Food makes sense

WAGENINGEN
UNIVERSITY & RESEARCH

Foodcitizenship with multisensory foodscapes

Course

Foodscape,Urban lifestyles and Transition

Group 3

Yiyan Zhu (940217987020)
Daan Simmelink (970217762020)
Evy de Kort (980701468110)
Jip Siebenheller (960621759110)
Pranabanti Karmakar (Aankhi)(880129422120)
Judith Hinfelaar (970220340050)
Heleen Prins (940225671060)
Niki Lindgren (930710521130)

Contact Person

Gerrit-Jan Carsjens
(gerrit-jan.carsjens@wur.nl)

WAGENINGEN
UNIVERSITY & RESEARCH

Table of Content

Why?

Introduction

Analysis

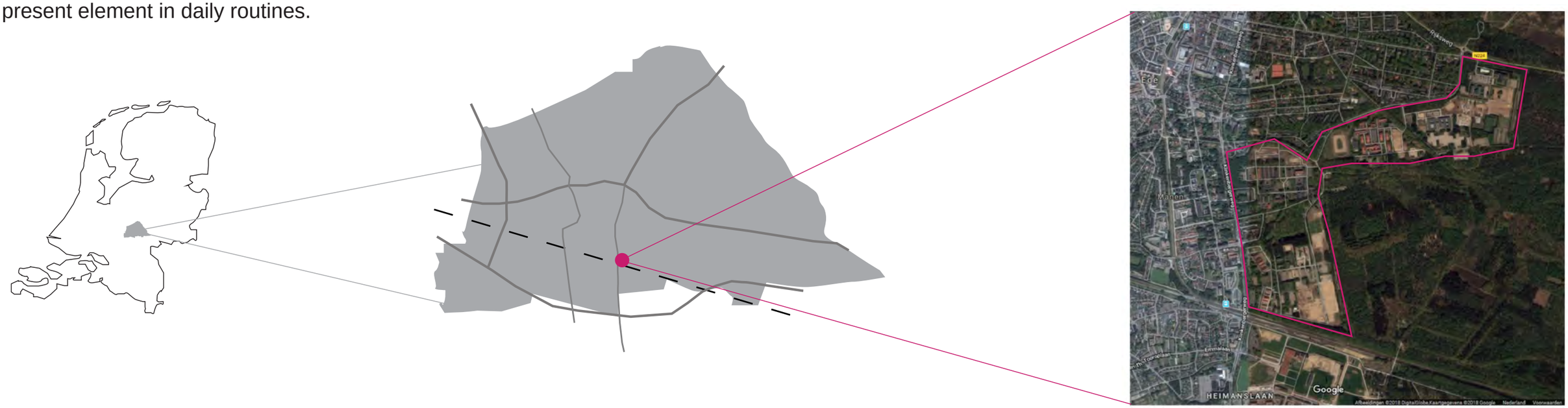
Introduction

In her seminal book Hungry City, Carolyn Steel describes “how food shapes our lives” (2008). The relationship between food and cities is fundamental in an urbanizing world with ecological and nutritional challenges. Nevertheless, the connections between food and urban living has become unclear in the modern city. It has been argued that the disconnect between food production and consumption with their ecological and social context is one of the root causes of unsustainable food systems: “crops and livestock have been removed from the context of the ecosystem, nutrients from the context of food, food from the context of eating patterns and eating patterns from the context of lifestyle” (Van der Weijden et al., 2012). To reconnect urban citizens with their food its ties with its ecological and social context need to be visualized and re-established. In other words, food should have a central place in the design of the city region and in urban lifestyles.

The core concept in this management summary is therefore foodscape: “the social and spatial organization of networks and systems of food provisioning” (Verhoeven and Wiskerke, 2018). Our design aims to facilitate a strong relationship between food and living on different scales. Engagement of citizens with the food system is essential to foster this relationship, and requires an environment that stimulates learning. Therefore, with food citizenship and food literacy as leading concepts, this foodscape design engages people through activating the five senses, and making food a more present element in daily routines.

This management report includes the analysis of the present foodscape of existing neighbourhoods in Ede, and a design of a future foodscape. Our analysis and design area is former military area Maurits Zuid in Ede, which is redeveloped into a residential and commercial area. This urban redevelopment project Veluwse Poort includes the World Food Center (WFC) which will open its doors in 2021. Food is the central element that combines places of innovation, labs, and experiences. The WFC’s aim is connecting, inspiring, and educating the actors of a future food system that is resilient, sustainable and healthy.

Besides an analysis of existing food-related elements in the study area, and a theoretical underpinning for our approach, this management rapport includes examples from other urban areas which have proved to improve citizen active participation in healthy and sustainable food practices. Next, we present material elements that can be incorporated in the design of Maurits Zuid to create a vibrant and attractive foodscape. Moreover, we include feedback from Ede residents on our design ideas. With this rapport, we want to clarify the potential that food has for shaping healthy lives sustainably.



Site Location

Quantitative Analysis - Statiscs

In this part of the report the analysis of the study area will be explained. This analysis consists of quantitative and qualitative data. The quantitative data is about the food options and demographical information about Ede, with a focus on the neighbourhood Veluwse Poort. The qualitative data is obtained from interviews in Maurits Zuid in November 2018.

There are currently many young people living in Veluwse Poort. Most of them are aged between 20 and 45, as shown in Figure 1. In addition, as shown in Figure 2, there are many households with children. These children are in a young age group, which is shown in Figure 3. For this reason, it is important to focus on a design which takes children into account.

In addition, there are already a lot of places where food is provided and produced in Ede. In Figure 4, the places where food is provided is mapped. As shown in the figure, there are several different places where food is provided and most of them are located in the center of Ede. There are some schools and grocery stores outside the center. The places where food is produced are shown in Figure 5. These places are divided into seven different categories and the location of these places is more spread out and located in the outskirts of Ede.

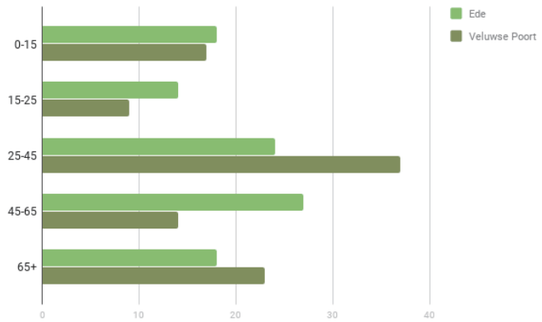


Figure 1. Age groups in Ede and Veluwse Poort (CBS, 2017A; edited by author)

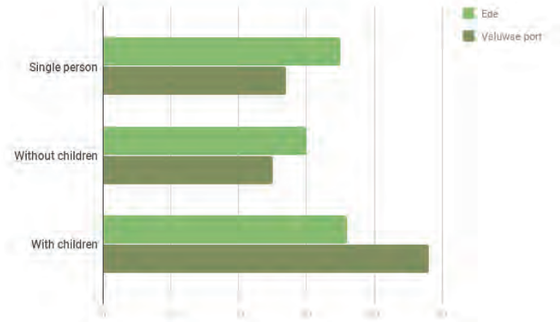


Figure 2. Household types in Ede and Veluwse Poort (CBS, 2017B; edited by author)

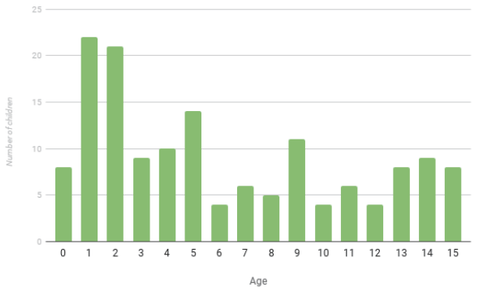


Figure 3. Age division children Veluwse Poort (Ede in Cijifers, n.d.)

