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Reinventing the academic conference: how delegates design productive cities

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Abstract

During the 6th International Sustainable Food Planning Conference, the so-called Design LABs partly replaced the regular parallel sessions. The reason for this change was twofold. On the one hand it aims to break through an endless series of parallel presentations, and on the other hand the LAB's aim was to produce innovative design solutions for increasing the amount of food production in the city. This article describes this experiment to enhance the delivery of urban design concepts, which could substantially produce more food than current models. During the conference each of the parallel sessions half of the time consisted of a design-LAB, in which participants were brought together around a map with the task to design a substantial amount of food productive spaces in the case study site. The results of this experiment were dual: 1. a very committed attitude of delegates to this part of the conference and 2. the design tasks resulted in innovative design results. These results not only emphasise the potential design measures onsite but also pledged for a strong and more intensive connectivity with the city and the landscape around it. This makes it possible to link the supply and use of resources with the typology of the region, hence determining an effective and productive urban agriculture system.

Introduction

Have you ever found yourself yawning in the back of the room during the sixth academic presentation in the fourth parallel session on the third day of the conference, which, when you initially registered, seemed so exciting? Or, have you seen a yawning audience in front of you when you were up for presentation of your paper on day three, session VII-c in a badly lit room with second tier projector? Even if you enjoyed this, it must have occurred to you that half of the room was empty, delegates had left for more interesting sights in the conference city, and no new knowledge has been developed during the conference. This leaves the coffee breaks as the most exciting moments of the conference, when you have time to catch with colleagues and discuss future collaboration and new ideas. Despite organisers doing their best to develop a lively programs it proves to be difficult to go beyond great keynote speakers, good food and an occasional surprise lecture during dinner. In many cases this inevitably implies that the knowledge and expertise of the delegates is underused, if at all, it is hardly made productive nor made available for others. This is especially relevant when the topic of the conference is still 'young', lacks well-defined academic concepts or still searches for additional ideas and explorations to existing paradigms. Urban Agriculture, or sustainable food planning is such a research area. Therefore, the 6th AESOP conference on Sustainable Food Planning (www.findingspaces.nl/aesop6)

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chose an approach, which aimed to generate new knowledge, to give delegates an active role during all parts of the conference and to make use of tactile and creative collaboration-methods. The poster session was linked with the plenary session at the beginning of the program and held in the plenary room, and each of the parallel sessions consisted of a presentation and a design/workshop LAB. The purpose was to exchange expertise and combine this into new knowledge in the field of Urban Agriculture. The ambition was to design new urban concepts for the production of food. The first three sections of this article deal with the problem, the background and the methodology. In section four the design results of the study are presented. In section five the findings about the conference process are presented. In the last two sections the conclusions are drawn and discussed.

Problem

The problems discussed in this article are twofold. First, many academic conferences do often not deliver new outcomes. Sometimes, this wasn't the purpose in the first place, but others explicitly look for new knowledge and interaction. The problem arises in the latter category when these ambitions are not represented in the conference program and methods. The second problem concerns Urban Agriculture itself. Assuming that Urban Agriculture implies the production of agricultural products which takes place within urban boundaries, the question is whether there is enough space to grow food. At the moment, cities cannot accommodate the space to produce substantial amounts of food within its boundaries. Looking at the total consumption of food in the Netherlands, this is approximately 14.6 billion kilos (based on analysis of CBS, 2009; Geurts et al, 2014; Nederlandse Vegetariërs Bond, 2014; Productschap Vee en Vlees and Productschap Pluimvee en Eieren, 2011; Van der Bie et al., 2012; Van Rossum et al., 2011; Van Rossum en Geurts, 2013; Westhoek et al., 2013; *www.goeievraag.nl; http://statline.cbs.nl; www.voedingscentrum.nl*). In order to determine how much is produced inside the city, a range of investigated literature (De Graaf, 2011a; 2011b; De Muynck, 2011; Dijksma, 2013; 2014; Ecovrede, 2012; Expertisegroep Stadslandbouw, 2009; Gemeente Rotterdam, 2012; Gorgelewski, Komisar and Nasr, 2011; Jansma et al., 2011; Kuypers, 2012; Ladner, 2011; Marsden and Morley, 2014; Miazzo and Minkjan, 2012; Philips, 2013; Point to Point Communicatie, 2013; Stedennetwerk Stadslandbouw, 2010; Stutterheim, 2013; Van der Sande, 2012; Van Straten en Koning, 2013; Veen, Breman en Jansma, 2012; Viljoen, 2005; www.groeneruimte.nl) leads to the conclusion that there is very limited knowledge available. Assuming that every municipality in the Netherlands contains an average of one hectare of urban agriculture space within its urban boundaries, combined with numbers about the average productivity of these areas (Madigan, 2009; Viljoen, 2005) 0.002% of the total consumption is produced within the boundaries of the city. Based on this figures, it can be concluded that cities are not well prepared to accommodate the space for food production. There is simply not enough space available, spaces are confined and in many cities the compact city mantra has increased densities over the last decades. Therefore, in order to increase the amount of urban food production more space must be reserved and developed to grow food. This space can be 'new' space, created by realising lower densities with more green spaces in between buildings (which implicitly means the death of the compact city), space created as result of a transformation of existing land use into food growing space, or unsuspected space in the air or underground (Roggema, 2014). Arranging more space for food production in the city also requires an increase of mental space to intensify exploration of productive spaces beyond current accepted uses. This search for additional 'foodspace' defines the design problem: how to design a city concept in which additional spaces are found to accommodate the growth of substantial amounts of food. The city must be reinvented. In the good tradition of the CIAM conferences (such as the fourth CIAM Congress, on the Functional City, Mumford, 2000), the AESOP conference cycle could become the platform to discuss, exchange ideas and develop ideas of a future food-producing city.

