Chapter 2
Re-Ruralising the Urban Edge: Lessons from Europe, USA & the Global South

Helen Armstrong and Abby Mellick Lopes

Abstract Major cities of the world are characterised as either growing cities, such as in Asia and Australia, or shrinking cities as in Europe and North America. Growing cities are destroying their rural edge while shrinking cities are creating a new rural urbanism, often in their urban centre. This chapter describes the instrumentality of design and its enabling function in achieving new typologies for peri-/inter-urban rural land with key drivers being state-of-the-art technology and mapping techniques. Peri-urban economics require new land-tenure models and innovative forms of agriculture that synthesise agriculture, nature conservation, infrastructure and communities. The chapter also looks at small-scale community innovations including a number of initiatives in Penrith, Western Sydney, such as *Out & About in Penrith* which explored community activities in local open space, Penrith as *a Regional City Garden* with diverse models of urban agriculture and the *Cooling the Commons* project which explores the role that forms of urban agriculture might play in adapting urban environments for liveability in a climate-changed future. Findings from these projects reveal the potential of mobile infrastructure and temporary urbanism for Western Sydney.

Keywords Urbanisation • Re-ruralisation • Urban edge • Urban economics • Land tenure • Urban environment

H. Armstrong (✉)
QUT, Brisbane, QLD, Australia
e-mail: h.armstrong@qut.edu.au

A.M. Lopes
School of Humanities & Communication Arts, Western Sydney University,
Sydney, NSW, Australia
e-mail: a.lopes@westernsydney.edu.au

2.1   Introduction

This chapter draws from a range of international projects in the peri-urban and urban areas, both large and small, that are addressing the loss of food-producing land such as the planning and design work occurring in the Netherlands where the debate about urban development is focussed on how to achieve new forms of rural/urban/natural landscapes. There are also important lessons to be learned from the shrinking cities of Europe and North America where a new rural urbanism is emerging; either encouraged by government such as the *Farmadelphia* Program in Philadelphia or informally as in Detroit and Berlin. Similarly in the German towns of Hamburg, Frieburg and Tübingen, the rural tide is turning with new models for collective farming in the zschischenstadt or urbanised countryside (Sieverts 2003).

2.2   Four Ways to Revive Sydney's Peri-Urban Agriculture

What role should planners and designers in Australia play to address the loss of food-producing lands? We suggest this problem can be addressed in four distinct ways.

First, many peri-urban farms are market gardens developed by migrants in the 1950s–1960s. The farmers are now elderly and understandably see rezoning their farms for residential development as a retirement income. Respect for this equity issue requires innovative planning for land tenure, related to productive land that allows owners to realise their land's development value without changing the rural use. This can be achieved through transfer of development rights (TDR) (Armstrong 2005). Parallels exist with built heritage, successfully addressed through TDR which enable owners of heritage buildings to realise similar capital returns to those who own non-heritage buildings by transferring their development rights to other locations. Western Sydney's designated Growth Centres are ideally placed for such transfer of development rights to save productive peri-urban land.

The second issue relates to reversing 'Rural Residential' zoning. Many local government areas are pressured by the electorate to rezone agricultural land to 'Rural Residential'. This is the least supportable way to use such valuable productive land as it merely satisfies the desires of affluent exurbanites seeking so-called 'lifestyle living' in the rural areas outside cities. Conversion of prime farming land in the Sydney region into rural residential lots has been at the forefront of political and development conflict about appropriate planning for peri-urban lands (Sinclair et al. 2003).

European designer/planners offer alternative models for 'Rural Living' that allow for continued productive farming associated with new clustered residential areas. This involves innovative land tenure and inventive forms of governance drawn from the organizational strategies associated with cooperatives. There are interesting examples in the Netherlands, Hamburg and Zurich, such as the

award-winning proposal by the landscape designers, ceto-o/kunzt + herbert, for 'Fischbeck Mississippi', Hamburg (Aufmkolk 2003) and the Tübingen-Südstadt's community plan developed to contain the pressure for urban sprawl using orchards, city farms and ecological infrastructure for water purification. This community plan won a European Urban and Regional Planning Award (*ECOCITY Tübingen-Derendingen* n.d.). Zurich has new consumer-led cooperatives for the production of local, seasonal and organic food ensuring the peri-urban stays productive. The Netherlands sees its new Agroparks as providing numerous benefits of spatial clustering such as closing the cycle with community waste and reducing transport requirements (Smeets 2011).

