The aim of this paper is to explore how the rather disparate research interests, expertise and skills of the London project team can most usefully converge in the undertaking of the SCIBE London case study. For us, SEED and PSI - more at home 'in the field' alongside local authorities, community groups and members of the public – it is a first attempt to think about how our practical, action-based approaches to research and design can be informed by, and inform, theoretical analyses of the production of the built environment and (of even more interest to us) the diffusion of more sustainable forms of production and consumption in urban areas.

Urban political ecology and sustainable transitions

‘The question of what kind of city we want cannot be divorced from that of social ties, relationship to nature, lifestyles, technologies and aesthetic values we desire. The right to the city is far more than the individual liberty to access to urban resources: it is a right to change ourselves by changing the city.’

The urban processes which define the built environment mean that any socio-economic study of urban space is about much more than the distribution of and access to urban resources. Instead, we must consider the

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1David Harvey, 'The right to the city', New Left Review, 53 (September – October 2008), 23
processes of urbanisation that constantly recreate cities, and the complex and interrelated social, cultural, political and economic relations that collectively determine these processes.

Urban political ecology aims to ‘expose the processes that bring about highly uneven urban environments’. Drawing on the earlier work of political ecologists like Blaikie and Brookfield (1987), it examines the complex and interrelated socio-economic and political processes that determine how resources are used within urban environments. In doing so, the natural (or ecological) and the social are seen not as conditions and processes that operate separately but rather as socio-ecological ‘metabolisms’, circulatory changes in social and environmental relations that simultaneously determine each other. Rather than conceptualising urban resource flows as systems to be managed, rationalised and optimised, resources are considered within broader socio-natural metabolic flows. In a similar vein, innovation theorists use the term ‘socio-technical regime’ to convey the pervasive way in which technology mediates social relations. The social and the technological cannot be delineated; social innovations and the diffusion of technical innovations are intimately linked.

As well as providing a ‘metabolic framework’ with which to consider resource flows, urban political ecology also enables analysis of the creation of scarcity in urban contexts, recognising that enabling social and environmental conditions can lead to enhanced urban spaces for some, while simultaneously leading to deterioration and unsustainable conditions.

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4 Gill Seyfang, and Adrian Smith, ‘Grassroots innovations for sustainable development: towards a new research and policy agenda’, Environmental Politics, 16 (2007), 584 – 603
Urban political ecology enables us to question who gains from urban sustainability. Harvey argues that the transformation of urban spaces is necessarily a common right rather than an individual one because collective power is necessary to reshape urban processes. Yet urban spaces are becoming less politicised and increasingly fragmented, constituted by growing numbers of gated communities and privatised public spaces under constant surveillance, which threatens ideals of urban identity, citizenship and belonging.

Though political economists give due consideration to the role of social movements in agitating for regime change, innovation studies distinguishes between social movements and ‘grassroots innovations’, defining the latter as ‘networks of activists and organisations generating novel bottom-up solutions for sustainable development; solutions that respond to the local situation and the interests and values of the communities involved’. What makes the activity of these groups distinct from other forms of technological innovation is its situation within the social economy of community activities and social enterprise (as opposed to the market economy, in which profits are appropriated).

Grassroots innovations tend to be driven by two motives, both of which offer potential synergies with urban political ecology. Firstly, innovations may exist purely to meet social or environmental needs. In this sense, we can see how grassroots innovation may arise from scarcity, and how these relative conditions of scarcity in turn result from the processes of uneven development on which much urban political ecology is focused. Secondly, innovations may also arise ideologically, as actors seek social and economic

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1 Heynen, Kaika, Swyngedouw (2006)
2 David Harvey, ‘The right to the city’, New Left Review, 53 (September – October 2008), 23.
3 Harvey, 23 – 40.
4 Seyfang and Smith, 585
5 Seyfang and Smith, 591
systems based on alternative values. ‘Short circuit economies’, such as Local exchange trading schemes (LETS), may arise when communities desire an alternative form of trading that guarantees profits remain within the local economy. Viewed in this light, we can see how some grassroots innovations arise out of a specific resistance to the dominant socio-technical regime, again the focus of urban political ecology.

So we can see how political ecology provides a useful lens through which to view urban resource flows, and that theories of innovation provide similarly useful insight into the role of grassroots activists within these processes. But our case study is also interested in the role of design and creativity within these systems, and the extent to which design can enhance community resourcefulness and the sustainability of social innovations. We turn now to consider several ways in which design might facilitate the development of more sustainable urban environments.