Background

a. Conference approach

There are several ways to create more lively and engaging conferences. For instance, Harrison Owen developed the Open Space Technology, when he realised that the coffee breaks at academic conferences allowed for deeper engagement than the monotonous presenting of papers (Owen 1997b).

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Open Space (or 'Open Space Technology') is an interactive method of managing major meetings in business or conferences in science. It is nothing more than a gathering of people of diverse perspectives talking on self-selected topics in self-selecting groups, participants being free to move from group to group as they wish. Open space (Owen 1997a, 1997b), and similar methods, such as the World Café, Work Out, Preferred Future, Search Conferencing, Future Search, or Simu-real (Bunker and Alban 1996; Holman & Devane 1999; Brown and Isaacs 2005) all provide a way to get people/attendees talking. The ethos of Open Space is: 'Open Space begins, and in some ways ends, with the invitation to follow that which has heart and meaning for you' (Owen, 1997b). From this the four basic principles were derived:

- Whoever comes are the right people
- Whatever happens is the only thing that could have
- Whenever it starts is the right time
- When it's over, it's over

Taking this open way of encouraging discussion and interaction a step further, and adding the process of mainly conversational tools with tactile, iterative and creative methods, the design charrette (Condon, 2008; Lennertz and Lutzeniser, 2006; Roggema, 2013; Roggema, Martin, Vos, 2014; Roggema, Vos, Martin, 2014; Roggema and Martin, 2014), defined as a: 'two- or more -day intensive design workshops in which a mixed group of participants work collaboratively towards designing climate adaptation future scenarios' (Clune et al., 2013), offers a way of working in which creativity is encouraged, boundaries between organisations drop and new knowledge and ideas are conceived. The main difference with Open Space methods is that in design charrettes active, constructive and tactile exercises, such as the 30-30 exercise (Roggema, Vos, Martin, 2015), sketching or draw-doodle-draw (Condon, 2006), and 3D-plasticine modelling (Roggema, 2013) play an important role. The combination of free moving and choosing the LAB session by yourself, in combination with the usage of tactile methods, was chosen as the main method during the AESOP-conference to provide the basis for an interactive, creative process, in which new knowledge and ideas can emerge.

b. Urban Agriculture

Urban Agriculture is defined by the International Development Research Centre as: "an industry located within (intra-urban) or on the fringe (peri-urban) of a town, a city, or a metropolis, which grows or raises, processes, and distributes a diversity of food and non-food products. It (re)uses on a daily basis human and natural resources, products, and services largely to that urban area" (Mougeot, 2000) and is in practice often represented by rather small, single projects of open, sometimes public, green space, where food is produced (see Gorgelewski, Komisar and Nasr, 2011; Miazzo and Minkjan, 2013; Philips, 2013). However, food can also be seen as a major factor that shapes our cities, determines the functionality of the city and the way the city looks (Steel, 2008). This implies a larger impact of the growth of food on the city than only small, isolated single Urban Agriculture projects, which function without any connectivity with other projects or the rest of the city. A connected, continuous food landscape can shape the urban lay-out (Viljoen, 2005; Viljoen and Bohn, 2014) and food becomes part of an integrated spatial approach of which it is a major element, such as the Detroit example shows (City of Detroit, 2012), or operates as a strategic policy framework for food, such as the Toronto Food Strategy (Knechtel, 2007; Palassio and Wilcox, 2009). If the growth of food in the city is subsequently connected to a healthier diet, in which fish, vegetables and fruit replace meat, potatoes and bread, the required spaces for food-growing in the city can be shaped according the requirements of fish-based systems. The first experiences with building aquaponic systems in Western cities, such as in the Biospheric project in Manchester (Keeffe, 2014; Jenkins, Keeffe and Hall, 2014) and in Brazilian slum areas where 'Foodroofs' have been developed (Roggema, et al., 2014; Adjacent Government, 2014; International Innovation, 2014), teach us that these systems have the qualities to provide food in many different contexts and are capable of closing the cycles of materials, energy, water and nutrients. These techniques are ready to be used at higher scales, even the implementation of large-scale algae production, which are capable of restructuring the large-scale harbour area of Liverpool (Keeffe, 2009; Keeffe, 2014). When the potential of large-scale environmentally friendly fish-based food production and the integration of food in the urban environment are com-

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bined with the desire to produce more food within the urban boundaries than the current estimate of 0,002%, the search for space and the need to reinvent the city is apparent. If we would like to raise the percentage to 2% or even 50%, each municipality in the Netherlands should allocate 1000 hectares, or 25,000 hectares respectively. This enormous task is not realistic without thinking fundamentally different about the city. The question is how urban land use should conceptually look like in order to make a substantial amount of food production possible? What are the densities, can we use space vertically, at which scale can we close cycles? The existing city is the place where these additional spaces need to be developed and where highly productive food can be grown. A city that has reinvented itself implies that existing spatial standards, shapes and regulations no longer work: built-up areas, infrastructure and concrete will lose space to productive spaces.

