Editorial: Urban ecologies

GRAHAM HAUGHTON and GORDON McGRANAHAN

Most people writing on urban environmental and ecological issues, particularly in Asia, Africa and Latin America, agree on the importance of both addressing environmental issues and reducing poverty. Beyond this, if one looks at the full range of writings, there is much disagreement, even on the basics. There are environmental optimists and pessimists. There are those with "green" agendas and those with "brown" agendas.(1) The critical scale for understanding urban environmental issues is variously identified as local, regional or global. The central challenge is sometimes described as technical, and at other times social, economic or political. The means to address this challenge is variously presented in terms of market mechanisms, state planning or community action. And of course, the more academic writers align themselves with (or occasionally against) their disciplines. There are also important trends in the evolution of academic ideas about sustainable urban development, not least with the growth of interdisciplinary approaches and the rapid emergence of more theoretically driven work over recent years.(2) Unsurprisingly, this can be a confusing terrain to chart, particularly if the goal is to give clear direction to practitioners.

In itself, diversity of thinking about urban ecological issues is no bad thing. This is not to say that every theory or claim should be judged on its own terms, or is equally valid. But diversity can, in the right circumstances, create the basis for a more wide-ranging critical debate. This journal is built on the premise that, when it comes to urban studies, researchers need to engage with practitioners and activists, and that much of the best research tries to build on and engage with, rather than replace, local knowledge of particular places and practices. This local knowledge is itself inherently diverse. If, more generally, no one school of thought holds the monopoly on urban ecology, it is almost certainly a good thing.

Urban ecology has become a meeting ground for debate across the physical and social sciences, resulting in a growing sophistication in our understanding of complex issues that cannot be pigeonholed into particular disciplines or policy arenas. So we find ecologists are increasingly integrating consideration of human behaviour and built environments into their understanding of ecosystem dynamics, rather than treating them as external factors. Likewise, social scientists are busily rethinking their understanding and appreciation of how ecological processes must necessarily inform our understanding of economic, political and even social systems. There is common ground too in the growing appreciation of multi-scalar approaches within both physical sciences and social sciences. This is exemplified in the urban literature, with a shift away from single-scale analyses, and even hierarchical understanding of urban systems (local, regional global), in favour of more relational approaches. The very notion of urban ecology has become multi-scalar, extending from individual urban systems to systems of cities and towns, and from ecosystems within urban settlements, to urban settlements as ecosystems, to the ways in which cities and towns shape ecosystems beyond as well as within urban boundaries. We are still grappling with how to conceptualize adequately such issues and translate them into meaningful material for policy makers, as several of the articles in this special issue make clear. It has also become clear, however, that urban ecological thinking can help bring politics to the

1. McGranahan G, P Jacobi, J Songsore, C Surjadi and M Kjellén (2001), *The Citizens at Risk: From Urban Sanitation to Sustainable Cities*, Earthscan, London.

2. See, for instance, Satterthwaite, David (editor) (1999), *Earthscan Reader in Sustainable Cities*, Earthscan, London; also Wheeler, Stephen and Timothy Beatley (editors) (2004), *The Sustainable Urban Development Reader*, Routledge, London. For a good overview of evolving work within the geographical literature, see Braun, Bruce (2005), "Environmental issues: writing a more-than-human geography", *Progress in Human Geography* Vol 29, No 5, pages 635–650.

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fore, and be sensitive to the different ways in which powerful and less powerful groups both engage with formal political institutions and respond to politically charged urban ecological processes.

The first two articles reflect something of both the diverse approaches and the common ground that characterize the contributions to this special issue. Superficially, the articles appear to be in opposition to each other, but at a deeper level they are also very complementary. Kai Lee's article takes a global perspective, and argues that we cannot even imagine how to achieve the transition to sustainable cities – to put it crudely, very poor settlements lack the capacity, and very wealthy ones lack the incentive. In contrast, Mark Swilling focuses on Cape Town, where extreme poverty and affluence co-exist, and argues that such a transition is not only imaginable, but also necessary, starting now, if not yesterday. Yet both of these articles are sceptical of conventional environmentalism, are overtly multi-scalar, place inequality at the centre of their analysis, present a case for radical change, and have much to offer even to those who reject their conclusions.