Food Provisioning Map

Figure 4

Food Production Map

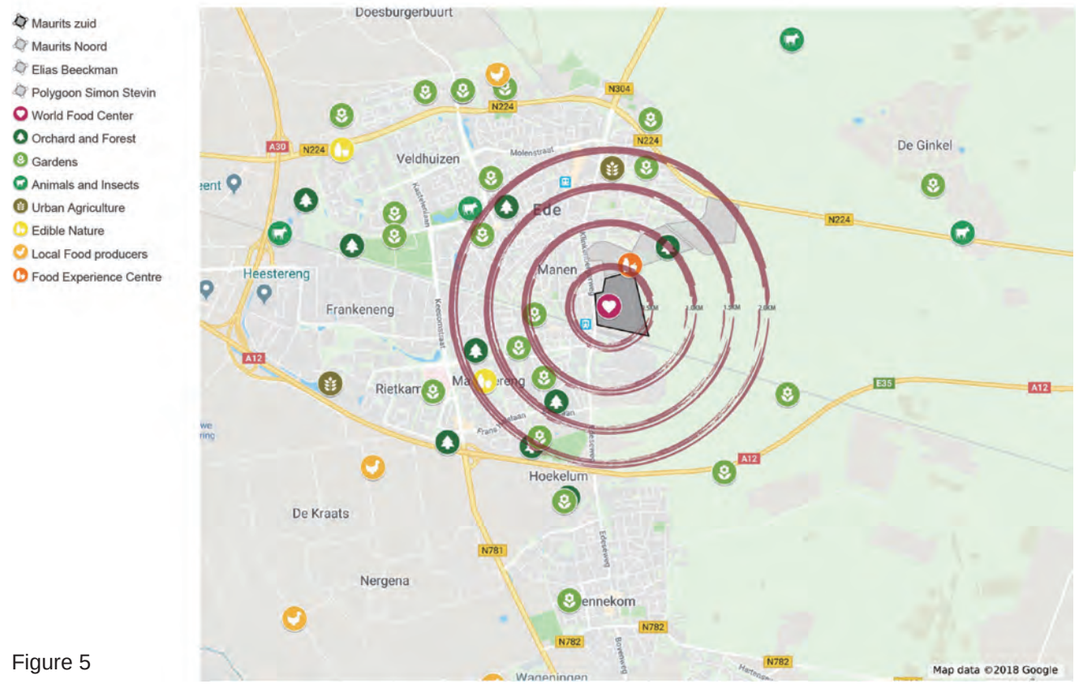


Figure 5

Qualitative Analysis - Interview

The information gained by the interviews are showed in the Assets map. The assets approach looks at how we can support health and well-being with several health assets. According to Morgan and Ziglio (2007) health assets are ‘’factors (or resource) which enhances the ability of individuals, groups, communities, populations, social systems and/or institutions to maintain health and well-being and to help to reduce health inequalities’’.

Assets Map in Ede from Interview

Existing Foodscape in Ede

For the qualitative part of this research, interviews were conducted on site. The interviews were, because of limited time, held among 10 persons from different ages, ranging between 25 and 60. However, since 10 persons is a very small sample, it is important to note the lower level of reliability and representativeness of our findings. Below, the general findings of these interviews will be discussed.

First of all, most of our interviewees usually go to the supermarket for their groceries because this is a kind of routine for them. In addition, they feel as if supermarkets are convenient, because everything can be bought at the same time, have a variety of food and are mostly the cheapest option. Second, whereas some interviewees liked organic food projects, they said this was often too time-consuming for them. One person mentioned ‘’locally produced food is becoming more and more convenient to buy’’ while someone else mentioned ‘’people are busy, so it takes to much time’’. Third, as already mentioned in the quantitative data analysis, many families with young children can be found in the area. The interviewees felt as if education through gardening is a nice way for children at a young age, to get them in contact with local food production. When asking about their knowledge on the plans for the World Food Center, they mentioned that they had heard of it but they did not really know what the WFC ambitions were.

What?

Theoretical Background
Sensory Approach
Social Practice Theory

Theoretical Background

Foodscapes do not only comprise the material elements that shape our food systems and food routines, they also encompass the social networks of food provisioning. Our design aims to facilitate a strong relationship between food and living in our study area. In other words, the design's goal is to foster food citizenship by redesigning the way people interact with food in their daily lives.

Food literacy

A vibrant foodscape should enable people to make decisions that support health and decisions for sustainability. In other words, the foodcape should increase food literacy which refers to "the ability of an individual to understand food in a way that they develop a positive relationship with it, including food skills and practices across the lifespan in order to navigate, engage, and participate within a complex food system" (Cullen et al., 2015). Food preferences and eating habits, which partly influence these food practices, are established at a young age (Xu and Jones, 2016). It is therefore interesting to focus on improving food literacy in an area inhabited by young families with children. Combining the concepts of the sensory approach, social practice theory, and the the assets approach, our design aims to promote "sensory-emplaced learning", which recognizes the relevance of the senses for learning (Fors et al., 2013).

Food citizenship

Food citizenship captures a shift in the role of consumers where they move beyond passive food provisioning towards a broader engagement with the food system, becoming "citizen-consumers" (Renting et al., 2012). Wilkins (2005) defines food citizenship as "the practice of engaging in food-related behaviors (defined narrowly and broadly) that support, rather than threaten, the development of a democratic, socially and economically just, and environmentally sustainable food system". In a system where food production, consumption and every other food practice are linked, and relationships are established, shared responsibility arises. However, there are multiple barriers to become a food citizen. These include on the one hand, the food system itself in its policies and designs and on the other hand, the lack of food skills and time on the side of eaters. Fostering food citizenship requires providing encouragement and tools for change (Wilkins, 2005). Decision-makers "need to support an engaged food citizenry, a sound public food policy, and a vibrant food landscape" (Polson Institute for Global Development, 2003, 7).

Sensory Approach

SIGHT

Fields for local food production
Community kitchens
Picking garden
Fields with pigs, sheep or chicken

HEARING

Public spaces for food related events
Spaces for animals
‘Hearpoles’
Cooking classes in community kitchens

SMELL

Herb garden
Prepared food from the community kitchen
Market place

TASTE

Community kitchen
Market place
Picking garden
Orchards

TOUCH

Community garden
Picking garden
Food forest
Agroforestry

An important factor in supporting citizen learning engagement in sustainable and healthy food-related behaviors, is having a direct connection between an individual and the present foodscape. To stimulate this type of behavior in people, it should be noted that human behavior is formed through different types of influences. In the field of human behavior, different causes to the formation of behavior can be distinguished, usually divided between inherited characteristics (nature) and acquired characteristics (nurture). The nurture approach considers human behavior to be mainly formed through the environment and through external factors which create someone’s experiences (McLeod, 2007). This is where sensory stimulation is an interesting addition. Through experiencing, exploring and exposure to healthy and sustainable foods and food practices in “a vibrant food landscape” (e.g. foodscape), positive behavior can be stimulated. Senses stimulate the perceiving of the environment around us and how to behave in it (Sciencing, 2017). This is why in our design, it is important to make a clear connection between an individual and its environment.

As described by the Netherlands Nutrition Centre, cues, which are noticed through the different senses, activate behavior (Mensink and Feunekes, 2015). Other research on stimulating healthy eating also support the idea that external factors are of influence. According to Brug (2008), food choices and eating habits are determined by a combination of individual and environmental factors. In this way, small changes related to food in the physical environment are able to influence the behavior. Moreover, the phenomenon of the mere-exposure effect refers to being more often exposed to food will matter for someone’s food preferences (Pliner, 1982). This also confirms the idea of senses being of importance for food-related behavior, and is also an interesting phenomenon to further research.