Figure 1-4 show how, in abstract images, the current city can be transformed into a productive city. In figure 1 the city is represented by building blocks in a certain density. The first step to increase productivity is to lower the density in order to create space to grow food in the spaces that become available, for instance as green boulevards (figure 2, left). Once the density is decreased, some of the existing build-up land-use can be transformed into productive green land-use (figure 2, right). The third option is to find spaces that are defined as 'impossible places' for food production so far: in the air (including multiple layers of rooftops) and in multiple layers underground (figure 3). When all these options are brought together at the urban level, a novel model for a productive city emerges, in which substantial more spaces are available to becoming productive.

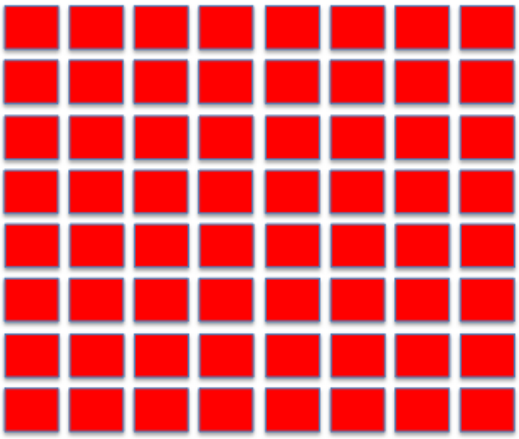

Figure 1: Basic urban grid with build-up spaces in red, and infrastructure as space in between

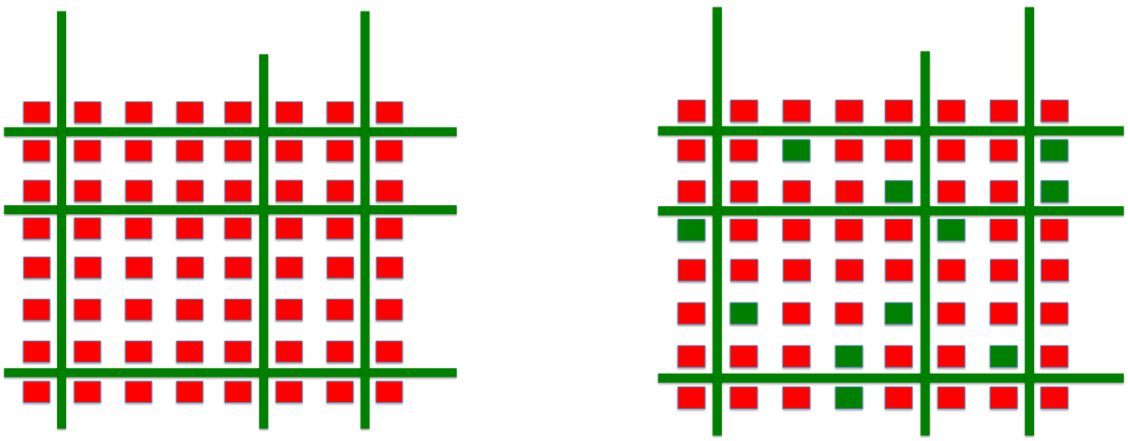

Figure 2: Transforming roads into green laneways (left) and transforming buildings into green public spaces (right)

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Figure 3: Using spaces underneath buildings for green production (left) and using multiple layers of rooftop gardens for green production (right)

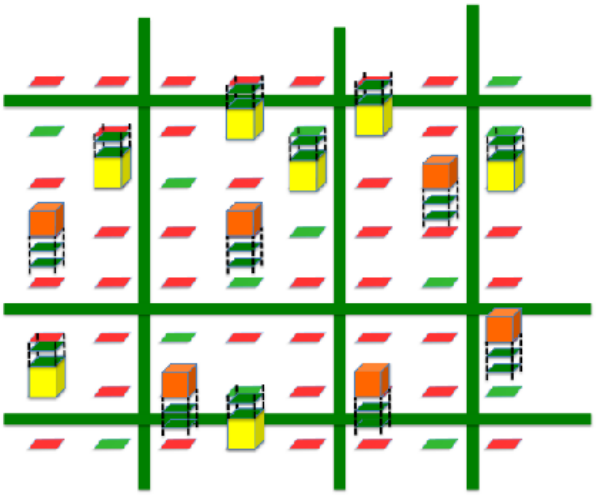

Figure 4: Integrated model of a city in which streets, building sites, sand spaces underneath and on top of buildings are transformed into productive Urban Agriculture spaces

The transition to new city concepts is not only made from a food-perspective, but also from a geo-political one. Europe, opposed and distinctive from China and other new economies, should, according to Holslag (2014a, b, c), re-create its urban form and strengthen its traditional core values. Such a revisited new city concept consists of less than 100.000 inhabitants (which is arbitrary), the city should be compact with lots of green space and low traffic, contains mixed residential and commercial use, will develop organically, with building blocks of an average of five floors high and comfortable living, it will be connected with other cities for exchange of special goods and culture, built with local building materials, and is part of the circular economy, and if there are bigger conglomerates of cities, these consist of a series of small cities with shared uses. This was the task given to the conference delegates in the design LABs: design such a liveable city in which a substantial amount of space is available to grow food.

