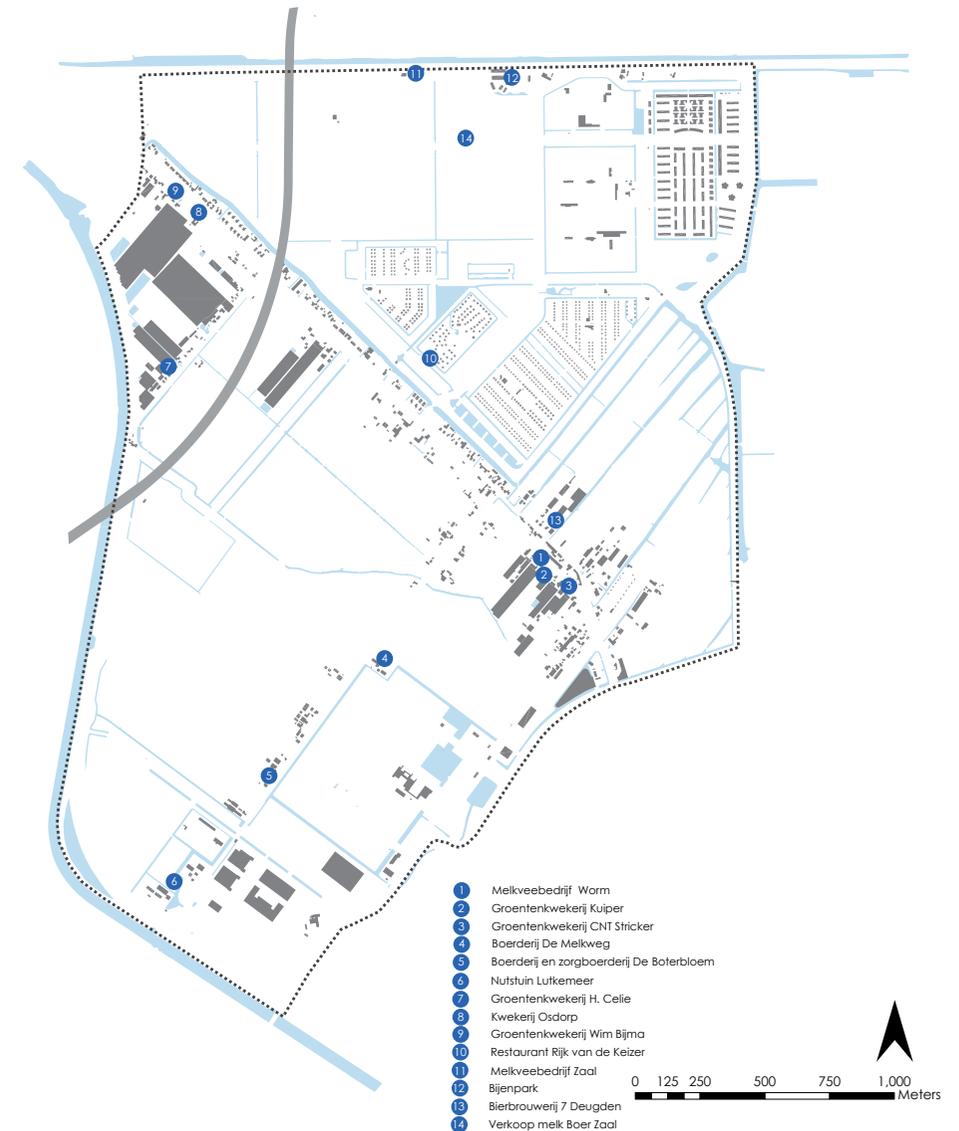
# Sale products

At several places within the Tuinen van West food is already produced and sold to general public. Unfortunately not all the addresses of the selling points are familiar under the general public. With the implementation of urban agriculture a link can be made with the already existing places, where production and sales takes place.



Illustration 6.48 & 6.49: Places where local products are sold

## Local Products Selling Places



# Distances

This map is showing the places that are in a distance of 1 or 2 km from Tuinen van West. The maps don't show the actual travel distance and time, but an indication is made how the surrounding neighbourhood is related to Tuinen van West.

It becomes clear that a lot of people live in a short distance of Tuinen van West and for them the area can function as a nice recreation area that provides green places.

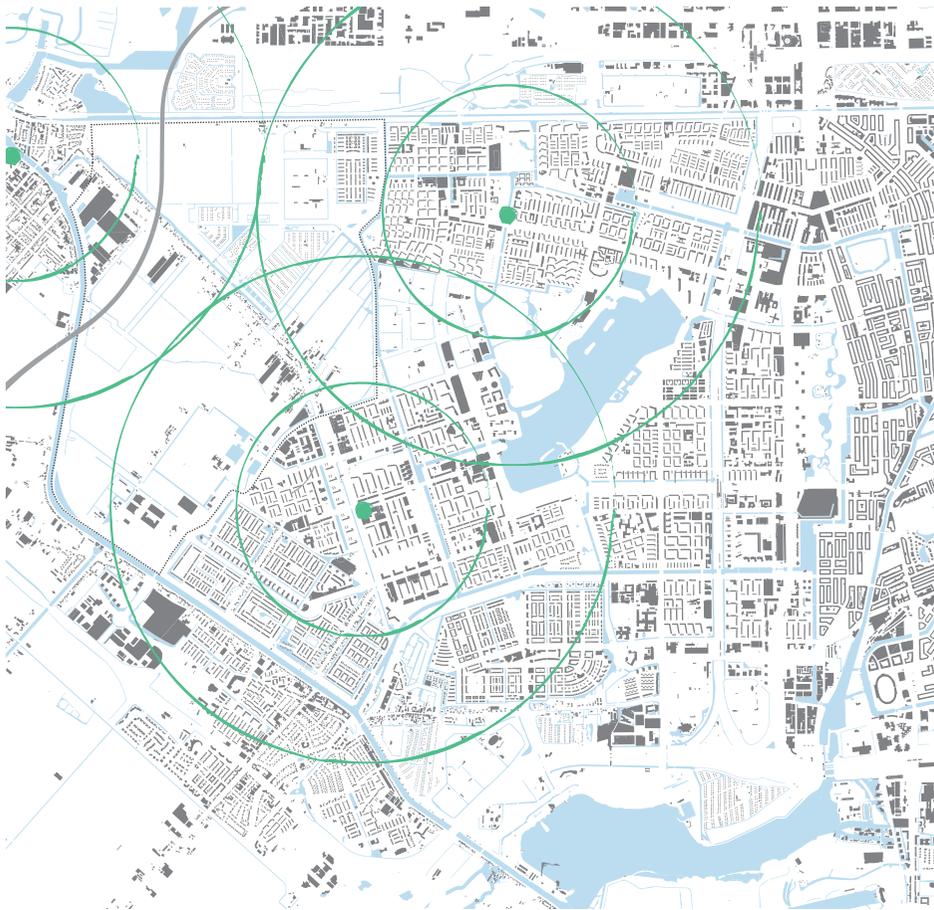


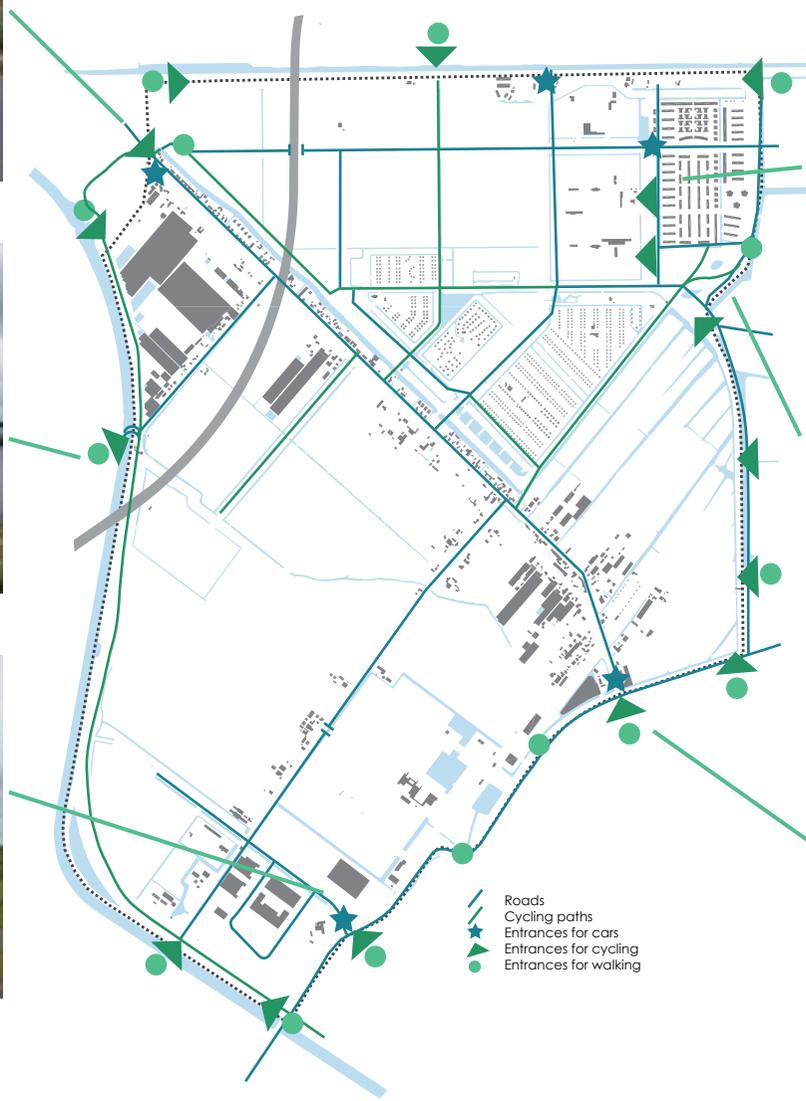
Illustration 6.50: Distances to Tuinen van West

# Entrances

Tuinen van West can be entered from different directions. The entrances have to function as special places towards the landscape of Tuinen van West. They have to become recognizable elements and points within the landscape and have to connect the surrounding context of Tuinen van West (DROAmsterdam, 2010, p. 46).

People will become aware where Tuinen van West starts and how it relates with the surrounding neighbourhoods. When entering the Tuinen van West, people should experience that they enter a special agricultural area full of experiences (DROAmsterdam, 2010, p. 47).

# Entrances of Tuinen van West



Illustrations 6.51-6.56: The entrances of Tuinen van West

# Nieuw West

Tuinen van West is part of the city district Nieuw West. This map shows how the city district is divided and what kind of surrounding context Tuinen van West has (Nieuw West, 2011)

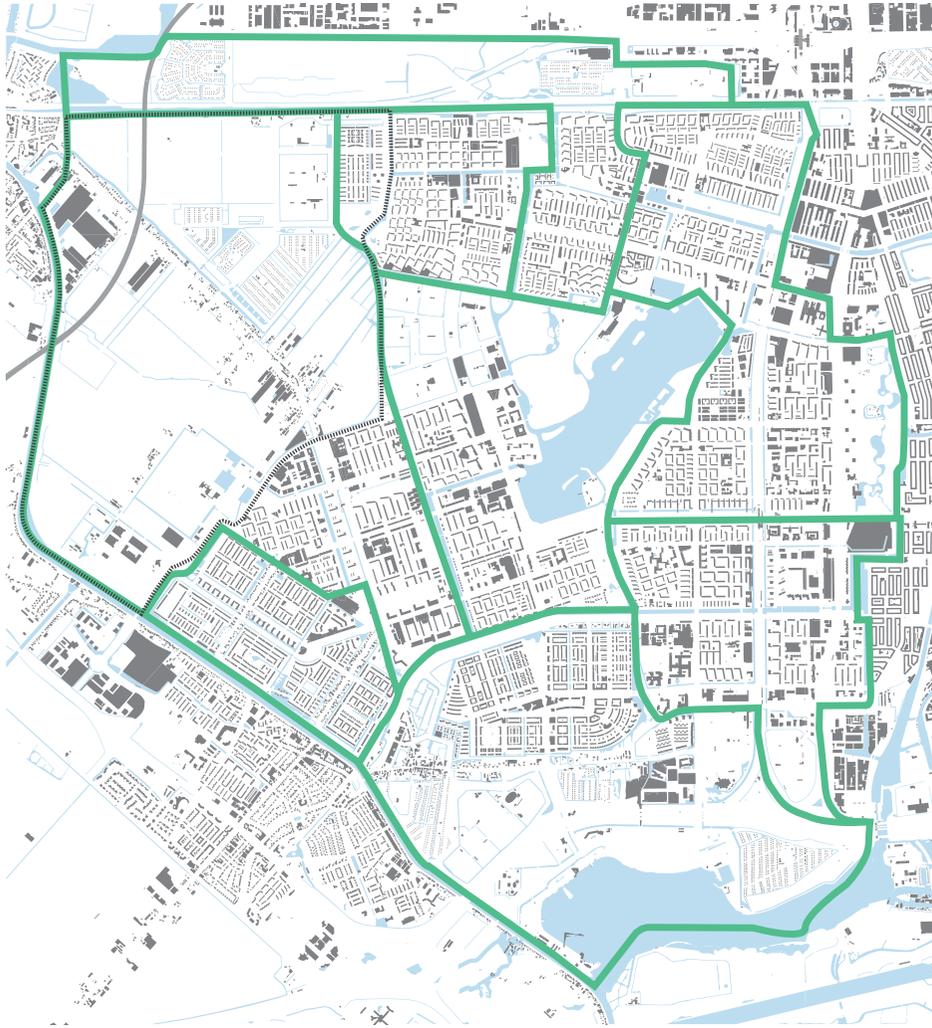


Illustration 6.57: Division of the neighbourhoods in city district Nieuw West

# Origin residents

Nieuw West is a very multicultural district of Amsterdam. An overview is made what kind of nationalities are in majority in the different neighbourhoods. All nationalities have their own requirements and wishes regarding recreation and food habits (Nieuw West, 2011a)

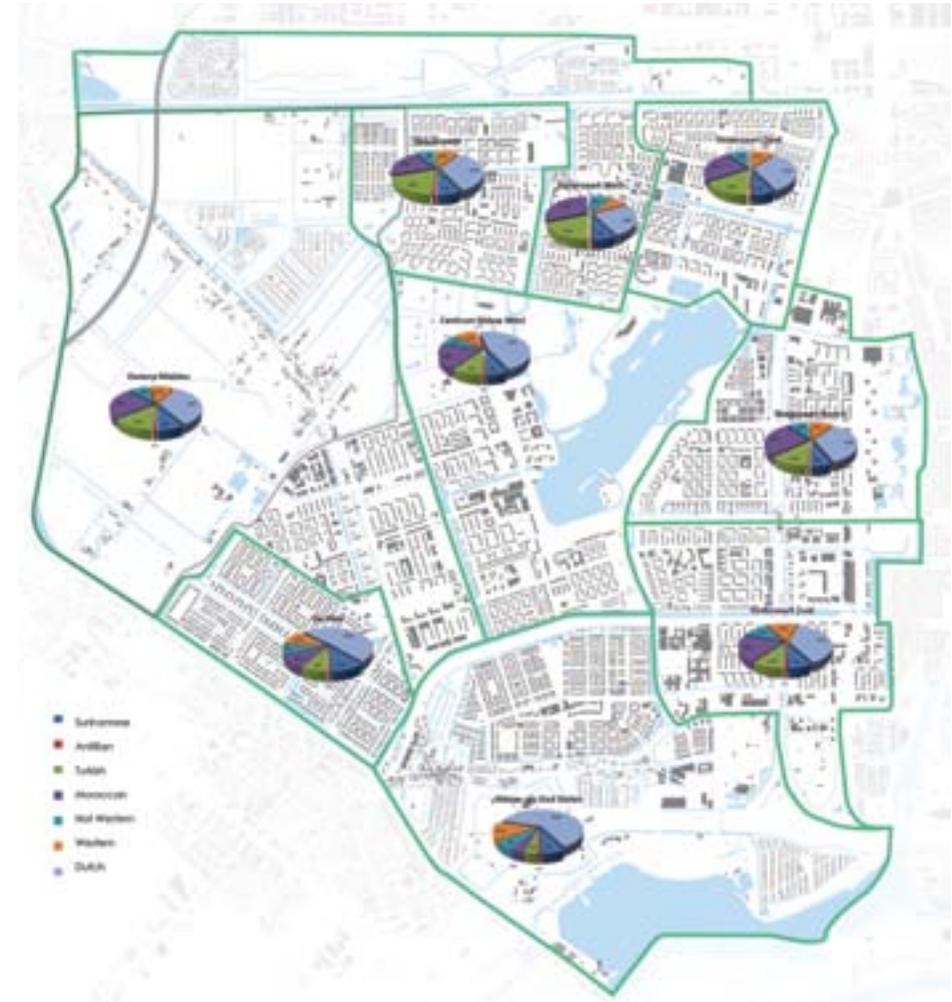


Illustration 6.58: Population composition of the different neighbourhoods

# Groene As

The Groene As is the ecological and recreative connection between Amstelland and Spaarwoude. To provide and strengthen this connection measures have to be taken. Several different nature areas at the west and south of Amsterdam are being connected, which will be beneficial for animals as well as humans. The natural habitats of different species will be enlarged which will create a green oase with better living conditions. For people there is a lot to enjoy, within 10 minutes cycling from the city centre, a green area can be accessed. Tuinen van West will become an important link within the Groene As (Provincie Noord-Holland).



Illustration 6.59: The plans for 'Groene As'

# 6.6 Recreation

Research shows that Amsterdam lacks the amount of green per resident needed/preferred. The city is growing, however the amount of recreation possibilities in the city are decreasing. A green living environment and landscape invites to recreate and positively influences the wellbeing of the residents. Therefore green structures in or near the city are of high importance (Gemeente Amsterdam, 2009).

An other outcome of research done is that people with a lower income or with an immigrant background prefer to recreate in the green areas in the neighbourhood or city and are less likely to recreate in the large made recreation areas or natural landscapes outside the city (Het Landelijk Dagblad, 2010).

In 2006 a recreation research (DRO Amsterdam, 2006) was done in Westrand. Some results are visualised in the diagrams. According to the research the area of Tuinen van West characterized by the openness of the landscape, has an agricultural character and recreation possibilities for cycling and walking. Also is mentioned that the area is amorphous and fragmented, there is no coherence, although it also mentioned that the area provides in rest.

To improve the area it is important to give the area a strong identity and improve the accessibility of and connections towards the area. Several recommendations were made and a few will be mentioned below.

Preferable is to extend the residence time, which means to extend the time people spend in Tuinen van West. It is also preferable to make one clear concept for the area, for example focussed on nature or entertainment. Making the area into something unique for Amsterdam, a place that connects with the neighbourhood is a suggestion that was made. The plans should at first be for the residents and secondly for the visitors.

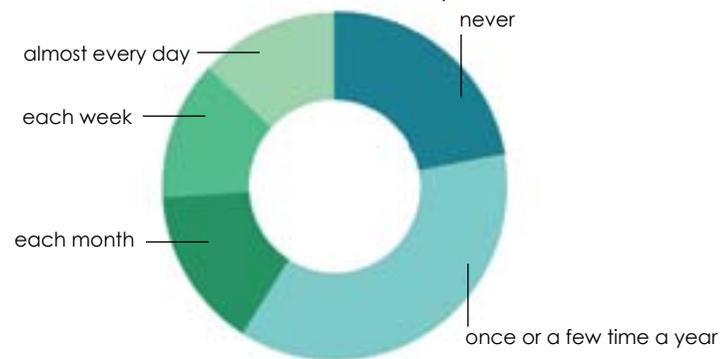


Illustration 6.60: The amount of visits to the area

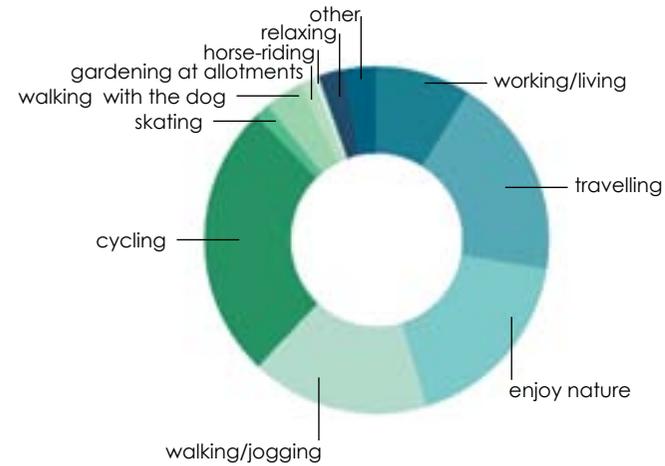


Illustration 6.61: The reasons for visiting the area

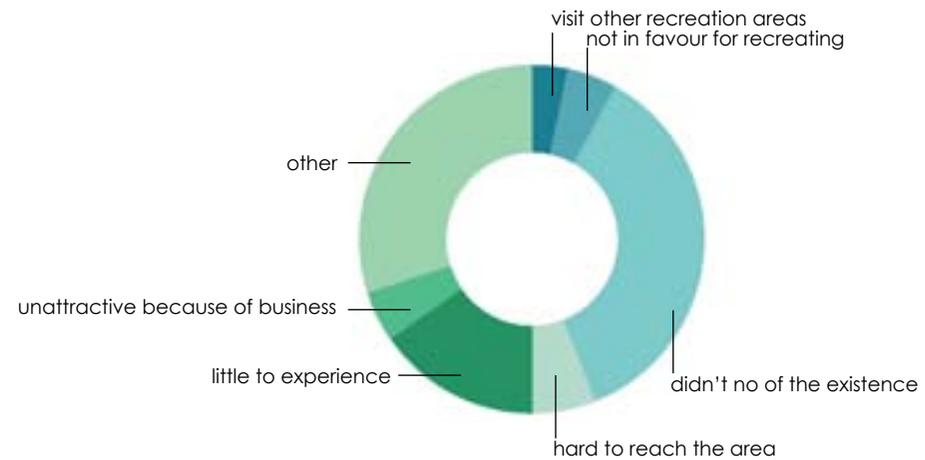


Illustration 6.62: Why you never visit the area

Also questions about the familiarity of the area were asked in the research, it could conclude that elderly people are most aware of the area. Youngsters aren't familiar with the area, especially young people with a Turkish or Moroccan background aren't tied to the area. According to surveyed people, the familiarity of the area can be improved with theme days and signage along the roads. Also they think it is important to improve the existing connections with the city and create possibilities for a cycle tour along recreation facilities. More recreational facilities with a green agricultural setting are essential, but also the parking facilities have to be taken into account.

Two third of the respondents think that they will visit the area in the future. Recreation facilities to walk and jog (80%), enjoy nature (73%) and to cycle (71%) are sufficient, however insufficient are the possibilities for a picking garden, a farm to visit, catering facilities and bicycle sheds. (DRO Amsterdam, 2006).

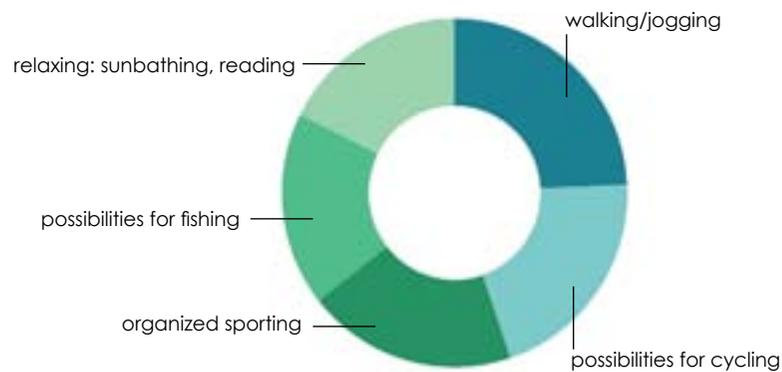


Illustration 6.63: Sufficient recreation possibilities in the direct neighbourhood

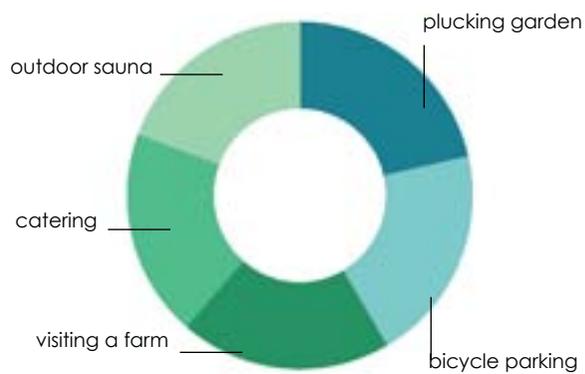


Illustration 6.64: Insufficient recreation possibilities in the direct neighbourhood

Regarding new initiatives the following was mentioned. The more small scaled and open for all people the facility is, the more it will be accepted and appreciated. For example different theme farms or diversified agriculture are welcome to increase the acceptance and appreciation. It is desirable to improve the accessibility of allotment parks, to combine catering facilities with other facilities in the area and to combine new facilities with the existing farms. Due to the ethnic differences in the neighbourhood special women moments are appreciated. And mentioned as last, the playing facilities can be improved (DRO Amsterdam, 2006).



