

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/284778398>

The CPUL City Toolkit: Planning productive urban landscapes for European cities

Chapter · March 2012

DOI: 10.3920/978-90-8686-187-3_38

CITATIONS

11

READS

1,587

2 authors:



Katrin Bohn

University of Brighton

27 PUBLICATIONS 384 CITATIONS

[SEE PROFILE](#)



Andre Viljoen

University of Brighton

25 PUBLICATIONS 539 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



CPUL City design research [View project](#)



Productive Urban Landscapes [View project](#)

Chapter 38

The CPUL CITY toolkit: planning productive urban landscapes for European cities

Katrin Bohn¹ and Andre Viljoen²

¹Fachgebiet Stadt & Ernährung, Technische Universität Berlin, Fakultät VI – Planen Bauen Umwelt, ILAUP – Institut für Landschaftsarchitektur und Umweltplanung, Sekretariat EB12, Straße des 17. Juni 145, 10623 Berlin; ²School of Architecture and Design, Faculty of Arts, University of Brighton, Mithras House, Lewes Road, Brighton BN2 4AT, United Kingdom; katrin.bohn@tu-berlin.de

Abstract

Cities across the world seek policy guidance, good practice examples and further evidence for the impact of urban agriculture, and its relationship to a viable and sustainable food policy. In Europe, the potential environmental and socio-cultural benefits of introducing productive landscapes into cities are now widely acknowledged, although not (yet) to the extent that they are manifest as essential urban infrastructure. This chapter explores ways in which designers and planners can continue to play a significant role in conceiving, advocating and delivering the integration of sustainable food systems into the urban fabric. The authors will summarise 10 years of design and research work on Continuous Productive Urban Landscape (CPUL), and will review their evolving *CPUL City* concept in the context of two European cities: Berlin and London. The chapter will focus on the historic lessons, current practices and future strategies learned from these cities and present a first summary of specific proposals for guidance on implementing productive urban landscapes. This guidance – the *CPUL City Toolkit* – aims to provide an overview of the key steps necessary when planning and implementing urban agriculture as part of coherent productive urban landscape strategies. Four methods of action defining the Toolkit will be introduced: Action U+D (Bottom Up + Top Down), Action VIS (Visualisation), Action IUC (Inventory of Urban Capacity), Action R (Design Research). The chapter concludes with a reflection on the rapidly evolving practice and policy in Berlin and London related to the CPUL City Toolkit, as CPUL components begin to move ‘out of the gallery’ and into everyday urban infrastructure.

Keywords: continuous productive urban landscape, urban agriculture, sustainable urban planning and design, urban and regional infrastructure, urban food systems

38.1 CPUL: essential infrastructure

Cities across the world are seeking policy guidance, good practice examples and further evidence for and about the impact of urban agriculture. Since 2005, the authors, for example, have been asked to present their CPUL City concept to public and professional audiences in Canada, Cuba, Denmark, France, Germany, Italy, Ireland, the Netherlands, Norway, Portugal,

Spain, Sweden, Switzerland, the UK and the US. Additionally, invited articles about the concept have been published widely, including in China, Korea and Russia.

Central to the CPUL concept is the coherent integration of urban agriculture into interlinked, multi-functional – productive – open urban space networks that complement and support the built environment. CPUL advocates such productive landscapes as essential elements of sustainable urban infrastructure (Viljoen and Bohn 2009, 2005a). CPUL is a physical and environmental design strategy and the concept proposes that urban agriculture can contribute to more sustainable and resilient food systems while also improving the urban realm. The *CPUL City* concept provides a strategic and associative framework for the theoretical and practical exploration of implementing productive landscapes within existing and emerging cities (Bohn and Viljoen, 2010) (Figure 38.1).