Methodology

The method used in this experiment consisted of six distinctive steps:

1. On the day before the conference expert visits were planned to a total of five case studies. A delegation of the conference participants travelled to a case study location, where the case study owner, usually the owner of the property or site, hosted them. The case study owner was responsible for the program, the questions to be discussed and the problem statement. The aim of the visit was twofold: to learn what's going on at the case study site, and respond to the case study owner with advice how to solve his problem. The case study visits were facil-

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itated by a group of students who were well informed about the content of the case study and practical issues.

2. The results of the case study visits, the experience of the visits and the understanding of the cases were then brought to the conference venue, where they functioned as the basis for the LAB-sessions. These sessions of two hours include a maximum of four paper presentations (one hour in total) and a design session about a particular case. The aim was to use the expertise and insights presented in the papers to develop an urban food-growing concept in smaller design groups.
3. During the two days of the conference each case study is the subject of a LAB in at least four sessions. With an average of three groups in each session, a maximum of 12 design results were delivered. The output for each case study is a set of designs, drawn on big maps and an expert advice derived from the visits.
4. After the conference the results are harvested. The group of students collect all the materials and ordered it based on the content of the output. Out of all the findings one integrated spatial map is constructed on which a coherent spatial future for the case study area emerges.
5. The results of four case studies are brought together and the common elements are grouped according to the scale they belong.
6. After the conference a questionnaire was send out to all delegates. In this questionnaire people could give their opinion about the general quality of the conference and also specifically rate the elements meant to stimulate exchange and discussion.

The experiment finishes with a concluding statement about the potential for a follow-up and general conclusions about the findings.

Results

The following case studies have been part of the conference experiment: Meervaart in Amsterdam, CHV-Noordkade in Veghel, Graansilo in Groningen and Potmarge-zone in Leeuwarden. For each of these case studies four LAB-sessions have been held and the outcomes of these sessions are summarized.

a. CHV-Noordkade, Veghel

The site in Veghel is an old industrial site for storage of wheat and corn, which is in transition to become a lively, multifunctional arts, food-, and cultural hub in the town of Veghel.The accessibility and large scale of public spaces and building is seen as the most important negative aspect of the site. The

Figure 5: The core of proposals in the heart of CHV-Noordkade

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LAB-sessions came up with design proposals to establish a zero-food-miles zone and improve connectivity with surrounding areas. Connections by water are proposed, green corridors between the site and the countryside to provide exchange of green products and veining of productivity and economic activity into rest of the town. For the site itself a 'borough'-concept is proposed creating an urban environment where art and culture, and the growing of food go hand in hand. Rooftops, old silos and existing buildings are transformed into productive spaces. New, smaller buildings are added for residential and student housing, and to break the large scale into pieces. Productive spaces are located on and aside the canals (i.e. aquaponics, shrimp and catfish runs, and fish barges) and green rooftops, with markets operating on the water. The food cluster is extended with an arts precinct, a community orchard and café, tearoom, restaurant and brewery, with a craft brewery bar, and a skate-park. Visits are organised to the old storage spaces, the industrial heritage, and in, on and near the buildings industrial farming of fish, plants, worms, insects, bees, and small animals (chicken, rabbits) is foreseen.

b. Graansilo, Groningen

This building, centrally located in the city of Groningen is a creative centre and hatchery for innovative businesses, such as the 'enervarium'. It is well connected with infrastructure to the countryside, but the site itself is somewhat isolated. The LAB's suggested to strengthen the industrial-archaeological character of the area where historic ways of food processing are connected with new techniques and processes. The site should be connected with the surrounding urban environment and the countryside, using food ships transporting people and food, create food ways and edible boulevards and streets, as continuous green connections. The wider area around the Graansilo is used for food production, on land, on roofs and on water, such as FoodRoofs, aquaponics, water gardening, greenhouses and more. Waste from surrounding food factories is used to support roof-salad growing. The Graansilo is also seen as suitable to develop a cultural agenda, including different groups of artists, artists in residence, where multicultural food festivals and events about the future of food from local to European scale can be organised. In this agenda the Graansilo itself becomes a gastronomic centre point and water-based meeting point to learn about and experience food.

Inside the Graansilo seedlings are produced and spread out on food barges, an Aquaponic system is implemented in the old silos and an eco-