Co-creating sustainable urban environments

We consider that there are four main ways in which design can play an important role in the shift to sustainable urban environments:

**Visualisation:** enabling people to share visions of others, and creating quick and easy ways of trying out new ideas before implementation. Working with users to quickly put design ideas into action mobilises the design process and can be a method of sharing design skills with the users involved. This fits with the aim set out in our original SCIBE project brief ‘to see how the ‘expert’ designer can work with and empower others to think and act in a creative way in order to increase resilience and resourcefulness’. In this way, we see links back to both the work of Harvey (who notes that those ‘that do oppose dominant forms of consumption are rarely networked’).
and literature on grassroots innovation, which includes calls to encourage innovation by facilitating greater actor interaction.\textsuperscript{10} (See Box 1)

\begin{center}
\textbf{Box 1:}
\end{center}

\textbf{Design of the time (Dott) Urban Farming project}

Designs of the time (Dott 07) was a two year programme delivered by the Design Council and the North East of England (One North East), consisting of seven different projects on a range of societal problems. The Urban Farming project sought to make urban food systems in Middlesborough more sustainable, by mapping sites where local people could access food and where others were growing food. A team of designers were then able to study the resources and identify where they could be connected and exploited. A group of citizens was also set the challenge of organising a town meal for Middlesborough: within nine months, a meal for 7000 people was organised, serving food grown entirely within the city’s limits.

\textbf{By enabling more democratic, socially inclusive decision-making through co-creation}, thereby reframing problems and enabling more creative uses of existing resources (see Box 2).

If we accept Harvey’s contention that a right to the city constitutes greater democratic control of the way in which capital is deployed within cities (whether that be, for example, through urban regeneration programmes, new waste collection systems or new forms of local energy generation), it is possible to see how design can help facilitate this.

\textsuperscript{10}Seyfang and Smith, 584 – 603
Users of any design (whether product, system or building) are often the experts on it and hold valuable insights into what they really need from it. Close observation and good consultation can ensure the right questions are asked and the right problems are solved.

**Box 2:**

**Participle’s ‘Loops’ project**

Public service design company, Participle is currently working on a project concerning the disengagement of teenagers in UK society. The issue Participle chose to address was ‘teenagers hanging around’. But rather than create a building to offer teenagers for recreation and to keep them off the streets, the project sought to address the root causes that leave them disconnected from other members of their community. The challenge was really ‘engaging teenagers’ rather than ‘keeping them off the streets’. As Participle describes it: ‘*Loops is different to the youth service - It has a different purpose: connecting young people to the community, not containing them in a youth centre... It has a different resource base: people in the community, not buildings or professionals.*’

**Through a shift from designing products to designing for services.**

Designers are increasingly looking to systems and services, as well as the material world, to identify desired outcomes and work out new ways of achieving them. A ‘designer for services’ becomes a co-ordinator of all the elements required to deliver any particular service. They are therefore also the facilitator, enabling all involved parties – who could be manufacturers, policy makers, and customers - to speak a common language and understand each others' viewpoints to effectively co-create service-based solutions.
In having a cross-disciplinary view of the world, bringing knowledge from one problem area into another, and using this to generate creative solutions. Projects such as the Sustainable Everyday uncover community innovations that are already underway without design intervention.

Examining more mature community organisations reveals that long-term sustainability (that is to say that the organisation itself is self-sustaining) is dependent on complex mechanisms, peer-to-peer interactions with similar organisations and supportive relationships with institutions and civic organisations. Although Manzini claims it is not possible to conceive and realise some of their elements providing a tolerant environment (one that accepts radical innovations that defy existing norms) and appropriate tools of governance (for example, Web 2.0 based social networks) exist.

In all the examples above, the design process - by looking at the very beginning stages of the operation, considering existing resource flows and reframing the problem - altered what the project aimed to achieve and through what means. But what does this mean for the London case study, and SCIBE’s wider focus on creativity and scarcity in the built environment?

To answer this, we consider a number of existing architectural case studies, whether created by architectural offices or energetic local citizens, which employ action research and co-design methodologies and whose approaches to grassroots innovation and broad views of urban resources provide strong precedents for the SCIBE London project.

One prominent example, or set of examples was showcased in the International Architecture Biennale Rotterdam 2009 in an exhibition curated by Crimson Architectural Historians. The Biennale’s theme that year

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12 Manzini, 5
was ‘Open City: Designing Coexistence’, and in response, Crimson produced an exhibition of architectural projects under the title ‘Maakbaarheid’ or ‘makeable city’.13 The name itself is a reference to a government programme in the 1960s and ’70s aimed at ‘spreading wealth, knowledge and power’ through bottom-up policies, and through new architecture, urban planning and housing.14 The exhibition presented nine recent projects in Rotterdam with similar goals: to encourage different social groups to interact and form new relationships, and perhaps also redistribute some of the city’s resources; but of course while working within the present context of a more privatised approach to urban development and on a smaller, more localised scale.

In Waalhaven, for example, an industrial zone close to the harbour, new workspaces were created to better link the harbour with the other city activities and create new economic opportunities for local residents in the process. While in the north of the city a former convent has been renewed, not structurally, but through a new programme of activities and functions based on the potential of its spatial properties. At the same time, the surrounding public space was redesigned and fitted with new amenities for the local community. The project identified a building and urban space whose original functions had become obsolete and were no longer relevant to the surrounding population. Rather than allow this space to fall into disrepair, the project reuses this resource, re-appropriates it and creates a renewed neighbourhood centre, fit for the current community.