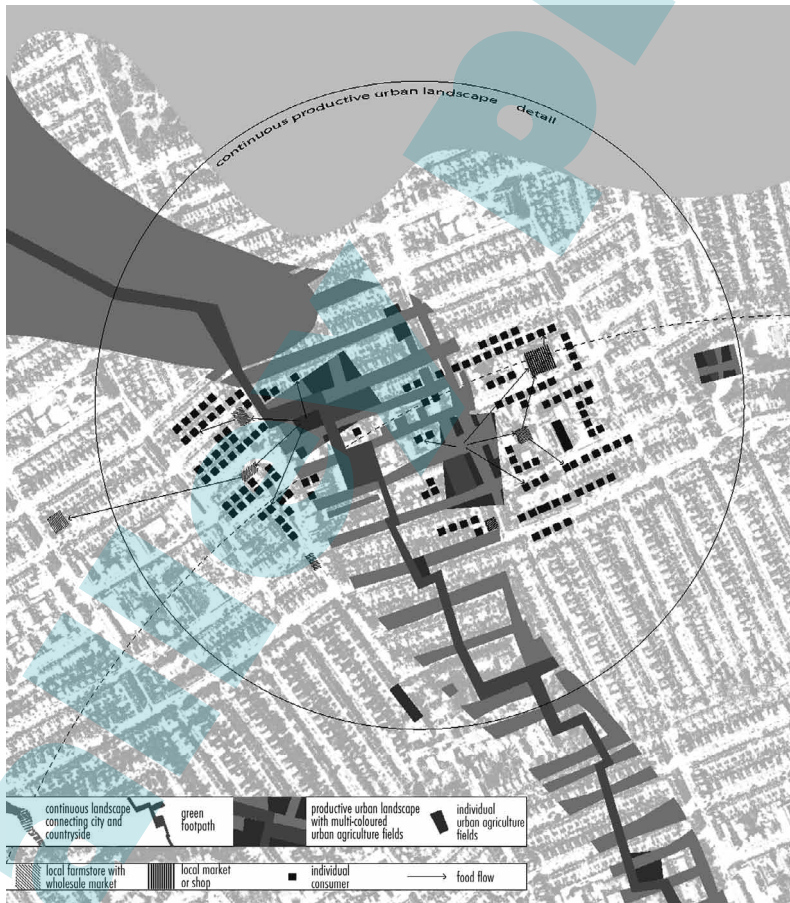


Figure 38.1. The CPUL concept. Green corridors provide a continuous network of productive open space containing foot paths and cycle ways. Fields for urban agriculture and other outdoor work and leisure activities are located within the network and serve adjacent built-up areas (Bohn & Viljoen Architects, 2002).

Within the CPUL concept, urban agriculture refers in the main to fruit and vegetable production, as this provides the highest yields per square metre of urban ground (see Chapter 36 by Lee). Key features of CPUL are food growing, leisure and commercial outdoor spaces shared by people, natural habitats, ecological corridors and non-vehicular circulation routes. Its network connects existing open urban spaces, maintaining and, in some cases, modifying their current uses.

CPUL impacts on a city qualitatively with respect to citizens' experience and quantifiably with respect to reduced negative environmental impact (Viljoen and Bohn, 2005b). The concept recognises that each site and city will present a unique set of conditions and competing pressures informing the final shape and extent of its productive landscapes. It envisages a 'mixed economy' of growers practicing urban agriculture: projects for the community and by the community, small scale and large scale, commercial and communal (Figure 38.2).

The CPUL concept grew out of the authors' design research exploring the role of urban agriculture within urban design and was first designed for and then defined by Bohn&Viljoen Architects respectively in 1998 and in 2004 (Viljoen and Bohn, 1999; Viljoen *et al.*, 2004; Viljoen and Tadiveau, 1998).

These studies, as well as the research of statistical, mostly UK-centred data, resulted in the CPUL City concept being underpinned by a number of interrelated social, environmental, economic and design arguments for what would amount to a radical change in the configuration and programming of open urban space. The overarching desire was to find more self-sustaining ways of living (Viljoen and Bohn, 2000) (Figure 38.3).

The CPUL concept has benefitted from favourable comment from activists including Rob Hopkins, founder of the Transition Towns Network (Hopkins, 2006), and is cited by academics and practitioners (Cultivate Kansas City 2011; Hodgson *et al.*, 2010; Mougeot 2005; Smit 2005; Taylor Lovell and Johnston 2009).

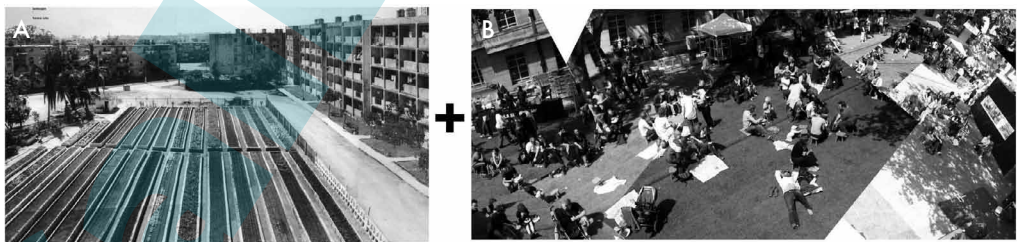


Figure 38.2A,B. Imagine a CPUL as an open urban space where intensive urban agriculture and convivial outdoor places for residents complement each other and are designed and built into a coherent infrastructural landscape (Figure 2A, Bohn&Viljoen Architects 'Cuba: Laboratory for urban agriculture', 2002; Figure 2B, Bohn&Viljoen Architects 'The Continuous Picnic', 2008).