One of the arguments to which environmental sceptics tend to point in highlighting the dangers of taking major pro-environmental policy leaps is that many Western cities have actually improved aspects of their environment over the past 50 years, particularly air pollution. This is largely because, as Lee puts it in his article, classical environmentalism addressed some environmental issues in some cites. Unfortunately, a new generation of urban environmental problems have arisen, including many that exert their major impacts well beyond their boundaries, contributing for example to global climate change. Equally important, a range of long-standing environmental hazards continue to affect the life chances of a large share of the residents of the cities of the poorest countries – the same groups most vulnerable to many of the new environmental hazards. Thus, one of Kai Lee's concerns is that classical environmentalism does not provide an incentive for affluent urban residents to control their contributions to global environmental change, or provide the capacity for the more deprived urban residents to address their local risks.

In effect, Kai Lee's paper poses a challenge, not only to environmental sceptics but also to optimists striving to map out a route to sustainable and equitable cities – a challenge we hope future contributors will take up. It also provides a lens through which the reader can judge whether the remaining articles, which are generally more optimistic, succeed in addressing the environmental challenges that face people who live in cities.

Focusing on recent developments in South Africa, Mark Swilling provides a compelling overview of the way in which the government has shifted its approach in recent years, away from an overtly pro-privatization strategy to one where the state is seen as an essential ingredient to promoting fundamental changes in society. He remains profoundly concerned, however, that the new development strategy is still insufficiently sensitive to urban environmental issues, not least in its ability to provide the conditions for improving urban infrastructure in ways that are socially and environmentally progressive. Swilling's article uses Ecological Footprint analysis to argue that Cape Town is being developed in ways that are leaving it increasingly dependent on imported resources such as oil. He argues that each future increase in oil prices will see money flow out of the domestic economy and instead into global financial circuits, to the benefit of distant financiers rather than the urban poor – a timely concern given that soon after the article was completed, Shell recorded record profits for a UK-registered company on the back of rising oil prices. He moves on from this to set out a clear agenda for improving the conditions of the urban poor by developing housing and neighbourhoods in ways that seek to minimize car dependence, water demands and the need to pay for waste disposal.

Although certainly not optimistic about the present state of their city, there is a considerable degree of optimism for the future in the article by Revi and colleagues, who introduce the "*RUrban*" approach they have developed to analyze the potential growth path over the next 100 years for Panjim, the capital of Goa. Drawing on inputs from both experts and citizen groups, a long-term strategy has been proposed which, they argue, will involve a reworking of the relationship between city and countryside. In this "*RUrban*" approach, the authors argue that cities can be redesigned so that they contribute to ecological services rather than act as a drain on external natural assets. Theirs is a

multi-faceted approach, which rightly includes issues of governance as central to achieving success. They set out a challenging agenda, which is notable both for its adventurousness and for its long time-span, covering the period up to 2100.

Also looking to influence future urban development patterns is Jeff Kenworthy's article, in which he sets out his 10 transport and planning principles. This is in some ways a more narrowly focused agenda than that set out for Goa, in that it emphasizes urban form and transport problems primarily drawing on the experience of western cities. Using this focus, however, Kenworthy develops a powerful critique of contemporary western urbanization, allied to a detailed set of principles for addressing the problems associated with urban sprawl and growing car dependence.

One of Kenworthy's 10 principles is that in moving towards a vision for the future of the city we need to develop a "debate and decide" rather than a "predict and provide" approach, in essence arguing a shift away from technocratic, expert planning solutions in favour of more participative approaches. Bridging the gap between these two positions, in looking at the peri-urban planning challenges of Xiamen in China, Fang and colleagues set out the case for "adaptive urban environmental planning". Central to this adaptive planning is a greater receptiveness to multiple sources of information and the differing knowledge of a wider group of stakeholders. They argue that the resulting decision-making processes have been successful in engaging with local communities in gaining acceptance for plans. Public participation, they claim, is the most effective way of making planning more "adaptive", requiring a range of modes of engagement for different groups of citizens and experts.