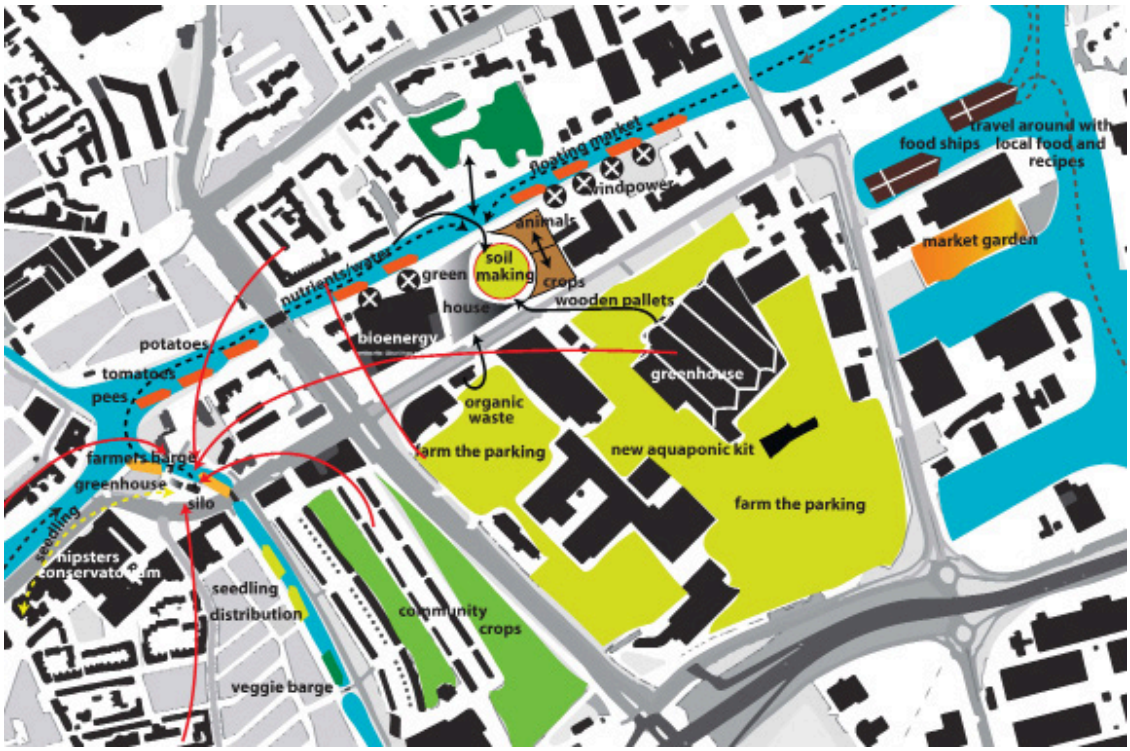

Figure 6: Graansilo as the initial point for expanding food initiatives towards its direct environment and beyond

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logical market is located on a barge next door, on which veggies are grown. On the square around the Graansilo pigs and chicken are kept and a small hop plantation is located, with an explanation of beer components and a small brewery.

c. Meervaart, Amsterdam

De Meervaart is a theatre in the western suburbs of Amsterdam. The LABs propose to position the Meervaart as the heart of an Urban Agriculture zone in the neighbourhood and beyond. On the rooftops of the Meervaart and the buildings in the neighbourhood green gardening and aquaponic systems are foreseen. The products can be directly sold to the Meervaart café and restaurant and other small restaurants in and nearby in the shopping centre. Locals who learn from local farmers, which bring their farm knowledge to intercultural rooftop gardens, may exploit these gardens, and the local producers can sell their produce at a local food market, shops and restaurants. Food establishes connectivity with people living in the vicinity of the theatre. The

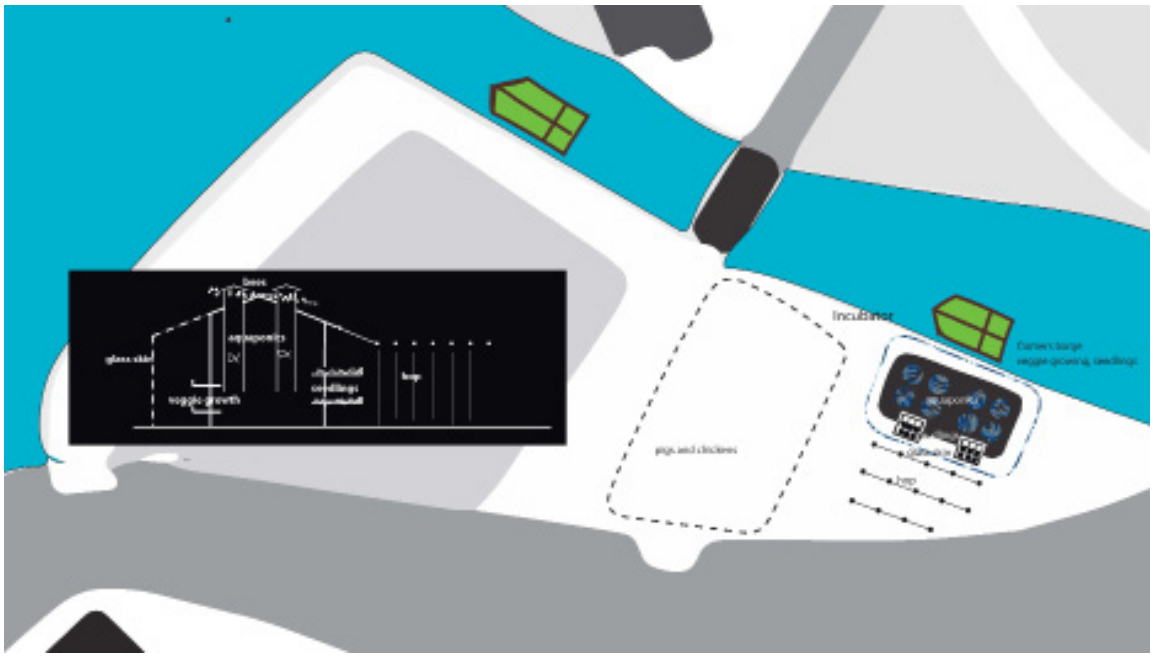

Figure 7: Concrete proposals for the direct environment of the Graansilo

Figure 8: Urban Agriculture components in the Meervaart area

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shores of the Sloterplas can be used as a productive space together with the lake itself where fish basins are proposed and an Urban Agriculture barge. The products can be used during the yearly food festival in front of theatre and at different street feasts taking place by surprise in the neighbourhood streets. The (rain-)water coming off public spaces and roofs is collected and reused on the rooftops and balconies. Organic waste from these flats and public green is composted and re-used in greenhouses located in public green spaces. There are several green linkages proposed to connect the Meervaart with the rest of the city and the countryside, such as the Gardens of West, using a river or canal-taxi, which transports agricultural products and resources to and from the urban heart, but can also serve people.