Illustration 6.65: Important to take into account when designing: Realising facilities for...

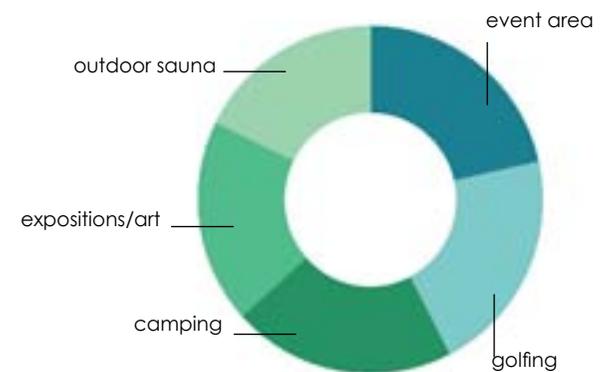


Illustration 6.66: Unimportant to take into account when designing: Not necessary to realise facilities for...





# 7 Types of Urban Agriculture

# 7.1 Urban agriculture

## 7.2 Icons

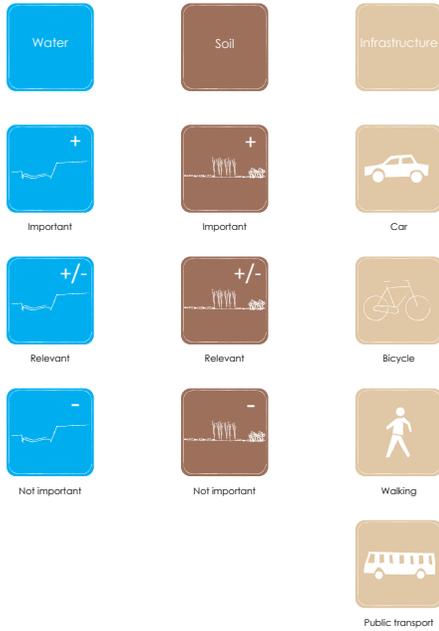
Urban agriculture is becoming more and more used. People in the cities are getting involved and starting to produce their own food in many different ways. The extend and execution of urban agriculture can differ a lot, there are many forms. These can differ in scale, gradation, variation, temporary use, extent and professionalism. A wide range of urban food production occurs within the city. For example balconies, façade gardens, green roofs in the inner city are used, as well as allotments for professional production and processing of the food on the edge of the city. Also you can think of vertical gardens, backyards, community vegetables and fruit gardens, vineyards, rooftops, orchards, public and unused places, city edges, rural plots and vacant places in the street where production can take place. The appearance of urban agriculture deserves its own place in the city and with that it contributes to a sustainable and livable city (Visser et al., 2009).

Also because urban agriculture occurs in public spaces and environments and because it is for different people, with different wishes and expectations there is not one solution for the implementation of it (Goossen et al., 2010). As mentioned above there are many different forms how urban agriculture can be executed. For these thesis a lot of these forms are not implementable and desirable in Tuinen van West. After defining urban agriculture for this thesis, still a delineation have to be made with different implementations of urban agriculture, that is why I have defined five types of urban agriculture that can be implemented in the landscape of Tuinen van West. Because the Tuinen van West are in the urban edge area and currently still rural land the focus will be on urban agriculture that can take place there. It is implemented in the landscape, land use, nature and will cause visual experience.

The different types provide in different spaces with the implementation of urban agriculture. These spaces which accommodate urban food growing projects take on many different forms, because urban agriculture initiatives take many forms, most are typified by their changing appearance and fine grained, people-centred character (Viljoen et al., 2005, p. 220). Also the intensity of activity, character and implementation differ.

To have a better understanding of the differences between the urban agriculture types icons where made. These icons can characterise the different types. A division is made between icons regarding the limiting factors, characteristics and interpretation and function. On the right an overview of the icons is given. The most important icons that specify each urban agriculture types are explained on each page of the urban agriculture types.

## Limiting Factors



## Characteristics



## Interpretation & Function

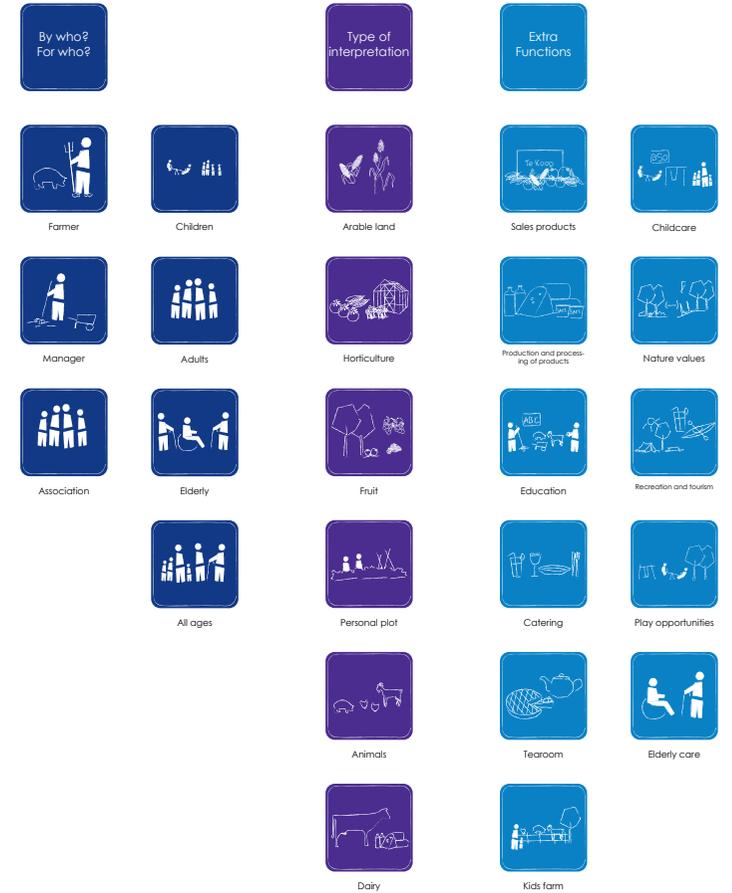


Illustration 7.1: All the different characteristics of the urban agriculture types



# 7.3 Do - it - Yourself Farm

At the Do-it-yourself farm the emphasis is on, as the name implies, doing it yourself. At this farm there are several plots that people can rent to grow their own vegetables and thus produce their own food. This type can be executed in different shapes. There are no restrictions for the designs of the plots, the owners can create their own plot. Therefore each plot will have its own visual appearance and spatial impact.

Explanation of the limiting factor icons:



The soil quality:

For the Do-it-yourself farm it is important that the soil is of high quality. At this type of urban agriculture the emphasis is on production and therefore the soil should be of optimal quality, to be able to realise optimal production.



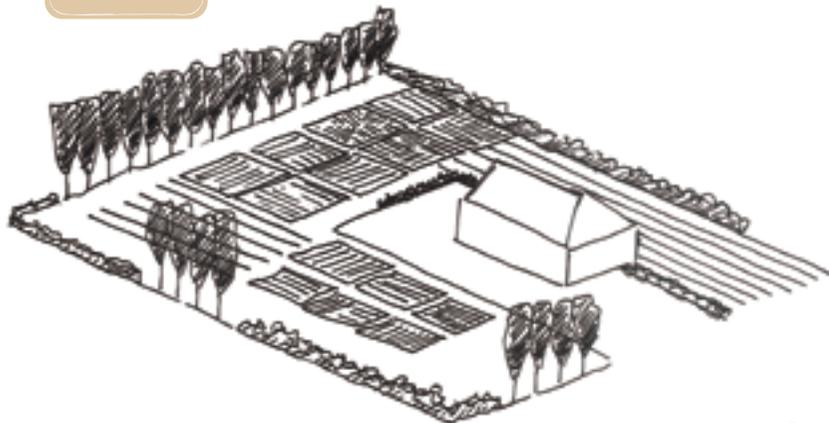
The water quality:

In correlation with the soil quality, the water quality should be high as well. When it is too wet at the plots the production won't be optimal, likewise when it is too dry.



Infrastructure:

At the Do-it- Yourself Farm the accessibility is important and particular attention has to be paid to the accessibility and distance from the neighbourhood. When the farm is located within cycling distance, people can easily get to their gardens and obtain their food for diner daily.

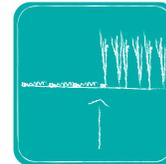


Explanation of the additional icons:



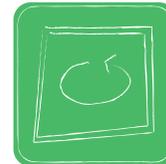
Farm:

The Do-it-yourself farm can be part of a traditional farm.



Ground bounded:

The location of this type is important, regarding the limiting factors. But as well regarding the type of execution, this urban agriculture type can't be easy replaced.



Closed:

Being within this type of urban agriculture, for example between the several plots, it is a closed entity.



Farmer:

The farm can be owned by a farmer, who is also responsible for the structure and location of the plots and surrounding context.



Personal plot:

At this urban agriculture type people will have their own plot where they produce their own food.



Sales products:

As an extra element, the surplus of the production can be sold in a small shop at the farm.

Illustrations: Icons and bird eye view of urban agriculture type Do-it-Yourself Farm



Illustration 7.3: Impressions of the urban agriculture type Experience and Public Farm

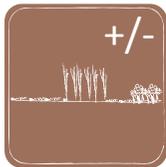
# 7.4 Experience and Public Farm

With the implementation of this type of urban agriculture the emphasis is on seeing, in contrast with the Do-it-yourself farm where the emphasis is on doing. At the Experience and Public Farm people will experience their first encounter with urban agriculture. It is about gaining first knowledge about urban agriculture, how food grows and is produced. By visiting this type of farm people can get familiar with these issues.

Explanation of the limiting factor icons:



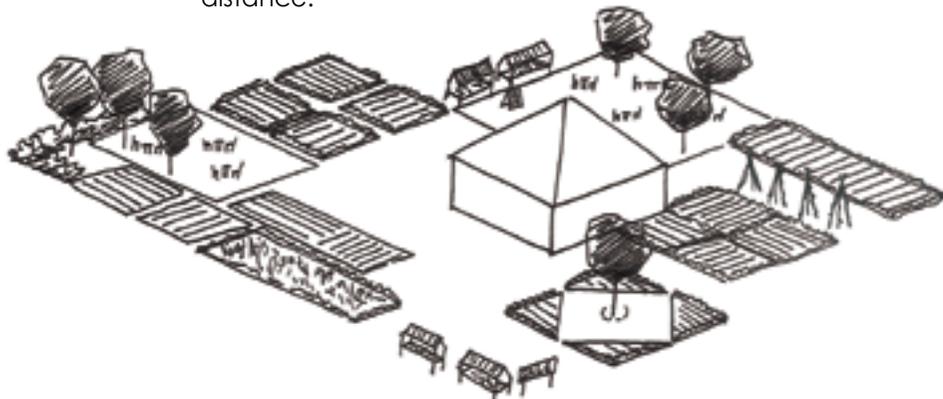
**The soil quality:**  
As for this type the urban agriculture is executed to show how food is grown, there is no emphasis on large scaled production, and therefore the soil doesn't have to be of optimal quality.



**The water quality:**  
The same applies for the water quality as for the soil quality.



**Infrastructure:**  
For the accessibility of this type, it is important that people can easily get there to obtain their first experience. Therefore it is important that the farm is located in close distance of the neighbourhood, so people can reach it within walking distance.



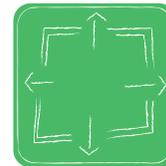
Explanation of the additional icons:



**Shed:**  
This type of urban agriculture can have a more temporary character and can have a shed as build up element on the farm.



**Not ground-bounded:**  
This type can also be implemented on places where it is for example located for a year, the location could be exchangeable the next year.



**Open:**  
The structure of this type is open, everyone can enter the place, because it is a public place. A visual open structure can be maintained by strong restrictions about height difference between the different plots.



**Manager:**  
The farm can be managed by a manager, it is not necessary that a farmer is maintaining the place.



**Horticulture:**  
At the farm different products are produced on a small scale and these productions are made visible. Most of the products have a link with the traditional executed horticulture.



**Catering:**  
As an extra function, a catering facility can be placed at this type of farm. This type can have more entertain functions related to urban agriculture, like for example a playground.

Illustrations: Icons and bird eye view of urban agriculture type Experience and Public Farm



# 7.5 City Park

This type of urban agriculture is a park with additional elements of urban agriculture. The structure of this park is that of a normal park, where citizens are already familiar with. The park consist of a green structure with walking paths and people can have an overview of the whole park. The urban agriculture is implemented on several plots that are located within this type and have a connection with the surrounding park. As the park is a public domain, everyone can encounter and experience the urban agriculture. As extra element fruit trees are added in the structure of the park, so people can actually see fruit growing when they are walking through the park and could pluck season products from the park.

Explanation of the limiting factor icons:



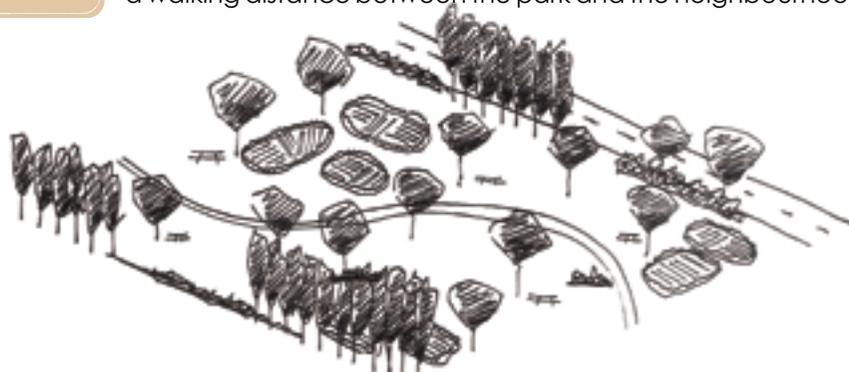
**The soil quality:**  
As the emphasis is on the park and the urban agriculture is an additional element within this park, the urban agriculture is small scaled. Due to the small scale the soil quality isn't essential, however it is still has to be of sufficient quality to produce food.



**The water quality:**  
Like the soil quality the same accounts for the water quality.



**Infrastructure:**  
The accessibility of the park is important, it is a public place and it is wishful that people visit it. For that a close distance towards the neighbourhood is desirable, which would result in a walking distance between the park and the neighbourhood.



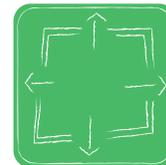
Explanation of the additional icons:



**Market stall:**  
In the park temporary happenings like a weekly farmers market can take place and for that a market stall can be used.



**Not ground-bounded:**  
The plots are located within the park, but are additional elements and can be moved again. For the coherence the plots will have design restrictions, like for example the same hedges of the same height.



**Open:**  
The park is a public place and therefore it has an open structure. Having a clear view of the whole park is important.



**Association:**  
The park can be managed by an association, who together take care of the maintenance.



**Fruit:**  
Instead of normal trees the park has several fruit trees.



**Nature values:**  
The park is located within the natural landscape, that has nature and ecological values, which the park can have as well.

Illustrations: Icons and bird eye view of urban agriculture type City Park



Illustration 7.5: Impressions of the urban agriculture type The Farm

# 7.6 The Farm

This type of urban agriculture has a lot of similarity with the normal traditional farms, with which we are familiar in the Netherlands. The farm is an agricultural farm in cooperation with urban agriculture as an extra part of the farm. People can visit the farm and experience how large extended production of food takes place and come for example in contact with several animals that life on the farm. With this type the emphasis is on gaining knowledge and education on how a farm functions and production takes place.

Explanation of the limiting factor icons:



The soil quality:

The soil quality is very important as a good quality of soil for large scale production is essential and required.



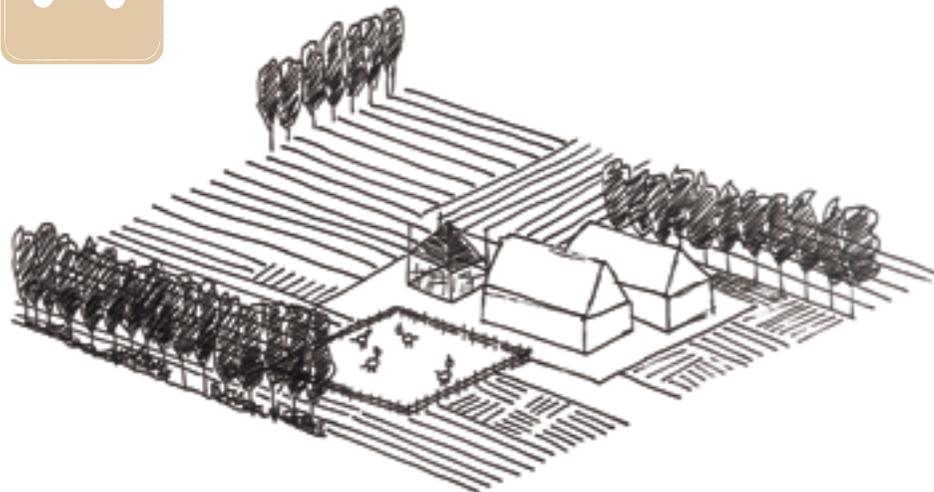
The water quality:

The same requirement for the water quality is applied as for the soil quality.



Infrastructure:

For this type the accessibility is important, large agriculture machinery have to be able to access the farm.

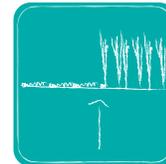


Explanation of the additional icons:



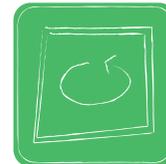
Farm:

This type is executed on a farm that is in production.



Ground-bounded:

For this type the production is important and is executed on the surrounding plots. What kind of crops that will be planted or seeded can differ each year and with that the heights of the crops differ each season.



Closed:

The farm is a private domain in function and in that way a closed entity.



Farmer:

The owner on this type of urban agriculture is a farmer.



Dairy:

The farm can have their focus on the production of milk and perhaps processing the milk into cheese.



Production and processing of products:

On the farm production take place and these products can be processed into the final end products, for example different kind of cheeses.

Illustrations: Icons and bird eye view of urban agriculture type The Farm



# 7.7 Care Farm

The last type of farming can be a small farm that has besides farming an extra function to facilitate day time activities, for example in the form of childcare or re-entering programs for addicts into society or elderly care. It can also provide placements for long-term unemployed people and adults with special needs These daytime activities can consists of activities needed to be done on the farm.

Explanation of the limiting factor icons:



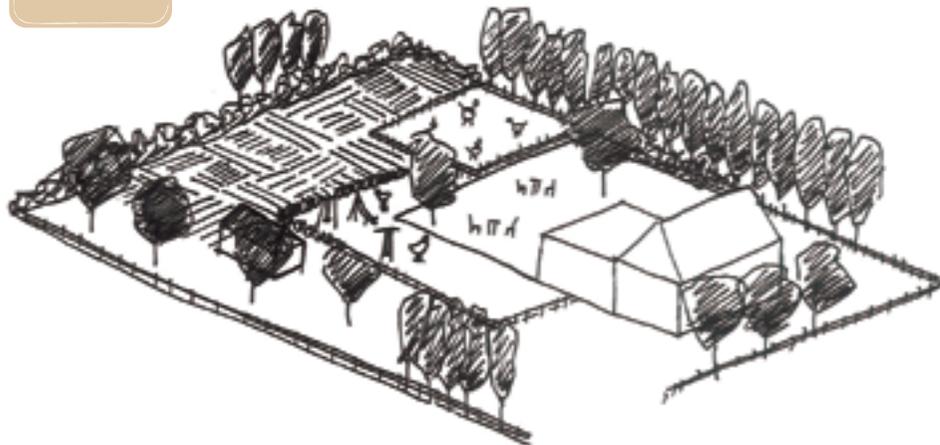
**The soil quality:**  
Because the urban agriculture is an additional and extra element, it will be very small scaled and because of that the soil quality isn't important.



**The water quality:**  
The same criteria for the soil quality is applied to the water quality.



**Infrastructure:**  
For this type the accessibility by car is important, for bringing and collecting the people or children that will be spending their day at the Care Farm.



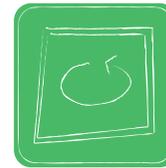
Explanation of the additional icons:



**Farm:**  
The whole day care activities can take place as an extra function on a traditional farm.



**Not ground-bounded:**  
Because the urban agriculture is a small part at this type and executed in a small extend the location isn't important and can take place at different sites.



**Closed:**  
The Care Farm is part of a private farm and with that a closed entity. Also for the people that spend their day there, it is desirable that the site is enclosed to give them some privacy.



**Manager:**  
This type can be maintained by a manager who can as well be the owner of the farm.



**Animals:**  
As an extra element and function of the Care Farm animals are present at this type.



**Childcare:**  
The daytime activity of this type can be a childcare for the children in the surrounding neighbourhood. The special element is that they already come into contact with landscape.

Illustrations: Icons and bird eye view of urban agriculture type Care Farm

# 7.8 Characteristics of The Different Types

The types of urban agriculture, that are explained in the text above, differ in extend, lay-out and structure. To have an extra overview of all the characteristics of the different types, an distinction is made regarding visibility, view and design possibilities.

When characterizing the visibility two different kinds of visibilities are taken into account. The first one is the visibility on plot level, which is a part of the whole unit wherein the urban agriculture type is implemented. The second one is the visibility on unit level, which includes the whole urban agriculture implementation.

Characterizing the view is about what people can actually see when they visit the urban agriculture location and how they can experience different types of urban agriculture.

Regarding the design possibilities, here an indication is made how and in which extend a landscape architect can be involved in designing the implementation of the different types of urban agriculture.

On the next pages four diagrams are given that give more information about the different urban agriculture types relative to each other. Each diagram is accompanied with an explanation of the characteristics on the Y and X axe.

Urban Agriculture types	Visibility	View	Design Possibilities
 Do - it- yourself Farm	Plot level	Varied Differentiated	No control on plot level
 Experience & Public Farm	Plot level	variation interpretation visibility control	Full control
 City Park	Unit level	variety visibility control	Full control
 The Farm	Plot level	Overview	No control
 Care Farm	Unit level	Closed Limited visibility	Half control

Illustration 7.7: The characteristics of the different urban agriculture types

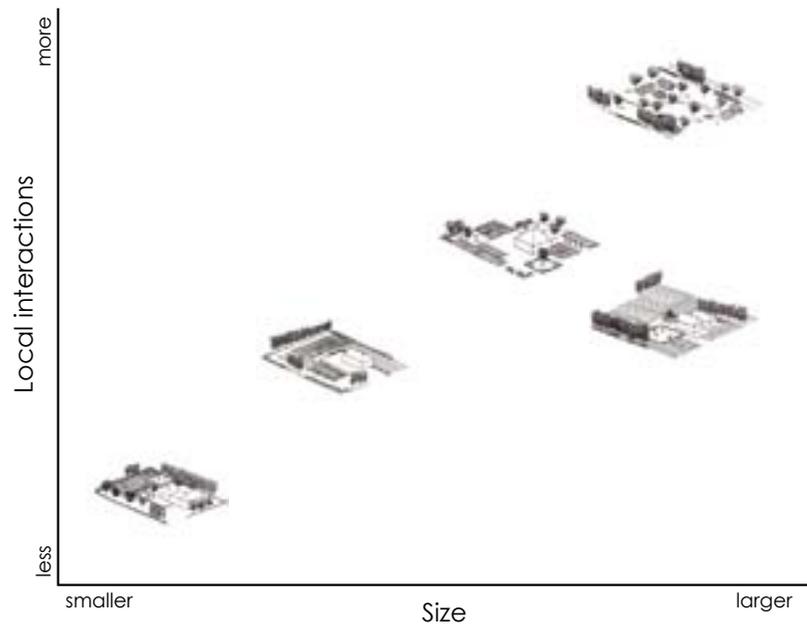


Illustration 7.8: Characteristics regarding size and local interactions

#### Size:

The implementation of urban agriculture will result in different sizes. However the actual size of the different types differ and through the design, the sensed size of open urban space can become very different from its physical size. Proportion can visually enlarge an open space, high and/or dense boundaries reduce it (Viljoen et al., 2005, p. 112). Here the legibility and complexity can be taken into account.