Social Practice Theory

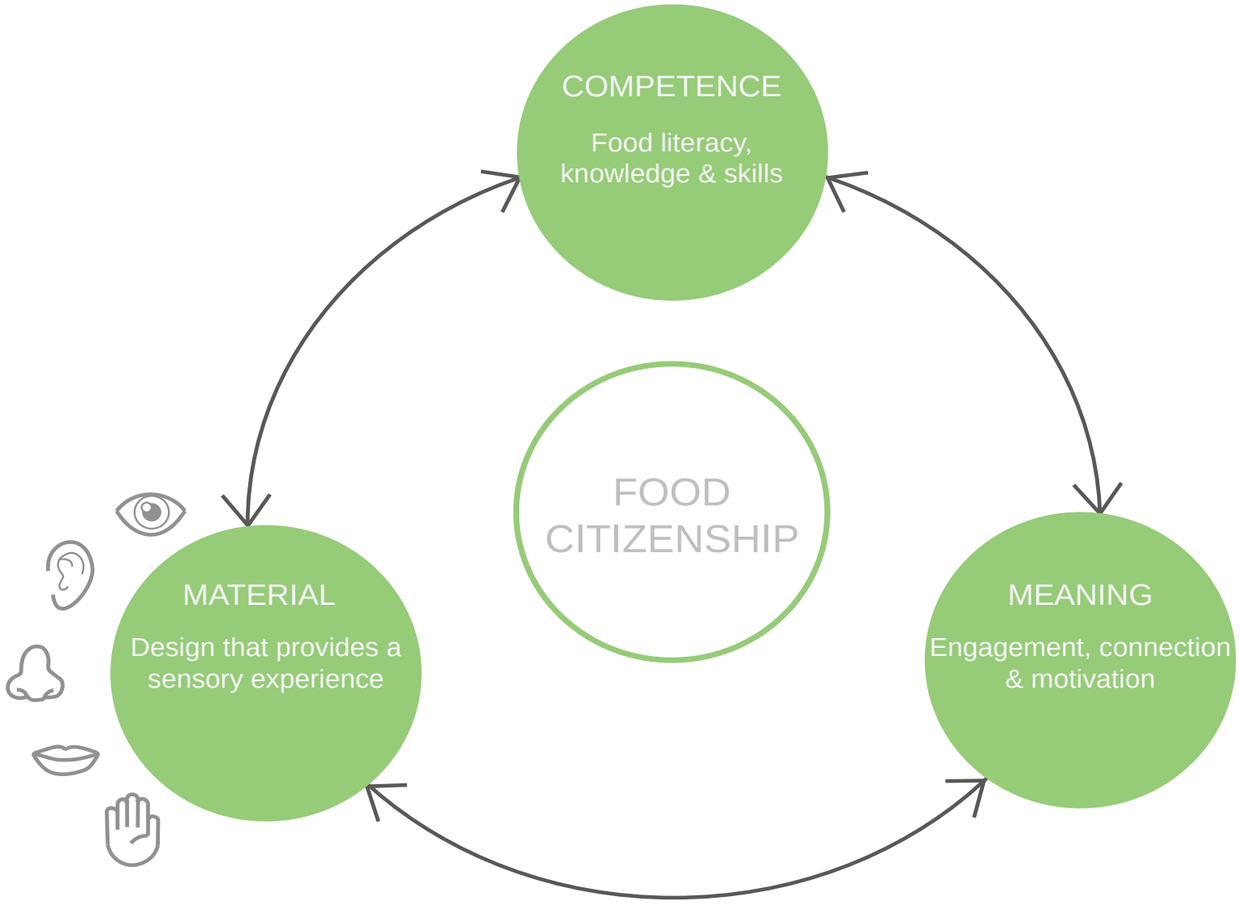


Figure 6. Social Practice Theory and food citizenship.

The skills and practices crucial for food literacy and food citizenship connect well to the social practice theory. According to Reckwitz, a practice is ‘’a routinized way of behavior’’ which consist of ‘’interdependencies between ‘forms of bodily activities, forms of mental activities, “things” and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge’’ (Shove et al, 2012, p.20)’. Within the social practice theory there are three elements which are necessarily to perform a certain practice. These three elements include materials, competences and meanings, which should be actively integrated with each other (Shove et al., 2012). First, materials refers to things like tools, infrastructure, the body itself which are needed to perform a certain practice. Second, competences refer to knowing and understanding the practice (Shove et al., 2012). A person needs to have the skills required to perform a certain practice. The last element is meaning which refers to mental activities, emotions and aspirations (Shove et al., 2012).

This can be applied to our concept. The three elements shape each other. First, the material component in our concept refers to the our design ideas which are related to sensory. These design ideas will be discussed in ‘design’. Second, food literacy refers to the competences which people need to participate in the practice of food citizenship. This for example includes knowledge and skills. Third, through engagement, connection and motivation, people will attach a certain meaning to the practice of food citizenship. Figure 6. demonstrates how the theoretical concepts are integrated. To explain how this can be incorporated into our design, we use our design idea of creating open community kitchens. In these kitchens, cooking together becomes the practice.

In the designed open community kitchens, the kitchen becomes the material; the design provides a multisensory experience in the area. The kitchen also provides people of competences. Through actively being involved in preparing healthy and sustainable food, people will gain skills and awareness, which contributes to food literacy. Being actively participating with food. In this approach, meaning will be given to this method of actively being involved with the preparation of healthy foods. For example, awareness and social interaction could be possible sources of this meaning

How?

Inspirational Examples
Design interventions
Evaluation

Inspirational Examples

Many cities around the world have innovative foodscapes with local projects that could be an inspiration to the design of our Ede foodscape. Below are listed a few.

Sensory gardens

A sensory garden refers to a garden area that allows people to enjoy a wide variety of sensory experiences. As Jenking (2013) describes in his article, the visual impact of a space is the most important element. For this reason his mantra is "green, green and more green". The design of the garden includes several plants and flowers to touch, hear, smell, see and taste. This concept contributes to a stimulating outdoor learning space for children (Jenking, 2013). In our design, we could use this concept to design the green areas in the foodscape. It is especially interesting to implement in the playground for children and community gardens, to make these areas interesting for visitors and kids. In this way, they get involved with the local food and nature through their senses.

Sensory garden *(Photograph: Alamy)*

Greenway in Shire of Moorabool *(Donovan, Larsen & McWhinnie, 2011)*

Alternatives' Feeding Citizenship in Montreal

This is a nonprofit organization that promotes social and environmental justice in Montreal, Canada. According to Agriculture Urbaine (n.d.) the project offers expertise and assistance in creating collective gardens in school, enterprises and organisations. They also offer horticultural and educational workshops and activities for all ages (Agriculture Urbaine, n.d.). Some inspiring concepts from this project which could be used in our design for the foodscape in Ede are the distribution of information sheets for individuals about urban gardening, and the provision of (monthly) workshops around local food production, preparation and consumption. These workshops would also be attractive for families with children.

Strategic planning in Shire of Moorabool, Australia

This plan in Shire of Moorabool, Australia, links the town centre to its hinterland through the creation of a greenway (Donovan, Larsen & McWhinnie, 2011). In addition, it makes provision for community gardens along a high profile and frequently visited route (Donovan, Larsen & McWhinnie, 2011). In our design, we want to make use of a similar greenway to connect the main green corridor to connect with the other functional areas like the residential area and the business area.