These cooperatives have prompted the European Commission to instigate a research project 'Towards sustainable modes of urban and peri-urban food provisioning' called SUPURBFOOD and financed by the European Commission's 7th Framework Program for Research and Technological Development as a 3 year project from 2012 to 2015. The project is analysing agri-food dynamics, policies and governance arrangements in different European city regions and looking at how observations from the Global South, such as short food chain delivery, water, nutrient and waste management and multifunctional agriculture in urban and peri-urban areas, can be applied to European city regions (*Supurbfood* n.d.). In Asia, Beijing is actively promoting multi-functional recreational agriculture in the peri-urban zones, using land use planning as well as allocating parts of the municipal budget for investments in the peri-urban region (*Supurbfood* n.d.).

The third issue involves making productive land attractive to new farmers. The recent market growth of water products, ecosystem services, and niche marketing of gourmet products are emerging opportunities for rural economics.

Finally, the fourth issue; the development of new urban agriculture associated with hybrid urban forms which conflate architecture, landscape, infrastructure and high tech farming in innovative ways. Thomas Sieverts (2003), the Berlin-based planner, called the peri-urban lands the 'Zwischenstadt' or 'in-between lands', suggesting that urban-rural landscapes can be a new form of city characterised by mutual penetration of built forms and rural landscapes. For over a decade he has been asking why not develop a new cultural landscape in which food production, recreation, and ecological balance create new relationships with built-up areas? It would appear that such hybrid urban forms are emerging and many of them are exploring innovations associated with temporary urbanism.

2.3   Lessons from the Global South

Planners in Casablanca, the largest port in Africa and an emerging megacity, are responding to Sieverts' question. Peri-urban agriculture in Casablanca has been the focus of a large international research team funded by the German Federal Ministry of Education and Research (BMBF) looking at Sustainable Development for Megacities of Tomorrow in order to develop energy and climate efficiency (*Urban*

Agriculture, Casablanca (UAC) n.d.). They have been working together to observe how urban agriculture can contribute to sustainable, climate-optimised, urban development. Their focus has been on the integration of the existing agricultural use in Grand Casablanca into urban development and on its transformation from typical rural land use into multifunctional green infrastructure. The teams have used reflexive action research to explore synergetic rural-urban linkages and new livelihoods in peri-urban areas (Giseke 2011).

The environmental implications of these new hybrid urban agricultural forms now include issues related to food security under climate change. Assessment of climate change and urban/peri-urban agriculture was recently initiated in nine cities across Africa and South Asia in order to understand the complex interplay of climate change, urban agriculture, and urban food systems. This is being funded by the European Commission, with co-funding from UNEP and additional support from USAID.

The extensive programs being initiated in Europe and involving Africa and Asia are big steps. There are also small steps involving community actions in the shrinking cities of North America and Europe.

2.4 Lessons from the Shrinking Cities

Detroit, epitomising the extensive low-density suburbanised American city, is now designated as a 'shrinking city'. The extent of abandonment due to de-industrialisation has resulted in sprawling anarchy. Yet out of the ashes something optimistic is happening that is far removed from the models used by planners or architects. The inner ring of worker-housing surrounding the remnant central business district has become a new form of rural land. The city is now a mosaic of deteriorating urban structures and new rural spaces. The new rural areas, made up of many hundreds of urban farms, intersect strangely with the decaying infrastructure of an abandoned big city. These community-initiated farms, facilitated by the Detroit Agriculture Network, are resulting in a different urban paradigm where an outer suburban ring surrounds a re-ruralised core of new farmland and forests occupying the former inner-city. Although most of the farms are on squatted land, the success of the community enterprises has encouraged the city administration to develop 'Land Banks' where for one dollar, residents can receive the title to land, providing they maintain the land and pay taxes. So successful has the community enterprise been, that investors are now seeking to be part of the new urban agriculture (Guss 2010).

Philadelphia is another shrinking city. The increasing number of derelict spaces and vacant buildings in the urban fabric prompted the city to hold a design competition for Philadelphia's 'voids' in 2005. The winning entries addressed water management and environmental rehabilitation, but one entry, particularly empowering for the community, was an urban farming proposal called FARMADELPHIA by the designers, Front Studio. The FARMADELPHIA proposal involves a city-wide conversion of vacant lots into farmlands where each block maintains responsibility for the management and harvesting of crops. Within a far-reaching 7 year agricultural

plan for the city, sequenced crop are proposed, starting with easy to grow perennial crops such as corn, raspberry bushes, mustard greens, herbs and so on and progressing through to well-managed permaculture (*Farmadelphia* 2006).

