



Editorial

Planning for Sustainable Food Production: A New Challenge for City Developers



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The production of food has long been a topic we called agriculture. It was an activity that took place somewhere in the countryside or even outside of the country, and the harvest we found back in the supermarket, in neatly organised packages and shelves. Up to 2010 this was the dominant way, maybe even the only way food came to us. With these kind of production systems, landscape architects did not have much to do, as the land was organised according to the most effective production system and planning was fully based on farm efficiency.

The 2014 AESOP conference on Sustainable Food Planning marked a transition. So far, the discussion about sustainability had been an issue of implementation in existing large-scale farming. Now, the Urban Agriculture movement starts getting traction. Sustainability and the growth of food in urban environments came slowly, but certainly, together. The tentative highpoint of this merger was reached during this conference. People with abundant expertise

in food systems, sustainability, resource management and entrepreneurship used their knowledge to plan and design a substantial amount of food production in urban precincts. Why is this urgent?

The urgency is directed from one side by the 'twins' food security and food safety. These global issues and concerns are well documented, though not solved by any means yet, but they drive communities and individuals to think about the origin and availability of their food. Besides this, a recent report by WHO came up with new prognosis about obese people in Europe. As an example, between 51% (the Netherlands) and 89% (Belgium) of the women in Europe are expected to be overweight by 2050. For men the score is even higher. The interesting work of Prof Jaap Seidell from the Free University in Amsterdam finds that the direct environment people live in (education standards, job participation, direct contact with healthy food) determines to a large extent the diets of the inhabitants, hence the sensitiv-



ity of people to become overly obese. In addition, the spatial conditions of the urban environment could provide the circumstances for increased well-being of the residents, a new learning environment and could create the places where food is grown. This could help to develop an environment influencing the diets of the residents in a healthy way.

A second driver of the urgency to produce in urban environments comes from these areas themselves. Local residents increasingly put pressure on their local urban environment to become more productive. At this level people can literally see what and how the crops are produced, how the availability of food can be guaranteed, and how the quality of the food production can be easily controlled. Local production minimises distances in transportation and people feel pride about their 'own' local products. Here, people start to work together in neighbourhoods and precincts and new social constructs are built. But the pressure on the local food system also implies that demand for these local products is on the rise, and when more produce is required, more space is needed to grow it. The attention on vertical agriculture is a symbol of this increasing search for spaces to grow food. I personally hold the opinion that vertical agriculture is mainly a provisional new hobby of architects, but as long as these projects deliver local products in a sustainable way, it needs to be valued as a welcome contribution to the local food supply.

So if the environment people live in determines their diets and if people are keen to start producing their food locally, it is time to bring these developments together in an integrated vision for the city. The main problem to achieve these newly developed visions is the current thinking in urban planning and design, which determines its building in high densities. Many European cities have embraced the compact city model for various good reasons, such as less car travel, energy saving and carrying capacity for public transport. However, this has also led to relatively dense urban conglomerates with limited space for green and environmental uses. At the moment there is hardly any space used for food production within the urban boundaries. For the Netherlands I have roughly calculated the amount of food produced in cities as percentage of the entire consumption. Approximately 0.002% of the total consumption is produced inside cities. This num-

ber, even if in reality it is ten times more, is so close to nothing that we might speak of foodless cities at the moment, despite what many enthusiasts want us to believe. The minimal contribution of urban food production to our entire diet leads to one important observation: the city must reinvent itself if it would like to raise its productivity. This reinvention needs to include more than only creating spaces for



Photo credit: Rob Roggema

growing food, it would also need to transform the other circumstances determining healthy feeding, as discussed by Seidell. Creating spaces for food needs to go hand in hand with increasing green public spaces, create learning spaces, improve job participation, education and social connectedness.

In a wider context we see movements of shared responsibility for goods, resources and products, citizen initiatives to jointly become productive, take care and reuse waste products as well as processes of co-creation of a sustainable urban future. In the upcoming era traditional roles of (big)



companies, governments and citizens will change and create a place for more integrated and shared responsibility for public goods, resources, nature, products, means and facilities. These new co-operatives gain traction and could be a valuable way of maintaining urban precincts. The production of food is an easy to imagine and important part of these initiatives if not to say an inseparable part.



The urge for more space is a historic question that goes back to the Romans, which were the first to urbanise society. After a long period of high densities, due to the need to build defendable cities, the Twentieth Century showed a long period in which densities decreased, especially in North America and Oceania, where the car dominated urban design. In recent decades densities went up again, with the Chinese, African and South American mega-cities as result. The enormously fast population growth couldn't otherwise be accommodated except within extensive and dense urban megalopolises. The Twenty-First Century

will teach us modesty in growth, even shrinkage in substantial parts of Europe and North America. This development, paired with the sense of sustainability that large groups in society, especially younger generations, feel as their responsibility, opens up an avenue of lower densities, in which mental and physical spaces become available to think about redesigning the urban environment.