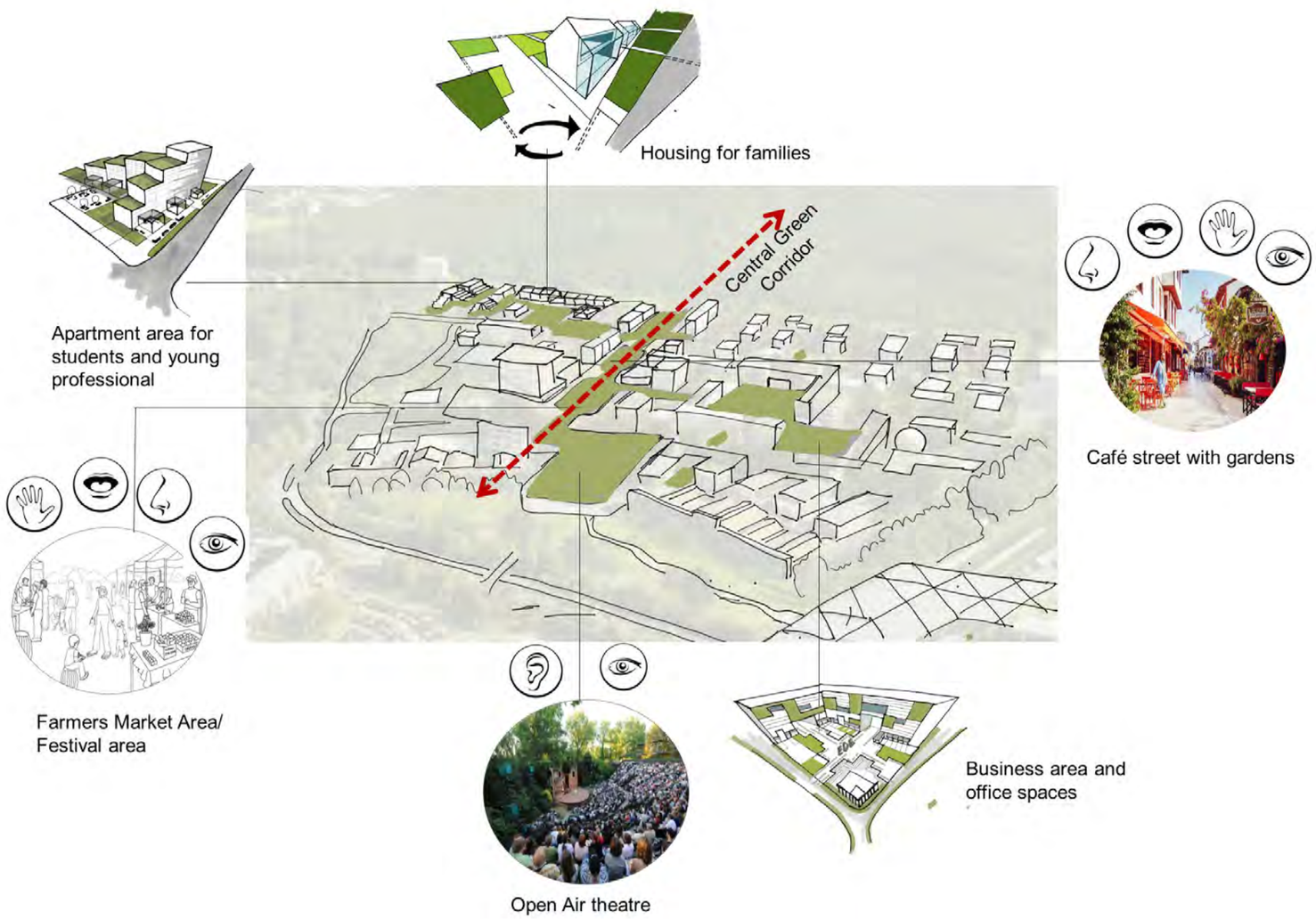
Design Interventions

For our design, we decided to focus on three areas and the connections between them. We looked into two major residential areas, one for individual housing and one for the families. The other part in which we provide intervention ideas is in the business area, as the workplace is the place where people spend the maximum time of a day except their houses. Finally, we link these areas with respect to the masterplan and also make a connection with a central green corridor which makes the whole area coherent and connected.

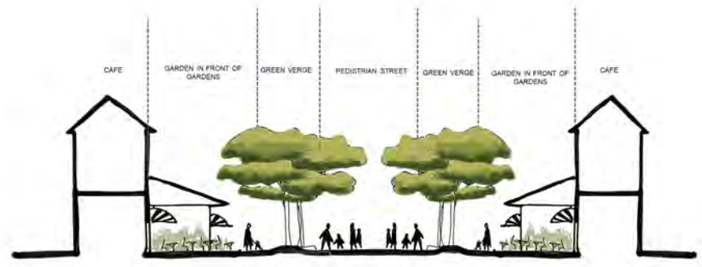
For our design, we decided to focus on three areas and the connections between them. We looked into two major residential areas, one for individual housing and one for the families. The other part in which we provide intervention ideas is in the business area, as the workplace is the place where people spend the maximum time of a day except their houses. Finally, we link these areas with respect to the masterplan and also make a connection with a central green corridor which makes the whole area coherent and connected.

Masterplan showing interventions

Design Interventions - Green Corridor



In the masterplan the green corridor connects all the spaces and a green corridor is proposed in a central location of the site. This green corridor is actually a food corridor which has elements which can host and create a major anchor.



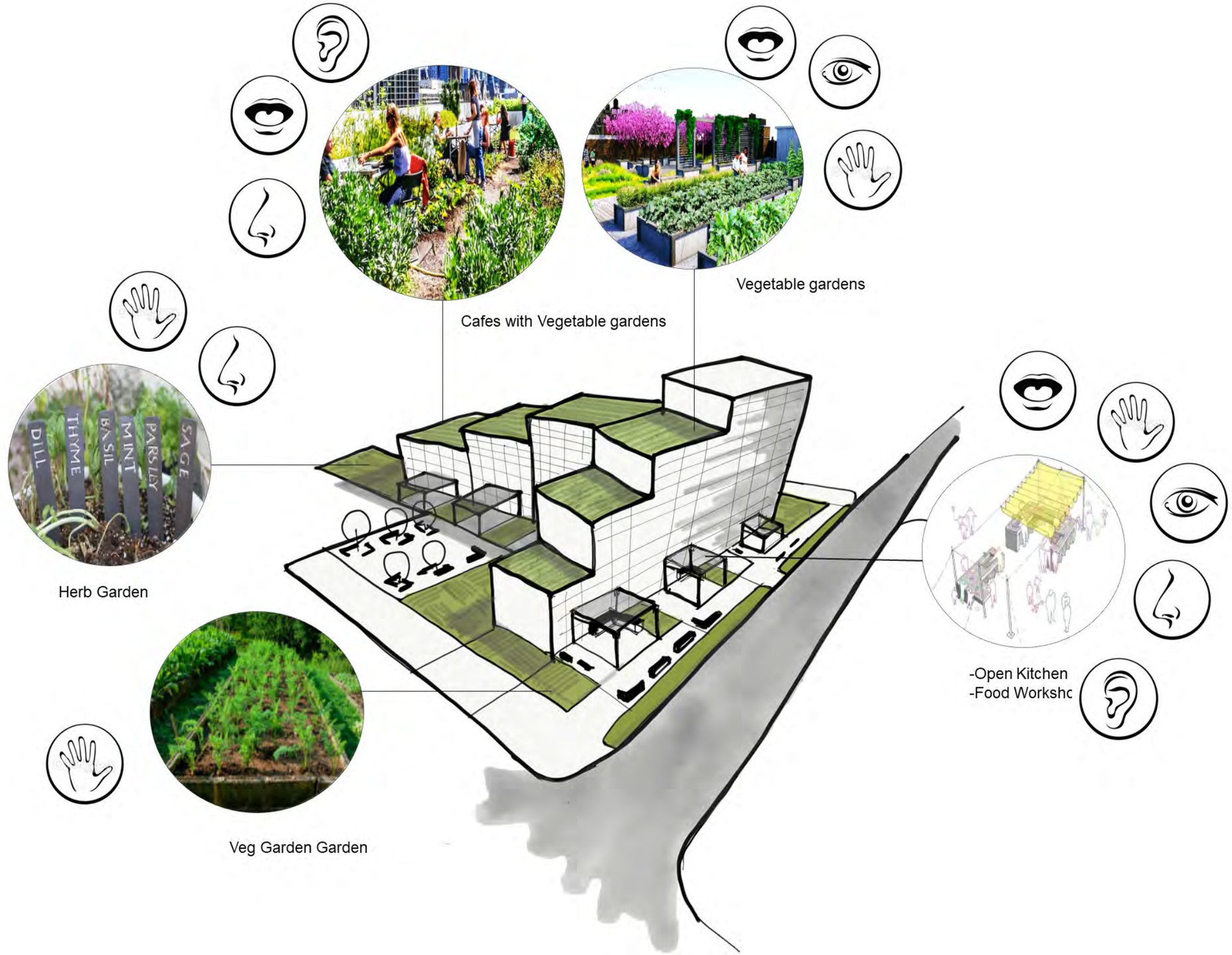
Section of Cafe street

1.Cafe/restaurant street - As can be seen in the analysis, the area around Veluwse Poort lacks good restaurants and cafes. A cafe street is proposed which will host local restaurants which provide innovative, healthy food. The street could be designed aesthetically, to make it really attractive for the citizens. They will have gardens in front of them and can have and may take precedence from cafe streets in cities such as Paris, Spain and Antalaya.