Ruralising the urban is also being explored as a hybrid between recreation and cultivation in the form of new models for city gardens such as Gleisdreieck Park in Berlin which involve community engagement and responsible citizenship. Harking back to the medieval system of interlocking duties and obligations of all, from the city institutions to the homeless, these city gardens are proposed as the locus of local food production, new forms of bartering, innovative environmental design, resilient and flexible examples for twenty-first century communities.

In Western Sydney, Penrith planners have been exploring the idea of a regional city garden. As the largest of the three river cities in Sydney, Penrith is a city at the nexus of the Cumberland Plains, the Blue Mountains and the emerging Penrith Lakes. Penrith planners are looking at ways to contribute to responsible urban living in the twenty-first century by forging local and regional partnerships with peri-urban farmers and other developing industries. Drawing from city garden and peri-urban research and consultative workshops, a proposal for a regional city garden was developed as a major focal site in the 'Penrith Lakes' area with supplementary loci throughout the region that can consolidate community partnerships and showcase local products, including those from local farms. The educative role of Penrith City Garden was intended to operate through smaller thematic gardens, including innovative peri-urban agriculture enterprises as well as collaborative research projects with Hawkesbury Harvest and the University of Western Sydney.

Using the principles of eco-urbanism, particularly open-endedness, complexity and resilience when subjected to dynamic change, these regional city gardens develop Sieverts' ideas where the landscape acts as multiple 'Soft Systems', including urban water features that undertake water treatment, phyto-remediation on derelict sites, energy harvesting, green roofs and walls, and designed landscapes that accommodate climate change by employing increasingly sophisticated use of rain water to address unpredictability.

Another innovative example of urban agriculture was proposed for the White Bay-Rozelle Bay precinct just west of the Sydney CBD, currently lying derelict. The innovation lay in the concept of urban agriculture as a temporary use involving flexible infrastructure that can exploit abandoned industrial sites. The proposal included 'light' and 'dark' agriculture. The 'light' concept, proposed for the empty hardstand previously used for container storage on Glebe Island, was an urban orchard under a giant flexible glasshouse; while 'dark agriculture' was proposed for the long nondescript maritime storage shed on the western edge of White Bay.

The proposed glasshouse was a glazed space-frame over a sub-tropical and citrus orchard adjoining glazed vertical farms and assisted by the old silos, which were reworked into a complex system for water purification using recycling water, as well as sites for storage of produce. Surrounding the diamond facetted glasshouse, a shrubby wind-blown embankment of hardy bush-food contrasted with the moist sub-tropical environment inside. 'Dark' agriculture in a large abandoned shed, consisted of enclosed layers of agriculture systems needing less and less light; on

top, a system known as valcent vertical hydroponics took advantage of roof lighting, below this were omega carousel gardens with internal lighting, and below this commercial mushroom farms in the dark. These were all modular enabling rapid assembly and disassembly. A key to the feasibility of these proposals lay in the economics of temporary use (Armstrong 2011).

2.5   The Value of Temporary Uses

Temporary use of urban space has progressively become the focus of innovative planning (La Varra 2005). A European urban forum, Urban Catalyst, has developed a unique archive for planners, municipalities, developers and others from their investigations into temporary uses in residual urban areas. They note that conventional architecture and urban planning are increasingly unable to find answers to the radical transformation occurring in cities. To address this, Urban Catalyst's interdisciplinary network has developed strategic planning tools which integrate temporary uses into long lasting urban developments. These are now available in the publication, *URBAN CATALYST- THE POWER OF TEMPORARY USE* (Oswalt et al. 2013); a compilation of more than 10 years of research and practice in the field of temporary use as a catalyst of urban development in Europe. Urban agriculture with its annual crop cycle is well suited to temporary and flexible infrastructure.

The British-based urban theorists, Bishop and Williams (2012) have provided an overview of numerous temporary urban projects in Britain and North America in their book *The Temporary City*. Of the 68 projects they describe, most are related to creative interventions or community agriculture and gardening initiatives. Community horticulture projects also feature in the four case studies described in *Urban Tactics*, *Temporary Interventions + Long Term Planning* (Killing Architects 2012).