Figure 38.3. *Unlocking Spaces* project in Brighton: a public event showing how a CPUL might transform a mono-used public space. The event was designed and run by Bohn&Viljoen Architects in collaboration with local residents and the University of Brighton and funded through a 'Creative Campus Initiative' award (Jonathan Gales, 2010).

38.2 The role of planning and design in raising awareness for food-productive urban landscapes

For urban agriculture, a solid body of literature exists since the 1990s. This concentrates on urban agriculture's positive impact with respect to food security, public health and income generation in places with high levels of social and economic deprivation (Cruz Hernández and Sánchez Medina, 2003; Egziabher *et al.*, 1994; Koc *et al.*, 1999; Mougeot, 2005).

The publication in 1996 of the book *Urban agriculture: food, jobs and sustainable cities* (Smit, 1996) was a landmark in defining an international role for urban agriculture and may be considered seminal to a sequence of publications, academic and popular. While planning for urban agriculture had already been on the development agenda, the publication in 2005 of *CPULs* (Viljoen, 2005) was the first time a book was devoted to presenting a design strategy for the coherent integration of urban agriculture into cities.

Within design disciplines, the dissemination of new ideas takes place as much through the medium of exhibitions as through the publication of academic papers. In these disciplines, a rapid increase in interest, exploration and dissemination of ideas about designing urban space for productive landscapes/urban agriculture is evident. In Europe, the breakthrough in the exploration of design consequences and possibilities arising from urban agriculture was

reached in 2007, when the Netherlands Architecture Institute (NAi) Maastricht curated an exhibition titled 'De Eetbare Stad/The Edible City' (Anonymous, 2007). This brought together an international group of leading architects, artists and designers all, at that time, exploring urban agriculture within their work. Since then, the number of similar exhibitions and 'public works' hosted by leading international design institutions has continued to increase. (Figure 38.4)

The subject's closeness to low-energy and sustainability debates, its ability to synthesise seemingly unconnected issues and the fascination with scenarios for an urban future, may be the reason for the notable presence of architects in the early moments of this 'movement'.

Today, the CPUL (City) concept is complemented by other concepts for integrating urban agriculture into contemporary Western cities. Often these start from an interest different to CPUL and result in a different set of proposals, but all have begun to explore the design possibilities of growing food within the urban realm. Most notably, these are Carolyn Steel's *Sitopia* (Steel, 2008), Dickson Despommier's *Vertical Farms* (Despommier, 2010) and CJ Lim's *Smartcities* (Lim and Liu, 2010).

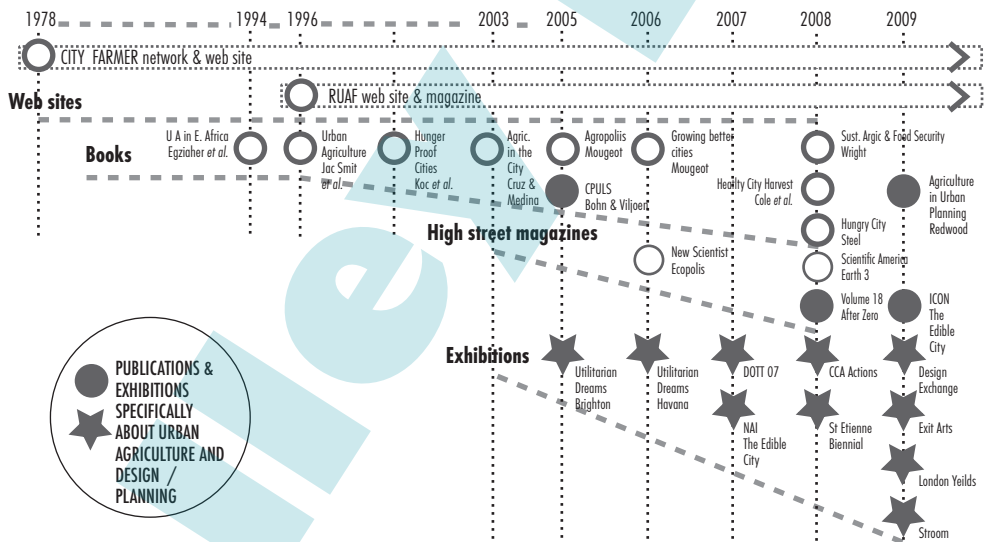


Figure 38.4. The increasing number of exhibitions about urban agriculture and CPUL hosted by arts and architecture institutions and galleries indicates how these subjects are entering the international architectural and urban design discourse (the chart is not exhaustive, but reflects trends evident to the authors in their practice) (Bohn&Viljoen Architects, 2009).