#### Local interactions:

Urban agriculture will attract various user groups, like city residents, tourist, local visitors, as well as people passing by. Memory is what keeps space alive. Space that creates memories is space of encounters. Spaces allowing encounters will both attract occupants and keep them coming back (Viljoen et al., 2005, p. 112).

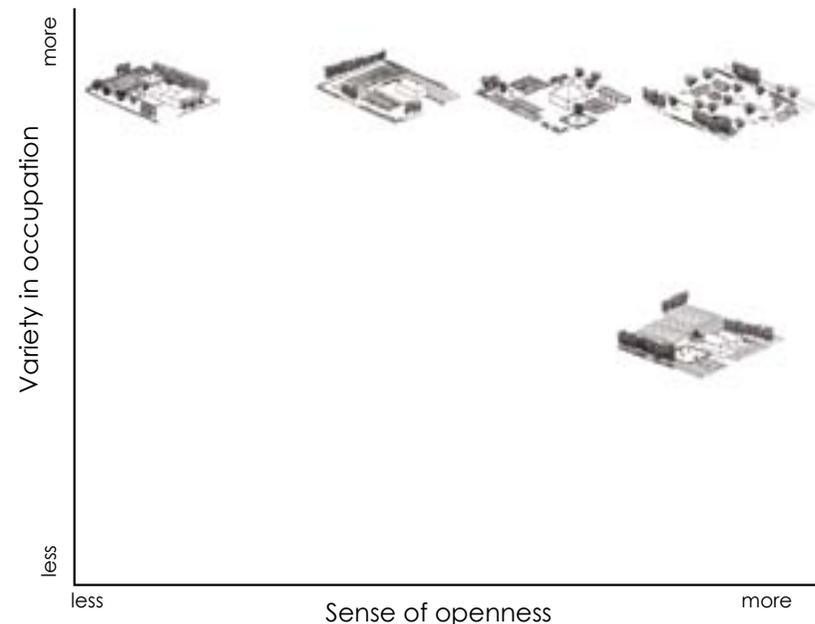


Illustration 7.9: Characteristics regarding openness and variety in occupation

#### Sense of openness:

In the layout of the designs a sense of openness is desirable. However this can be divided in physical openness and sensed openness, which can enhance the mystery of the design (Viljoen et al., 2005, p. 114).

#### Variety of occupation:

The different urban agriculture types will be used differently. There can be a diversity of occupation and activities. A measure for the success of the urban agriculture places is that it will create and maintain local interest. Citizens can occupy the places for leisure, using the services that urban agriculture provide as well as for education (Viljoen et al., 2005, p. 114).

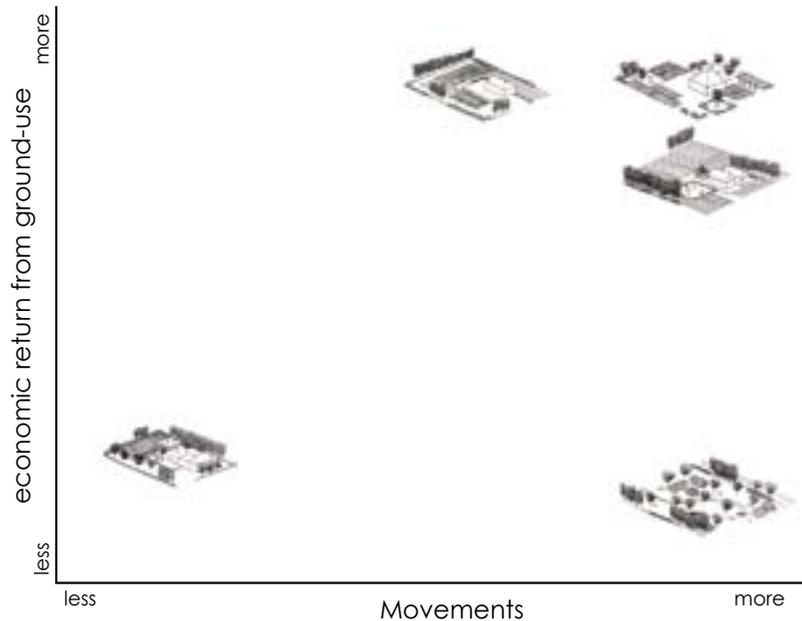


Illustration 7.10: Characteristics regarding movements and economic return

#### Movements:

For recognition of the urban agriculture area the entrances are very important. The place of urban agriculture will get site accesses and new connections between existing roads and paths. The variety of access points increases the potential for movement (Viljoen et al., 2005, p. 116).

#### Economic return from ground use:

Income can be generated by using the local ground. Financial return can take place from selling grown products in Tuinen van West. This enhances the short distance economy and can provide in an increase of local employers (Viljoen et al., 2005, p. 116).

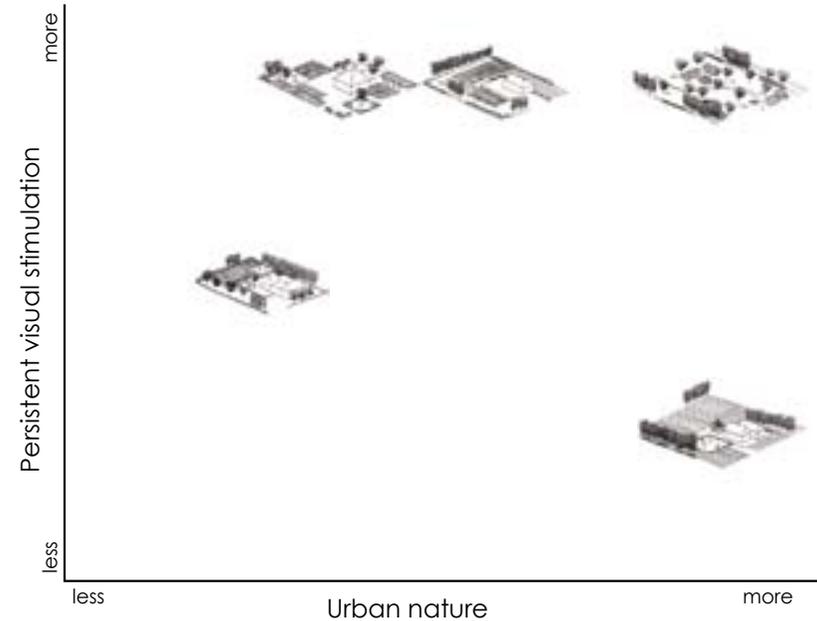


Illustration 7.11: Characteristics regarding urban nature and visual stimulation

#### Urban nature:

Urban agriculture provides in the presence of natural features in the urban environment. Agricultural vegetation can for example give open space an extra dimension by adding a greater variety of plants and forms of planting (Viljoen et al., 2005), p. 118). Also the seasonal changes will become more visible with the implementation of urban agriculture, more changes can be experienced.

#### Persistent visual stimulation:

Visual stimulation is crucial to maintain peoples interest. Urban agriculture can provide in staging various events and exhibitions markets were a lot aspects of urban agriculture are made visible. However the landscape with fruit trees, vegetation, herbs, flowers, borders and fields provide visual stimulation as well (Viljoen et al., 2005), p. 118).





# Experience research

# 8.1 Spatial Visual Experience research

Spatial quality can have three aspects namely, utility value, experience value and future value. The experience value is the hardest to understand. The experience of spatial quality is mainly determined by the connection somebody has with a specific location. This feeling will be stronger when people have a connection with the location (RIO Nuevo, 2009, p.1).

Thwaites and Simkins use in their book (Thwaites & Simkins, 2007, p. xi) the term experiential landscape. This term is used to conceptualise a holistic relationship of outdoor open space and a range of human experience. The experiential landscape can be seen as a spatial and experiential whole, constituted from outdoor places that people use.

The experiential landscape is not conceived as a collection of set piece locations linked together, but as a totality of varying spatial volumes experienced sequentially. To have a good spatial visual experience of the landscape is important, because people attach significance and value to outdoor settings for many different reasons (Thwaites & Simkins, 2007, p. 40).

According to Gordon Cullen it can for example be a journey through pressures and vacuums, a sequence of exposures and enclosures of constraints and relief (Thwaites & Simkins, 2007, p. xii).

Experience is an interaction between the mind and the environment. Environmental perception can be divided into cognition and interpretation on one hand and emotion and evaluation on the other hand.

Looking at cognition and interpretation is looking at the mental processes of storing information and knowledge. It is about knowing by experience, in dutch known as 'ervaring'.

The cognition and interpretation refers to processing of environmental information. People are able to build up images of places, for orientation and what can be done in the specific setting.

Emotion and evaluation is about feelings and attitudes. This is not based on ratio but more on sentiment. In dutch this is known as 'beleving'. With experience there is a focus on the place instead of the opposed abstract space. A place is seen as an experienced space. A space can become a place when people start to recognize it as somewhere they belong or are familiar with. People will then be able to have a sense of place ( Haan de, 2008).

After the whole analysis and definition of the different urban agriculture types, different options of implementation of urban agriculture were defined. However these options were based on very random choices and not on the actual possibilities and opportunities available at specific places that could benefit from the urban agriculture implementation.

To gain more insight into the situation of the landscape, the condition and appearance of the different places a study is done regarding the spatial visual experience. For this research the question raised, what can actually be seen and experienced when going along the roads of Tuinen van West.

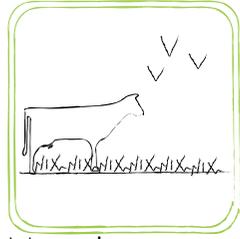
With the spatial visual experience study I have looked at what can be seen and to what extend is the view, for example blocked by elements or is there a very wide and open view towards the open landscape.

A division is made in seven different categories of what can be seen.

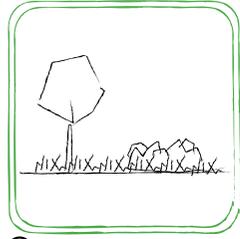
The first map is an overview of all the views with their extends. The next maps will be focussing on a specific road and will be explained. Also is shown which will be the specific places that could benefit from urban agriculture.

In the end this will result in a map with all the specific locations where implementation of urban agriculture is desirable.

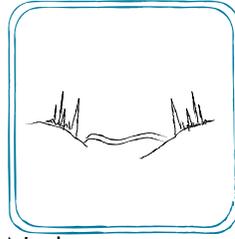
## Spatial Visual Experience along the Roads



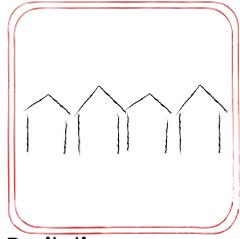
Meadows



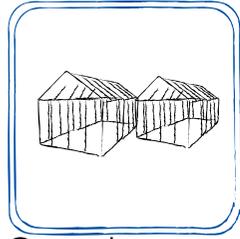
Open green



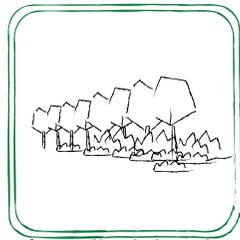
Nature



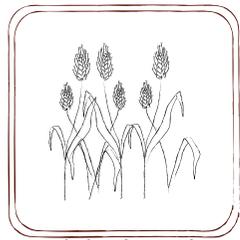
Buildings



Greenhouses



Visually blocking green



Arable land

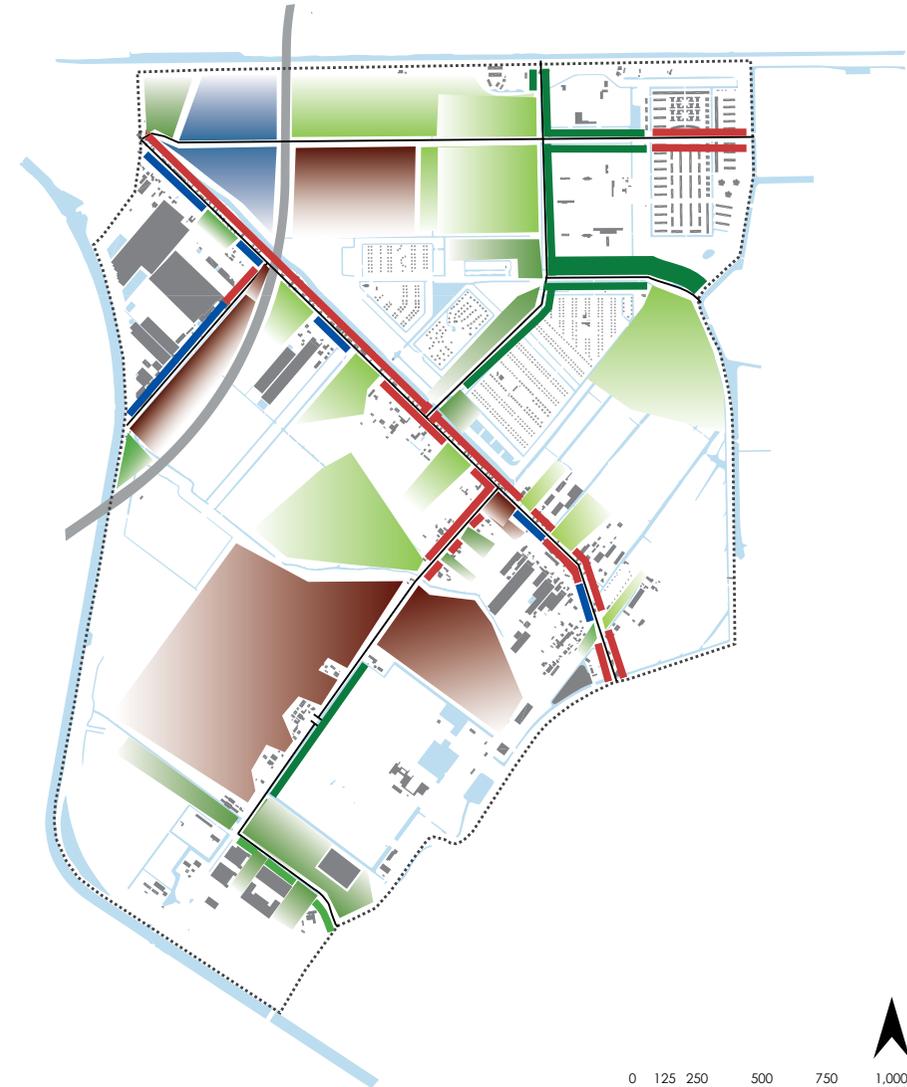
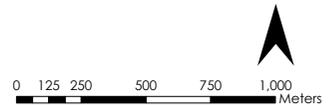


Illustration 8.1: The different spatial entities



## Tom Schreursweg

### Current situation:

In between the open landscape of Tuinen van West and the neighbourhood the view is blocked by green hedgerows. Where the open landscape starts is a wide view towards the open agriculture fields. At the west of the Westrandweg new wetlands are created, but still your view is towards the open landscape.

### Spatial qualities:

There are relative large open parts of agricultural fields located in close distance to the neighbourhood.

### Desirable opportunities:

More variation in the landscape is desirable, it now provides a rather monotonous view.

### Spatial possibilities:

The area on the north of the sports park can be used for a new function. The small area near Halfweg can also get a different function.

### Conclusion:

The road is optimal situated in connection with the neighbourhood, with considering variation in use it can become an optimal location for the implementation of urban agriculture. In combination with the existing allotments parks, it can function as a recreation zone for the neighbourhood.

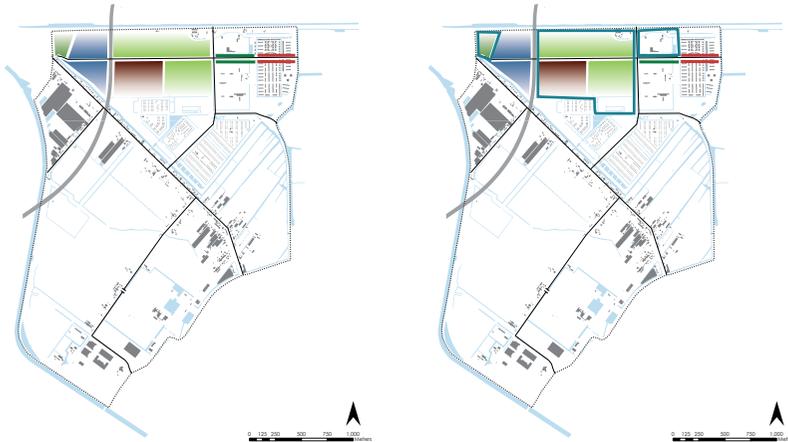


Illustration 8.2 & 8.3: Tom Schreursweg and places for interventions

## Joris van den Berghweg

### Current situation:

At the east side of the road a green hedgerow is blocking the view and on the west side the open agricultural fields provide an open view.

### Spatial qualities:

There are relative large open parts of agricultural fields located in close distance to the neighbourhood.

### Desirable opportunities:

More variation in the landscape is desirable, now it provides a rather monotonous view.

### Spatial possibilities:

The area located on the west of the sports park can get a new function.

### Conclusion:

The same conclusion can be drawn for Joris van den Berghweg as was done for Tom Schreursweg. The road is optimal situated regarding the connection with the neighbourhood, and with variation in use it can become an optimal location for the implementation of urban agriculture. In combination with the existing allotments parks it can function as a recreation zone for the neighbourhood.



Illustration 8.4 & 8.5: Joris van den Berghweg and places for interventions

## Nico Broekhuysenweg

### Current situation:

From the neighbourhood you are able to enter Tuinen van West and on the actual edge of the neighbourhood you can have a view on the Osdorperbinnenpolder Zuid.

### Spatial qualities:

Along the road there is a wide green zone and a view towards the landscape.

### Desirable opportunities:

To create a clearly visible entrance towards Tuinen van West.

### Spatial possibilities:

Make use of the wide green zone as a connection between the neighbourhood and Tuinen van West.

### Conclusion:

It is an optimal location to enter Tuinen van West from the neighbourhood, but the entrance can be used in a better way. Also a connection can be created between other places where urban agriculture can be implemented.



Illustration 8.6 & 8.7: Nico Broekhuysenweg and places for interventions

## Raasdorperweg

### Current situation:

Along this road there is a small strip of available and useful agricultural ground, in between the road and the Westrandweg.

### Spatial qualities:

The agricultural fields are of a certain proportion, where small scaled agriculture is still possible.

### Desirable opportunities:

Make optimal use of the available space and connect it with the greenhouses.

### Spatial possibilities:

The area can be used for small scaled urban agriculture.

### Conclusion:

It is a small area, but a suitable area for the people of the Osdorperweg. And in the future it will provide a connection with the area on the other side of the Haarlemerringvaart, with the realisation of a new bridge.



Illustration 8.8 & 8.9: Raasdorperweg and places for interventions

## Osdorperweg

### Current situation:

This road is the main road through Tuinen van West, it is a build-up ribbon settlement with at some points open views towards the landscape that is located behind the ribbon.

### Spatial qualities:

A opportunity is to show the open views towards the open landscape more.

### Desirable opportunities:

Creating more opportunities where (urban) agriculture can be shown to the general public.

### Spatial possibilities:

There are some places where a place specific intervention can provide an implementation of urban agriculture.

### Conclusion:

Along this road there are some possibilities to improve the presence of agriculture and these places can function as connection points with other places in Tuinen van West.



Illustration 8.10 & 8.11: Osdorperweg and places for interventions

## Lutkemeerweg

### Current situation:

The Lutkemeerpolder consist of agricultural fields, which are used for intensive production.

### Spatial qualities:

There is an open and wide view into the whole polder.

### Desirable opportunities:

Visualizing and improving the way of showing the agricultural production and with that creating better and more awareness.

### Spatial possibilities:

Spatial changes doesn't have to occur, or in a very little extend. It is important that the production of food is made visible for the general public.

### Conclusion:

The polder is a beautiful authentic polder with active large scales agricultural production, this image should be maintained or even strengthened for the general people to experience.

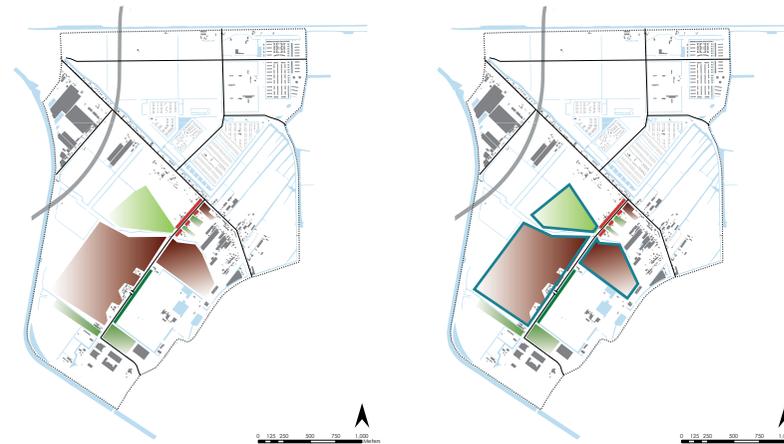


Illustration 8.12 & 8.13: Lutkemeerweg and places for interventions

## Etnastraat

### Current situation:

Along this road a wide green zone is located that could provide a connection with the neighbourhood

### Spatial qualities:

The beginning of the road is open and clear entrance towards Tuinen van West.

### Desirable opportunities:

The area has more potential than the current left-over function it fulfils at this moment. Urban agriculture would be a good solution to implement.

### Spatial possibilities:

The area is of such a size that it can function as a good entrance of Tuinen van West.

### Conclusion:

The area will give a landscape like image as the entrance of Tuinen van West, but this image has to be strengthened.



Illustration 8.14 & 8.15: Lutkemeerweg and places for interventions

## 8.2 Locations

With the spatial visual experience study it became clear where the visible interesting places in Tuinen van West are. Regarding all the different places it was decided if interventions on the location were desirable and if the interventions would lead to a better visual experience.

The next map will show the places where interventions are desirable and if in that case urban agriculture can be implemented to enhance the visual effect.

The Osdorperbinnenpolder Zuid and some spots along the Osdorperweg are not selected as desirable places of the implementations of urban agriculture. This is due to the fact that on these locations the existing landscape has a lot of openness and should remain open.

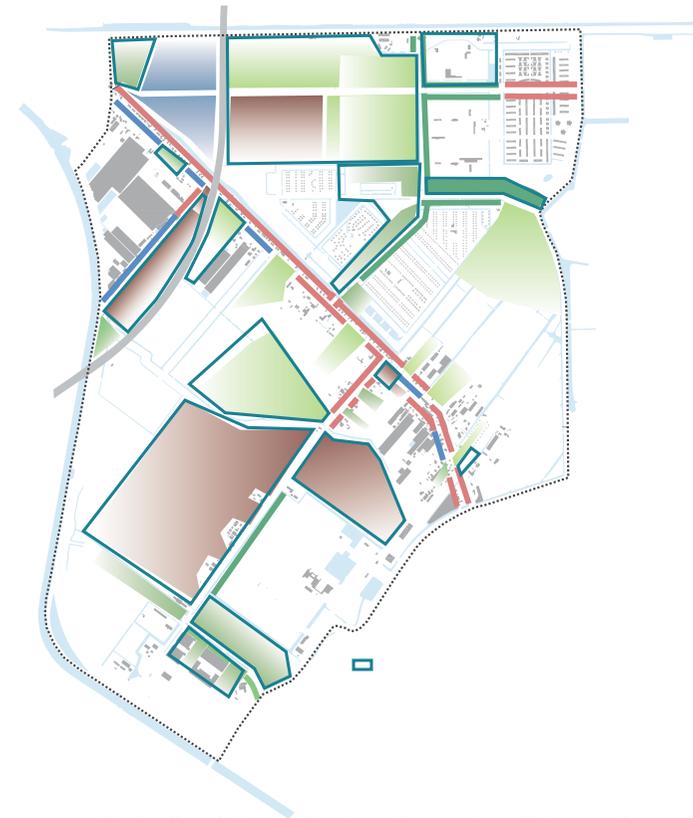


Illustration 8.16: All the locations where interventions are desirable





# 9 Design Phase

# 9.1 Choice locations

As the locations where desirable interventions could be made are known, the implementation of urban agriculture can be defined. However this can't be done based only on the results of this spatial visual experience research. The combination of outcomes of the limiting factors that resulted from the analysis phase, the characteristics of the different types of urban agriculture and the spatial visual experience the location possibilities for the implementation of each urban agriculture type could be defined. An visualisation is made on the right.