In Australia, the concept of temporary use has been well-developed by the Pacific Islander community in Brisbane who manage a mobile yam plantation. They approach various authorities with vacant land and request the right to use it for a community plantation for 3 years. They carry insurances and use their own water truck so that they do not require assistance from the authorities who own the land and the owners are not liable for accidents etc. Usually a number of families plant and cultivate the plantation, often sharing banana or guava trees with other families. The yams are harvested and shared while some are kept for next year's planting. When the land is required, the trees are transplanted to the next site, leaving the temporary site as it was (Armstrong pending publication).

Another successful model of temporary use, this time in local parks, has been explored by Penrith City Council: the Mobile Play-van (Sofoulis et al. 2008). The Council's mobile Play-van is stocked with a changing array of children's play equipment, furniture, toys and art materials. Experienced Council community workers take the Play-van on scheduled visits to local and pocket parks and

neighbourhood centres, bringing opportunities for adult and child social engagement. Play-van visits transform even the bleakest looking environments into hives of positive social activity. The service has a community facilitation role, providing educational and community service information as well as a role in alleviating social isolation. Aside from mothers, many grandparents, single dads and involved neighbours accompany the young children. The Play-van has a role in getting people into the habit of going to parks; some stay on after the van has gone. Many councils offer a Mobile Play-van service; however the transformative value of the service is magnified in a low-density city like Penrith, which is not served particularly well by public transport infrastructure.

The Play-van service demonstrates that open spaces do not have to offer the same facilities to the same groups of 'average' users every hour of the day; nor do different groups of users necessarily need different open spaces. Instead, park uses and facilities can be temporary, allowing the park to become an attractor for different social and cultural activities at different times. Thought of in this way, the park is not a static space but a dynamic event (Sofoulis et. al. 2008).

In this context, parks and open space in Western Sydney can include community agriculture in interesting ways, such as the National Gallery of Victoria's successful Urban Commons (*Urban Commons* n.d.) and the Nomadic Green in Berlin which is a mobile garden in the Kreuzberg district set up as a not-for-profit open organic garden dedicated to exchanging knowledge and work through growing vegetables. By growing vegetables in rice bags, plastic crates and milk containers they have created a dynamic system where they can bring the plants with them if a change of location is needed. The garden was started as a pilot project in the summer of 2009 by Nomadic Green (*International Network for Urban Agriculture* 2009).

The concept of mobile urban agriculture has also been explored by Atelier d'architecture autogérée (*aaa*) described as a studio for self-managed architecture. Based in Paris and co-founded by architects, Constantin Petcou and Doina Petrescu (2012), *aaa*'s projects are experiments in the temporary reuse of leftover urban space using catalysts in the form of enabling infrastructure that local residents gradually transform into self-managed spaces (*International Network for Urban Agriculture* 2009). The success of their 'Ecoboxes', a series of vegetable gardens made from recycled materials, has prompted urban horticulture ideas to be extended further in the project called 'Passage 56'. This involved the transformation of a disused passageway into a productive farm/garden whose ecological footprint through recycling, composting and use of solar panels was minimal. Tactically, *aaa* learned from these projects that it is easier to use space with easy access, such as disused laneways or vacant land, to avoid being blocked by various authorities. Rather than buying land, *aaa* negotiate for short and long term use, focussing on interstices and urban spaces which are not currently subject to financial speculation. They also realise that mobility of the structures is a key to allaying municipal concerns about permanent appropriation of land. Their urban agriculture project called 'Agrocité' began in 2012 in Colombes, a suburban town near Paris. As an agrocultural unit, Agrocité comprises an experimental micro-farm, community gardens,

educational and cultural spaces and a series of experimental devices for compost heating, rain water collection, solar energy production, aquaponic gardening, phyto-remediation. 'Agrocité' can be thought of as a '*Civic Agriculture Unit, which consists of a micro-farm aimed at collective and familial use*'(*Urban Tactics* n.d.).

The project at Colombes is divided into three areas; one for activities related to nature and agriculture, one for community gardening and one for an 'AgroLab' experimenting with intensive organic agricultural production. It also has a shared greenhouse for plants and seedlings, equipment for collecting rainwater, phyto-purification, solar energy and biogas, aquaponics crops, and agricultural short circuits. Despite being such an elaborate project, the components can be disassembled and moved to other locations if required.

2.5.1   Temporary Use as a Strategy for Urban-Rural Reimagining

These examples provide valuable lessons for how new ways of imagining the dynamic relationship between rural and urban spaces might be enabled. Temporary uses can initiate, introduce and elicit social creativity, as well as provide an environment for 'social dreaming' (Dunne and Raby 2013) while garnering support for interventions prior to more fixed and permanent 'solutions' taking place. In the following we elaborate on some design considerations based on the projects we have explored in this chapter that may productively inform strategies for temporary agricultural and horticultural use in cities and suburbs on the urban edge.