38.3 The CPUL City Toolkit

The lack of policy and design guidance on urban agriculture has not prevented the establishment of successful initiatives like the Prinzessinnengarten (Nomadisch Grün GmbH, 2011) in Berlin or the Capital Growth (Capital Growth, 2010) programme in London. In many respects, practice is outstripping policy, but development can be very contingent and often lacks coherence. In some cases, with Detroit being the prime example, different development strategies and approaches can result in a highly contested environment, where issues of food sovereignty, political and economic approach can polarise opinion (Gallagher, 2010).

The reasons for this uneven development are complex and intertwined and include:

- the complex nature of urban food systems;
- different local contexts for countries, cities and individual sites, including their different food cultures, physical and logistical site conditions and trading patterns;
- diverse agricultural practices and organisational structures for urban agriculture operations;
- lack of long term experience with urban agriculture projects, other than for allotments and community gardens;
- the current lack of evaluation of comparable projects and the inconsistent dissemination of transferable knowledge;
- competition with commercial developers for valuable urban land within expanding cities and the lack of resources for infrastructure projects within shrinking cities;
- scepticism regarding urban agriculture's legitimacy as an urban land use.

With this in mind we are developing a CPUL City Toolkit as a planning and design guide for implementing more localised urban food systems. The Toolkit aims to meet the demand for systematic, practical, graphically descriptive and transferable know-how. Some of these aspects are covered elsewhere, for example the Transition Towns' *Local food* book has systematic, practical and transferable information aimed at communities with engaged activists (Pinkerton and Hopkins, 2009).

The CPUL City Toolkit, however, will work within a larger framework referencing existing best practice where it exists, while also describing a spatial urban design strategy. Whilst the concept can be thought of in terms of 'localisation agendas', it explicitly recognises the need for coherent municipal planning frameworks to manage its infrastructural implementation. The Toolkit therefore aims to address activists and the design, planning and governance professionals who can provide a managed and strategic overview at the level required for implementing productive urban landscapes as urban infrastructure.

Our work has led us to conclude that four distinct methods of action are most relevant to the architectural, urban design and planning professions. The methods acknowledge a need for inter- and trans-disciplinary action, while also helping to define particular tasks within the competency of an individual. These four methods of action define the CPUL City Toolkit, and what we have provisionally titled the 'CPUL Clover Methods' (Figure 38.5).

38.3.1 Action U+D = Bottom Up + Top Down

Infrastructural projects such as CPUL need parallel top-down and bottom-up initiatives. An urban agriculture project will have the best chance of long-term success, when it can rely on local initiators and supporters and when these enter negotiation processes with their local authorities or municipalities. Cuba's organoponicos (Viljoen, 2005) and New York's Green Thumb initiative (see chapter by Mees and Stone) are good examples. A spectrum of bottom-up motivations can be identified ranging from community-led to entrepreneurial initiatives. Within each category, further differentiation can be noted, for example community-led programmes that are driven by imperatives of empowerment and ex-/inclusion, e.g. Growing Power in Milwaukee (<http://www.growingpower.org/>), Berlin's Intercultural Gardens Gardens (<http://www.stiftung-interkultur.de/home>), or those in more affluent areas that aim for broader educational and lifestyle choices, e.g. Fortis Green Community Allotments Trust (2010) in London. Entrepreneurial-led projects similarly range from those advocating small-scale, but individually viable market gardens, e.g. the social enterprise Growing Communities (2011) in London to larger scale 'corporate' approaches, e.g. Hantz Farms in Detroit (Hantz Farms, 2009). What is required now, is the evolution of policy to support diverse bottom-up initiatives and accommodate these within a coherent framework that adds to urban experience, urban resilience and the quality of urban space.

38.3.2 Action VIS = visualising

The qualities of CPUL and urban agriculture need visualising to raise public awareness and influence decision makers. This is one of the primary skills of architects, planners and designers. To further the case for urban agriculture, this role widens to include alongside the design of productive urban spaces also the public and visually descriptive dissemination of ideas, data and best-practice examples in the form of exhibitions, installations, talks, websites and publications. Here, the professional becomes the agent of change, which carries on a long, and at times problematic, tradition of the architectural manifesto as a herald of future change and challenges. Within this action, the CPUL City concept has aimed from the outset to underpin its 'vision' with a concrete body of research.