d. Potmarge-zone, Leeuwarden

The Potmarge is an old river near the city centre of Leeuwarden along which a broad spectrum of land-uses appears. This has led to a messy area, urging for a certain restructuring and clarified spatial system. The accessibility of the area with schools acting as barriers, and the water quality are seen as the main issues.

The main suggestion of the LAB's is to reshape the area as a Green Urban Boulevard of Leeuwarden, where additional spaces can be created to grow food. This Boulevard is seen as a long connecting urban space, which consists of the river itself, its shores, the productive zones around it and the continuous bike paths, footpaths and ecological corridors. It primarily connects the city centre with suburban Leeuwarden, but can also be seen as a loop when completed as a circle along the Nieuwe Kanaal in the North. It is a connection of experience, experiment and learning for fun, relaxation, innovation, creativity and eating local produced food.

The ambition is to increase the value of the Potmarge-zone through a transformation of the area into an aesthetic 'foodscape' (a productive food-landscape), and consume only organic food produced within 50 km from the area. A range of thematic gardens fit in the Boulevard concept: sensorial gardens for rehabilitation purposes, edible schoolyards, a University farm for research, rooftop farms and greenhouses atop institutional buildings, aquaponic systems, and rainwater harvesting systems. In the surrounding neighbourhoods the rooftops are used to harvest PV/solar energy or aquaponics, edible streets are realised, coffee grinds are harvested for mushroom farms. The Potmarge is corked with a series of floating gardens and green markets, under which floating farmers markets, and floating fish- and veggie-barges are located.

In every case study there is attention for the larger scale and connectivity with the rest of the city or town and the countryside. Further common topics are water (floating markets, productive barges, aquaponics), the use of green rooftops, closing cycles of water, energy, nutrients and materials, and the accessibility of the site. In table 1 the most important subjects in each of the case studies are summarized.

When these outcomes are categorized according spatial scale an interesting insight in a possible future city concept emerges. The first category suggestions relate to the connection of the site with the rest of the urban environment and the countryside. Each of the case study-designs does not function satisfactory by themselves, and they all reach out to the countryside to establish connections with other cities and landscapes. Therefore, this regional scale is important to connect all pieces of local Urban Agriculture projects with urban flows and connect it to a regional food productive system based on a water-landscape-typology. These typological landscapes determine the potential to design a 'fish-water-based' food system allowing inhabitants of these regions to produce their own healthy diets, a task for future research. The second category contains those design ideas and activities related to the direct surroundings of the case study areas. These surrounding neighbourhoods also contribute to the case study areas when they become productive In these areas edible streets are proposed, the re-use and recycling of rainwater, composting of organic waste in the neighbourhood is suggested and direct connections with routes on water and land, for boats, bicycles and social connections could be developed. These interventions support the use and exchange of resources and improve the food-productivity of site and surroundings. Special attention is paid in this category for barges, on land and water as a means of transport for products and people, but also on floating markets and farms. Finally, at this scale social connections are important.

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Education, intercultural food festivals, art and culture shape these social networks.

In the third category the measures are taken at the building level. Foodroofs, where food on rooftops is grown, aquaponic systems, in or on buildings, vertical farming, nursing seedlings and places for keeping small animals, such as bees or chicken belong to this category. Most of the produce can be consumed by the people living inside the building, but the overshoot requires accessible transportation means to sell crops in neighbouring