For the design phase I have chosen three different locations within Tuinen van West, that all have their own specific layout, context, connection, and integration with and in Tuinen van West. The locations for the design phase were chosen by determining which type of urban agriculture can occur on the locations.

On these chosen locations it showed that a lot of the different urban agriculture types could be implemented. Therefore these are chosen, to show the multiple possibilities of implementation of the urban agriculture.

The three chosen locations are strategic places in Tuinen van West as they are for example located near the border and in close distance to the neighbourhood. Or they are located in the middle of Tuinen van West and have a good connection with the surrounding build-up area. With the implementation of urban agriculture they all can have beneficial effects on the city opportunities.

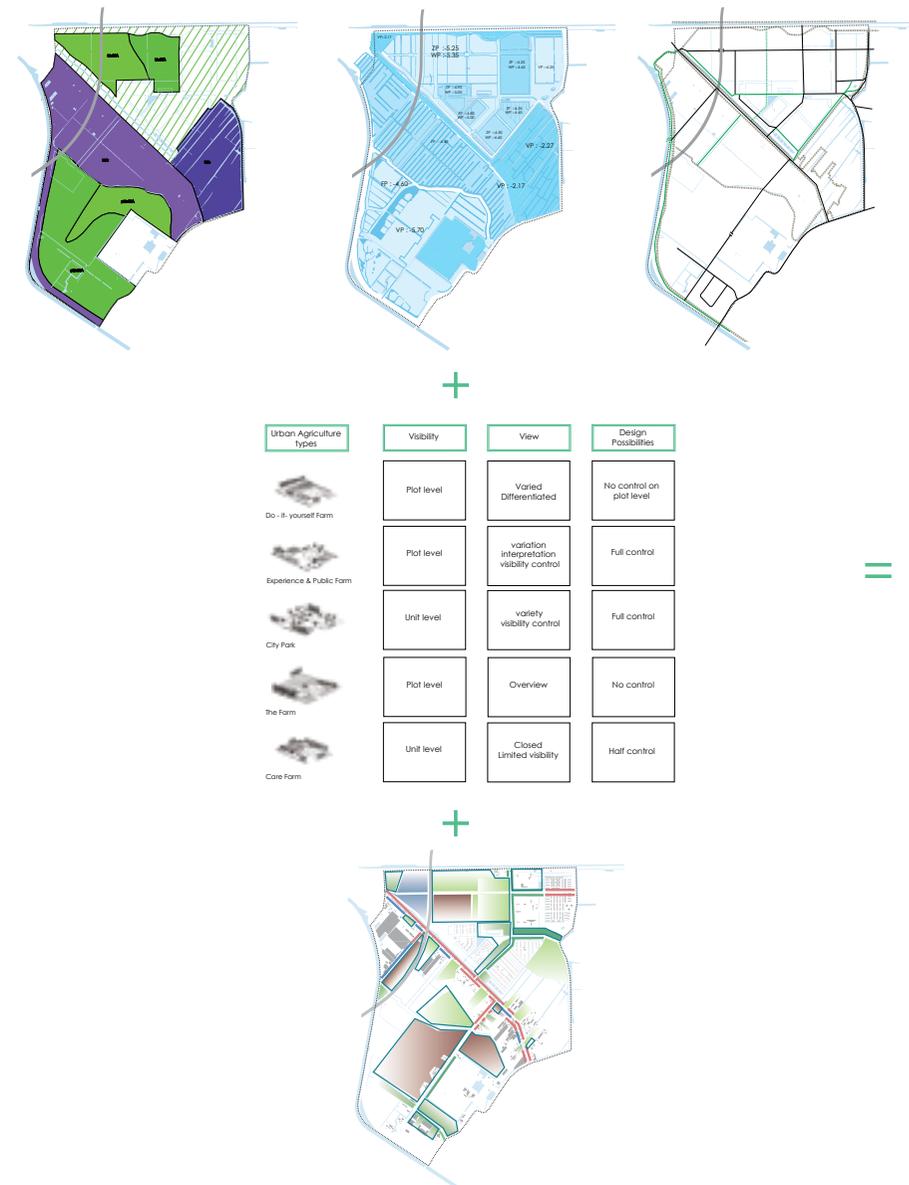
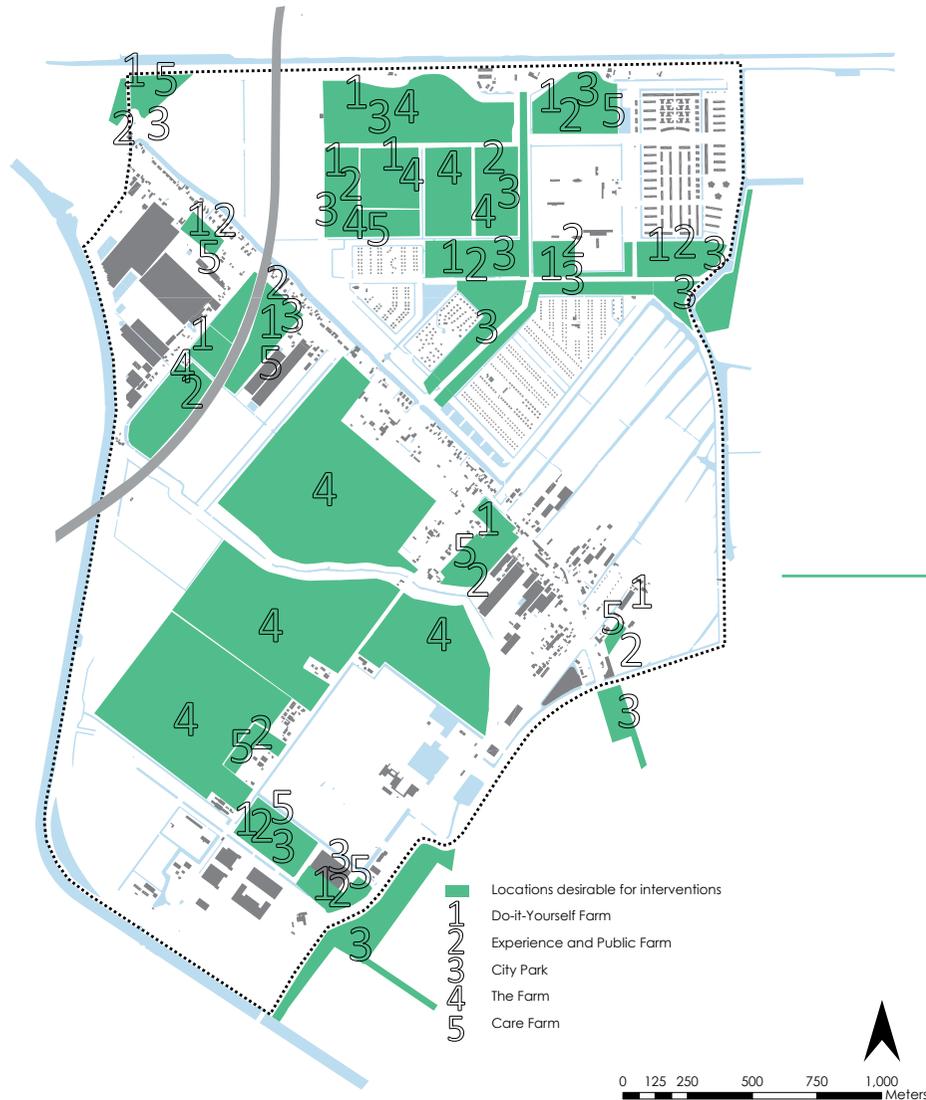
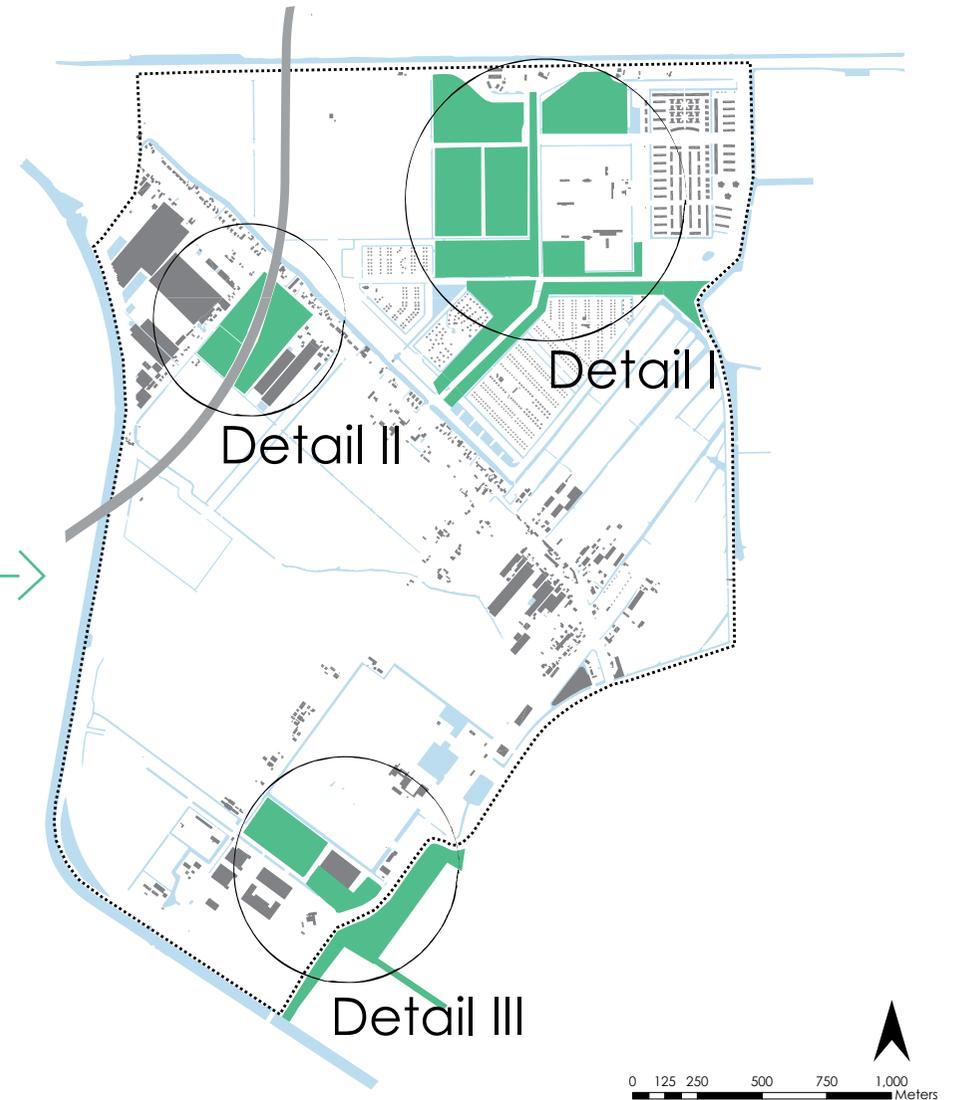


Illustration 9.1: Combination of research outcomes that result in the delineation for locations with urban agriculture implementations

## Possibilities of implementations of the types



## Locations of the Details



## 9.2 Details

The purpose of the design phase is to show the different possibilities of the implementation of urban agriculture. There are three locations chosen to implement urban agriculture, which will be beneficial for the city opportunities. For these three locations in total eight designs are made to show the different kind of possibilities of implementation. For both locations, I and III, three options are made and for location II two options were designed.

The spatial interpretation of urban agriculture provides sustainable solutions for the future of the Tuinen van West. It can strengthen the landscape spatial structure and give temporary solutions. With the implementation of designable urban agriculture the qualities of the Tuinen van West are taken into account. According to Kaplan a correct solution is the one that is locally appropriate and responsive to the situation. (Kaplan et al., 1998, p. 3). In the designs, solutions of appropriate implementation of urban agriculture are provided and fit in the surrounding context and current situation of the landscape.

In the design variations the characteristics of the polders will be taken into account and used as a basic and often even strengthened. For example the lanes of trees in the Osdorperbinnenpolder Noord are very present elements in the landscape and form a system of chambers of the polder. This structure has to be maintained in the design and therefore the lanes of trees will be used and the effect will even be enhanced. The context of the locations is taken into account in the designs which indicates that the urban agriculture will be implemented according to the structure, coherence, dynamics and character of the locations.

Urban agriculture is a land based spatial function which will be implemented in the Tuinen van West. The majority of the area of the Tuinen van West is arable land, but this won't be the same in the future. Urban agriculture can help to maintain the open and rural characteristics of the place. In the design the issues of the city opportunities will be implemented in the designs.

The designs of the implementation of urban agriculture are made with the attempt to raise awareness that food is important. Also it attempts to show how food can be produced in the nearby environment of the city, to provide more and better experience of the landscape and create a better connection with the surrounding neighbourhood, This would lead to a better connection between the city and its surrounding land.

Besides enhancing the city opportunities the designs are also made to challenge further developments in the area, to create an atmosphere in which urban agriculture is an enrichment based on the current situation.

The quality is dependent on the consistent execution, with a continuity, recognition of the structure. A design that ensures coherence between the future functions and will strengthen the identity of the area as well should be made. Implementation of functions has to ensure the scale, proportions of the space and visual possibilities. Elements of urban agriculture have a certain volume or proportion and spatial coherence, careless implementation could damage the scale and with that the experience.

According Thwaites and Simkins places are memorable for their social associations as well as their physical form (Thwaites & Simkins, 2007, p. 41) For urban agriculture this is very important, as it is a social implementation and people should become familiar with its meaning as well as with its physical extent. The landscape is in service of the citizen and with that the experience value is of high importance, the landscape has to be functional but still beautiful. I will try to pursue this when designing.

With these designs I also want to open the eyes of people, so that they can really see what the influences and benefits of the implementation of urban agriculture can be in Tuinen van West.

Before showing and explaining all the details in chapter 10, first a few paragraphs regarding important aspects in the designs will follow and after that the different designs are explained.

# 9.3 Appreciation

People can have a certain engagement with the landscape and perception of the landscape. Some landscapes are more appreciated than others. Kaplan developed an environmental preference model with four elements that makes valuation of landscape quality possible. The model gives useful information about the characteristics that indicate why some landscapes are more preferred than others. A division is made in the two and three dimensional space, which makes further dividing between understanding and exploration of the scene possible. The cognitive features common to nearly all highly rated landscapes are:

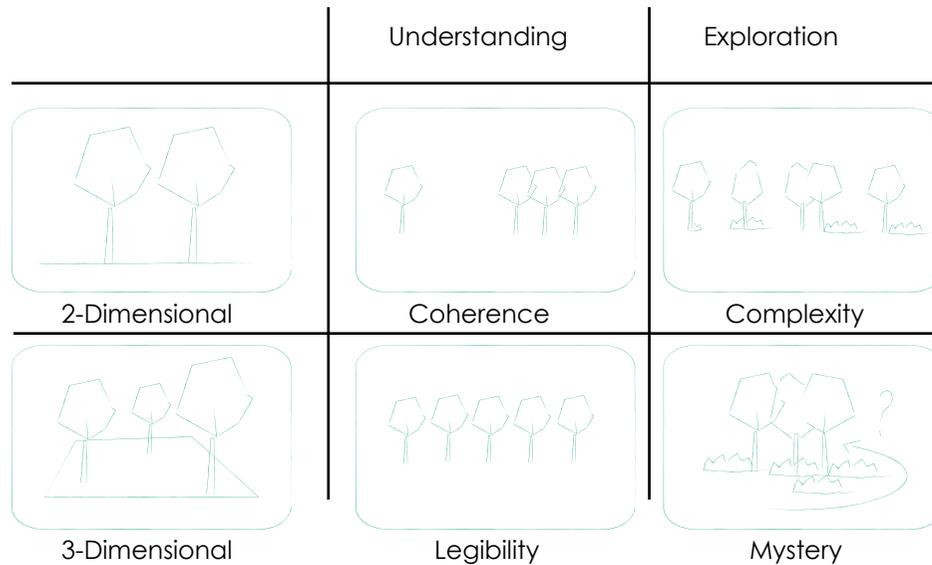


Illustration 9.2: Interpretation of environmental preference model of Kaplan (Kaplan, 1998, p. 13)

Coherence in the landscape is about the understanding of the place. This understanding will increase when an area is orderly organized and has clear areas. A coherent space should be all of one piece, yet many of the spaces people love contain variety and diversity, both in built form and activity (Shafitoe, 2008, p. 54). Coherence is the ability to see and comprehend the pattern inherent in a scene and is thus the opposite of chaos (Bell, 1999, p. 85). The coherence can be improved by for example, working with repeating themes and unifying textures that are able to organize and structure the site (Kaplan, Kaplan, & Ryan, 1998, p. 14).

Complexity is the feature that reveals how much is going on at a specific place and what can be seen. Complexity can be looked upon as the range of different elements in an object or scene which provide sensory stimulation (Bell, 1999, p. 85). Also it can be seen as the amount of visual components present in the area that have to be taken in consideration and can affect the complexity of a scene (Kaplan et al., 1998, p. 14).

Legibility is improved by distinctive, memorable components that can help with orientation. The ease with which parts and patterns can be recognized improves the legibility. Knowing where you are, how to get to where you want to be and feeling that the space has visual coherence, is seen as the legibility of the space (Shafitoe, 2008, p. 48). Without experience of a place, its unique aspects are difficult to recognize. Experience can therefore make a substantial difference. With familiarity one learns to distinguish patterns in what seemed to be disordered (Kaplan et al., 1998, p. 15).

Mystery is about the desire to explore a place. This is greatly enhanced if there is a promise that one can find out more as they keep on going. The Mystery of a place is bigger if the aspects of a scene cannot be comprehended all at once (Bell, 1999, p. 85). For example blocked views within the landscape can work as a decrease of the sense of mystery (Kaplan et al., 1998, p. 16).

The two dimensional space is the way how people perceive and interpret the landscape. This includes the patterns, textures and location that they detect. For the coherence and complexity it is useful to have a direct perception of the elements in the scene in terms of their number, grouping and placement. Coherence and complexity is about the overview in the landscape.

The three dimensional space goes deeper into the scene and regards what occurs rapidly and unconsciously. Here people image themselves in the scene and the legibility and mystery are involved with the inference of what being in the pictured space would entail.

The model of Kaplan provided information to make sense of the environment. An environment that is well organized and distinctive is easier to understand.

With this information the potential of exploration of an area can be increased (Kaplan et al., 1998, p. 13).

There are substantial difference between the comfort a place can offer. When a landscape contains these four qualities mentioned before, it will be more appreciated and thus preferred. In that way scenes in the landscape can be rated. An example of a low and high preference landscape will be given.

A landscape of low preference will have large expanses of undifferentiated land covers. Too much of the same will decrease the coherence, for example dense vegetation and obstructed views lack a clear focus, it is important to have an overview.

High preferences in the landscape are for example spaced trees and smooth ground with a clear spatial configuration and focus, it is a setting that is inviting to enter (Kaplan et al., 1998, p. 13).

## 9.4 Landmarks

In all the designs landmarks are added to designs of urban agriculture and the existing landscape. This is done to improve the coherence and legibility of the area, for a better understanding.

Already mentioned by Lynch(1960) and Kaplan (1998) is that the presence of strong visual devices, such as landmark features, vistas and views, are important because they help emphasise a sense of direction as well as help provide orientation. As Kaplan argues, landmarks need to be distinctive and memorable as well as visible from some distance (Thwaites & Simkins, 2007, p. 42).

It is important to have special elements that function as these distinctive and remarkable landmarks. The landmarks are as well useful in way-finding when they are distinctive and not too many. (Kaplan et al., 1998, p. 53). The legibility of the place is improved, as they help to orientate how and where people are positioned in Tuinen van West.

With the landmarks people are able to develop a sense of familiarity about where they are in relation to what is the surrounding landscape (Thwaites & Simkins, 2007, p 41).

The landmarks in Tuinen van West will have a thematic continuity, they are all related to urban agriculture. These landmarks help to orientate and give directions to where urban agriculture takes place in Tuinen van West.

These elements are basic points in the design, they should be in harmony with the implementation of urban agriculture. In the designs this is for example done by combining a special element that shows food production within the actual landmark.

All the landmarks in Tuinen van West are strongly visible and therefore visual aesthetics dominate. This is because of what we see in the environment is often the strongest sensual stimulation and this enhances our senses of hearing, touch and smell. The fact remains that the experience of a place is usually based on a combination of several senses (Shafitoe, 2008, p. 63).

In case of Tuinen van West people are able to touch and smell the landmarks as well as seeing it and they are able to get in contact with the overall idea of implementation, namely visualize the food production and create awareness and provide orientation. The landmarks can also function as hints for exploring and experiencing, of what the landscape has to offer.



Illustration 9.3: Impressions of elements that can function as landmarks and are related to urban agriculture

# 9.5 Paths

In the designs many new paths will be realised. According to Kaplan paths are important because from the different paths, people can easily oversee the landscape and understand the lay-out, which will result in a better remembrance of the landscape(Kaplan et al., 1998, p. 55).

Besides the importance of the lay out Motloch states that lines of flow could provide an evolving, stimulating and interesting journey through an environment with sensory stimulation (Motloch, 2001, p. 160).

For the people who will visit Tuinen van West walking it is important to design a pedestrian circulation systems, that includes alternative paths of movement. This to offer pedestrians different appropriate paths and anticipated experiences based on their available time and desired enrichment(Motloch, 2001).

While designing the paths and circulations human tendencies should be kept in mind. People tend to move towards goals, which in these designs will be the locations of urban agriculture or the landmarks. Our rate of movement is also influenced by the directional characteristics of a place, the nature of the circulation path itself, and visual sequences(Motloch, 2001, p. 160).

When travelling for longer distances it is important to have intermediate goals and variety in the landscape that is passed, an example for this will be the design of the City Park. Here is also the possibility to have a pause between the actual urban agriculture locations. The views in the design will differ as there will be a varied sequence of long and short views from the paths. The landscape that will be experienced will differ in shape and size due to the different views.

In the last paragraph is spoken about the landmarks, they form important extra elements in Tuinen van West. For orientation people need stimulation, especially when they move around, this will be enhanced with the landmarks. When the imagination is exercised and attention is attracted by the landmarks, people will more likely go along the paths and explore more of Tuinen van West. If at the same time they experience diversity in the landscape they are encouraged to explore even more of the area (Thwaites & Simkins, 2007, p. 42).

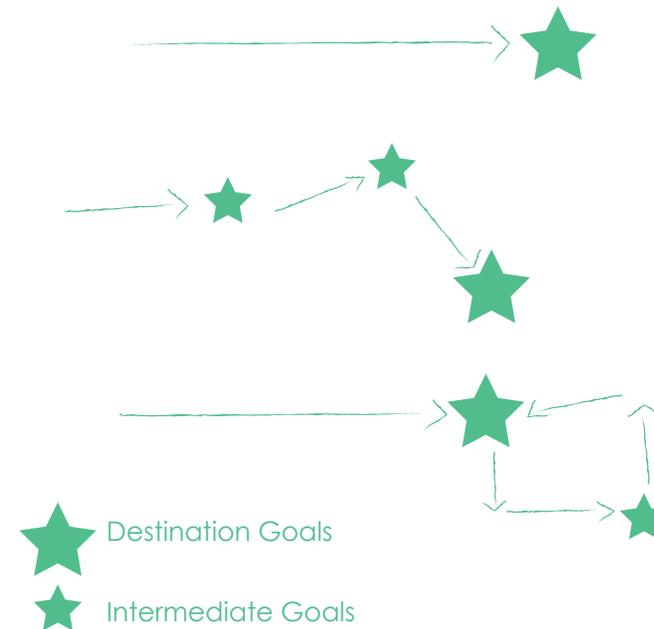


Illustration 9.4: Circulation with destination and intermediate goals

## 9.6 Patterns

According to Norberg-Schulz people have innate tendencies to externalise centres, or locations, in the environment as points of reference from which to become aware of where one is in relation to the rest of the surroundings (Thwaites & Simkins, 2007 , p. 46).

A pattern can be defined as an arrangement of repeated or corresponding parts, or a style, or a repetition of similar parts (Bell, 1999 , p. 12 and13). The landscape originates and consist of landform patterns. The overlaid patterns, a second layer, is produced by ecological processes and cultural patterns are determined by human use (Bell, 1999, p. 38). In that way there is a range of patterns, their originating processes, our perception on them.

Patterns can make sense of our surroundings or can be used to create order. All patterns in the landscape will have a visual appearance. They can have a predictability factor in them, so people can recognize them and be able to perceive them.