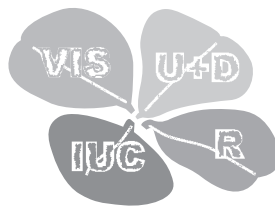


Figure 38.5. The CPUL Clover Method. Four tools of action for use to enable the successful implementation of an urban agriculture project (Bohn&Viljoen Architects, 2010).

38.3.3 Action IUC = inventory of urban capacity

An 'inventory of urban capacity' is necessary, especially of spatial, stakeholder and managerial capacities. At the beginning of the relatively short history of the urban agriculture movement, planning emphasis was given to identifying and mapping available urban space (soil quality, pollution, water, exposure, adjacency to markets and compost) as shown, for example, in the city of Portland's *Diggable City* report (Balmer *et al.*, 2005) or the *Elephant & Castle Study* for London (Tomkins, 2009). In recent years, it has become clear that stakeholder and managerial/maintenance capacity is as important. Evidence for a few different approaches is becoming available, e.g. the increase of local growing capacity through active community inclusion work by the Bankside Open Space Trust in London (B.O.S.T., 2011: <http://www.bost.org.uk/>) or the increase of maintenance capacity when shared between council and urban farmer as practised by Lichtenberg council and the Agrarboerse in Berlin (Agrarboerse e.v., 2011: <http://www.agrar-boerse-ev.de/>). While available space is finite (although often under-estimated), stakeholder and managerial capacity can be increased. One of the top-down approaches that has proven successful is the funding of extension programmes focussed on developing agricultural and managerial skills (business and social enterprise), most notably in Cuba (Viljoen, 2005).

38.3.4 Action R = design research

Constant research, development and consolidation of the CPUL concept is needed to adapt it to changing circumstances. Social and environmental conditions can change rapidly, locally and globally. To keep pace with such developments, but also to scrutinise the achievements of concepts such as CPUL, these strategies have to undergo continuous evaluation and evolution. Theory and practice need to be able to accommodate change. Applied design research is needed to develop different procedural, spatial and business models for different scales of production.

For example the prototyping and *in situ* testing of suitable growing techniques are two of the most efficient ways of evaluating design options. We have found that exhibitions and installations provide a good initial testing ground for what seem fairly straightforward propositions: Our designs for an 'urban agriculture curtain' and a 'growing balcony' (Bohn and Viljoen, 2009: <http://www.bohnandviljoen.co.uk>), both utilising hydroponic systems, have indicated that subtle variations in design, location and maintenance can have a significant impact on yield and ease of utilisation (Figure 38.6). Similar lessons can be expected with respect to business models and different scales of production.

38.4 London and Berlin: first steps in testing the Toolkit

London and Berlin provide the following early examples of different approaches to applying Action U + D:



Figure 38.6. The urban agriculture curtain. Working prototype by Bohn&Viljoen for a vertical productive urban landscape as part of the exhibition 'London yields'. The system developed with Hadlow Agricultural College utilises industry standard hydroponic components and produces fortnightly crops for use in the Building Centre's restaurant (Bohn&Viljoen Architects, 2009).

38.4.1 Cultivating the capital - initiating a debate top-down

In January 2010, the Greater London Authority's Planning and Housing Committee published its report *Cultivating the capital: food growing and the planning system in London* (London Assembly, 2010). It based its findings on a detailed consultation period with about 50 farmers, growers associations, government departments, food systems experts, government departments, including the authors of this chapter and an extended review of literature and best practice.

The report makes nine policy recommendations and calls for changes to the planning system to exploit the capital's potential to integrate commercially viable food growing in the city. It

highlights the need for amendments to the *London plan* and local authority planning policies to encourage food growing in London.

38.4.2 Capital growth – a framework for supporting bottom-up initiatives

In 2009, in parallel with the preparation of *Cultivating the capital*, a partnership initiative between London Food Link, the Mayor of London Boris Johnson, and the Big Lottery's Local Food Fund, established the 'capital growth' programme. Capital growth is administered by the food-charity 'Sustain' and aims to establish 2012 new community-based urban food growing initiatives by the year 2012. The scheme builds capacity by offering 'practical help, grants, training and support to groups wanting to establish community food growing projects as well as advice to landowners' (Capital growth, 2011).

38.4.3 The London plan 2011

The London plan, sets the planning framework for greater London, and in 2011, influenced by both *Cultivating the capital* and *capital growth*, it included specific policy commitments to incorporate 'Land for food' (Greater London Authority, 2011). This significant policy commits the city to: (a) support agriculture in particularly in the Green Belt (peri-urban Agriculture); (b) encourage the use of land for food near to urban communities (urban and peri-urban agriculture); (c) require boroughs to identify potential land for food growing, may include roofs (urban agriculture).