If we take our current cities as a starting point of thinking, the dense urban form allows several ways to search for undiscovered or 're-plannable' space. Besides the already mentioned vertical ways of growing food, the first option to increase spaces available is through decreasing densities, for instance by widening streets and transforming them into green boulevards, or to transform urban buildings into green productive spaces. However, before we even think about decreasing densities and replacing urban land-uses, there is quite a lot area in urban environments suitable for food production in green spaces that can be qualified as replaceable (Mulder & Oude Aarninkhof 2014). The findings of Mulder and Oude Aarninkhof state that in Amsterdam 12.3% of its total area resorts under this category. This space is capable of feeding 25% of the Amsterdam population. Quite a number! The final option for finding spaces in dense urban areas for food production is on top of buildings or in the underground. The thinking about rooftop gardens could be extended into creating multiple storeys of productive floors and high-tech forms of food production could also be thought of in several floors in the underground of cities. Taking the 25% in current spaces as a starting point and the remainder of Amsterdam's food demand comes from newly created spaces resulting from lower density and re-use of space below or above built-up areas, the city could supply its own food.

For this quantitative exercise to be realistic, the design task is evident. New urban concepts are required in transforming and connecting all these spaces. This design task was the key topic discussed at the AESOP conference Sustainable Food Planning. The conference can be seen as the first example of thinking about and designing these new concepts. The major outcomes of the design sessions held during the conference can be summarised with one word: connectedness. Individual



projects will not survive in the long term, but if they interact at the urban level with other solo-projects they can benefit from the advantages at that level. For instance, they can exchange resources and products for the market, share the distribution to minimise chain lengths, or link with buyer/entrepreneurs in an efficient collaborative way. The examples developed during the conference (see the article by Roggema in this issue) show the integration of these issues as well as the connections outside the study areas. Resulting from these discussions thinking emerges about the development of the Meervaart/Tuinen van West, for which new research will be conducted, which explores the connectivity between producers and buyers of food produce at the precinct or urban borough level. Several thought-provoking papers supporting this integrative, connectivity and spatial way of transforming the urban environment into a productive city which could feed larger metropolises or urban agglomerations have been presented at the conference and selected for publication in this special issue. The conference itself was a feast for the many delegates. From the start of the conference every component aimed to be interactive, design-oriented to provoke debate and new insights amongst the delegates. In Roggema's article we dig deeper in the way the conference succeeded in achieving this goal.

Let the 2014 AESOP conference be the start for future thinking about reinventing the city, in a similar way as the CIAM movement changed our way of thinking about urbanity since the beginning of the Twentieth Century. Could we build on the cautious first steps put forward in Leeuwarden to further shape our cities of tomorrow to become sustainable, inclusive and (food) producing? I call for a platform of thinking about city design for (food) production and close the cycles of the circular economy. This might be the following AESOP conferences, but if not, let a small group of likeminded city designers and developers, urban planners, future thinkers and other creatives come together to kick-start the Twenty-First Century. We are on the brink of fundamental new urban life, join this thinking and contact us.

The papers in this special issue of Future of Food Journal have been selected by the scientific committee of the 6th AESOP Conference on Sustainable Food Planning, held 5-6 November 2014 in Leeu-

warden in the Netherlands. Anna Maria Orru's paper, winner of the best paper award, investigates whether the engagement of citizens as design agents can bridge the gap between urban design and citizens through transfer of spatial agency and new modes of critical cartography (via digital and bodily interfaces). The data gathered from these approaches gave way to a mode of artistic research for exploring urban agriculture. The paper by Giuseppe Cinà and Francesco di Iacovo discusses some relevant aspects of urban and peri-urban agriculture in Italy, such as the lack of suitable solutions coming from regional and local planning, and the rich set of initiatives generated by local stakeholders, illustrating a variegated cross-section of Italian policies and practices. Andy Jenkins' paper analyses cities as light capturing devices capable of growing vast amounts of crops directly upon their massive surface area. In the article empirical data is collected from a constructed urban farm in Manchester, England and combines it with a shadow study of the same city to determine its productive capacity. The research calculates the bio-productive capability of cities as they stand today, without the need for newly built structures or indoor, artificially lit, agriculture.

The article by Michael Roth et al. uses the case of an economically declined neighborhood in the post-industrial German Ruhr Area. The paper analyses, describes and concludes how urban agriculture can be used as a catalyst to stimulate and support urban renewal and regeneration, especially from a socio-cultural perspective. The methodology used in this research initiated community projects with an intended transgression of the boundaries between research, planning, design, and implementation.

Benoit Grard et al. focus in their article on the design of sustainable rooftop gardening based only on urban organic waste. The paper examines the use of different types of organic waste, shows the feasibility and the great potential of rooftop gardening.

I hope you enjoy reading Vol. 3 Nr. 1 of Future of Food Journal titled, 'Finding Spaces for productive Cities'.