Patterns can be seen everywhere in the landscape, but also patterns can be created and in a way that they will emphasis on the focus of people. In the designs of this thesis additional elements are added as landmarks, that provides in an overall pattern. The urban agriculture can also be seen as a new added pattern, as it provides in an arrangement of repeated parts of urban agriculture.

## 9.7 Entrances

The entrances of Tuinen van West are very important places, here people will visually experience the start of an area were urban agriculture takes place. The entrances provide the visitor with suggestions of the possibilities the area will offer. The entrances will be representative of what takes place in Tuinen van West regarding urban agriculture.



Illustration 9.5: An impression how a entrance can look like

*What fits best,  
Not what is the best!*





# 10 Designs

# Explanation

The purpose of the design phase is to show the different possibilities of the implementation of urban agriculture. There are three locations chosen to implement urban agriculture, which will be beneficial for the city opportunities.

For these three locations in total eight designs are made to show the different kind of possibilities of implementation. For both locations, I and III, three options are made and for location II two options were designed. The next paragraphs will show all the designs made.

Each design will be explained, a description is given about what kind of functions are present in the design. Afterwards the most useful feedback of the focus group of Nieuw West is given and the research questions regarding the city opportunities are answered. Also a conclusion is given about the design, with a negative and positive remark made about the design.

Each design will be supported by bird eye views and impression images. The legend of all the designs can be found on page 163.

# 10.1 Location I

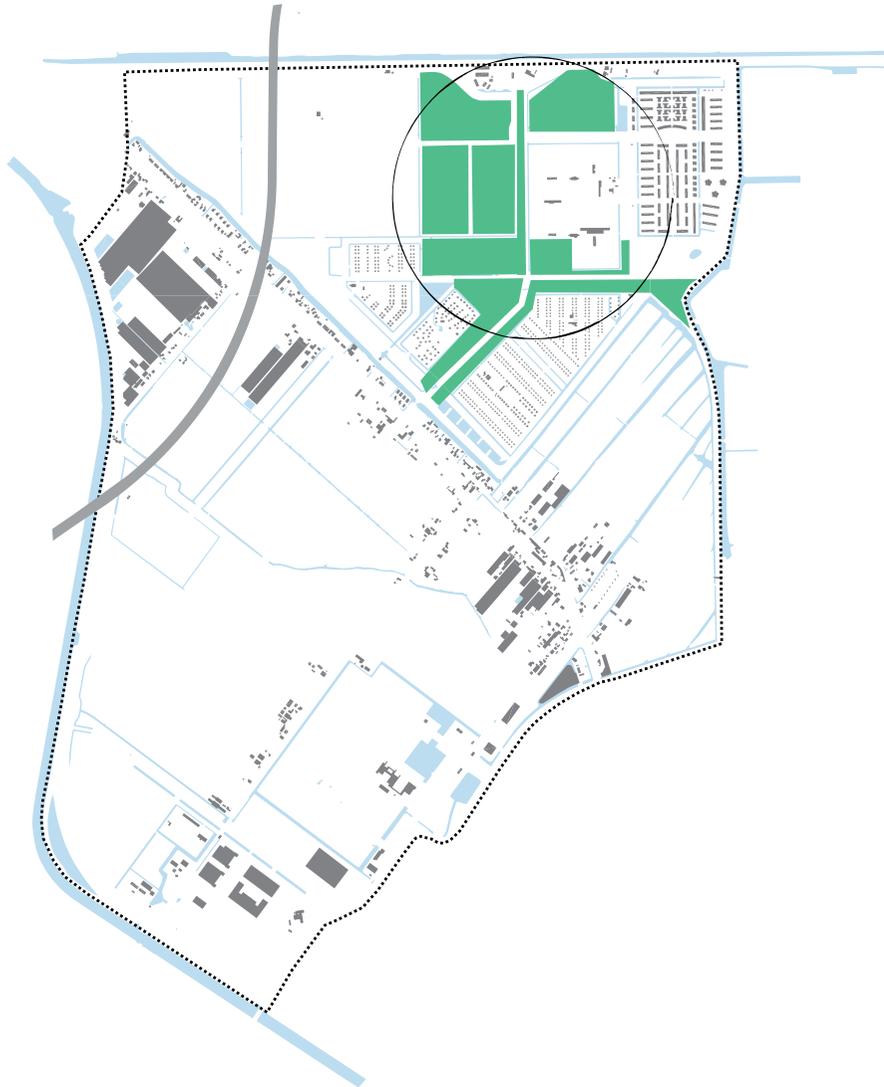


Illustration 10.1: Location of Detail I

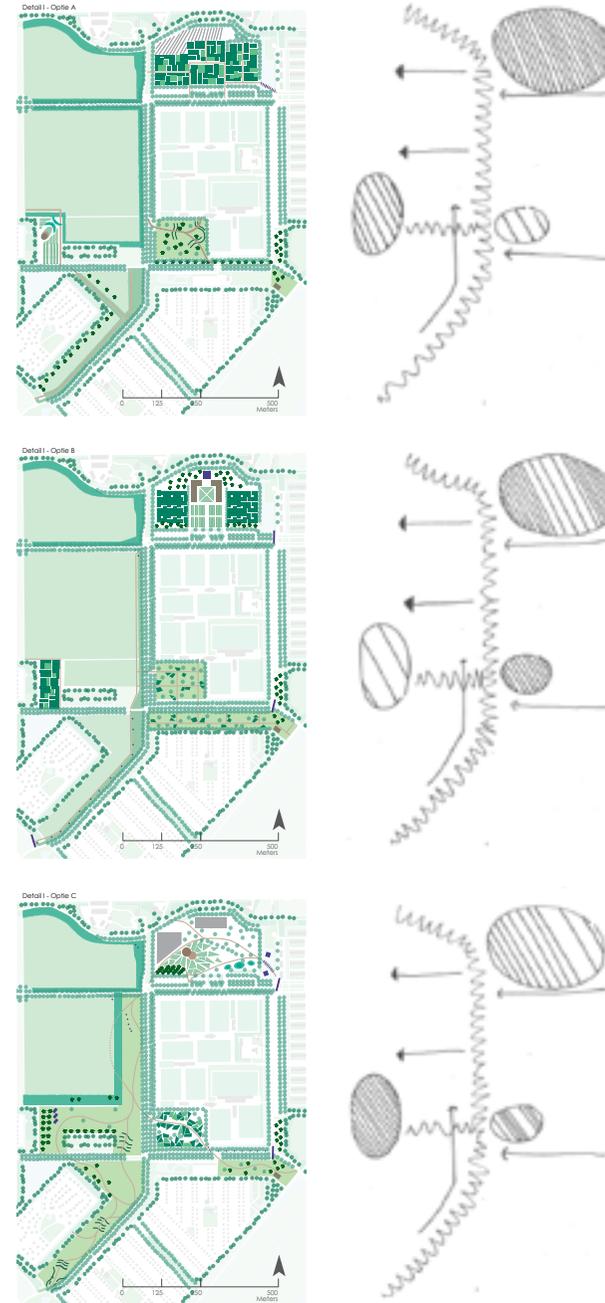


Illustration 10.2: The three design variants of detail I and their spatial impact



*Illustration 10.4: The elevated tribune, which ables to have a view towards the open landscape and the Experience Garden*

# 10.1.1 The Gardens

In this design on different small locations urban agriculture will be implemented in different forms. This design is really fitting into the existing landscape, which also will be the case with the option of the Estate .

1 In the northern part of this design a Do-it-yourself farm is created. This will be realised in phases, the dark plots are already occupied and the light green ones can be developed when there is demand. The stripes indicate that the existing function there, an adventurous playground and a tennis court will be maintained.

2 At this location adjacent to the allotment park an Experience and Public farm is placed with a special element. This landmark is an elevated part of the landscape that functions as a kind of tribune towards the open landscape. From here you can experience the gardens as well as the open polder landscape.

3 Here a small scaled City Park is located. In this park there are no urban agriculture plots, but public borders are realised. These borders will show how different types of vegetables can grow and change during the seasons.

4 Along the southern part of the Joris van den Berghweg an ecological zone of high grass with walking path is created. In the open meadow fruit trees are placed to achieve a little implementation of urban agriculture. On the borders of the meadows in the polder ecological zones are created. The ecological zone continues in the northern part along the borders of the meadows.

5 At the entrance of Tuinen van West a very small garden is created, that functions as an extra element at the entrance and has visual contact with the open landscape of Osdorperbinnenpolder Zuid.

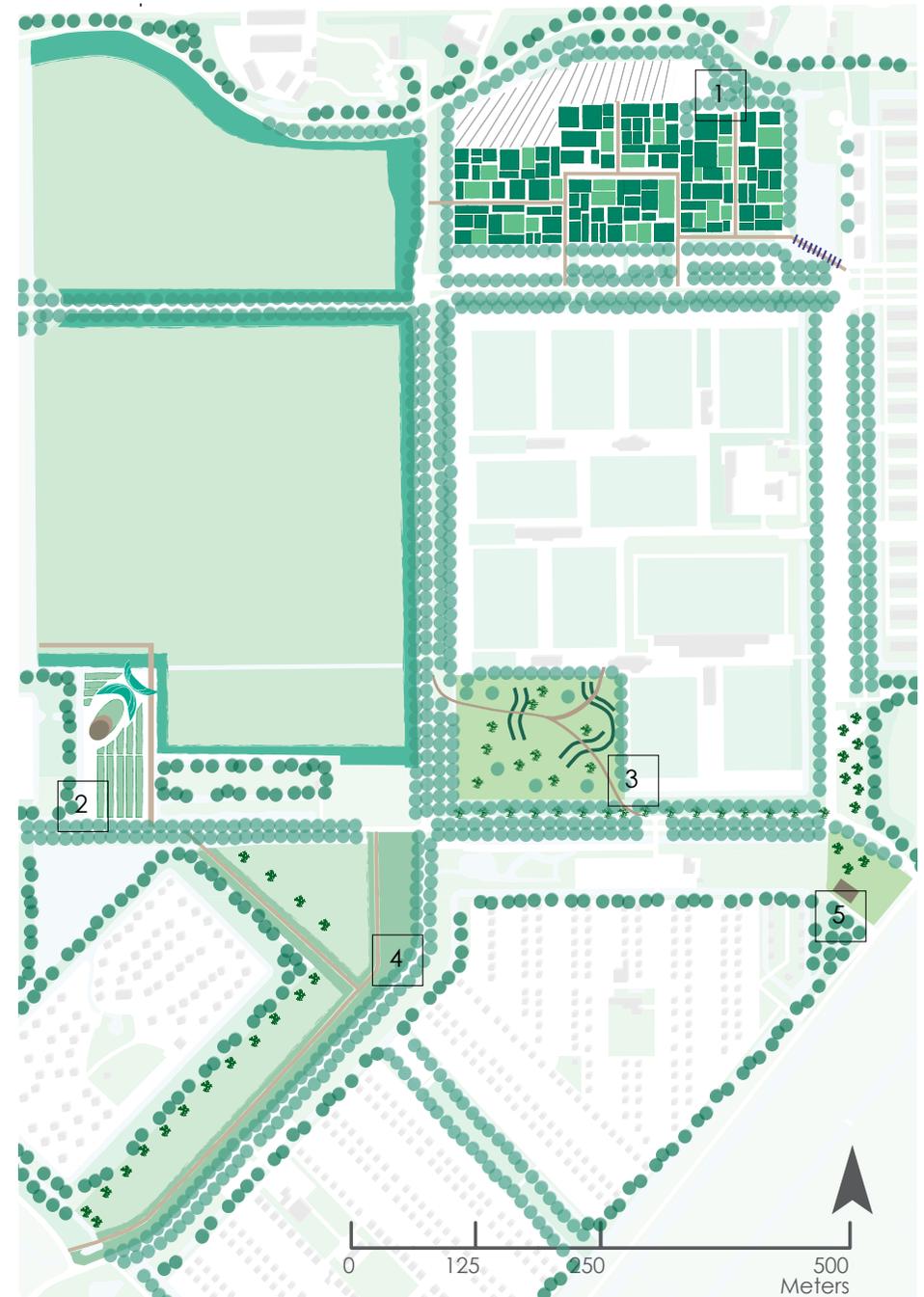


Illustration 10.5: Design variant The Gardens

## Opinions Nieuw West

This design provides in a first start of the implementation of urban agriculture. On several spots something occurs and when it is succesfull more places with urban agriculture can be realised.



### Food production

This is the subtle variant. There are fruit trees in open public space and borders with vegetables in the park. Coming from the neighbourhood the Do-it-yourself farm is at close distance and easy accessible. From the experience park you can easily access the allotments garden park and experience them. The realisation of the Do-it-yourself farm will happen in phases.



### Experience of the landscape

Walking paths next to the open meadows are created to have an open view towards the meadows and it is also possible to have a view of the meadows from the experience gardens elevated element. The current wide existing landscape is maintained. This option has different ways to get in touch with the rural landscape and in that way getting to know it.



### Connection city and land

The Do-it-yourself gardens function as the entrance of Tuinen van West. The urban agriculture is easy accessible, with a small walk people can make first contact. The Orchard functions as a start of urban agriculture in the neighbourhood.

## Conclusion

In this option a start with urban agriculture is made and expansion is a possibility. This is a subtle variant as there are some interventions on specific locations and people can get familiar with it.

- + Variation in types of urban agriculture and phasing
- Urban agriculture in a minimum extend

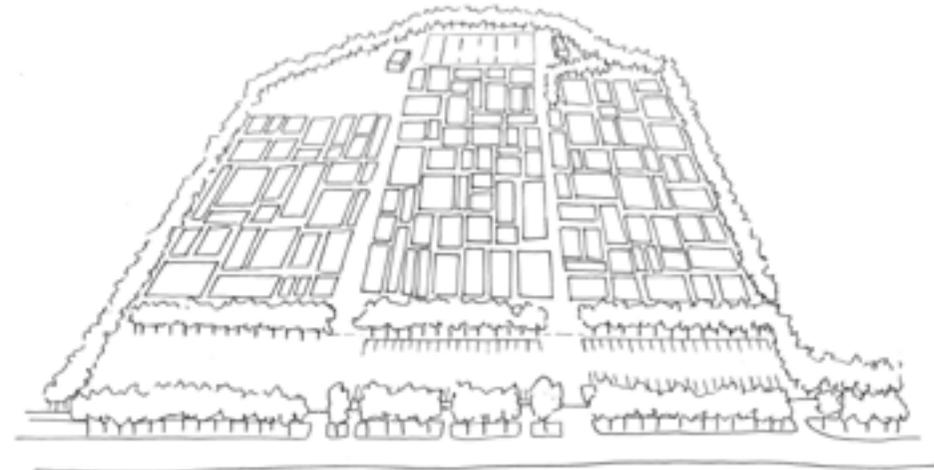


Illustration 10.6 & 10.7: Bird eye views of the Do-it-Yourself Gardan en the small park with borders



*Illustration 10.8: The Borders where vegetables are grown along the walking paths in the small park*



Illustration 10.9: The greenhouse on the Estate, surrounded by different borders where people can experience how different vegetables grow.

# 10.1.2 The Estate

In this design a combination is made of the type Do-it-yourself farm and the Experience and Public Farm. In this design the implementation of urban agriculture is really fitting into the existing landscape structure. At a few places interventions are made.

1 In the north of the plan an modern estate is designed on the border of Tuinen van West. This is in close proximity of the neighbourhood and can function as the entrance of Tuinen van West.

2 Here a small Do-it-yourself farm is realised, which can make contact with the existing allotment park. In the future development of plots is possible, now the development will occur in phases, if there is a demand the individual plots can be realised.

3 Here a City Park interpretation is implemented. From the entrance towards the open polder a park strip with individual urban agriculture plots is created. This can be seen as an entrance zone towards the open landscape of Tuinen van West.

4 Along the west side of the Joris van den Berghweg an ecological zone with walking path is created. Within this natural zone cubic boxes are located where also fruit or vegetables can grow. In the north of this zone there are some high viewing seats positioned to experience the landscape in a different extend.

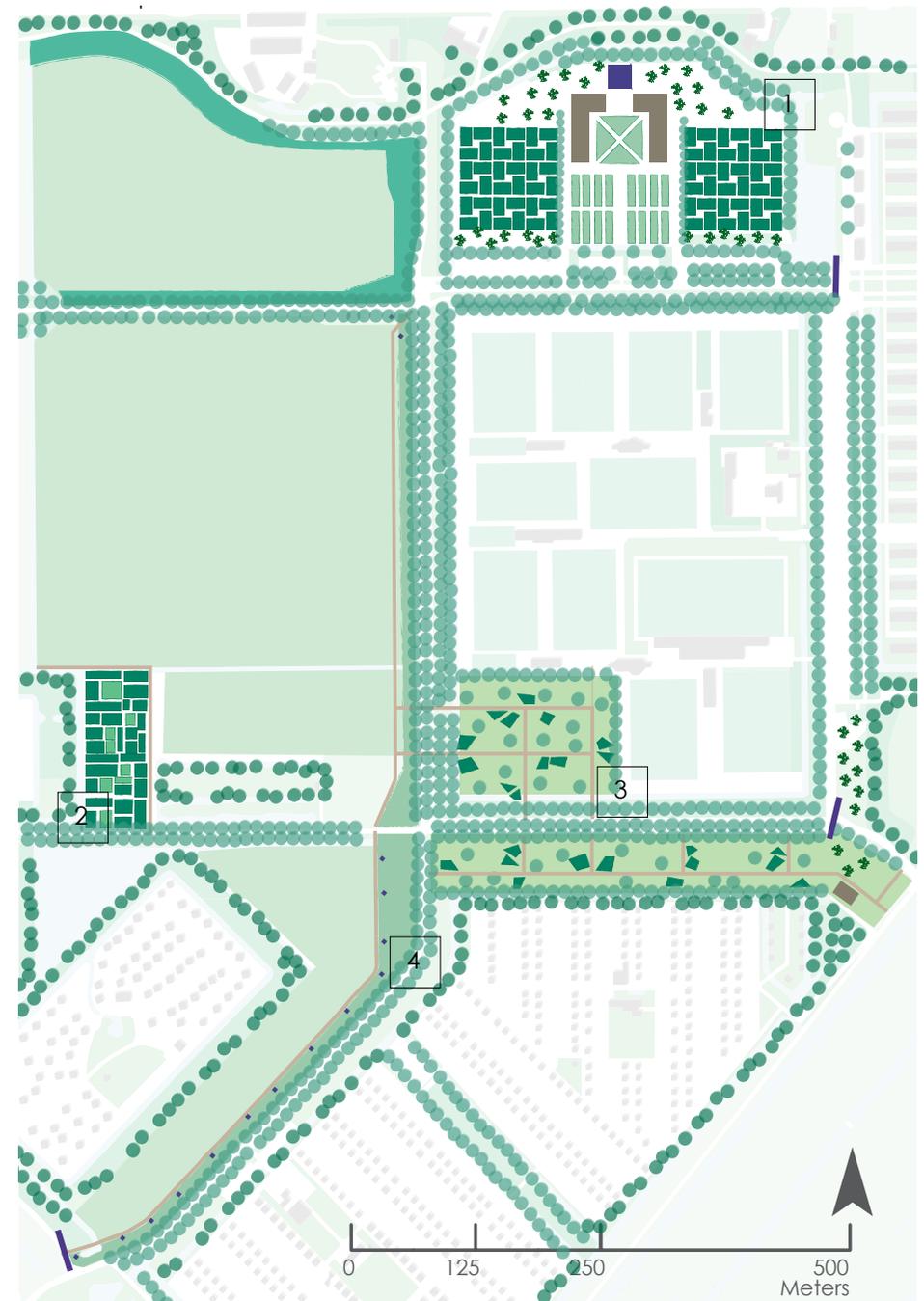


Illustration 10.10: Design variant The Estate

## Opinions Nieuw West

The Estate is a nice and recognizable gesture within the landscape. People will easily get familiar with this modern estate, know where it is located and can make the link with food production.



### Food production

The Estate is surrounded by several different gardens. By getting familiar with the estate, people will associate it with urban agriculture. There is a contrast between the estate and the existing landscape. A green zone adjacent to the neighbourhood with Do-it-yourself plots shows the food production of individuals. There is also a temporary project with cubic boxes in the area. Food production is made visible in several different ways.



### Experience of the landscape

The estate and its gardens will become an icon, people will get familiar with it. The walking paths, surrounded with flowers of the ecological green zone, provide in experiencing the open meadows. There are special elements, for example the view seats, to enjoy the landscape. These elements are landmarks for remembering locations within Tuinen van West. This option focuses on actively getting to know urban agriculture as people will actively see and experience the landscape.



### Connection city and land

The estate is adjacent to the neighbourhood and can function as a clearly visible entrance of the Tuinen van West. Also there is a zone with Do-it-yourself gardens on the border of the neighbourhood, that connects the area with the neighbourhood.

## Conclusion

In this option the estate is an important element as the recognition of it is important. People have to remember their visit to Tuinen van West. The emphasis is in option is on Do-it-yourself farm, a big gesture is made with this choice. The combination of urban agriculture and the estate functions as the entrance of Tuinen van West.

- + Estate, provides in the right atmosphere of urban agriculture
- Many Do-it-yourself farms

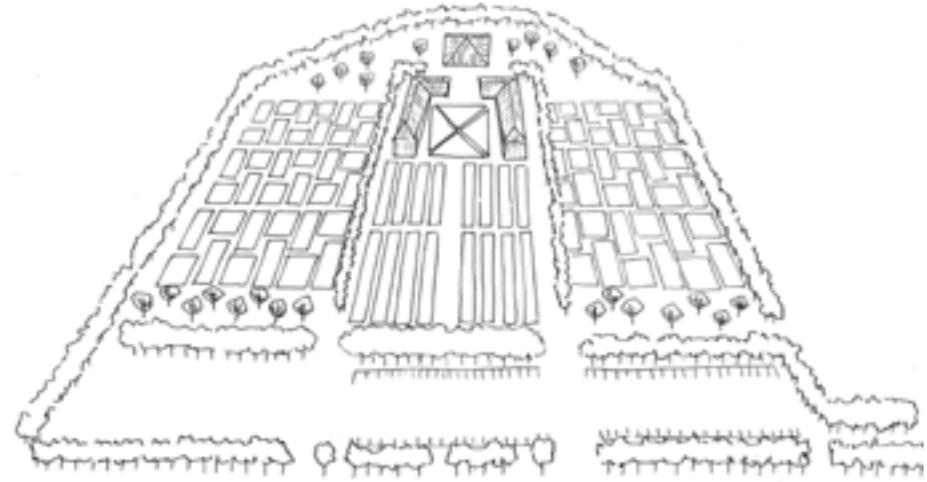


Illustration 10.11 & 10.12: Bird eye views of the Estate and the Do-it-Yourself Garden



*Illustration 10.13: The elevated viewing seats along the walking path, with a view towards the open landscape of the polder*



Illustration 10.14: The dome with terrace in the Experience Garden

## 10.1.3 The Park

In this design a whole new structure is added to the existing landscape, in which urban agriculture is implemented. The interventions of urban agriculture are like islands within this new structure. This new structure is totally different and in contrast with the orthogonal structure of the existing polder.

The places of urban agriculture will function like islands that are connected in the wide open landscape and making them meaningful for the urban surrounding. According Shaftoe (2008) some of the most enjoyable public spaces are those that consist of a series of squares connected by short pedestrian routes, so that one can wander through a series of unfurling tableaux (Shaftoe, 2008 , p. 80). The interventions of the islands can be compared with this series.

1 An Experience and Public garden is created, with is an open part of the place that can function as a small park. There is an entrance towards the garden over water, with special elements, which make the entrance clearly visible. The dome is the central place in the Garden.

2 Adjacent to the allotment park a small orchard is created. Here tent like elements (landmarks) are positioned for people to have a rest moment and to be able to experience the landscape in a special way.

3 A whole new park zone structure is added to the landscape along the Joris van den Berghweg. Within the park zone cubic boxes are placed, where vegetables can grow. At several spots fruit trees are placed to provide in additional urban agriculture elements. Also along the walking path at several locations borders are placed where the production of food can be made visible.

4 On this small location adjacent to the sports park and the new park structure a Do-it-yourself garden is created. This garden won't be realised in one moment, it will occur in phases, if there is a demand the individual plots can be realised.

5 The last new island within this design is at the entrance of Tuinen van West. A small garden is created, that functions as an extra element and has visual contact with the open landscape of Osdorperbinnenpolder Zuid. The urban agriculture elements here are the fruit trees.