2.5.1.1   Cultural Sensitivity and Shared Vision

Communities are complex and dynamic and already involved in using peri-urban landscapes in ways that need to be acknowledged and understood prior to urban agriculture initiatives taking place. Collaborative and reflexive forms of community engagement and co-design, including creative mapping strategies, elicit the creativity of non-designers, generate shared future visions and promote ongoing community involvement.

As the previously discussed examples of mobile and temporary urban agriculture show, successful initiatives are often community-led and operated enterprises. Co-design processes might facilitate engagement with peri-urban communities to respond creatively to emerging opportunities for rural economics that may not have been previously considered.

2.5.1.2   Identifying Shared Values and Needs

Culturally specific designs can exacerbate territoriality, while designs for shared age, life stages and interests can foster social cohesion. There is an opportunity for

urban agriculture to contribute to the development of social and practical skills, and foster intergenerational communication. Knowledge exchange, experimentation and social learning as exemplified by the R-Urban project, need to be seen as a critical part of re-ruralising the urban edge.

2.5.1.3   Identifying Enabling Infrastructure

As shrinking cities such as Detroit and Philadelphia show, derelict and abandoned sites, vacant lots and voids are being reimagined for their regenerative possibilities. Such 'in between' spaces, as well as existing roof and wall surfaces, become enabling infrastructure as 'platforms' for creative communities (Manzini 2005). Mobile infrastructure like the Play-van facilitate temporary use, and enterprises such as the Nomadic Green and *aaa* projects reveal the potential for the sustainable reuse of discarded materials and products in flexible applications.

2.5.2   Temporary Urbanism in the Peri-urban Riverlands of Western Sydney

Drawing on the model provided by *aaa* (Paris), the R-Urban project, and learning from the previous Penrith projects, the MURRS group (Mapping Urban Resilience in Riverland Sydney) seeks to explore a local dialogue with the concept of urban 'resilience' through a hybrid collective approach using Action Research to explore both human and non-human factors.

Initially the team are establishing local government partners in order to undertake a series of mapping processes that explore human and non-human aspects of the agreed local context. Blacktown City Council, a local government area east of Penrith City and including large areas of peri-urban land, has expressed interest in mapping their numerous pockets of left-over spaces that are too small for development with a view to community urban agriculture projects. Blacktown City also has large areas of land already subdivided and partially developed. The MURRS team are exploring partnerships with developers where temporary community projects, including vegetable gardens and workshops for temporary shade houses, could animate the currently vacant land awaiting development.

In recent times Urban Heat Islanding (UHI) has emerged as a significant concern for Western Sydney's future (Western Sydney Regional Organisation of Council 2008). UHI results from the replacement of vegetation with heat-absorbent surfaces, increasing ambient temperatures and extreme heat days. This unanticipated consequence of hard urban development provides further impetus for the exploration of new forms of urban agriculture. In addition to providing substantial cooling benefits (Susca et al. 2011), urban vegetation provides protection from heat stress (Loughnan et al. 2012), potentially alleviating reliance on energy-intensive air conditioning; as well farming and gardening supporting social participation in open spaces, which has substantial wellbeing benefits. In '*Out & About in Penrith*', the

lack of shade was revealed as a strong inhibitor of the use of open public space (Sofoulis et al. 2008). The creation of 'cool commons' is a creative challenge for the growing city.

2.6 Conclusion

The peri-urban productive lands in coastal areas of Eastern and South-Western Australia, including the rich volcanic land of Northern New South Wales and South East Queensland and the alluvial soils of Western Sydney, are continuing to be appropriated by urban sprawl. To address this loss, lessons can be learned through the current planning and design work occurring in the shrinking cities of Europe and North America where a new rural urbanism is growing. In this chapter we have outlined four ways in which this rural urbanism is retrieving lands for urban agriculture. Findings from these projects reveal the potential of mobile infrastructure and temporary urbanism for adapting urban environments to enhance liveability in a climate-changed future. The MURRS group is exploring partnerships that could exploit the potential of these lessons in creating opportunities for 're-ruralising' the urban edge in Western Sydney.