38.4.4 Croydon's 2011 core strategy planning document

The London Plan is implemented by local authorities, and we can identify the first adopters of policy to encourage productive landscapes. The London Borough of Croydon is notable in having explored and consulted widely on urban agriculture (U + D), and has included Productive Landscapes as a specific land use category in its final draft core strategy planning document, scheduled for ratification in late 2011 (London Borough of Croydon, 2011).

38.4.5 Berlin's 'green vision' – a top-down responsive mode

Berlin's Senate Department for Urban Development publicly presented its draft for a 'green vision' (*Grünes Leitbild*) for the German capital in September 2010. In 2009, a team of two landscape architecture practices started working on the draft strategy supported by a series of expert think tanks. Following public presentation, Berlin residents were invited to comment on the draft.

'Natural. urban. productive' is the draft strategy's subtitle mirroring the three main directions in which the city seeks to channel its future open space planning. The draft does not demand urban agriculture, but explicitly includes it as a recognised use under the heading 'productive'. 'Productive' is defined as 'an urban interpretation of the cultured

landscape, of open space, that is generated not only through its designers, but equally through its users.' (Bohn and Giseke, 2010).

This inclusion of productive spaces into the draft strategy is also the result of campaigns by numerous groups of Berlin activists who advocate the innovative, uncomplicated and productive use of the many brownfield sites within the city. Most notable are 'urbanacker e.V.' and 'AG Kleinstlandwirtschaft', who make up the two strongest members of the Berlin grass-root network of gardening activists. They grew out of actual conflicts over public space uses which sharpened both, their and the council's view of issues around urban agriculture (Figure 38.7).

Whilst the two reports, *Cultivating the capital* and *Gruenes leitbild*, might be considered the most important stepping stones in terms of the planned integration of food producing landscapes into London and Berlin respectively, the processes leading to their formulation highlight the different natures of the urban agriculture movement in each city.



Figure 38.7. Spiel/Feld Marzahn project in Berlin: an experimental urban agriculture project, exploring options for future development within a 1970s housing development. The design of the first intervention was developed with local residents and students from the Technical University of Berlin under the guidance of Katrin Bohn. It was built with students supported by local firm Agrarboerse Ost e.V. and funded by the Bezirksamt Marzahn-Hellersdorf (Kristian Ritzmann, 2011).

The London and Berlin examples suggest that the Toolkit's method of action 'Bottom Up + Top Down' is beginning to be employed and is resulting in measurable outcomes. London already benefits from having the 'London Food Board' (top-down) and the food charity 'Sustain: The Alliance for Better Food & Farming' (bottom-up). Sustain has a national remit, but is very active in London, both with respect to advocacy and delivery of food-related projects (Sustain, 2011). The London Food Board 'is an advisory group of independent food policy organisations and experts which oversees the implementation of *The Mayor's Food Strategy: healthy and sustainable food for London*, published in 2006, and coordinates work and leads the debate on sustainable food issues in the Capital' (London Assembly, 2011). Both organisations are active in the policy arena and in raising municipal and institutional awareness of sustainable food systems and are now in the position to push for the implementation of urban agriculture projects.

Berlin does not have a Food Board or Food Policy Council, but early communication between the Senate (as expressed in the draft green strategy) (top-down) and gardening activists' network 'urbanacker' (bottom-up) resulted in a very promising experiment, executed on the site of the former Tempelhof Airport, which was closed in 2008.

Having been allocated space by the Senate, 'urbanacker' is creating its most ambitious public communal urban agriculture project yet, the 'Allmende Kontor' (The Common's Office). Described as a platform for urban agriculture, *Allmende Kontor* is now promoted by the Senate as an example of a successful Pioneer Project in the high-profile temporary uses at Tempelhof (Figure 38.8).

The London and Berlin examples both represent the start of a process. The report *Cultivating the Capital* has resulted in London adopting policy to support 'land for food' and in some cases specifically the concept of productive landscapes; Berlin's 'Green Vision' is on the way to being adopted as official policy for the city. So far the projects directly supported by each city are community-based (Capital Growth and Allmende Kontor), and both have a significant awareness raising component allied with good public relations potential for local politicians.



Figure 38.8. The Allmende Kontor. Six months after its opening in May 2011, the 5,000 m² site, one of the biggest in the 'Pioneer Project Scheme', is fully occupied by local food growers (Bohn&Viljoen Architects, 2011).