6 The existing '1800 Roeden' can also be seen as one of the islands.

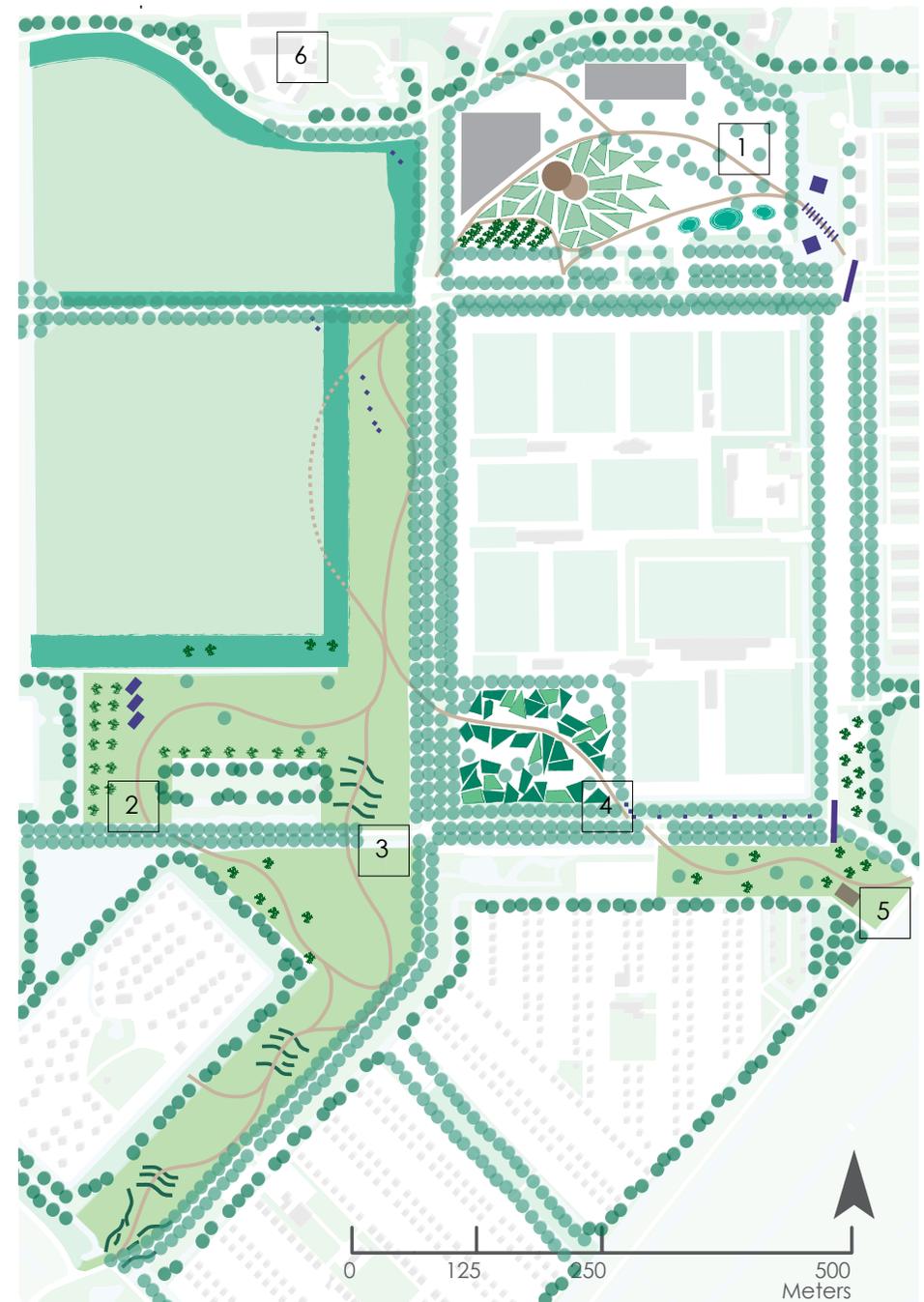


Illustration 10.15: The design variant The Park

## Opinions Nieuw West

This design of detail I became the most favorite of the focus group looking at all three options. It is a whole new interesting structure added to the landscape, it contains several different funny arty landmarks, that will be remembered. With this option it is possible to have a nice small walk through Tuinen van West with many experiences.



### Food production

This is the park variant, that starts in the neighbourhood, in combination with an experience garden. This option gives the first encounter with the emphasis on seeing and experiencing instead of do it yourself. However still it has a park zone, containing some Do-it-yourself gardens as well.



### Experience of the landscape

This option contains a large park zone, with all kinds of special elements and landmarks. In this option the interventions are like islands within the landscape that can be experienced separately, as well as the whole new structure. The meadows have a direct link with the park stroke, created with the new walking paths.



### Connection city and land

There is a special entrance over the water to the experience park. The cubic boxes along the road start in the neighbourhood and with that implementation making the first contact with urban agriculture visible.

## Conclusion

With the new park structure a new layer of urban agriculture is added to the landscape. It is a contrasting approach to create a new landscape structure, with the park is a big gesture within the landscape.

- + A whole new structure with the implementation of urban agriculture
- A totally different structure than the existing landscape



Illustration 10.16 & 10.17: Bird eye view of the Experience and Public Garden and Do-it-Yourself plots



*Illustration 10.18: The tents in the new park zone, where people can have a rest moment to experience the surrounding landscape*



*Illustration 10.19: The slope of the Westrandweg with grapevines, present in both designs*

# 10.2 Location II

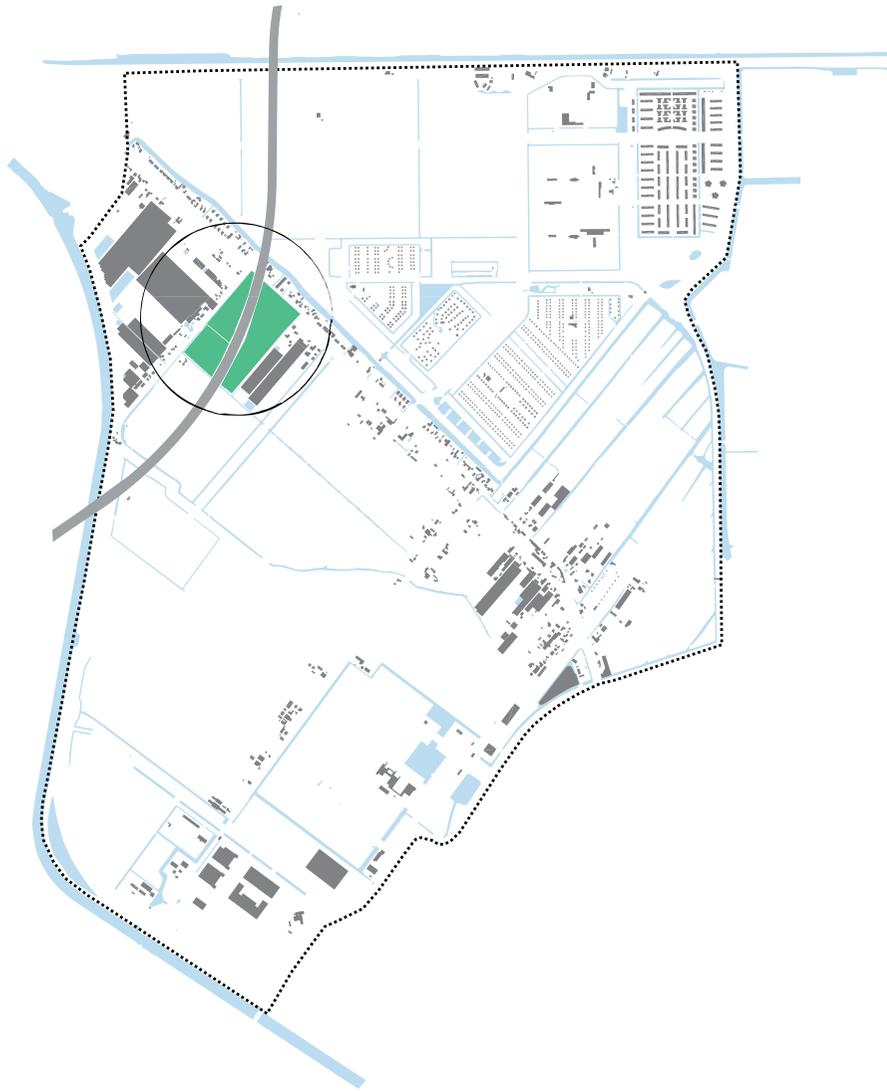


Illustration 10.20: Location of Detail II

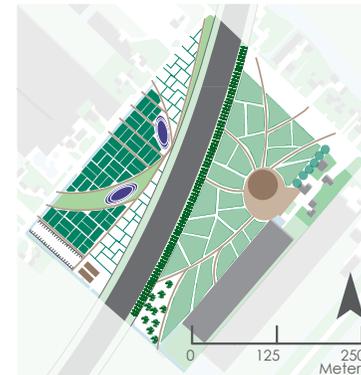
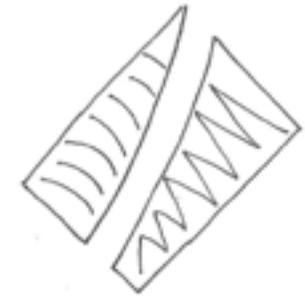
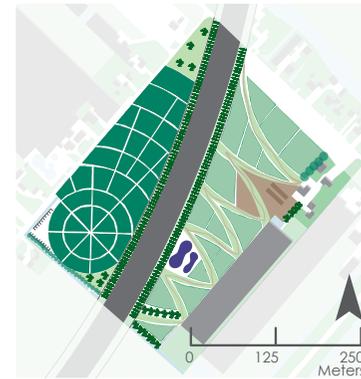


Illustration 10.21: The two design variants of detail II and their spatial impact

# 10.2.1 Big Entity

Both designs for this location have the same types of urban agriculture as implementation, but executed in a total different way. This is done to show that the same types of urban agriculture at the same place can have a different outcome.

- 1 On the west side of the Westrandweg the Do-it-Yourself garden is located with a clear structure and a central place where people can gather.
- 2 On the east side of the Westrandweg the Experience and Pubic Farm is located. This entity is connected with the existing greenhouse business. The paths in this garden have a clear structure that all lead to the slope of the Westrandweg and connect with the vineyard that is situated on the slope.
- 3 Catering facilities can be found in the two new greenhouses that are realised in this garden.
- 4 There is also a special element of sitting space, this is roofed with an art element.
- 5 On the slope of both sides of the Westrandweg a vineyard is created. In that way an urban agriculture implementation is created on the slope.

The designs at both side of the Westrandweg have a clear structure that can be seen from the elevated Westrandweg. This design is the big gesture of the two, here the proportions of the design fit best with the spatial size and impact of the Westrandweg.

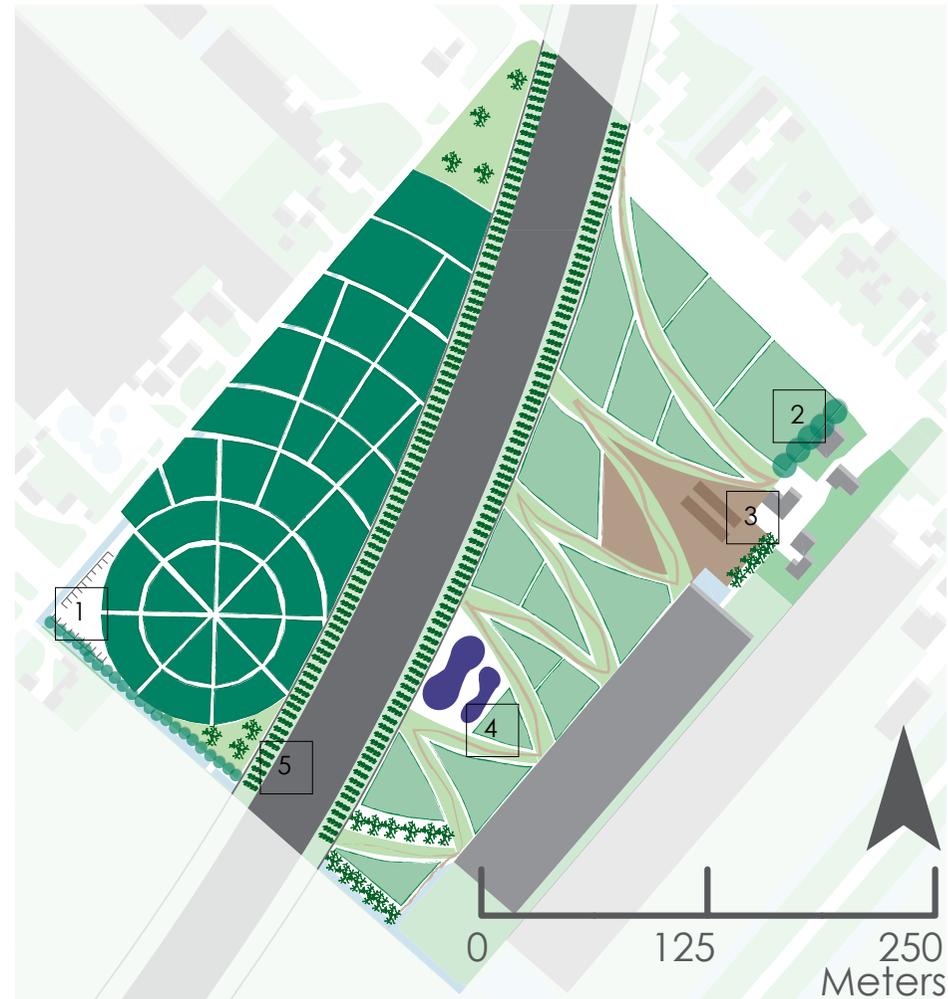


Illustration 10.22: The design variant Big Entity

## Opinions Nieuw West

The proportions of this design fits best with the spatial size of the Westrandweg. It is important to take into account how a connection with the surrounding area could be achieved.



### Food production

In this variant the food production will become very clear. On the west side of the Westrandweg citizens will work at their own garden and on the east side citizens will get their first encounter with urban agriculture in the Experience garden.



### Experience of the landscape

Because both sides of the design are rather closed entities the experience with the surrounding landscape will be limited. However in the future connections could be made with the surrounding open landscape.



### Connection city and land

In this detail the connection between city and land isn't a connection with the adjacent neighbourhood in a literal sense. However the connection in a figurative way can be made. The location is situated along the Osdorperweg and here a lot of activity takes place. At many places along this road the views and connections towards the open landscape are blocked. This design can provide the connection and the first access towards the surrounding landscape.

## Conclusion

This design shows that on a small location the implementation of urban agriculture is still possible and can provide in the first contact residents can have with their direct surrounding.

- + Showing the possibilities of a small location
- Enclosed entity

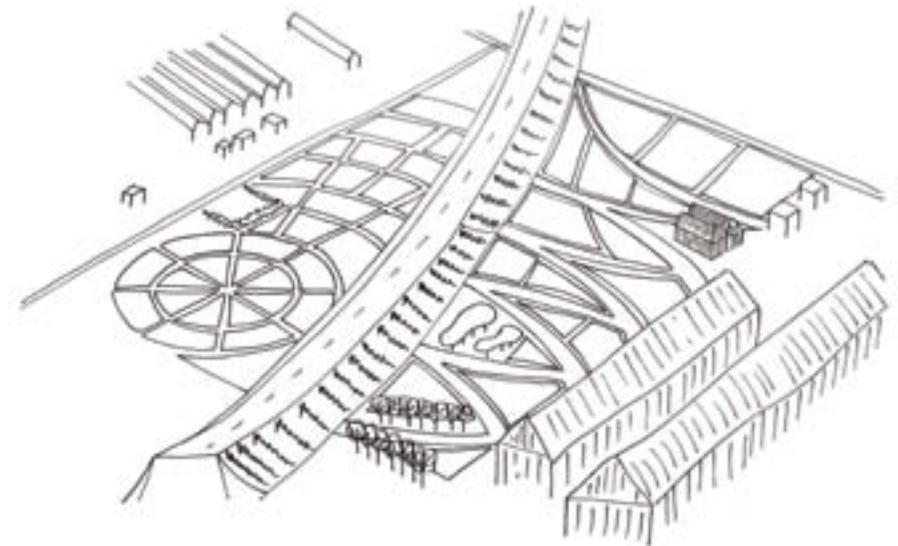


Illustration 10.23: Bird eye view of the whole location



Illustration 10.24: Borders with vegetable and in the back the roofed sitting place

## 10.2.2 Small Entity

This is the design that can be characterised as the small gesture in contrast with the other design on this location.

1 On the west side of the Westrandweg the Do-it-Yourself garden is located with a division in structure. There are fixed plots (dark green) and the random plots that can be realised if there is demand. The Do-it-Yourself farm can create a connection with the greenhouses on the other side of the Raasdorperweg in the future.

2 Two slightly elevated hills are created as an extra element and can function as landmarks. On these hill flowers will grow. These hills enhance the complexity and mystery of the location.

3 On the east side of the Westrandweg the Experience and Public Farm is located. The structure of this garden is random and creates a world where people can wander around and experience the urban agriculture. The Experience garden is connected with the greenhouse business were it is located adjacent to. The two entities can benefit from each other.

4 The glass dome facilitates in catering. Extra activities regarding urban agriculture can take place there, for example cooking workshops.

5 In this design is the vineyard only created on the east side of the Westrandweg. On the west side there is the possibility for sheep to graze. A shed for the sheeps is present at the location.

The designs at both side of the Westrandweg have their own structure that can be seen from the elevated Westrandweg. This design is the small gesture of the two.

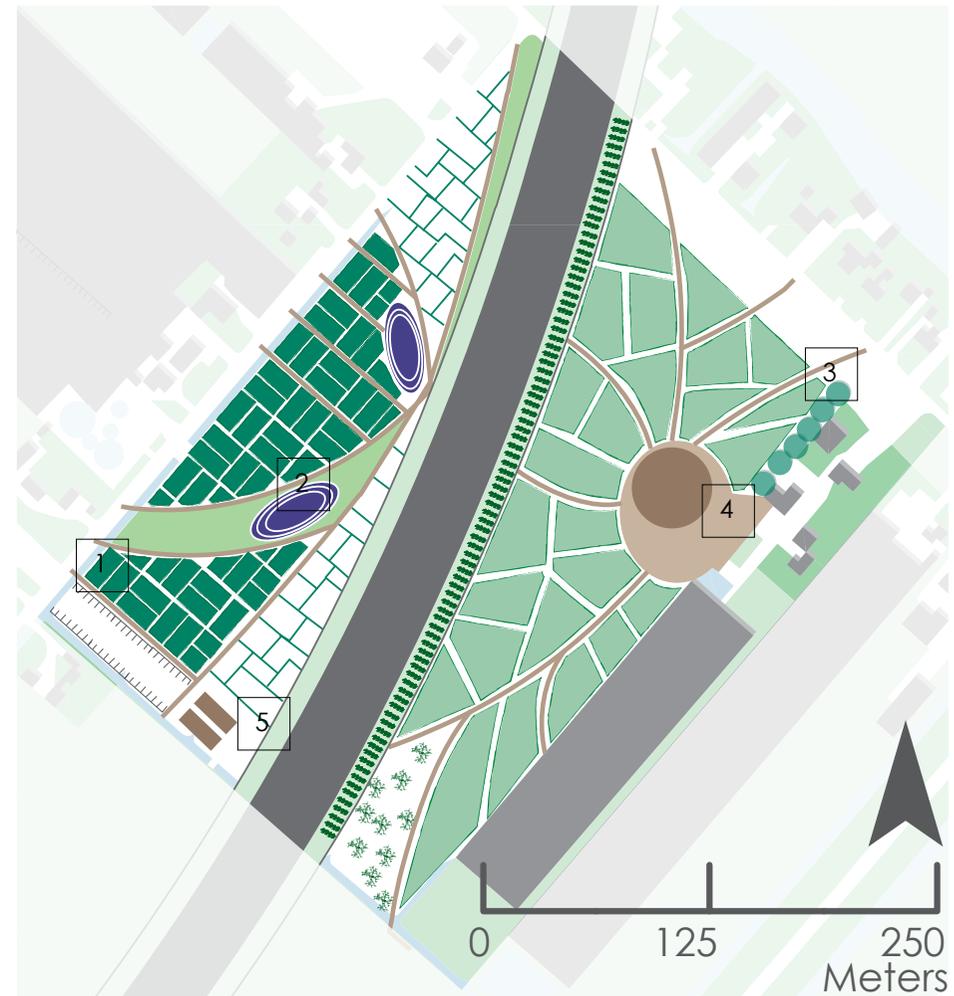


Illustration 10.25: The design variant Big Entity

## Opinion Nieuw West

This design can also be an implementation of urban agriculture, but the focus group was in favour of the other variant. The spatial size of this design fits less in the landscape.



### Food production

Regarding the visibility of food production the same accounts for this variant. The food production will become very clear. On the west side citizens will work at their own garden and on the east side of the Westrandweg citizens will get their first encounter with urban agriculture in the Experience garden.



### Experience of the landscape

Because both sides of the design are rather closed entities the experience with the surrounding landscape will be limited. However in the future connections could be made with the surrounding open landscape. For example because of the orientation of the gardens and entrances on the west side, a connection with the greenhouses can be made very easily.



### Connection city and land

For the connection the same can be said for this variant. This design doesn't provide in a connection with the adjacent neighbourhood in a literal sense. However the connection in a figurative way can be made. The location is situated along the Osdorperweg and here a lot of activity is taken place. At many places along this road the views and connections towards the open landscape are blocked. This design can provide the connection and the first access towards the surrounding landscape.

## Conclusion

This design shows that on a small location the implementation of urban agriculture is still possible and can provide in the first contact residents can have with their direct surrounding.