References

Armstrong H (2005) Rural lands protection toolkit. Cultural Landscape Research Unit, Queensland University of Technology, Brisbane

Armstrong H (2011) Re-enchanting the industrial in the city. In: Abbate A, Polakit K, Kennedy R (eds) Proceedings of the 3rd international subtropical cities conference. 8–11 Mar 2011, USA

Armstrong H (pending publication) Marginal Landscapes

Aufmkolk G (2003) cet-o/kunst+Herbert-"Mississippi" in Hoppenstedt. In: Adrian (ed) Event landscape? Birkhauser, Berlin, pp 98–103

Bishop P, Williams L (2012) The temporary city. Routledge, London/New York

Dunne A, Raby F (2013) Speculative everything: design, fiction and social dreaming. MIT Press, Cambridge

ECOCITY Tübingen-Derendingen (n.d.) http://www.upv.es/contenidos/CAMUNISO/info/U0511244.pdf. Accessed 12 April 2016

Farmadelphia (2006) http://frontstudio.com/selected-work/explorative/farmadelphia.htm. Accessed 11 Aug 2015

Giseke U (ed) (2011) Urban agriculture Casablanca: design as an integrating factor of research. TUB publication, Berlin

Guss A (2010) Detroit shrinking, proposals for urban farming grow. https://www.myhealthwire.com/news/food/183. Accessed 11 Aug 2015

International Network for Urban Agriculture (2009) Nomadic green. http://www.inuag.org/tags/nomadic-green. Accessed 11 Aug 2015

Killing Architects (2012) http://www.killingarchitects.com/. Accessed 12 April 2016

La Varra G (2005) Post-it city: the other European spaces. In: Koolhaas R, Obrist H (eds) Mutations. ACTAR, Barcelona

Loughnan M, Coutts AM, Tapper NJ, Beringer J (2012) Identifying summer temperature ranges for human thermal comfort in two Australian cities. In: 7th international WSUD conference, Melbourne. 21–23 February 2012

Manzini E (2005) Creative communities and enabling platforms. An introduction to a promising line of research and actions on sustainable production and consumption. In: Doyle D (ed) Taking responsibility. Hedmark University College Publishing, Allkopi, Norvegia

Oswalt P, Overmeyer K, Misselwitz P (2013) Urban catalyst – the power of temporary use. Shrinking Cities Publication DOM Publishers, Berlin

Petcou C, Petrescu D (2012) Atelier d'architectureaugérée. In: Tyszezuk R, Smith J, Butcher M (eds) Atlas geography architecture & change in an independent world. Black Dog Publishing, London, pp 64–71

Sieverts T (2003) Cities without cities: an interpretation of the zwischenstadt. Spon Press, London

Sinclair I, Bunker R, Holloway D (2003) From the outside looking in-planning and land. http://www.ruralplanning.com.au/library/papers/soac03.pdf. Accessed 11 Aug 2015

Smeets PJAM (2011) Expedition agroparks: research by design into sustainable development and agriculture in the network. Wageningen Academic Publishers, Wageningen. doi:10.3920/978-90-8686-719-6

Sofoulis Z, Armstrong H, Bounds M, Mellick Lopes A, Andrews T (2008) Out & about in penrith, universal design and cultural context: accessibility, diversity and recreational space in Penrith, June 2008. Centre for Cultural Research, UWS with Penrith City Council. Available via http://www.uws.edu.au/__data/assets/pdf_file/0008/46367/Out__and__About_Final_Report_with_Appendices.pdf

Supurbfood (n.d.) EU 7th framework program for research and technological development. www.supurbfood.eu. Accessed 11 Aug 2015

Susca T, Gaffin SR, Dell'osso GR (2011) Positive effects of vegetation: urban heat island and green roofs. Environ Pollut Environ Pollut 159(8–9):2119–2126. doi:10.1016/j.envpol.2011.03.007. Epub 2011 Apr 8

Urban Agriculture, Casablanca (n.d.) Urban Agriculture as an Integrative Factor of Climate-Optimised Urban Development, Casablanca. http://www.uac-m.org. Accessed 12 Apr 2016.

Urban Commons (n.d.) Products. http://www.urbancommons.com.au/. Accessed 11 Aug 2015

Urban Tactics (n.d.) R-URBAN – participative strategy for development, practices and networks of local resilience. http://www.urbantactics.org/projects/rurban/rurban.html. Accessed 12 Apr 2016.

Western Sydney Regional Organisation of Council (2008) Agenda for sustainability and wellbeing forWesternSydney.WSROC,Blacktown.Accessed11Aug2015http://202.60.92.134/~wsroccom/reports/agenda-for-sustainability-and-wellbeing-for-western-sydney-may-2008