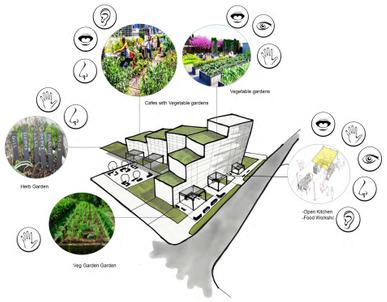
2.Festival arenas - The festival arena should be designed as the main exhibition space and can host multiscale events like weekly farmer's market to bi annually food festivals. In this area, experiencing food becomes a central focus. Events and exhibitions can trigger all different senses, thereby increase people's awareness.

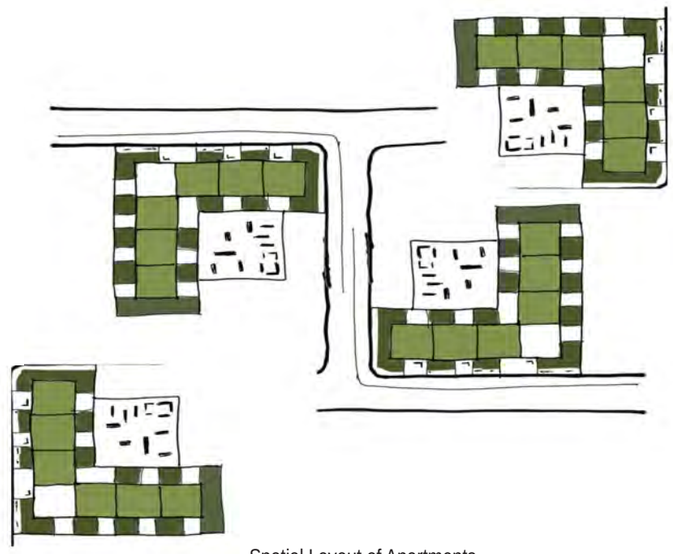
3.Open Air theatre - An open air theatre with a very large capacity can host a multitude of people. This might help in hosting food related activities or other recreational activities in the area, such as plays and concerts - which might help in garnering footfalls occasionally.

Design Interventions - Apartments for individual



Design Interventions - Apartments for individual





Spatial Layout of Apartments

The foodscape around the apartment is designed in a way that makes the whole process of producing food and cooking a very transparent affair. Moreover, it will make the food easily accessible. The apartments should be terraced for a maximum exposure to the sun.

Terrace Cafe Area

Another way for the residents to get in contact with other people and with locally produced food, there will be a small café on the terrace. People can meet here, drink a beer and taste food which is produced in the neighbourhood. The residents will taste and smell the local food and at the same time hey hear about the production of it. In this way, it will get them connected to the area.

Vegetable and herb gardens

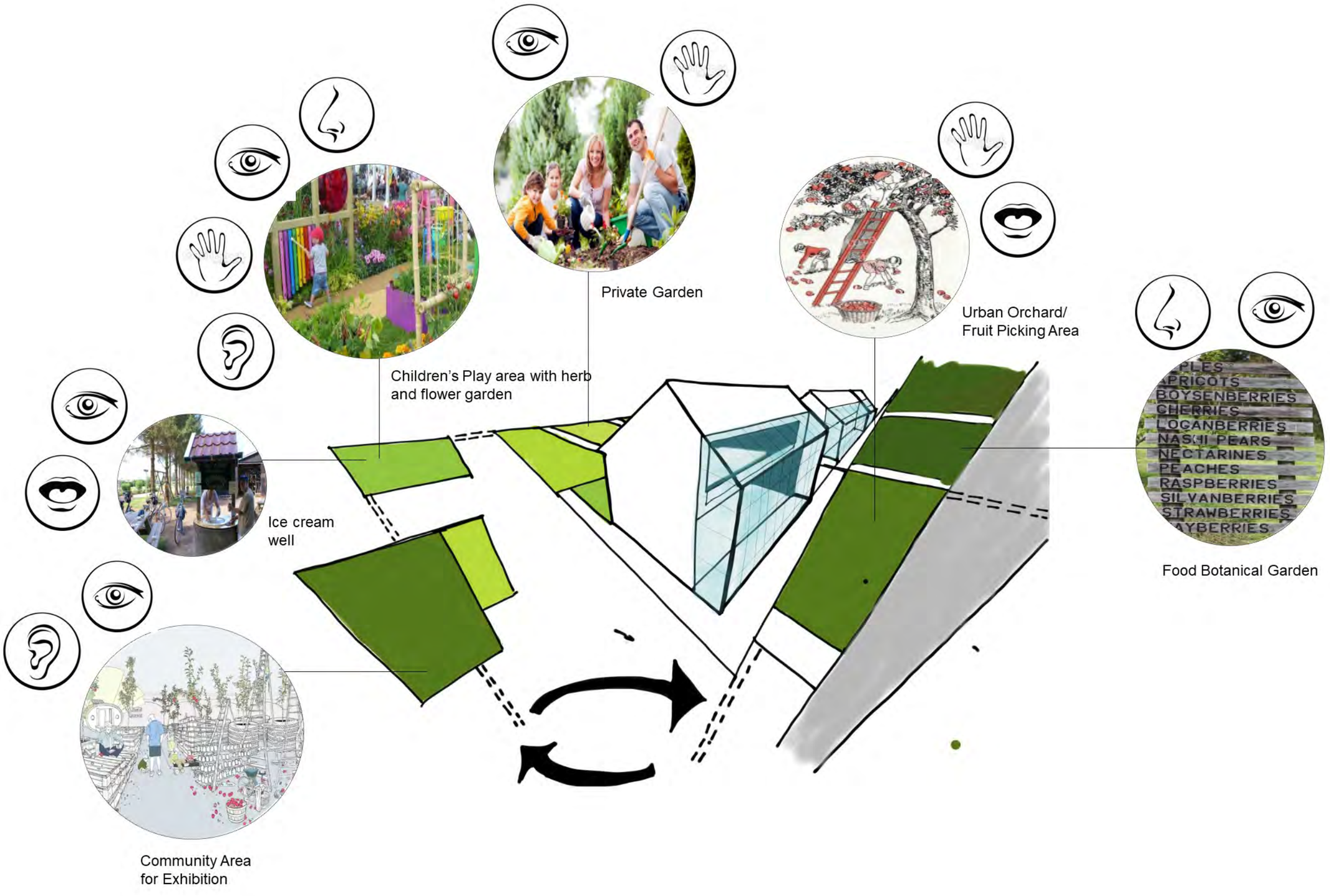
The open kitchen and the cafe area will be supported by vegetable and herb gardens. Both the open community kitchen, as well as the small cafe will partly get their herbs and vegetables from the neighbourhood itself. Next to the apartments, gardens runned by the cafe and the residents, will be designed. From these gardens, the cafe and the open kitchen can gather herbs and vegetables to use while producing food. These garden can be accessed by the apartment user like a grocery store where they pick the food from the soil itself and pay through a organized source like a card.

Open community kitchen

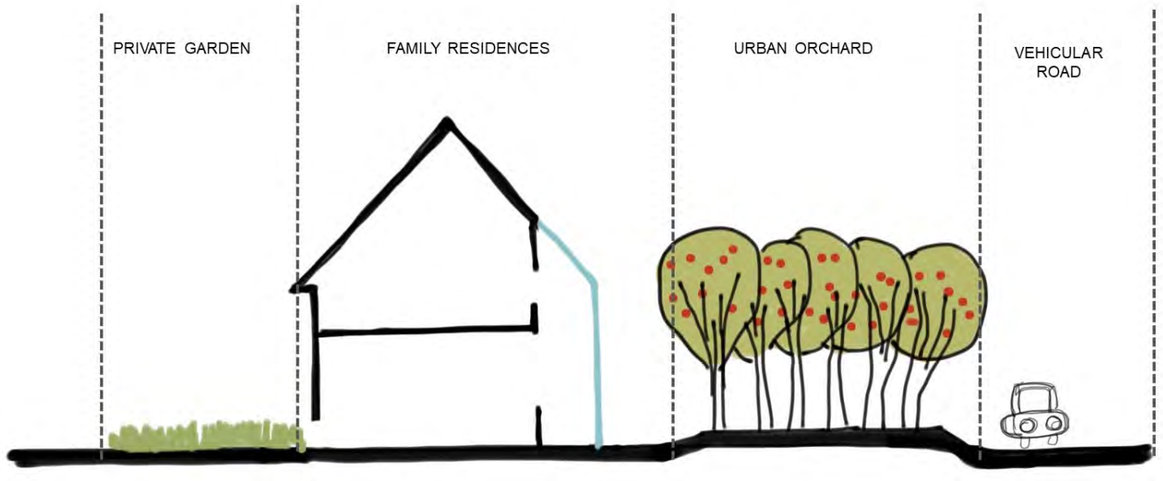
In order to foster food citizenship in the area, a broader engagement with the food system has to be created. To do so, open community kitchens will be introduced in the apartment area. In this open kitchen, people can cook for each other and with each other. A community kitchen is a publicly accessible environment where anyone can cook meals for themselves and/or their families (Ontario Association of Food Banks, 2011). The kitchen can also be rented or be used to organise cooking workshop. It will be a place where people can get in touch with locally produced food. The ability to use open kitchens can take away the barriers for people to access healthy food (Fridman & Lenters, 2013).