The two articles that follow look in detail at one of the most widely talked about ideas in contemporary urban environmental management, Ecological Footprints. One of the founders of the technique, Mathis Wackernagel, together with his colleagues, outlines the basic approach and some of its applications, putting forward a strong case for greater uptake of the technique. While accepting the many strengths of the Ecological Footprint approach, Phil McManus and Graham Haughton go on to develop a critique of both the theory and the application of the technique. The essence of their case is that too often, those using the technique ignore its limitations, frequently claiming it provides a rationale for detailed policy proposals when in reality, the technique is not designed to prove clear causal links between human activities and their impacts. This is another debate on which further contributions to the journal are welcome.

Where the article on Goa was remarkable for the detail in which it looked forward a 100 years, Patricia Avila Garcia's article on water provision in Morelia, Mexico, is remarkable for the insights it reveals through examining more than 450 years of water policy. What this article clearly reveals is the interplay of the wider politics of development in the locality and the politics of those outside. The way in which problems are perceived and responded to always reflects the priorities of dominant social and political actors who are in a position to influence the provision of infrastructure, in particular major landowners, the church and the state. She argues that differential access to water has always had distinctive sociospatial dimensions, where the poor struggle to gain access to reliable, affordable supplies of clean water. Running parallel to this have been continuing problems of financing sufficient infrastructure to cope with growth, and the control over access to water exerted by local elite groups and the state. If these are the constants, then we are reminded that a dynamic element is always present, in the shape of new technological options and changing legislation, which means that there are continuing struggles to exert control by elite groups alongside resistance from the politically marginalized.

Shabab Fazal examines in detail the congestion and transport-related problems of Saharanpur, a small city in India. Here, he argues that congestion takes on different dimensions to the congestion problems of larger, more prosperous cities, with severe under-investment in the transport infrastructure. He rightly points out that high growth in car ownership in cities such as Saharanpur will have major environmental effects, locally and beyond, so the problem is one that needs to be thought through carefully, and appropriate solutions sought. Although the article argues in similar vein to Kenworthy that public transport has to be part of the solution, it is an interesting point of conjecture whether

Kenworthy's 10 principles should be adopted in Saharanpur, or whether a wholly different approach and an alternative set of principles are required for cities in the South. This raises a broader question of how and in what form the lessons of urban environmental management are best transferred between cities.

Overall, the plurality of approaches to understanding urban ecological problems in this special issue of *Environment & Urbanization* is a welcome feature. It opens up a terrain of debate rather than suggesting one favoured direction. For us this is essential, given the diversity of urban environmental and ecological issues faced in different parts of the world today.

On the other hand, it is also important to look for the commonalities that hide amidst diversity. It is revealing, for example, that none of the articles see the physical environment in isolation of social, cultural and economic issues. Implicitly or explicitly, politics emerge as central to addressing urban environmental issues. This is not to downplay the importance of the ecological, which often gets lost in the urban environmental literature. Every function and every part of the physical fabric of the city is in some sense developed around particular accommodations with the natural environment. Every city draws on environmental resources and services such as soil, water, minerals, continuously remaking the built environment, working around nature, obliterating it, transforming it and replacing it – and yet in a more fundamental sense remaining very much a part of it.

Environmental inequalities are often closely married to social inequalities, which can itself hide the co-importance of ecological and social processes in generating them. The uneven social and racial impacts of the flooding of New Orleans in 2005 attracted widespread media coverage, while seemingly every day, in some part of the world, environmental protestors are up in arms against forms of development that impact most adversely on the poor. We should not allow such "topical" or media-worthy coverage of the urban environment to distract us from the fact that it is the everyday degradations in the urban environment that cause most ill-health and premature deaths, especially in poorer cities and neighbourhoods. These may appear to be purely social – a simple reflection of poverty. But they are also fundamentally ecological, both in terms of the ecology of disease and of urban water and waste systems.