- + Implementation of urban agriculture on a small scaled base
- Enclosed entity

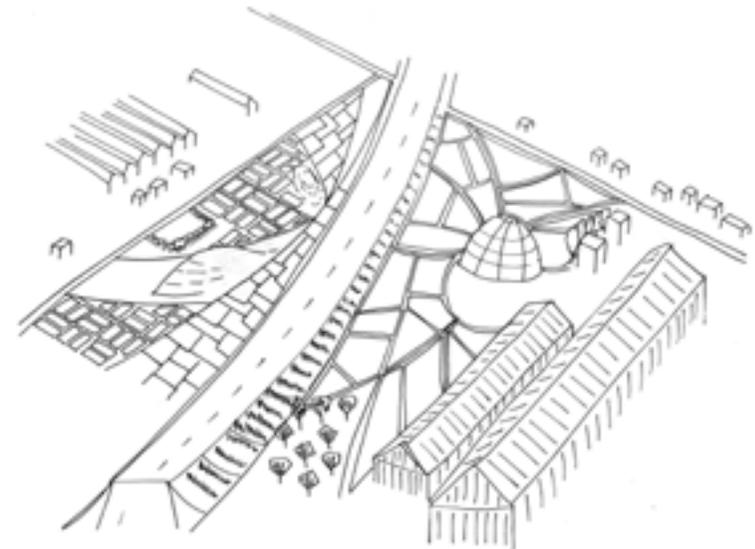


Illustration 10.26: Bird eye view of whole location



Illustration 10.27: Impression of the elevated parts in the design, that enhance mystery



# 10.3 Location III

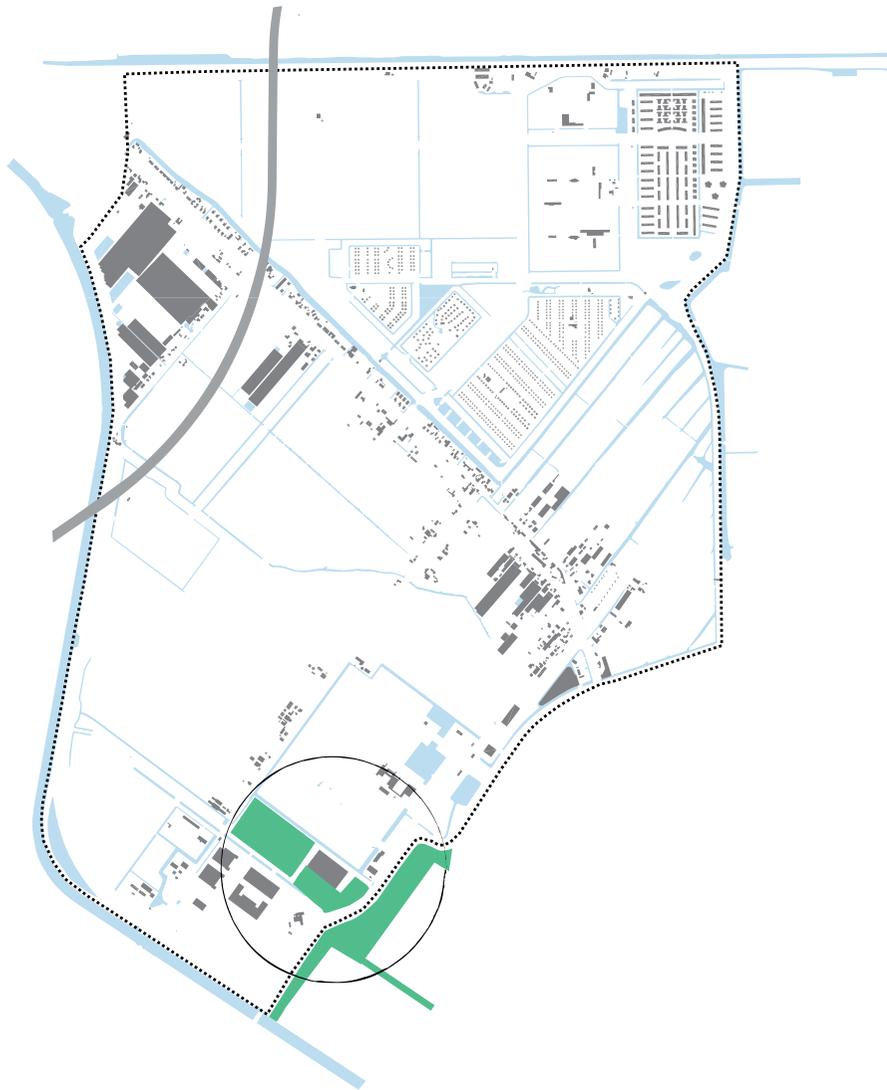


Illustration 10.28: Location of Detail III

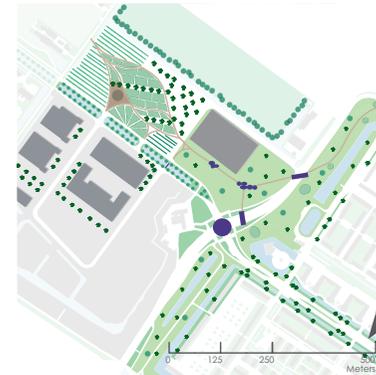
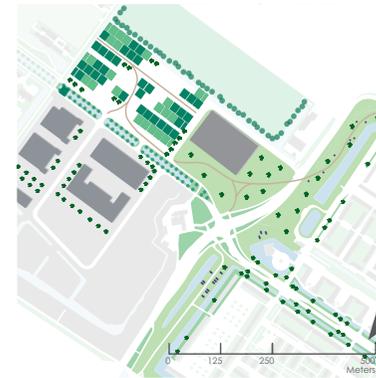


Illustration 10.29: The three design variants of detail III and their spatial impact



*Illustration 10.30: An impression of the Do-it-Yourself plots, with vacant open spaces in between*

# 10.3.1 Do-it-Yourself Farm

Location III is located in the south of Tuinen van West and on the border of the area. Only a road divides the location with the adjacent neighbourhood. The north side of the location borders on the Westgaarde cemetery and on the west side the open landscape of Lutkemeerpolder starts.

1 In this design a large unit of a Do-it-Yourself farm is implemented. The development will occur in phases. When there is demand for personal plots these can be realised.

2 There is a connection between the spot and the business park located in the south of the location. The people that are working at the business park can have a walk during lunch time through the newly designed entity where implementation of urban agriculture has taken place.

3 A connection with the neighbourhood is made by beginning with urban agriculture on the east side of the road. In the neighbourhood a start is made with the implementation of urban agriculture by the planting of fruit trees along the road. On the east side of the road a park zone is created from north to south. This park zone also crosses the road and continues on west side.

4 At several places in the park cubic boxes are situated that will function as extra elements of urban agriculture. These boxes can be used by schools as their school gardens where the children can get the first encounter with growing their own food.



Illustration 10.31: The design variant Do-it-Yourself Farm



*Illustration 10.32: An impression of the Do-it-Yourself plots*

## Opinions Nieuw West

The Do-it-Yourself Farm is a large entity near the border of the neighbourhood, maybe the size is somehow too large. The connection with business park is very useful for both places.



### Food production

The urban agriculture starts already in the neighbourhood with the fruit orchard and from there on is built up gradually. The orchard ends in the Do-it-yourself gardens.

Cubic boxes that can be used as school gardens are located between the city and land.



### Experience of the landscape

Starting with urban agriculture in the neighbourhood invites and stimulates citizens to enter Tuinen van West and experience more urban agriculture. You can experience an open park-like structure and a contrast between the Do-it-yourself and the existing farms in the Lutkemeerpolder. There are also possibilities for a stroll along the gardens when leaving the business area.



### Connection city and land

Urban agriculture has a gradual transition from the neighbourhood and the business area. By designing on both sides of the road with a gradual transition from the neighbourhood towards the landscape the road isn't a barrier anymore.

## Conclusion

When implementing this option people have to start with urban agriculture by working on their own plots. The cubic boxes can be a success depending on the enthusiasm of the people who need to start with the urban agriculture.

- + Connection, with implementation on both sides of the road
- The Do-it-yourself farm could be a barrier

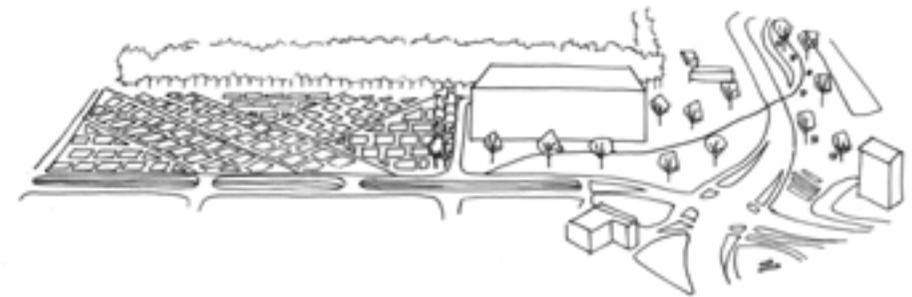


Illustration 10.33: Bird eye view of the Do-it-Yourself Farm



*Illustration 10.34: The schoolgardens at the Experience Garden, the children produce their own food*

## 10.3.2 Experience Gardens

This design variant has an emphasis on the experience of urban agriculture and the surrounding landscape.

1 In this design a Experience Farm is created on the border of city and neighbourhood. A gradual transition is visible of production that increased from city towards the open landscape of the Lutkemeerpolder. The park like atmosphere of the experience garden is fluently changing in the production arable fields.

2 Art is added as an extral element that increased the awareness and connection that can be made with urban agriculture

3 In this variant a connection between the spot and the business park located in the south of the location is made as well. The people that are working at the business park can have a walk during lunch time through the newly designed Experience Gardan and obtain their lunch there.

4 A connection with the neighbourhood is made by beginning with urban agriculture on the east side of the road. In the neighbourhood a start is made with the implementation of urban agriculture by the planting of fruit trees along the road. On the east side of the road a park zone is created from north to south. This park zone also crosses the road and continues on west side.

The feasibility of this design is higher than of the Do-it-Yourself Farm with its big entity. This design will be an private initiative and at the Do-it-Yourself Farm individuals are responsible for the gardens, which can be questionable with such a big entity.

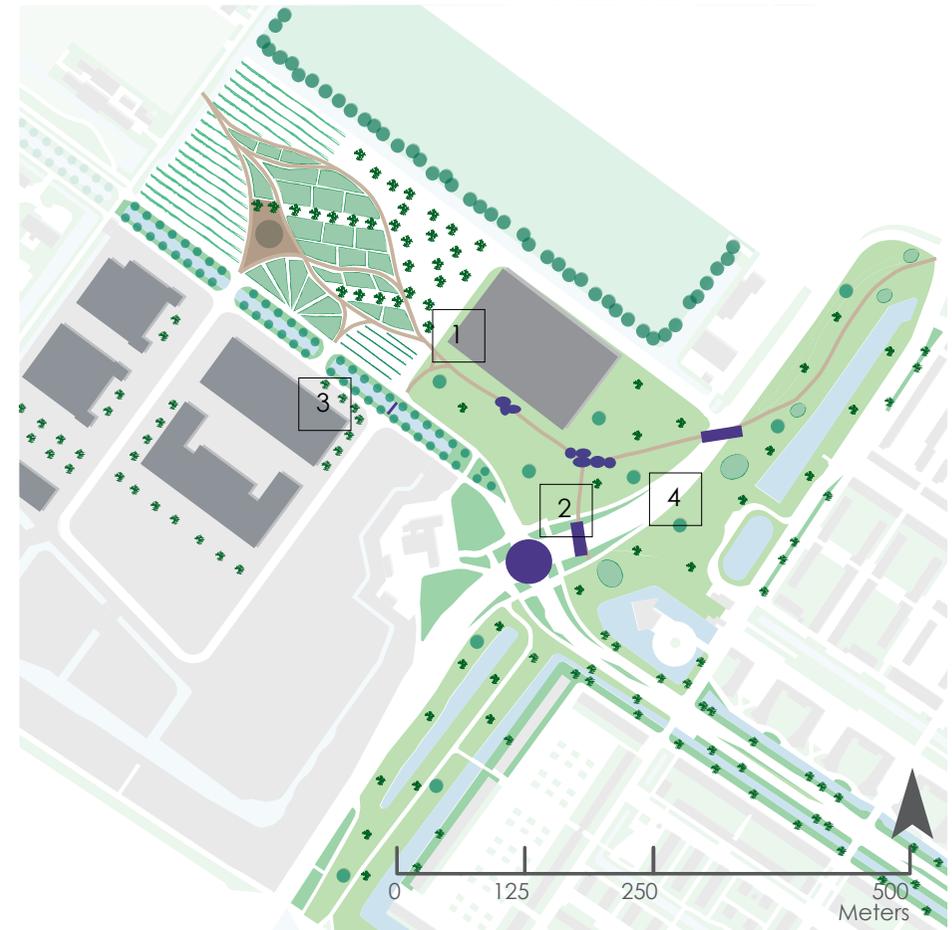


Illustration 10.35: The design variant Experience Farm



*Illustration 10.36: The different plots of the Experience farm, where citizen can see how food is produced*

## Opinion Nieuw West

This design shows how urban agriculture can be made visible in close distance the neighbourhood. Citizens can get their first encounter with urban agriculture in close distance from their home.



### Food production

The experience garden is accessible from the neighbourhood and has a connection with the arable fields for production. The intensity of production increases from the city towards the landscape. The park-like structure is changing gradually in agricultural production.



### Experience of the landscape

From the neighbourhood there is a transition with art elements when moving towards the experience garden. There is a clear relationship with the existing landscape, for example the fruit orchard is a subtle urban agriculture intervention that fits in the existing landscape.

There are possibilities for a stroll along the gardens from the business area, with for example the opportunity of buying a lunch at the experience gardens.

The art elements are an extra, non functional element in urban agriculture sense, but useful for the recognition of urban agriculture.



### Connection city and land

Scaffolds are realised over the road and function as the visualised art entrance of Tuinen van West.

The experience garden is located near the city, it is easy accessible from the neighbourhood and the road is no longer a barrier.

## Conclusion

This option is the opportunity to get familiar with urban agriculture. It has a gradual transition starting in the neighbourhood.

The connection of both sides of the road is strengthened with art. This option will be a combination of experience and production and makes a clear connection with the business area.

- + Art, as an extra element is added
- Only urban agriculture to watch

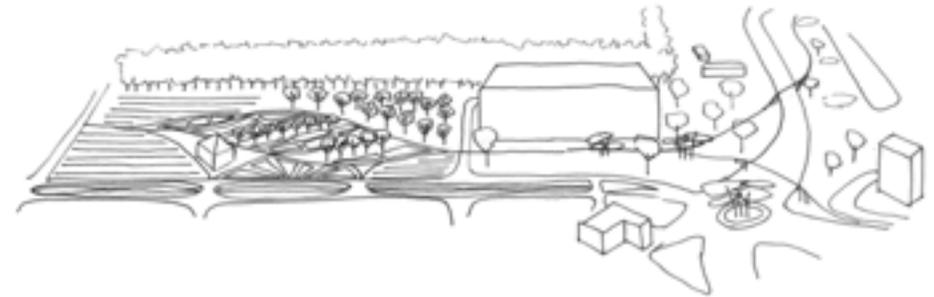


Illustration 10.37: Bird eye view of the Experience and Public Farm



*Illustration 10.38: The cubic boxes in the park zone, here citizens can have their first encounter with urban agriculture*

## 10.3.3 Care Farm

The last variant of this location will show the implementation of a Care Farm.

1 At this location a Care Farm is realised, that can be seen as a close entity in the landscape. At this farm urban agriculture takes place on a small scaled base. People spending their day at the Care Farm can work with urban agriculture as an day time activity.

A kind of children and animal farm will be implemented on the Care Farm as well.

2 The arable fields are adjacent to the Care Farm, so the people at this farm can experience and come in contact with the product on a large scale base.

3 A park structure is created that start in the neighbourhood and crosses the road and ends at the Care Farm. In this park at several places cubic boxes are placed that will show urban agriculture in a small extent.



Illustration 10.39: The design variant Care Farm



*Illustration 10.40: Trees with art elements where food in grows, these elements can function as landmarks*

## Opinions Nieuw West

Although the care farm is a closed entity it can well be implemented on this location. This Farm is located on close distance of the neighbourhood, so can be easily used by the residents, the traveling time towards the farm is little.



### Food production

Large scaled production takes place on the arable land. When in the care farm it is partly visible what is happening on the arable land and therefore it has some transparency. The cubic boxes are a temporary project, for example it can be school gardens.



### Experience of the landscape

A park structure is starting in the neighbourhood with the integration of a care farm that is located near the arable production land. There is a kind of patchwork of the several possibilities available on the site as different implementations are feasible.



### Connection city and land

There is a gradual transition from the park to the actual implementation of the care farm. The road barrier is gone and there is a connection with the business area.

## Conclusion

The park is starting in the neighbourhood, going towards the closed unit of the care farm while making use of a gradual transition. This option also ensures a connection with the business area as well. The different functions are like a patchwork on location.

- + Implementation of a Care Farm
- The Care Farm can be a barrier
- Little urban agriculture is occurring

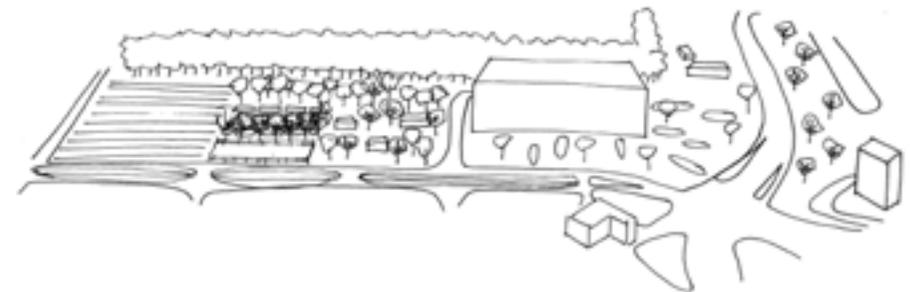


Illustration 10.41: Bird eye view of the Care Farm



# Legend

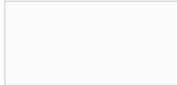
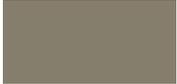
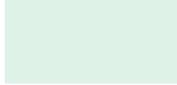
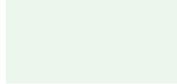
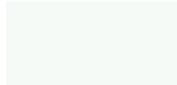
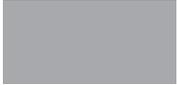
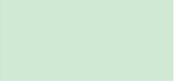
Current Situation	New Situation		Urban Agriculture
 Roads and paths	 Paths	 Trees (Ashes)	 Do-it-Yourself Farm Realised
 Buildings	 Buildings	 Fruit trees	 Do-it-Yourself Farm Available: Grass
 Lanes and Hedgerows	 Terrace	 Grapevines	 Experience and Public Farm
 Urban green	 Art	 Borders/beds for growing vegetables	 City Park
 Sportfields	 Ecological zones	 Hills	 The Farm
 Meadows	 Grass	 Maintaining existing play and sport areas	 Care Farm
 Water	 Meadows		

Illustration 10.42: The legend of all the designs





# 11

## Conclusions

# 11.1 Answers Research Questions

At the end of the process, with all the knowledge gained, the research questions can be answered.

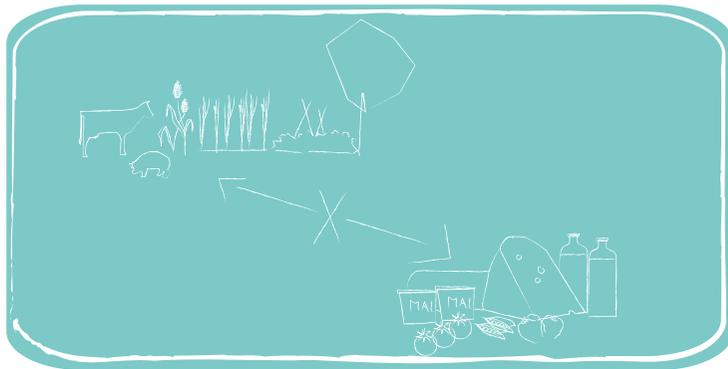
On the next few pages the research questions will be answered, starting with the questions per city opportunity and followed by the two general questions. The three answers of the city opportunities questions are supported with a kind of word cloud. Here all important feedback and considerations are made visible. This is done to have an imagination about what enhances the city opportunity instead of giving the information as a text.

After the answers of the research questions, the discussion and concluding recommendations are given. The recommendations can be useful for the implementation and developments of urban agriculture at will take place in Tuinen van West the next few years.

The next paragraph goes into detail about what can be side effects or beneficial effects of the implementation of urban agriculture in Tuinen van West. What can be put in motion by the implementation of urban agriculture or what developments that are going to take place in Tuinen van West in the near future that can be related to urban agriculture are mentioned. These future possibilities are given to show that urban agriculture can contribute to more developments that can take place in Tuinen van West.

This chapter will end with an evaluation on the process of action research. Here some useful recommendations are given that can be considered when working with action research in the future.

# How can food production be made visible?



The food production can be made visible in many ways with the implementation of the different types of urban agriculture. Five types of urban agriculture are defined for this thesis and these types can be reused with a different interpretation and application.

Important is to consider the connection urban agriculture with the neighbourhood, for example creating a gradual transition towards the existing landscape. The accessibility of the area, the combination of used types, the recognizable landmarks and the contrast of city and landscape also have to be taken into account when trying to make food production optimal visible for citizens.

People should be able to recognize urban agriculture and link it with food production. This will create more knowledge about how food can be produced and where food is coming from.

Fruit trees in the neighbourhood

Starting in  
the neighbourhood

Combination and variation  
with the urban agriculture types

Recognition

First contact of citizens  
with urban agriculture

Contrast gardens and existing landscape

Accessibility

Gradual transition

Cubic boxes in the neighbourhood

Concrete function of  
the enclosed area

Special recognizable elements

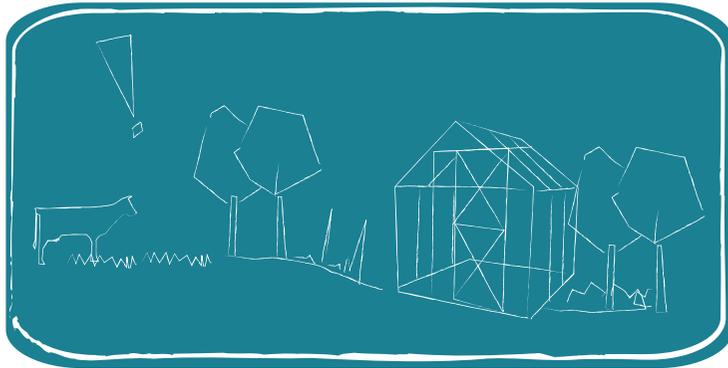
Easy access from the city

In phases achievable

Implementation in  
several different ways

Illustration 11.1: Word cloud with important considerations for this city opportunity

# What can ensure a better experience of the landscape of Tuinen van West?



A better experience of Tuinen van West can be realised by already starting with urban agriculture in the neighbourhood. When urban agriculture is implemented in the neighbourhood a gradual transition can be made towards the open landscape. This will make people enthusiastic and trigger them to go into Tuinen van West and explore its diversity.

It is important to make the connection and contrast with the existing landscape clear/visible as this will create recognition. People should have a good experience of the urban agriculture along the roads, therefore the interventions are positioned at strategic places along the main roads with easy accessibility for exploration. This way the visitors can experience the variety of the landscape and will result in familiarity with the landscape.

Important for urban agriculture are the interventions on the location. The interventions have to fit within the context and should have a gradual transition towards the existing landscape and the neighbourhood. This will make it easier for people to actually go to urban agriculture and experience it.

Also the special elements, landmarks, will create extra recognition and remembrance of locations in Tuinen van West for visitors. Additional walking paths are created through or along the landscape which makes it possible to have different views of the landscape.

With the implementation of the different types of urban agriculture people can have a variety in experience because each implementation will cause an other visual outcome in the landscape.

Contrast between different types of urban agriculture

Connecting with existing landscape

Multiple possibilities to come in contact with the landscape

Walking paths

Starting with urban agriculture in the neighbourhood

Accessibility

Attracting people to Tuinen van West

Contrast between different types of landscape and existing landscape

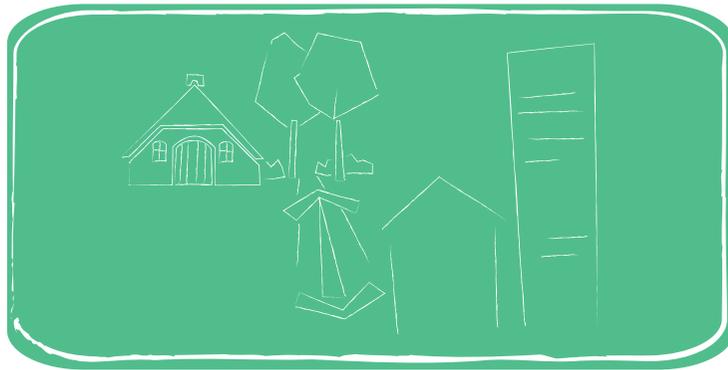
Park zone

Views

Connection with food production

Illustration 11.2: Word cloud with important considerations for this city opportunity

# What can be done in Tuinen van West to make a better connection between city and rural surrounding landscape?



The transition of city to land and the connection between these two can be improved by starting with the implementation of urban agriculture in the neighbourhood. By using a gradual transition with clear recognition of an implementation of urban agriculture the connection will be strengthened. The zones and actual places with urban agriculture will show how the city and land can be connected together.

By infusing the urban agriculture into the neighbourhoods a better connection between city and land will be realised. This will strengthen the relationship as the two are interlinked. The entrances of Tuinen van West will be made visible with special elements and this will create a clear understanding of where the urban agriculture of Tuinen van West will start in its full extend.

The connection with the neighbourhood is very important. The implementation of urban agriculture in the neighbourhood could be compared with the green wedges that are entering the city of Amsterdam. On the level of the neighbourhoods, green elements can be placed in the neighbourhood that can provide in a connection with the green elements that are present in the open area of Tuinen van West. By planting fruit trees in the street of the neighbourhood not only green elements are added but as well a start is made with the introduction of urban agriculture.

The implementation of small scaled urban agriculture interventions can be seen as a kind of stepping stones from the neighbourhood towards Tuinen van West.

First contact with urban agriculture

Gradual transition

Clear entrances

Business park

Connection of surrounding area

Art entrance  
Tuinen van West

Zones at the entrances

Easy accessible

Urban expansion in combination with rural integration

Illustration 11.3: Word cloud with important considerations for this city opportunity

## What can be considered as Urban Agriculture in this thesis?

There are many different interpretations of what urban agriculture can be and in this thesis a delineation can be found. In general urban agriculture is defined as the production of food around, near and in the city which answers to the demand of food for the city.

In this Thesis five types of Urban Agriculture are defined that will be used to implement urban agriculture in Tuinen van West.

The five types differ in interpretation, extend, function and layout. This results in different solutions of each type with multiple implementation and interpretation possibilities.

## How can Urban Agriculture be implemented in Tuinen van West?

The different types of urban agriculture that are defined, take into account the limiting factors like soil, water and infrastructure. The conditions of these factors have to be sufficient to ensure a chance for urban agriculture in Tuinen van West.