Open community kitchens are a great way for learning, teaching, breaking down social isolation and health promoting activities (Fano, Tyminski & Flynn, 2014). Health promotion is achieved by impacting several social determinants of health. For example, social networks, education, personal health practices, coping skills, and healthy child development (Engler-Stringer & Berenbaum, 2005). Different studies on existing open kitchens show advantages of the open kitchens. Community kitchens play an important role in enhancing cooking skills and improving social interactions and nutritional intake. The open kitchen create community awareness and provide nutritious food and food skills. A study shows that people who visited the community kitchen, increased the diversity of their choices when purchasing fruit and vegetables and established a healthy social environment not only for themselves but also for their families (Iacovou et al., 2012). A study by Robson, Stough & Stark (2016) about a community kitchen for parents and children showed that the community kitchen activities increased enjoyment of cooking and decreased the consumption of take-away food. The open kitchens provides meanings, competences and materials for cooking, so it could influence social practices. By touching (cooking), smelling (food), tasting (by eating), hearing (education) and seeing (cooking workshops), all senses will be stimulated in the open kitchen.

Design Interventions - Houses for families



Design Interventions - Houses for families



Sections for Housing

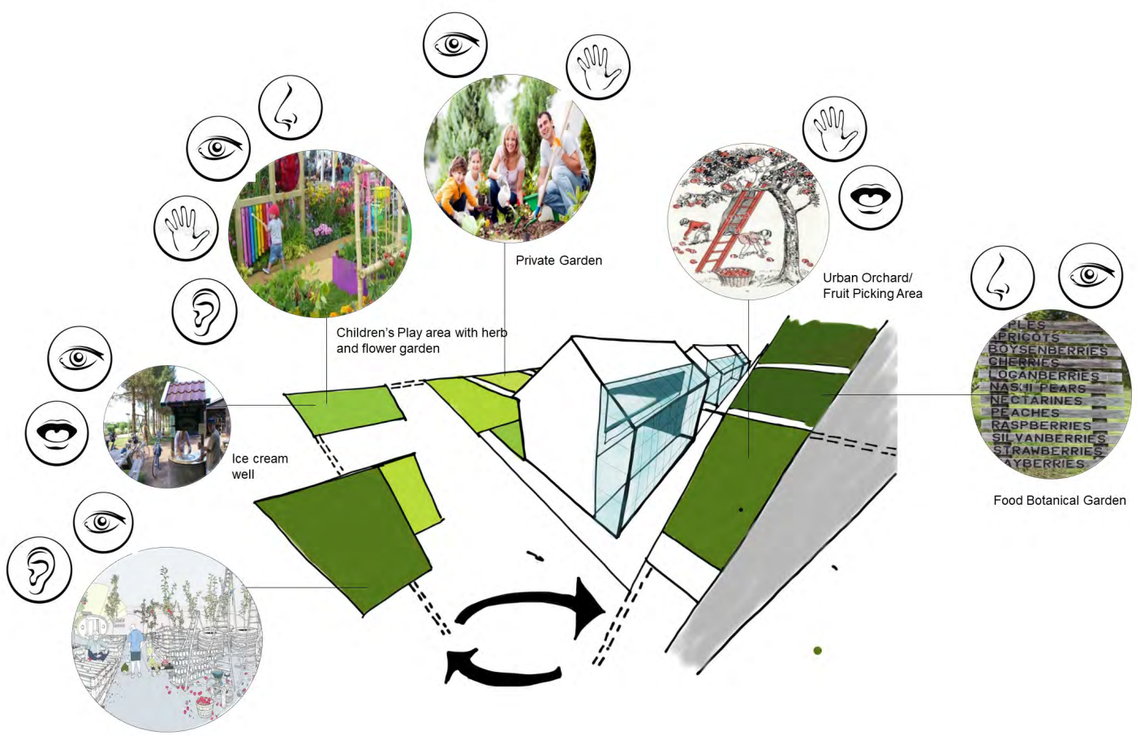
The demographics from the Veluwse Poort area show a relatively high amount of households with children. If we expect this trend to keep going, it is important to focus on families with young children. There will thus be spaces proposed which are especially engaging and interesting to children and their parents. Furthermore, through a playful interaction with these spaces, children can learn about the foodscape they live in. This will help them to have gather knowledge about food and food processes while growing up. Education is an important part of food literacy because it increases the ability of individuals to understand and use food in a positive way. It is thus important to focus on education in the early life. There will be seven design ideas listed below, which can be integrated in the family housing area.

Private garden
All proposed houses will have a private garden. These can be designed in the way that local food production is stimulated. Through providing certain materials such as seed boxes, the municipality can bring the foodscape into the gardens of families. This will enhance the direct engagement of the families with nature and food.

Urban Orchard
The urban orchard is proposed between the houses and the vehicular road to act as green buffer to provide sound insulation and air filtration for the houses. The families can access this whole area by paying a yearly rent, which helps in maintaining the area. The urban orchard is within easy access for the families and can function as a place to host certain activities, such as a picking festival during the fruit season. The urban orchard will also have green houses, to be able to function during all times of the year. In this urban orchard, the idea of hands in the soil really actives the sense of touch.

Food Botanical garden
Attached to the area of the urban orchard, a food botanical garden will be created. Here, people may learn about different food related plants and trees. The trees have tags were people can learn about the tree itself. More information can be displayed through projectors and other means, such as a listening pole, thereby stimulating multiple senses
Children’s play area with sensory garden
In this area, we believe it is important to let the environment stimulate these children and their parents to be actively engaged with their food, thereby empowering them for food citizenship. The children's’ playing area will be within a sensory garden which helps to stimulate their senses. This active engagement with food through the different senses can contribute to more sustainable and healthy food preferences and eating habits of the children, since food preferences and eating habits are both established at a young age (Xu and Jones, 2016). A small idea to integrate in our design is to make use of interactive educational games such an interactive information board. The target audience for this will be young children aged between 4-12. This interactive board will provide games about how to grow fruits and vegetables and healthy food. The information will be presented in little interactive games because in this way, children learn through playing.

Design Interventions - Houses for families



Urban Orchard *(The london orchard project)*

Community garden area

Pieces of land of this garden area could be rented to the families living in the area. Community gardens seem to facilitate improved social networks between neighbours and organizational capacity in communities. The gardens improve neighbourhood pride and contribute to a more aesthetic maintenance of the community. Besides that it serves as a physical place for residents to get in contact with each other (Armstrong, 2009). Community gardens contribute to improved nutrition among gardeners and their families. Important for this was the better access to food, in particular children were benefiting from this access. Other important factors where improved nutrition and increased physical activity. Also in the case of mental health community gardens have a positive impact, as they are stress-relieving (Wakefield, Yeudall, Taron, Reynolds, & Skinner, 2007). A dominant advantage of kitchen gardens for children is the increase of the willingness to try food. An important reason for this is that the social environment shapes this behaviour (Gibbs et al., 2013). Exposure plays an important part in this. For children, exposure to different kinds of food is important in order to create a healthy diet for them. Research has shown, that exposure to unfamiliar tastes can reduce food neophobia (fear of the new) and increase liking and consumption. Experiences with flavours shape the present and future preferences of young children (Cooke, 2007). The sensory experience of children will get them in contact with local and healthy food.