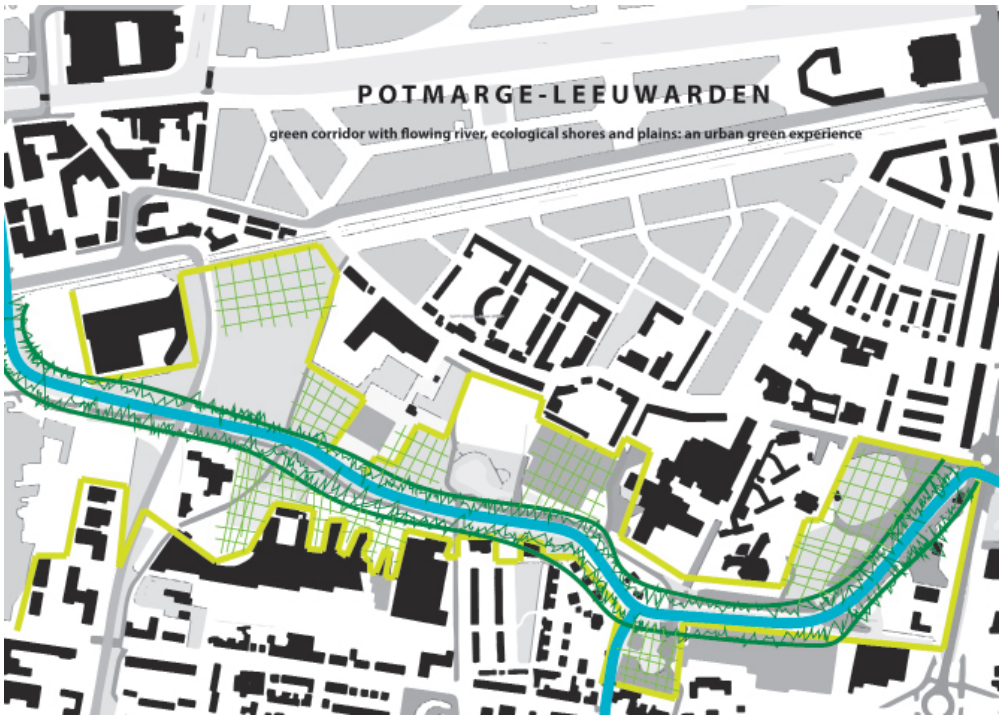

Figure 9: The green boulevard, connecting the Potmarge zone with the city and forms linkage between all of the land-uses

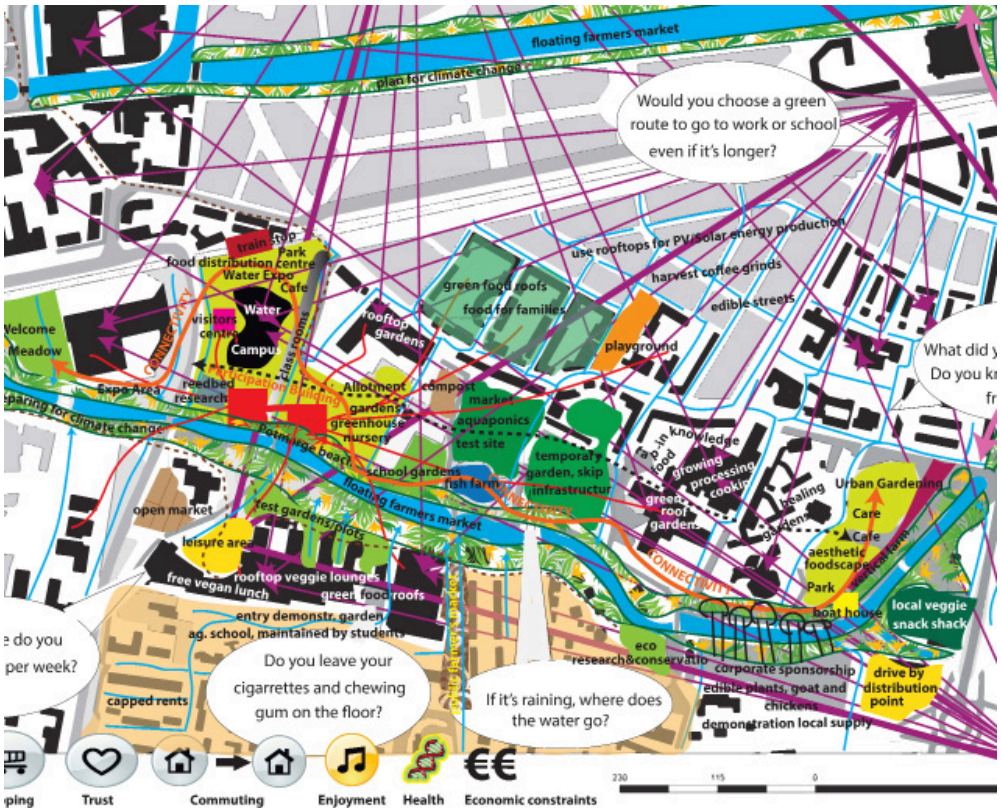

Figure 10: Urban Agriculture in the Potmarge-zone

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places. To be able to grow crops in and on buildings resources, such as water and nutrients, need to be available and provided from the other two scales, another reason for effective transportation. The combination of these three scales of design requires further elaboration, especially on how the connections between the scales are shaped. Approaching the design of the city as an integration of these three scales, instead of looking at the design of the food system from a global food market point of view, opens the way to innovative spatial patterns, structures and systems, which provide the opportunity to grow a substantial amount of food in the urban environment.

The conference process

A second result is the impact of the conference-program and methods on the delegates. Were they active and committed, did they learn and enjoy? This result can be formulated in a soft and hard way. The soft way is an impression, built up by conversations with delegates, looking at their faces, receiving their comments, the attendance, even at the end of a conference day or the last day, the 'atmosphere', noise and buzz in the conference rooms and the level of questions from the audience during plenary and parallel sessions. This impression is a very positive one. People stayed until the end in large numbers, were focused even when they must have been tired, stayed interest-