38.5 Conclusion and what happens next

London and Berlin are not unique as cities actively exploring the impact of productive urban landscapes and urban agriculture. As with other cities, the approaches they have taken lead to different results within their respective urban contexts, especially with regard to the type of urban agriculture initiatives supported and the role of design and the planning system. What is common to both is that their activities have already involved food growers, the architecture/design/planning professions and local government authorities. It can also be seen that the projects cited directly involved city authorities, advocacy groups and non-commercial community-based food groups. London is examining commercial growing and the planning system, but direct results are not yet evident. Commercial initiatives do exist in each city, and it is likely that in the future commercially focused local food projects will be integrated into the larger planning system. Although beyond the scope of this chapter, this is already beginning to occur in other cities, e.g. Milwaukee and New York.

With their work on planning guidance documents including urban agriculture, Berlin and London have joined other cities worldwide by entering a new territory. These relatively broad, city-wide discussions and their position within the cities' planning departments represent a change in municipal attitude towards urban agriculture.

In both cases, the willingness of the local governments to engage with food growing issues has led to increased interest in their work by local citizens: Berlin's activists are participating in a constructive exchange with the *Senatsverwaltung fuer Stadtentwicklung*, and Londoners have experienced greater support for the establishment of community based food-growing.

However, it would be naïve to conclude, that the role of the architect or planner has diminished with the worldwide interest in urban agriculture. Most of the strategic and urban design work still has to be done. There is a difference between recognising the need to change the current urban food system and to have identified, designed and implemented meaningful, extensive, appropriate and sustainable solutions.

The CPUL City Toolkit with its condensed list of actions aims to be a method for finding such design solutions and critically evaluating them. It provides a framework of actions to generate debate, disseminate ideas and facilitate implementation; its use and success will be tested and depend on the degree to which its actions are adopted. It is not unlikely that the cases quoted will soon be overtaken by more rigorous, successful or unique examples of European urban agriculture. But we believe that the 4 methods of action presented are robust enough to be able to accommodate new insights for quite some time.

The architectural, design and planning professions have the specific skills to design space or design into space. They become agents of change through inter-disciplinary work with both, community-led and local government initiatives. At no time, will they replace community-led food-growing initiatives. However, it might be through these professions that the processes of

implementing spatial design solutions for urban agriculture can be managed in a sustainable, inter-disciplinary, spatially coherent and long-lasting manner.

References

- Anonymous, 2007. De Eetbare Stadt. naim/bureau europa. Available at <http://www.bureau-europa.nl/tentoonstellingen/archief/352-de-eetbare-stad>.
- Balmer, K., Gill, J., Kaplinger, H., Miller, J., Peterson, M., Rhoads, A. Rosenbloom, P. and Wall, T., 2005. The diggable city: Making urban agriculture a planning priority. prepared for the city of Portland. Nohad A. Toulan School of Urban Studies and Planning, Portland State University, Portland, OR, USA. Available at <http://www.diggablecity.org/>.
- Bohn K. and Giseke U., 2010. Reiche Ernte für die Stadt. *Garten und Landschaft* 12/2010: 26-28.
- Bohn K. and Viljoen A., 2010. Continuous productive urban landscape (CPUL): Designing essential infrastructure. *Landscape Architecture China* 2010: 24-30.
- Cruz Hernández, M. and Sánchez Medina, R., 2003. Agriculture in the city: A key to sustainability in Havana, Cuba. Ian Randle Publishers, Kingston, Jamaica, 210 pp.
- Capital Growth, 2011. What's the big idea? Available at http://www.capitalgrowth.org/big_idea/.
- Cultivate Kansas City, 2011. Urban agriculture and urban planning & design. Available at <http://www.cultivatekc.org/resources/planning-design.html>.
- Despommier, D., 2010. The vertical city farm: feeding the world in the 21st century. Thomas Dunne Books, St Martin's Press, New York, NY, USA, 305 pp.
- Egziabher, A., Lee-Smith, D., Maxwell, D., Mernon, P., Mougeot, L. and Sawio, C., 1994, *Cities Feeding People: An Examination of Urban Agriculture in East Africa*, International Development Research Centre, Ottawa, Canada.
- Fortis Green Community Allotments Trust, 2010. Welcome to the home of the Fortis Green Community Allotments Trust. Available at <http://www.fortisgreenallotments.co.uk/>.
- Gallagher, J., 2010. *Reimagining Detroit: Opportunities for redefining an American city*. Painted Turtle Book, Detroit, USA, 166 pp.
- Greater London Authority, 2011. *The London Plan*. Greater London Authority, London, UK, pp. 240.
- Growing Communities, 2011. *Growing Communities: Hackney's organic farmers' market and box scheme*. Growing Communities, London, UK. Available at <http://www.growingcommunities.org>.
- Hodgson, K., Caton Campbell, M. and Bailkey, M., 2011. Urban agriculture: Growing healthy, sustainable places. (PAS 563), American Planning Association, Planning Advisory Service, Chicago, IL, USA.
- Hopkins, R., 2006. Review of CPULs – Continuous productive urban landscapes. Designing urban agriculture for sustainable cities. *Transition Culture*. Available at <http://transitionculture.org/essential-info/book-reviews/cpuls/>.
- Hantz Farms Detroit, 2009. Introducing Hantz Farms™. Available at <http://www.hantzfarmsdetroit.com/introduction.html>.
- Koc, M., Macrae, R., Mougeot, L. and Welsh, J. (Eds.), 1999. *For hunger-proof cities sustainable urban food systems*. International Development Research Centre, Toronto, Canada.
- Lim, C. and Liu, E., 2010. *Smartcities + eco-warriors*. Routledge, Oxfordshire, UK, 253 pp.\
- London Assembly, 2010. *Cultivating the Capitol: Food growing and the planning system in London*. The London Assembly, London, UK.