Small design interventions

Another way of increasing food awareness through exposure is by small design interventions which can randomly be place in the area. Examples of this area the placement of a educational 'luisterpaal', which stimulates learning through the sense of hearing. Another idea could be the placement of an ice cream well with local products or a space for worm hotels. These wells are used as fridges in which locally produced ice creams are stored. Based on self-supply, community members can buy an ice cream and take it out of the well. Worm hotels are local compost spots. They are usually designed in such a way that the composting process and the worms themselves are visible to passersby. Moreover, they are a way to improve circularity in the city on a street scale level and increase awareness about the importance of soil biota and nutrient recycling. Both address the sense of seeing, thereby actively stimulating exposure to food-related topics (Amsterdam Smart City, 2016).

Design Interventions - Business area

Design Interventions - Business area

The building is proposed in a way so that it encloses a kind of a courtyard within it. So that spatially it makes a very good homogeneous space. A landscape for the office-goers is proposed within its vicinity, keeping food as the most import element. During lunchtime, when workers need to eat and relax, they can rest in the courtyard or on the balconies which are attached to the buildings.

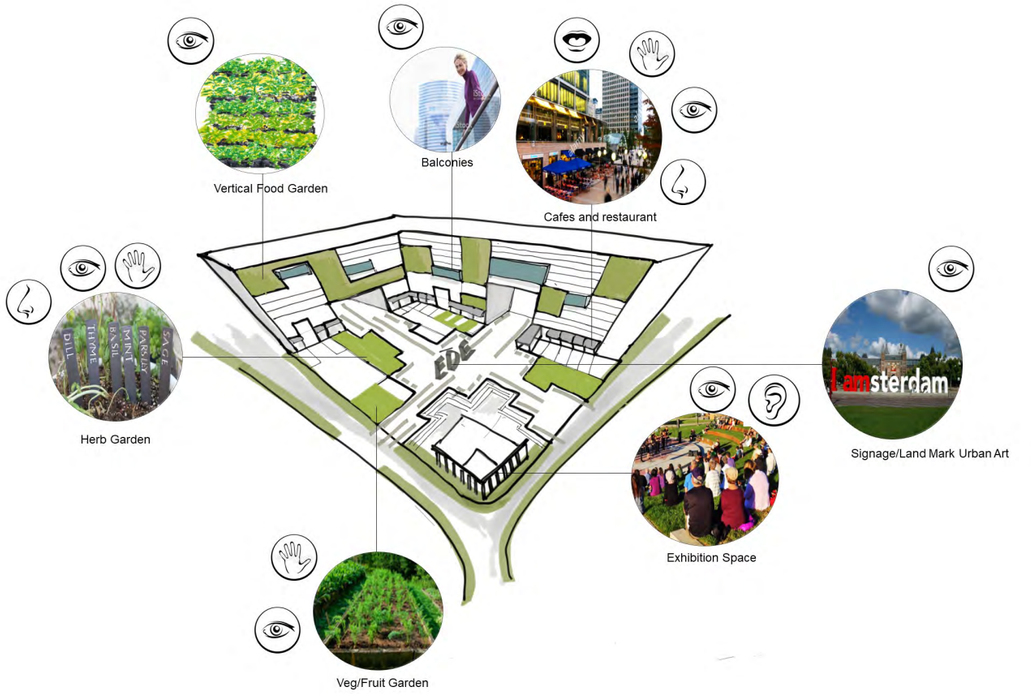
The foodscape in the office courtyard are mainly:

Vertical green wall
The vertical wall can grow different fruits and vegetables.These green wall will be a part of the architecture and add to the exposure of foodscapes.These will contribute to a nice view for the eye and can provide the workers of fresh fruit and vegetables like berries. This will also help the biodiversity like bees and birds.

Vegetable and herb garden
Next to the vertical gardens, there will also be horizontal gardens in the form of vegetable and herb gardens. The employee have the option of picking vegetables from these vegetable garden and cook them in the open kitchen.The gardens however will belong to the cafes and restaurant owners and the customers have to pay them from the fresh food from the gardens. As well as the smell and the taste of the crops and herbs, the gardens also pleases the eye when the workers are taking a break.

Cafes and Restaurant
The cafes and restaurant is proposed underneath the office building which adds to accessibility of the foodscape. The food will be prepared with as much food as possible produced in the courtyard itself in the vegetable garden. The employees can go there to have lunch or diner. The workers have also the opportunity to cook a meal at an open kitchen which is available in the area. As elaborated previously, it could contribute to engagement and interaction.

Small interventions
First, at the centre of the courtyard, there will be a big land art which writes a catchy name such as ‘Sense Foodpark’. This may attract visitors and also serves as a sign of recognition. Second, there will be a small exhibition area. This place can be rented by companies for a various time, to show or promote their new products. This gives companies the opportunity to get feedback on their new products by various kinds of people, before they enter the market.



Conclusion

“Why do they only build houses? We should also have more plants here!”

To validate our ideas, we went back to the study area to ask feedback on our ideas from residents of the neighbourhood. With five people we discussed our ideas about bringing food into the residential area and using exposure and stimulation of the senses to make people more connected with and aware about food.The interviewees matched our target group: parents and children. Hence, focusing on this target group was seen as a positive approach by the interviewees.

One of our questions was about how people can learn about food in their daily lives. We asked to think of a moment of learning connected to food knowledge or skills. Sensory elements were mentioned several times, for example “a home-grown tomato tastes different from the ones at the supermarket, more ’rough’” and, “children can better understand the origin of a potato when they have their hands in the soil, and see how a plant grows”.

Again, time and convenience were mentioned as the main reasons to not to actively participate in food provisioning practices. Practices such as visiting a farm and interacting with animals were seen a good ways to teach children about food, but the fact that it is too far away was a hurdle to do so. The interviewed people also came up with nice examples to make food more visible and part of daily life. These examples consisted of: a playground with berry bushes and fruit trees around in another part of Ede, city pigs (Stadsvarkens), neighbourhood barbecues, markets, and food festivals.

When asked what people would like the neighbourhood or the WFC to offer in terms of food, people usually did not immediately come up with clear wishes. When we pitched some of the possibilities, such as open kitchens, shared gardens, or sensory elements, however, most people quickly became enthusiastic and mentioned that if this was present, they would definitely engage more, and more easily with food in their neighbourhood. They also liked the idea of organizing workshops around community gardening and cooking with local products in the WFC, especially for kids, and they would be willing to participate.

The sensory approach presented in this report fits well within a larger effort undertaken to make this area an example of what the future can be for healthy and sustainable cities and food citizenship. Placing multisensory elements throughout the whole area is one way to work towards the goals if increasing citizens’ engagement with food. Foodscapes, and the practices they potentially stimulate, are not only composed of these material elements. Foodscapes will be shaped by the way people are engaged with their food system. This means that there should be flexibility and space in the design to allow for experimentation and innovation, both spatially and socially.

Both people and their environment are required for a successful foodscape. The design should be regarded as inextricably linked with the people that will use it. Indeed, without creating strong links to know-how and meaning the design cannot support food citizen practices. It therefore important to supplement it with other efforts, such as events, educational programmes, campaigns, price mechanisms, and other incentives. These can help to strengthen the links between living environment and healthy and sustainable food behaviours. Moreover, removing elements that foster unhealthy and unsustainable behaviours is important as well to reach this goal.

Realistically, small garden plots will not feed the neighbourhood throughout the year. The food grown here is rather the medium that facilitates learning and stimulates curiosity. To really connect citizens with the food they eat, additional attention should be given to strengthening connections with local producers in the wider city region of Ede. Further design and education efforts could focus on bringing these local producers closer to the city, for example through farmers markets and getting city dwellers out of their urban comfort zone.