Leeuwarden	Veghel
Comprehensive food-landscape	Linkages with other areas through greening
River Potmarge	Aquaculture canal
Connectivity	Foodhub', integrating culture and art
Rooftops	Aquaponics
Aquaponics	Rooftops
Stakeholders	Stakeholders
Education	Productive barges
Accessibility	Industrial heritage
Biodiversity, ecology	Broad spectrum program
Organic food	Zero-foodmiles area
Floating markets	Food landscape
Tactile landscape, sensuality	Bees
Amsterdam	**Groningen**
Rooftops & Balconies	Industrial archaeology
Aquaponics	Accessibility
Experimentation and learning	Floating, farmers market
Stakeholders	On water food growing
Food feasts, street market	Aquaponics
Connectivity	UA-Barge
Fish basin, UA-barge	Recycling
Local products for local restaurants	Continuous green connections
Reuse wastewater	Arts and culture, hipster and creativity
Recycling water, organic waste, composting	Food festivals
Accessibility and links with areas outside urban	Hop plantation and beer brewing
	Seedlings
	Bees

Table 1: The most important subjects in each of the case studies

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ed and atuned. They kept the conversation going and the rooms kept buzzing until the very end. Is this impression underpinned by the hard way of quantifying the satisfaction of participants about the core program elements? To investigate this a questionnaire is sent out to all delegates (138). 32% returned the questionnaire. The opinion of the respondents about the conference as a whole, the keynotes and the poster session were consistently high. The satisfaction about the design LAB's was not uniform. 17% scored these low (2-4), 54% scored these an average score (5-7) and 29% scored the LAB's very high (8-10). The average score of 6.4 falls apart in distinctive groups showing appreciation or dissatisfaction. The main comment on the LAB's was a lack of understanding and information about the specific case study, which made it difficult to deliver valuable contributions.

It can be concluded that in general terms the questionnaire supports the impression, as written above. However, part of the participants have let seep they have critical notes about the LAB-sessions.

Conclusion and discussion

On the basis of this study and experiment, conclusions can be drawn about the conference process and about Urban Agriculture as driver for urban development.

a. The conference approach

Overall, the conference program and set-up was successful. The participants stayed focused, even if session were long or later in the afternoon. The received feedback was also positive. The results of the questionnaire underpinned this. The positioning and timing in the program and the location of the poster session were successfully chosen. The LAB sessions have been qualified as fuzzy sessions, though supporting the inspirational and creative process. In these Design-LABs tactile methods and workshop tools, were used to 'softisize' the brainstorming process and challenge the participants. A critical note on the Design-LABs however was the lack of information and background of the case studies. It would have been helpful if the case study owners were involved in the LAB sessions during the conference to improve the connection between site visits and sessions.

Discussion

Setting up the conference in a way it could deliver new insights, innovations and ideas about future urban design based on an ambitious amount of food production is a relatively small experiment. It is recommended to elaborate the program set-up and content and methods of each of the sessions for application in other, food- or design related conferences. The LAB sessions have been highly valued, but to fully make use of the expertise of participants, it is recommended to increase the amount and quality of information, knowledge base and understanding of the case study areas beforehand.

b. Urban Agriculture

Approximately 0,002 % of our total consumption of food is produced within the boundaries of the urban environment. This is relatively close to zero. This fact should impact the way we think about the design of our cities, assuming we would like to increase the production amounts. In each of the case studies the results illustrated possible avenues to respond to this question. The designs show a way forward, because whilst focusing on the individual sites, the solutions brought to the table went far beyond individual sites only. Onsite new productive techniques are foreseen, such as aquaponics and roof gardens, there is much attention for establishing connections with the surrounding city and every case study included the improvement of accessibility by adding routes for transportation over land and water. These routes are also important to transport resources, such as water, compost or seeds and products. Moreover, the case studies emphasised the need to be embedded in the wider spatial context, at the regional level. In order to understand and benefit from a specific environment, landscape typologies can determine the available resources hence the most productive options to grow food. Local projects can then be informed by the type of landscape they are part of, the available resources and the ease of transportation to the site and deliver products.

Discussion

Thinking along the lines of the three integrated scales, the role of Urban Agriculture might be to provide healthy food products. The current diet of many people is unhealthy, leading to high percentages of obesity. When Urban Agriculture makes use of the spaces at each of the three scales, there is enough space to produce food for healthy diets.

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Table 2: Summarized results of the questionnaire

Subject	Average score	% Low (2-4)	% Average (5-7)	% High (8-10)
Conference as a whole	7-Jul	0	39	61
Plenary sessions	7-Aug	0	40	60
Poster sessions	7-Feb	0	60	40
LAB-sessions	6-Apr	17	54	29

If this ambition is combined with the outcomes of the case studies, as described above, the key question is if we can create a diversity of spaces for the production of a healthy diet. These spaces connect all three scales within urban boundaries. In recent decennia the built-up area and the percentage of people living in the city has increased in the Netherlands. 83% of the population occupies around 8% of the area. This percentage is expected to rise to 87% in 2025 and, in 2050, to 90% (PBL, 2010; 2011; De Groot et al., 2010). The Netherlands is a truly urban. Connecting these ideas, a new role of Urban Agriculture and design task emerges: how to shape the production of healthy food for the entire country? Designing for Urban Agriculture then implies the design of a national plan for healthy food production, differentiated per region, based on fish, fruit and vegetables. This national design task requires not only an exploration in design, but also into economics (the impact on food prices, possible decrease in export revenues and simultaneously a decrease in healthcare costs, and potential growth of jobs) and logistics.

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Conflict of Interests

The author hereby declares that there is no conflict of interests.

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