Similarly, we should not allow the evident importance of big political and developmental decisions distract us from the fact that big impacts often stem from changes in people's (and politicians') everyday small decisions – how they decide to travel to work and the shops, how they choose to organize their neighbourhoods and buildings, what they choose to recycle, how they use their water. It is through the combination of the small everyday decisions and the large and planned decisions that we are consciously and unconsciously shaping how environmental benefits, and environmental burdens and risks, are differentially experienced by different social groups and in different areas.

Table 1 shows some papers from previous issues of *Environment & Urbanization* of relevance to the theme of ecological urbanization. The numbers in brackets refer to the volume and issue number where the articles are published. All those between 7:1 and 16:1 can be accessed free of charge at http://eau.sagepub.com/

Feedback

The paper in this issue by Dorothy J Solinger describes the emergence of a new urban underclass in China and the challenge that growing levels of urban poverty present to the government. The paper by Mirjam van Donk explores the urban factors associated with increased vulnerability to HIV infection in sub-Saharan Africa and criticizes the narrow conceptualization of HIV/AIDS in urban development as a behavioural and health issue. This paper will be complemented by one on "From prevention to protection for AIDS: addressing vulnerability in urban areas" by Richard Mabala, to be published in the October 2006 issue. The paper by Yves Cabannes reports on initiatives in four cities in Latin America to foster the active participation of children and young people in the governance of their cities – and this includes updates on some of the programmes described in papers in Vol 14, No 2 (2002) that was on the theme of "Building better cities with children and youth".

TABLE 1

Theme of papers	Focus
Innovative Local Agenda 21s or environmental management initiatives	Curitiba (4:2) Manizales, Chimbote, National Campaign in Peru, Essaouira, Vinh City and Nakuru (10:2) Ilo (11:2) Leicester, Nakuru, Surabaya (12:2) Rufisque (13:2)
Recycling and solid waste management (many with a focus on community action and/or waste pickers)	General paper on Asian cities, Bogotá (4:2) Quezon City, Cotonou (10:2) Madras/Chennai, Quito (11:2) Benin City, Mexicali (12:2) Bamako and Bangalore (14:2) Cairo (17:2)
Integrating disaster prevention and development	Case studies of Caracas (4:2) and Istanbul (11:2) Overview (12:2) (15:1)
Community-level environmental plans and programmes	Overview for Asian cities (4:2) San Juan de Milaflores in Lima, Pikine in Dakar (4:2) Pampas de San Juan in Lima, Olivares in Manizales (11:2) Pogolotti in Havana (17:1)
Urban agriculture	Overview (4:2) Mexico City (10:2) Havana, Lagos and Port Harcourt (11:2) West Africa (17:2)
Ecological impacts of cities	Ecological Footprints, including William E Rees's 1992 paper on "Ecological Footprints and appropriated carrying capacity" (4:2) Role of technology transfer (4:2) Case studies of Bamenda (10:2) and Bangkok (12:2) Loss of agricultural land to urban expansion in Buenos Aires and Saharanpur (12:2)
Environmental management	Mexico City (11:1) Overview of components of participatory environmental planning and management (11:2) Guidelines and precedents for sustainable industry (11:2) Environmental management options (11:2) Porto Alegre (14:2)
Environmental indicators	Manizales (10:2) Cape Town, low-income communities in Lucknow (11:2) Mar del Plata and Necochea-Quequén (13:1)
Developing a national campaign for Local Agenda 21s	Peru (10:2) (update of this in 16:2)
Community action for housing and/or basic services (especially water and sanitation)	Surabaya, Pikine in Dakar (4:2) Pune (12:2) Many papers in 15:2

TABLE 1
Continued

Wastewater management, including its use in agriculture	General (10:1) (15:2) Hubli Dharwad (15:2)
Other papers	Reducing automobile dependence (8:1) The limits of the concept of sustainability (10:2) Links between population, environment and security (10:2) Children's environments in cities (11:2) The politics of sustainable development (12:2) The deterioration in provision for water and sanitation in East Africa (12:2) Community-based watershed management in Santo Andre (13:1) Water resource management in Tigre, Buenos Aires (16:2)