The vision behind our design is that the foodscape should engage people and stimulate learning in other to foster food literacy and food citizenship. Our design does not aim to fix all challenges related to food, health, and sustainability in an urban context. For example, it does not tackle economic aspects or technical considerations of installing gardens or kitchens. Rather, it presents a creative approach and some concepts that can be considered while designing the foodscape of future Ede and directions for action. Adding elements that stimulate the senses and the sharing of knowledge and skills is one step

References

Agriculture Urbaine (n.d.) Alternative Feeding Citizenship. Retrieved on 5 December 2018, from http://www.rooftopgardens.alternatives.ca

Amsterdam Smart City. (2016, december 18). Wormhotels for sidewalk Vermicomposting. Retrieved on 5 December 2018, from https://amsterdamsmartcity.com/projects/wormhotels-for-sidewalk-vermicomposting-nl01phza

Armstrong, D. (2000). A survey of community gardens in upstate New York: Implications for health promotion and community development. Health & Place, 6(4), 319–327. https://doi.org/10.1016/s1353-8292(00)00013-7

Bouwman, L. (2018). Lecture 1: an introduction to resource/ assets mapping. Retrieved on 22 November 2018, from https://blackboard.wur.nl/bbcswebdav/pid-530662-dt-content-rid-2297824_1/courses/LUP36306_2018_2/Week4%20Lecture%201.pdf

Brug, J. (2008). Determinants of healthy eating: motivation, abilities and environmental opportunities. Family practice, 25(suppl 1), i50-i55.
CBS (2015). Nederland eet onvoldoende groente, fruit en vis. Retrieved on 3 December 2018, from https://www.cbs.nl/nl-nl/nieuws/2015/17/nederland-eet-onvoldoende-groente-fruit-en-vis
Cooke, L. (2007). The importance of exposure for healthy eating in childhood: a review. Journal of Human Nutrition and Dietetics, 20(4), 294–301. https://doi.org/10.1111/j.1365-277x.2007.00804.x

Cullen, T., Hatch, J., Martin, W., Higgins, J. W., & Sheppard, R. (2015). Food literacy: definition and framework for action. Canadian Journal of Dietetic Practice and Research, 76(3), 140-145.
Donovan, J., Larsen, K., & McWhinnie, J. (2011). Food-sensitive planning and urban design: A conceptual framework for achieving a sustainable and healthy food system. Melbourne: Report commissioned by the National Heart Foundation of Australia (Victorian Division).

Engler-Stringer, R. and Berenbaum, S., 2005. Collective kitchens in Canada: a review of the literature. Canadian Journal of Dietetic Practice and Research, 66 (4), 246–251.
Fano, T., Tyminski, S., and Flynn, M., 2004. Evaluation of a collective kitchen program using a health promotion model. Canadian Journal of Dietetic Practice and Research, 65 (2), 72–80.
Fors, V., Bäckström, Å., & Pink, S. (2013). Multisensory emplaced learning: Resituating situated learning in a moving world. Mind, Culture, and Activity, 20(2), 170-183.

Fridman, J., & Lenters, L. (2013). Kitchen as food hub: adaptive food systems governance in the City of Toronto. Local Environment, 18(5), 543–556.

Gibbs, L., Staiger, P. K., Johnson, B., Block, K., Macfarlane, S., Gold, L., . . . Ukoumunne, O. (2013). Expanding Children's Food Experiences: The Impact of a School-Based Kitchen Garden Program. Journal of Nutrition Education and Behavior, 45(2), 137–146. https://doi.org/10.1016/j.jneb.2012.09.004

Iacovou, M., Pattieson, D. C., Truby, H., & Palermo, C. (2012). Social health and nutrition impacts of community kitchens: a systematic review. Public Health Nutrition, 16(03), 535–543.

Jenking, M. (2013, 13 juni). How to build a sensory garden at your school. The Guardian. Retrieved on 6 December 2018, from https://www.theguardian.com/teacher-network/teacher-blog/2013/jun/13/build-sensory-garden-green-schools

Maas, J., Verheij, R. A., Groenewegen, P. P., De Vries, S., & Spreeuwenberg, P. (2006). Green space, urbanity, and health: how strong is the relation?. Journal of Epidemiology & Community Health, 60(7), 587-592.

Malnar, J. M. (2004). Sensory design. U of Minnesota Press.

McLeod, S. A. (2007). Nature Nurture in Psychology. Retrieved on 5 December 2018, from www.simplypsychology.org/naturevsnurture.html

Mensink, F. and Feunekes G. (2015). Influence of the physical environment on eating behaviour. Netherlands Nutrition Centre. Retrieved on 5 December 2018, from www.voedingscentrum.nl

Morgan, A., & Ziglio, E. (2007). Revitalising the evidence base for public health: an assets model. Promotion & Education, 14(2_suppl), 17-22

Ontario Association of Food Banks. (2011). Community kitchen definition. Retrieved December 4 2018, from http://www.oafb.ca/definitions.html

Pliner, P. (1982). The effects of mere exposure on liking for edible substances. Appetite, 3(3), 283-290.

References

Polson Institute for Global Development. (2003). The Future of American Agriculture and the Land Grant University: Toward a Sustainable, Healthful, and Entrepreneurial Food System. A White Paper of the Future of American Agriculture Symposium of Cornell University. Cornell University. Ithaca, New York

Renting, H., Schermer, M., & Rossi, A. (2012). Building food democracy: Exploring civic food networks and newly emerging forms of food citizenship. International Journal of Sociology of Agriculture and Food, 19(3), 289-307.

Robson, S. M., Stough, C. O., & Stark, L. J. (2016). The impact of a pilot cooking intervention for parent-child dyads on the consumption of foods prepared away from home. Appetite, 99, 177–184.

Sciencing. (2017). Psychological Theory on the Five Human Senses. Retrieved November 29 2018, from https://sciencing.com/psychological-theory-five-human-senses-5933165.html

Shove, E., Pantzar, M., & Watson, M. (2012). The dynamics of social practice: Everyday life and how it changes. Sage.

Southworth, M. (2005). Designing the walkable city. Journal of urban planning and development, 131(4), 246-257.

Steel, C. (2013). Hungry city: How food shapes our lives. Random House.

van der Weijden, W. J., Huber, M. A. S., Jetten, T. H., Blom, P., Van Egmond, N. D., Lauwers, L., ... & Van Bueren, E. L. (2012). Towards an integral approach to sustainable agriculture and healthy nutrition: vision of the Scientific Council for Integral Sustainable Agriculture and Nutrition. Scientific Council for Integral Sustainable Agriculture and Nutrition.

Verhoeven, S., & Wiskerke, J. S. C. (2018). Redesigning the Foodscape of the Metropolitan Region of Amsterdam. In Flourishing Foodscapes (pp. 219-235).

Wakefield, S., Yeudall, F., Taron, C., Reynolds, J., & Skinner, A. (2007). Growing urban health: Community gardening in South-East Toronto. Health Promotion International, 22(2), 92–101. https://doi.org/10.1093/heapro/dam001

Wilkins, J. L. (2005). Eating right here: Moving from consumer to food citizen. Agriculture and human values, 22(3), 269-273

Xu, T., & Jones, I. (2016). An Investigation of children's understanding of food and nutrition. Early Childhood Education Journal, 44(4), 289-297.

Literature Figures:
CBS in uw buurt (2017a). Leeftijdsverdeling 2017 (Ede & Veluwsepoort). Retrieved on 19 November, from http://cbsinuwbuurt.nl
CBS in uw buurt (2017b). Huishoudensamenstelling 2017 (Ede & Veluwsepoort). Retrieved on 19 November, from http://cbsinuwbuurt.nl
Ede in Cijfers (n.d.). Buurtmonitor. Retrieved on 19 November, from https://ede.buurtmonitor.nl//jive?cat_open=bevolking
Google (2018a). MyMaps: Food Provision Ede. Retrieved on 19 November, from https://www.google.com/maps/d/u/0/edit?fbclid=IwAR3tiygatm47Q09bxlkVqMjphWgSPw1NPwkux6mFznF9hSnVe0FulVmbTMQ&hl=sv&mid=1oS1cyqt6C_xa46f8k2zoxtNRIezc055Y&ll=52.03614513471309%2C5.66593649999993&z=13
Google (2018b). MyMaps: Food Provision Ede. Retrieved on 19 November, from https://www.google.com/maps/d/u/0/edit?mid=1607aUoOczgVXWK2n2smP4SsyFG5bgstp&ll=52.08528026580373%2C5.697510800000032&z=11