- London Assembly, 2011. What is the London Food Board? The London Assembly, London, UK. Available at <http://www.london.gov.uk/london-food/general/what-london-food-board>.
- London Borough of Croydon, 2011. Croydon Development Plan Document – Proposed Submission for Publication. London Borough of Croydon, UK 60 pp.
- Mougeot, J.A. (Ed.), 2005. Agropolis: The social, political and environmental dimensions of urban agriculture. Earthscan, London, UK, 12 pp.
- Nomadisch Grün GmbH, 2011. Prinzessinnengarten, Urbane Landwirtschaft. About us. Available at <http://prinzessinnengarten.net/about/>.
- Pinkerton, T and Hopkins, R., 2009. Local food: how to make it happen in your community. Transition Books an imprint of Green Books, Totness, UK, 216 pp.
- Smit, J. (Ed.), 1996. Urban agriculture: food, jobs and sustainable cities. United Nations Publications, Blue Ridge Summit, PA, USA, 328 pp.
- Smit, J., 2005. The ethics of urban agriculture. The urban agriculture network, Washington DC, USA. Available at <http://www.cityfarmer.org/EthicsUA.html>.
- Steel, C., 2008. Hungry city: how food shapes our lives. Chatto & Windus, London, UK, 400 pp.
- Sustain, 2011. About Sustain. Available at <http://www.sustainweb.org/about/>.
- Taylor Lovell, S. and Johnston, D.M., 2009. Creating multifunctional landscapes: how can the field of ecology inform the design of the landscape? *Frontiers in Ecology and the Environment* 7: 212-220.
- Tomkins, M., 2009. The elephant and the castle; towards a London edible landscape. *The Urban Agriculture Magazine* 22: 37-38
- Viljoen, A. and Tardiveau, A., 1998. Sustainable cities and landscape patterns. In: Proceedings of Passive and Low Energy Architecture (PLEA) 98 Conference, Lisbon, Portugal, PLEA. pp. 49-52.
- Viljoen, A. and Bohn, K., 1999. Elasticity. In: *European 5 – European Results*, Paris, France, pp 285.
- Viljoen, A. and Bohn, K., 2000. Urban Intensification and the Integration of Productive Landscape. In: Proceedings of the World Renewable Energy Congress VI, Part 1, Pergamon, Oxford, UK, pp 483-488.
- Viljoen, A., Bohn, A. and Pena Diaz, J., 2004. London Thames gateway: Proposals for implementing CPULs in London Riverside and the Lower Lea Valley. Report for the Architecture and Urbanism Unit of the London Assembly. University of Brighton and CUJAE Havana, Brighton, UK.
- Viljoen, A. and Bohn K., 2005a. Don't forget the food – rural agriculture and urban agriculture. Littoral Rural Design Forum Conference “Architecture and Agriculture”, DEFRA Conference Centre, York, UK.
- Viljoen, A. and Bohn K., 2005b. Continuous Productive Urban Landscape – Urban agriculture as essential infrastructure. *Urban Agriculture Magazine*, 15: 34-36.
- Viljoen, A. and Bohn K., 2009. Continuous Productive Urban Landscape (CPUL) Essential Infrastructure and Edible Ornament. *Open House International* 34: 50-60.
- Viljoen, A., 2005. Continuous Productive Urban Landscapes: Designing Urban Agriculture for Sustainable Cities. Architectural Press, Oxford, UK.

Galley proof