With the results of the spatial visual experience research, locations for desirable interventions were found. The exact location possibilities for the different types were based on the limiting factors, characteristics of the different types and the experience along the roads. Three design locations were chosen, because they all have a link with the city opportunities and can be beneficial for the opportunities. For these locations different design variants were made that implemented urban agriculture. The multiple options give an impression what the possibilities of the implementation of urban agriculture in Tuinen van West are.

## 11.2 Discussion

The initial idea of this thesis was to develop one design with the implementation of urban agriculture, however this turned out to be impossible and not desirable. In the process a transition was made and multiple possibilities of urban agriculture were developed. With the multiple possibilities an indication of what can be done is given. It provides in different outcomes of what is all applicable on the locations.

In the future urban agriculture will be developed in Tuinen van West, however in which extend this will occur is uncertain. With this thesis I will hope I was able to give an indication of the possibilities, since there are multiple possibilities for implementation of urban agriculture in Tuinen van West.

The result of this thesis shows a landscape architectural approach, with the focus on spatial qualities of the landscape and experience of the landscape. This has led to several interesting solutions for the implementation of urban agriculture in Tuinen van West. I hope the results of this thesis will provide in inspiring possibilities and opportunities for the implementation of urban agriculture.

Some notions can be made on the results of this thesis:

- The characteristics of the polders and their spatial quality is important to take into consideration. It is important to make use of these qualities in the designs. Information and knowledge is gained in the analysis phase, which is many objective information. However the analysis contains some subjective information as well. All the outcome of the analysis is used in the design phase and influence the end results of the designs. If the analysis was done by someone else some other subjective conclusions could be drawn and the design could have had some different outcomes.

- It has to be clear that the designs are an indication that provide in inspiring ideas of what is possible with the implementation of urban agriculture. The goal of this thesis was to show that there are several ways to implement urban agriculture and that it can have different effects on the surrounding context.

- As mentioned before the designs are indications, therefore the designs are lacking in technical knowledge. For detailed designs more research is needed.

## Learning process

This whole thesis process was one of learning and gaining experience in how to conduct an elaborate research on one topic. During the whole process it became clear that it is very hard for me to focus on one topic and make one coherent strong story out of it. Writing the thesis proposal was already a hard process of delineating and defining the topic and stick to that.

I can honestly say that I have learned a lot during the months working on my thesis. At several moments it was unclear how and what direction to take in the thesis process. However problems were solved and steps were taken. Afterwards I can tell, when ever working on a project compared to this master thesis again, I will have a totally different approach. That process will be executed more efficiently and with better en more clear goals in the beginning of the process.

To conclude, in my opinion knowledge about food production is very important because the way food produced will change in the future and urban agriculture can contribute in a positive way to these changes. That's why I liked working on this thesis topic and providing in possibilities for implementing urban agriculture.

# 11.3 Recommendations

A few recommendations will be given as an advice for city district Nieuw West. These recommendations can be taken into account during the process of developing urban agriculture in Tuinen van West.

As already became clear by answering the research questions is that there is no conclusive solution for the implementation of urban agriculture there are multiple solutions. It is important to create the right atmosphere and character that fits with urban agriculture. The specific authentic image of urban agriculture that people can obtain has to be complete and right to enable recognition of urban agriculture and identification with it.

## Recommendations regarding awareness of urban agriculture

### Create awareness and appreciation for urban agriculture

By taken care of the recognition of urban agriculture citizens will get familiar and will start to become aware of the benefits of local produced food. They will start to appreciate the urban agriculture in their direct surrounding.

When citizens are aware of the implementation, it is likely that the appreciation increases when they are experiencing the urban agriculture. When citizen get awareness about urban agriculture and in that way food production it is likely that they will take action. This will result in starting with urban agriculture by themselves in the Tuinen van West. With that Tuinen van West will become a more appreciated area for many people and with that it has a more secured future.

### Getting visitors enthusiastic for urban agriculture

When the places where urban agriculture is implemented provide a right ambience of the place, citizens will have a better experience. By making the places of urban agriculture visible and accessible the step to encounter urban agriculture becomes smaller. The ambience of a place is essential.

### Take care of recognition by the people

The recognition can be created by the landmarks implemented in the designs and entire Tuinen van West. Every place in a landscape is different and it is important and useful to become aware where you are in the landscape. The landmarks can help with that.

There will be interaction between the landscape and citizens when they come in contact with urban agriculture. Through this interaction citizens will encounter and experience what urban agriculture exactly is, what it can offer them and what their own contribution could be. To increase this experience special elements, landmarks, are used. These will enable the recognition of urban agriculture in the entire Tuinen van West and will ensure an association with urban agriculture. For getting in contact with urban agriculture, the image citizens create thinking of urban agriculture is very important. The association with urban agriculture has to be correct to be able to realise the actual goal of urban agriculture.

## Recommendations regarding the designs

### Take in consideration the existing landscape

It is important to consider the current situation of the landscape. In Tuinen van West several characteristics are very important and should be maintained. As in the analysis phase became clear there are limiting factors regarding the implementation of urban agriculture. The soil and water condition and infrastructure are essential regarding the success of the execution of the different urban agriculture types.

### Flexible design that can be achieved in phases

Urban agriculture can't be realised at once, development of urban agriculture is essential. When there is demand from the neighbourhood urban agriculture plots could be realised.

### Temporary character, changes can occur over time

The implementation of urban agriculture can have beside a permanent character, a temporary character as well. Change can occur over time and urban agriculture should be able to act accordingly.

# 11.4 Future possibilities

With the implementation of urban agriculture processes are put into motion and this can result in realisation of different side effect of urban agriculture. Developments can occur by the implementation of urban agriculture and new activities could take place in Tuinen van West.

There will be consequences for the context of locations where urban agriculture is implemented, however there can also be benefits.

Below a few developments that can occur after the implementation of urban agriculture are mentioned.

- Involve the greenhouses more with urban agriculture. For example make a greenhouse open for public, so people can see how the production in a greenhouse takes place. As an additional function a restaurant can be realised in a greenhouse or cooking workshops, with just harvested products by the attendants, can take place.

- An art route will be realised along the Etnastraat, this can be combined with the initiatives of urban agriculture.

- For the connection with the area of Tuinen van West bridges will be realised over the Haarlemmer Ringvaart and the Haarlemmertrekvaart. These bridges can become also landmarks and orientations points within the landscape of Tuinen van West.

- For more recognition a recurring element can be introduced in Tuinen van West. For example to increase the visibility where urban agriculture takes place, fences in one color can be placed. When these elements in the landscape are met urban agriculture will take place.

- Vertical landscapes can be realised at the business area. The buildings can be transformed into places where production takes place on the roofs and facades.

- In the future the business park can be part of the urban agriculture interventions in Tuinen van West. At this place also a lot of the processing, transportation and production steps can take place. Thus the urban agriculture in Tuinen van West can increase the local economy.

- There is a future plan for making a large part of the water system in Osdorpbinnenpolder Noord accessible for boats. The water depth is sufficient for canoes, rowing boats and small boats. Some existing water can be broadened for rowing routes and for nature development. This recreation facility can provide in better experience of the area and can be combined with urban agriculture.

- A tour through Tuinen van West can be created. Using the landmarks/elements to accentuate where urban agriculture takes place, people can recognize them during their walking or cycling tour.

- The nature developments of the Groene As will be further realised in the future. The ecological connections can be combined with walking paths to experience the natural landscape. Being within the natural landscape, where people can come in contact with the urban agriculture interventions.

- For the several vegetable gardens in the neighbourhoods of Nieuw West a cycling route between the gardens exist. In the future a cycling route can be made along the locations where urban agriculture takes place as well. These two routes could be combined.

During one of the presentations Chris asked what will happen with the rest of the open areas of Tuinen van West, where no designs are made for in this thesis. The locations chosen for the details are the locations where interventions are most desirable and that is the reason for choosing them. For the rest of the open areas of Tuinen van West it is preferable that the current situation will be maintained, as these places are already nice existing open places.

# 11.5 Evaluation Action Research

The intention of the process of action research was to gain knowledge about the implementation of urban agriculture in Tuinen van West. The action research has resulted in a learning process, gaining new knowledge about different aspects. All the problems and uncertainties of my thesis can be real life problems and not only science can be the solution.

The experience and expertise of local people helped to gain more insight in the current and desirable solution.

I had partial awareness and lack of integration in the context itself, because I was not that familiar with the situation and the Tuinen van West as the people of the focus group are. The several meetings in Nieuw West provided a lot of useful information.

By giving several presentations at Nieuw West during the process of my thesis I got a lot of feedback regarding different parts of my thesis. For example feedback was given on the different types of urban agriculture and, the design options, connections with the neighbourhood and landmarks.

The action research provided in a realistic view of the situation and desired possibilities for the future of Tuinen van West. Through the collaboration with people in the discipline of landscape architecture a lot of useful information was obtained. Through the action research I got inside in others view regarding urban agriculture and Tuinen van West.

All the feedback was used as input for the next steps in my process. During the process changes were made, these improvements could be made because I had a dialogue with people that have a lot of expertise on the subject.

The steps taken in the process of action research are already explained in chapter 5. The transition that took place in the process is discussed there, however here I want to add something. In my opinion this only resulted in a better and more interesting result. It was a learning-by-doing process with gaining more information and legitimate knowledge that could be used as input for the final design of the Tuinen van West.

My experience with action research was very positive and I enjoyed giving the presentation in Nieuw West and discussing my results with the focus group. If I have the opportunity to work with action research again I will take the opportunity.

## Useful to consider when working with action research

- Present at several stages of the process  
First of all these presentations helped making the story of my thesis more coherent. And presenting in several stages of the process provides useful information at different moments of the process.
- Content of the presentations  
Think about the content of the presentation. The content of the presentation depends on the knowledge you want to gain. For example, during my first presentation the emphasis was on explaining all the analysis I did on Tuinen van West. Afterwards everything of the presentation was discussed and with that I gained feedback on the whole content of my presentation.
- Provide in feedback  
A few days before having a meeting with the focus group, I sent an email to all the participants to prepare for the meeting. In the email I gave an overview of the content of the presentation and the intent of the meeting, so the participants could be somehow prepared. Every presentation I have started with a overview of the issues discussed in the previous meeting and a summary of the most useful feedback given. This was done to refresh the memories of the focus group, since there was a considerable time between the meetings.
- Have hardcopy maps and drawings  
It is very useful to have physical material besides the digital presentation. After the presentation the discussion started and it is useful to have several copies of important maps or drawings. During the discussion these maps can be used to clarify the discussion issues.

- Dividing the group for more feedback

To gain more feedback division of the group is useful. In my case during the first presentation three groups were formed that all discussed the options for a half hour, after that an plenary discussion started. In this discussion feedback of three groups was the input and in that way a lot more different issues were discussed.

- Coherence of the idea and image

It is important to have coherence between the images and pictures provided and the image people can create in their mind, when thinking about the subject.

In my case a few images of an urban agriculture type were not in line with the explanation given. This caused confusion, that even increased when the attendants start arguing about the type and didn't agree about the interpretation. Images should be clear and understandable, so one interpretation will be made.

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[http://www.cascoland.com/2009/index2\\_dt.php?id=1572&cat=47&artist=Fiona de Bell, Jair Straschnow, Inge Roseboom, Mark Weemen, Agnes Matthews, Roel Schoenmakers](http://www.cascoland.com/2009/index2_dt.php?id=1572&cat=47&artist=Fiona%20de%20Bell,%20Jair%20Straschnow,%20Inge%20Roseboom,%20Mark%20Weemen,%20Agnes%20Matthews,%20Roel%20Schoenmakers)

Illustration 3.24-3.27:

<http://www.agf.nl/nieuws/2009/1002/foodweek%20willem%20en%20drees.jpg>  
<http://projecthoop.files.wordpress.com/2010/03/willemendrees.png>  
<http://www.adelinevanlier.nl/wp-content/uploads/2011/02/Willem-Drees.png>  
<http://www.biojournaal.nl/nieuws/2011/0704/Willem&Drees.jpg>

Illustration 3.28-3.33:

<http://www.hofvandelfland.nl/sites/www.hofvandelfland.nl/files/imagecache/Kopbeeld/streekproducten.jpg>  
[http://lh5.ggpht.com/-Pvfk9c8HTFA/SZg88R6j3OI/AAAAAAAAHSo/\\_u2L0RjwOLg/DSC02153.JPG](http://lh5.ggpht.com/-Pvfk9c8HTFA/SZg88R6j3OI/AAAAAAAAHSo/_u2L0RjwOLg/DSC02153.JPG)  
[http://www.levensmiddelenkrant.nl/uploads/foto/IMG\\_7324.JPG](http://www.levensmiddelenkrant.nl/uploads/foto/IMG_7324.JPG)  
[http://co2ctrendwatching.files.wordpress.com/2011/09/sam\\_0401.jpg](http://co2ctrendwatching.files.wordpress.com/2011/09/sam_0401.jpg) [http://www.noord-holland.nl/upload/273dad53-44d3-4875-91ae-dfadea60e540\\_BG02%20vk.jpg](http://www.noord-holland.nl/upload/273dad53-44d3-4875-91ae-dfadea60e540_BG02%20vk.jpg)  
[http://www.letsswop.nl/Images/nl\\_071.jpg](http://www.letsswop.nl/Images/nl_071.jpg)  
[http://media.cnbc.com/i/CNBC/Sections/News\\_And\\_Analysis/\\_News/\\_SLIDESHOWS/\\_ASIA\\_SLIDESHOWS/WorldsBiggestEmployers\\_2011/McDonalds.jpg](http://media.cnbc.com/i/CNBC/Sections/News_And_Analysis/_News/_SLIDESHOWS/_ASIA_SLIDESHOWS/WorldsBiggestEmployers_2011/McDonalds.jpg)

Illustration 3.35-3.37:

3X  
<http://www.proeftuin.amsterdam.nl/publish/pages/269255/naareenmetropolitanevoedselstrategie.pdf>

Illustration 3.35-3.37:

<http://maps.google.nl/maps?hl=nl&tab=wlp40>  
<http://www.onuitstaanbaar.nl/wp-content/uploads/boer-zoekt-vrouw.jpg>  
<http://www.docukit.nl/inhoud/ic136-1.jpg>  
<http://www.snorrewind.nl/site/MyImages/oude%20boerderij%20small.JPG>  
<http://www.boer-zoekt-vrouw.nl/boer+zoekt+vrouw+2010.jpg>

Illustration 3.43:

<http://static.zoom.nl/F01858E57D8C9229FD2C462CBF11896B-boer--op--tractor.jpg>

Illustration 3.45:

<http://www.gelderlander.nl/voorpagina/maasland/10012695/Moderne-boer-in-regio-kiest-voor-duurzaam.ece>

Illustration 3.52-3.55:

<http://media.treehugger.com/assets/images/2011/10/detroit-hanz-farm.jpg>  
<http://www.studydiscussions.com/wp-content/uploads/2010/01/sustainable-agriculture.jpg>  
<http://www.deketel.nl/afbeeldingen/foto's/mensen%20foto's/website%20009.jpg>  
<http://www.spikkie.nl/img/060.jpg>

Illustration 3.46-3.51:

<http://www.artdeko-events.nl/wp-content/uploads/2009/07/koeien.jpg>  
<http://www.overarkens.nl/images/bg/bg5.jpg>  
[http://www.pzc.nl/multimedia/archive/01027/kassen\\_jpg\\_1027657a.JPG](http://www.pzc.nl/multimedia/archive/01027/kassen_jpg_1027657a.JPG)

<http://www.kennisakker.nl/files/images/Art%20adv%20b%20-%20foto%20.jpg>  
<http://www.rtvooost.nl/images/T3/Origineel/104401.jpg>  
38 <http://hangouto.com/wp-content/uploads/2011/05/keukenhof21.jpg>

Illustration 6.6-6.8:

<http://ooze.eu.com/>  
<http://www.kei-centrum.nl/websites/kei/gfx/visuals/afbeeldingWMB-008.jpg>  
[http://www.dvdt.com/images/110\\_01.jpg](http://www.dvdt.com/images/110_01.jpg)

Illustration 6.51-6.56:

Google Streetview  
<http://maps.google.nl/maps?hl=nl&tab=wlp87> google maps streetview

Illustration 6.59:

[http://www.ceessteur.nl/Uploaded\\_files/Zelf/kaartgr11311410122.gif](http://www.ceessteur.nl/Uploaded_files/Zelf/kaartgr11311410122.gif)

Illustration 7.2:

<http://www.kwekerijosdorp.nl/wp-content/uploads/2010/02/foto-winkel-2-225x300.jpg>  
<http://www.versvanhetland.nl/wp-content/uploads/2011/06/sitetuin1.jpg>  
<http://www.versvanhetland.nl/wp-content/uploads/2011/06/sitesfeer2.jpg>  
<http://www.versvanhetland.nl/wp-content/uploads/2011/06/sitehulpboeren2.jpg>  
[http://2.bp.blogspot.com/\\_-6RFY5DSn0c/S\\_rWQp4nLal/AAAAAAAAAHk/7-RjSUdxx80/s1600/VILLA+AUGUSTUS+MEI+2010+057.JPG](http://2.bp.blogspot.com/_-6RFY5DSn0c/S_rWQp4nLal/AAAAAAAAAHk/7-RjSUdxx80/s1600/VILLA+AUGUSTUS+MEI+2010+057.JPG)  
[http://upload.wikimedia.org/wikipedia/commons/9/92/Ballard\\_Farmers'\\_Market\\_-\\_vegetables.jpg](http://upload.wikimedia.org/wikipedia/commons/9/92/Ballard_Farmers'_Market_-_vegetables.jpg)  
And own illustrations

Illustration 7.3:

<http://www.versvanhetland.nl/wp-content/uploads/2011/06/sitewinkel6.jpg>  
[http://images.google.com/imgres?imgurl=http://www.versvanhetland.nl/wp-content/uploads/2011/04/slider\\_36.png](http://images.google.com/imgres?imgurl=http://www.versvanhetland.nl/wp-content/uploads/2011/04/slider_36.png)  
<http://www.versvanhetland.nl/wp-content/uploads/2011/06/sitetuin8.jpg>  
[http://www.willemendrees.nl/img/paginas/016\\_-\\_web1.jpg](http://www.willemendrees.nl/img/paginas/016_-_web1.jpg)  
[http://4.bp.blogspot.com/\\_cvGcSTLTSKE/TCpZdL03d3I/AAAAAAAAAYo/cFdcMljqQUI/s1600/vrijgezellenfeest+marieke+038.jpg](http://4.bp.blogspot.com/_cvGcSTLTSKE/TCpZdL03d3I/AAAAAAAAAYo/cFdcMljqQUI/s1600/vrijgezellenfeest+marieke+038.jpg)  
<http://lavendelboerderij.com/uploads/pics/pluktuin4.jpg>  
And own illustrations

Illustration 7.4:

<http://www.depers.nl/UserFiles/Image/2011/201105/20110525/Barbecue4251.jpg>  
<http://www.cityofdeephaven.org/entire%20thorpe%20park%20playground%20structures.jpg>  
<http://www.depers.nl/UserFiles/Image/2011/201105/20110525/Barbecue4252.jpg>  
<http://dl.cnr.cn/dlfq/201105/W020110519528228054985.jpg>  
[http://www.vvvbronckhorst.nl/thumbs/file\\_965/1002011022/style\\_imagePopup/Oogsthoek\\_01.jpg](http://www.vvvbronckhorst.nl/thumbs/file_965/1002011022/style_imagePopup/Oogsthoek_01.jpg)  
<http://doelbeelden.nl>  
<http://lavendelboerderij.com/uploads/pics/pluktuin6.jpg>  
<http://lavendelboerderij.com/uploads/pics/pluktuin2.jpg>  
<http://lavendelboerderij.com/uploads/pics/pluktuin4.jpg>  
[http://pelgrimsweegen.webklik.nl/user\\_files/2008\\_04/407/klaprozen.jpg](http://pelgrimsweegen.webklik.nl/user_files/2008_04/407/klaprozen.jpg)  
And own illustrations

Illustration 7.5:

<http://www.versvanhetland.nl/wp-content/uploads/2011/06/sitewinkel4.jpg>  
<http://www.versvanhetland.nl/wp-content/uploads/2011/06/sitehulpboeren1.jpg>  
<http://www.kwekerijosdorp.nl/wp-content/uploads/2010/02/foto-winkel-225x300.jpg>  
[http://www.joellepost.nl/uploaded\\_images/2004-05-20-003-Kinderboerderij-709522.jpg](http://www.joellepost.nl/uploaded_images/2004-05-20-003-Kinderboerderij-709522.jpg)  
[http://www.croycruyden.nl/files/foto/002\\_1.JPG](http://www.croycruyden.nl/files/foto/002_1.JPG)  
[http://fotos.wendyhermans.nl/wendy/kinderboerderij/20060423\\_wendy\\_koe%20kinderboerderij.JPG](http://fotos.wendyhermans.nl/wendy/kinderboerderij/20060423_wendy_koe%20kinderboerderij.JPG)  
<http://www.willemendrees.nl/profiel/34>  
[http://home.versatel.nl/vanwindenkaas/windenkaas\\_bestanden/image004.jpg](http://home.versatel.nl/vanwindenkaas/windenkaas_bestanden/image004.jpg)  
<http://www.ijsboerderijheidhoeve.nl/koeienstal1.jpg>  
And own illustrations

Illustration 7.6:

[http://www.deredactie.be/polopoly\\_fs/1.396332!image/2214799203.jpg](http://www.deredactie.be/polopoly_fs/1.396332!image/2214799203.jpg)  
<http://www.kwekerijosdorp.nl/wp-content/uploads/2010/02/067-300x200.jpg>  
<http://www.proteion.nl/uploads/Beeld%20Dagvoorzieningen/Aan%20de%20Singel-breien-web.JPG>  
<http://www.kinderboerderijnoord.nl/Fotos2008/2008-kinderboerderij%20003.jpg>  
<http://doelbeelden.nl>  
<http://www.proteion.nl/uploads/Beeld%20Dagvoorzieningen/Wienes%20Plaats%202.JPG>  
<http://www.mamsatwork.nl/home/wp-content/uploads/2011/10/kinderopvang.jpg> <http://www.proteion.nl/uploads/Beeld%20Dagvoorzieningen/zorgboerderijAardenhof.JPG>  
<http://www.proteion.nl/uploads/Beeld%20Dagvoorzieningen/Dagvoorziening-algemeen.JPG>  
And own illustrations

Illustration 9.3:

[http://www.stadsboeren.org/Stadsboeren\\_files/stadsboeren\\_1.jpg](http://www.stadsboeren.org/Stadsboeren_files/stadsboeren_1.jpg)  
[http://igrow.com.ua/files/November08/20\\_11\\_08/tree\\_tents/9.jpg](http://igrow.com.ua/files/November08/20_11_08/tree_tents/9.jpg)  
<http://recreatie.middendelfland.net/kunstwerken/stoelen.jpg>  
<http://basdekker.eu/beeldbank/albums/cultuur/markeringen/020662-ps1-schilderijlijst-landschap-nederland-web.jpg>  
<http://www.inhabitat.com/wp-content/uploads/solarforest-lead02.jpg>  
[http://www.theage.com.au/ffximage/2007/03/12/svDIARY\\_wideweb\\_470x394.0.jpg](http://www.theage.com.au/ffximage/2007/03/12/svDIARY_wideweb_470x394.0.jpg)  
<http://www.visionair.nl/wp-content/uploads/2012/01/chickens-019.jpg> [http://www.cascoland.com/2009/index2\\_dt.php?id=1617&cat=47&artist=Inge](http://www.cascoland.com/2009/index2_dt.php?id=1617&cat=47&artist=Inge) Roseboom, Mark Weemen  
[http://www.permacultuurnederland.org/upload/6512\\_Dijkgraafplein.jpg](http://www.permacultuurnederland.org/upload/6512_Dijkgraafplein.jpg) [http://www.permacultuurnederland.org/upload/297557\\_246750785369361\\_186835511360889\\_838833\\_5284605\\_n.jpg](http://www.permacultuurnederland.org/upload/297557_246750785369361_186835511360889_838833_5284605_n.jpg)  
<http://www.nieuwwestexpress.nl/page/3865/nl>  
<http://www.nieuwwestexpress.nl/page/3872/nl>  
[http://www.archined.nl/uploads/media/kasplek\\_3mid.jpg](http://www.archined.nl/uploads/media/kasplek_3mid.jpg)