Even closer to the ‘makeable’ theme, another featured project focused on several 1940’s blocks of flats, that were at risk of deteriorating. As a preventative measure, the project team did not design new renovations to

13 Wouter Vanstiphout and Michelle Provoost, ‘Maakbaarheid, a uniquely Dutch concept of social improvement through architecture, has given impetus to a set of new urban proposals for the Rotterdam Biennale’, The Architectural Review. (September 2009).
14 Vanstiphout and Provoost
the buildings themselves, but created an ‘architectural toolbox’ (the contents of which are unclear), to give to each flat owner to encourage them to undertake their own refurbishments.

While some of the projects showcased in the exhibition did propose new buildings, for community centres, libraries or other public resources, those most pertinent to the SCIBE London project are perhaps those that such as the former convent that seek not to create much that is materially new; but which, through detailed studies of the current needs, desires and activities of local life, aim to better align the existing available resources with the scarcity the community faces.

Or in the tone of the toolbox project, a more obliquely architectural approach is adopted, taken on not only by architects, but also by the residents to renovate properties and perhaps share skills. This kind of work might tackle a different sort of scarcity in the area, one of carpentry skills, for example, and could investigate the impact on the built environment that new skill sets can have.

A broad look at resources is an interesting approach to evaluating the scarcities and abundances within a community; and including those that are more discreet or immaterial might well be equally important in understanding urban metabolisms as physical resources. A group of architects, designers and curators in the United States are engaged in surveying exactly these sorts of resources and forms of value in the city in a project they call ‘The Detroit Unreal Estate Agency’.

The Agency’s members ‘produce, collect and inventory information on the ‘unreal estate’ of Detroit: that is, on the remarkable, distinct, characteristic or subjectively significant sites of urban culture. The agency is aimed at new types of urban practices (architecturally, artistically,
institutionally, everyday life, etc) that came into existence, creating a new value system in Detroit.¹⁵

Recording all the community groups, formal or informal, and their impact on the urban space is a way to begin mapping the flows of human resources and the influence of ideas on shaping the city. Engaging with the community through workshops (the UnReal Estate Agency held a workshop at the Detroit Institute of Arts to meet the public) could be an action-research approach to surveying the area’s resources and the hierarchy of values they hold in the eyes of the community. These are approaches to understanding the current ecologies and systems operating in London’s communities on a human and intricate level.

We already know that there is a great deal of grassroots, community activity within London and, indeed, have already set about mapping this. Across the city, small groups of committed individuals are finding their own solutions to urban problems: in Kings Cross, the group Global Generation have established Skips Gardens, moveable urban growing spaces which provide young people with food-growing experience¹⁶ (Figure 1), while south of the Thames Deptford DIY have gone one step further and utilised all manner of disused vehicles and spaces to grow food (Figure 2).

¹⁵<http://detroitunrealestateagency.blogspot.com/>
¹⁶<http://www.globalgeneration.org.uk/our-projects/129-kings-cross-central>
The volunteer-led Peckham Power are busy helping households use energy efficiently and supporting local energy generation, the organisers of the Brixton Pound are celebrating the first birthday of their local currency, and Hackney Harvest are mapping fruit trees all over east London, to make sure fruit doesn’t go to waste. So, in keeping with Harvey’s analysis we could say that, in a very small way, groups all over London are asserting their right to the city.

Yet these efforts remain marginal. Though infrastructural support for these innovative projects is increasing (for example, the funding stream Capital Growth which provides the financial means for food-growing projects to start-up), there is less evidence regarding the long-term sustainability of such projects, or of the extent to which they are able to support and share information and resources with other similar organisations.

In turn, significant reductions in funding within the public and voluntary sector mean that grassroots organisations and community services are increasingly operating in conditions of scarcity, forcing them to find creative ways of maintaining community services. Examples include the Yorkshire pub which has collaborated with the local library service to start to offer books to its customers, and churches which have opened their doors to house local Post Offices. The innovative re-use of space in this way, particularly as a means of re-housing existing services, may become more prominent over the next two years, as the public and voluntary sectors across London face significant reductions in their budgets.

This is where design fits in: using a framework derived from political ecology’s concept of ‘metabolism’, it could be possible to map the activities

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17 [http://brixtonpound.org/2010/happybirthday/]
18 [http://hackneyharvest.com/about/london-orchard-project/]
20 [http://www.guardian.co.uk/society/2008/may/26/communities.post]
of these different groups and the community space in which they operate, and to identify areas where metabolic flows are or could be shared, and areas where Manzini’s peer-to-peer networks can be encouraged.
Scarcity and Creativity in the Built Environment (SCIBE) is a trans European research project that explores how conditions of scarcity might affect the creativity of the different actors involved in the production of the built environment, based on the analysis of processes in four European cities: London, Oslo, Reykjavik, and Vienna. SCIBE is funded by HERA – Humanities in the European Research Area, a partnership between 21 Humanities Research Councils across Europe and the European Science Foundation (ESF).

The SCIBE Working Papers are published as work in progress in order to disseminate the progress of the project: they are thus discursive and provisional and should not be seen as the author’s or research team’s definitive take on the subject.

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