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Sustainable Urban Land-use and the Question of Eco-places

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Abstract

What is an eco place? and how can planners make cities more ecologically sustainable? These questions have inspired over two decades of planning theory, practice and governance. This paper looks at the history and concepts of ecological cities thinking from urban landscape perspectives in the Western thought from two perspectives: top-down spatial planning for eco-cities, and bottom-up responses to the sustainability imperatives. The top-down perspective refers to the hierarchical implementation of policies at different levels and across different sectors, whereas the bottom-up perspective considers grassroots initiatives from individuals and communities. Two case examples are elaborated from the UK. First is the UK government's ecotowns developments that have been based on lengthy policy discussions, debates, and consultations on devising strict criteria for environmental sustainability. The second is the case of a bottom-up movement of Transition Towns that has gained momentum across the globe. In conclusion, lessons are drawn on the sustainability implications of the new policies, practices and approaches. Also viability of such actions and initiatives is discussed in terms of their scope for the developing countries.

Keywords: Land use planning, urban landscape, spatial planning, sustainable development

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Introduction

Land is a multi-dimensional resource with the potential for accommodating a wide range of uses. With the increasing densification of existing urban landscape and the growth of

cities across the world, there are equally increasing concerns about the impacts of a changing climate on the urban design and patterns of living. Studies of sustainable urban land use have been a topic of interest by anthropologists, sociologists, geographers and ecologists, etc. besides the architects and planners. Most of the sustainable urban land use approaches look at urban landscape as a dynamic environment that relates to the social and ecological experiences of the city dwellers (Lingholm, 2012). In this paper, we examine the emergence of the social and ecological concepts and the origins of green urban land use approaches in Western philosophies, and focus on case examples from the United Kingdom (UK). We begin by tracing the impact of social and ecological ideas on land use planning in the UK, which rapidly inspired planning practices around the world. We then look at the policies and practices to build eco-towns (Ecological Towns) in England. Next we consider the bottom-up '*Transition Towns*' movement that has shaped urban social and ecological landscape based on the community concern about an impending global oil crisis and the need to adapt to climate change. The range of initiatives emerging from this movement has brought about a variety of community actions, particularly in the developed countries. We conclude by highlighting the options available to the rapidly urbanising landscapes and the sustainable land use options for the cities in the developing world.

1. Historical Precursors to Ecological Cities in the UK

While it may seem that the drive towards sustainable urban land use is new, the idea of an eco place actually has a long history. Discussing the pace of '*ecological urbanism*' in China, Haar (2006) has examined the history of the concept of 'ecological cities' by investigating the development of 'urban metaphors' in Western thought. She (2007, 1) notes the city metaphors of a 'perfect body' which were popular during the Renaissance period (14th to 17th centuries) evolved to those of a 'diseased body', salient in the 19th century. Western views of the city were thus strongly influenced by the ideals and problems of urban development. Following Europe's industrial revolution in the 19th century, a new field of urban thought emerged, exemplified in the sociological works of Émile Durkheim (1858-1917), Georg Simmel (1858-1918), Max Weber (1864-1920) and subsequently, Patrick Geddes (1854-

1932). These theorists understood social relations to be ‘organic’, an idea taken up later by proponents of the ‘*urban ecology*’ school of thought – also called ‘The Chicago School’. Chicago School sociologists examined the social impacts of rapid urbanisation through the lens of nature-society interactions. Strongly influenced by the new discipline of ecology, their ‘ecological metaphors’ arguably were precursors to contemporary notions of ‘sustainability’ and our current thinking about ‘ecological places’.

The idea of eco places is thus “situated in a complex array of [...] variations”, including sustainable development, sustainable urban development, sustainable communities, community economic development, bioregionalism, green technology, social ecology and green communities (Roseland, 1997: 201). More recent forms of urban landscape ecology reflect localised responses to the ‘sustainability agenda’ (WCED, 1987), such as the need for social, economic and environmental self-sufficiency. The focus has shifted from the broad scale ‘*eco-cities*’ to the local scale ‘*eco-neighbourhoods*’ and ‘*eco-quarters*’. For example, in his comparative analysis of sustainable land use in the Western world, Hugh Barton (1998) has identified a broad spectrum of urban forms from rural ‘eco-villages’ to inner city ‘eco-neighbourhoods’. He maintains that top-down, proactive support is an essential element for the success and long-term viability of any eco-development initiative. He also observes that private sector projects, especially those in suburban areas, remain relatively less effective than publicly funded ones. According to Barton’s analysis, projects with local authority support have much better chances of success. He also notes that the impacts of bottom-up and not-for-profit initiatives are potentially more self-evident to the public eye. In the next section, we consider some examples of top-down and bottom-up ‘eco-city’ interventions from planning practice, which have sought to make cities more responsive to biogeochemical environments – in other words, more sustainable. We begin with Ebenezer Howard’s well-known Garden City model.

The ‘Garden City’ Model and its Influences

Widely recognised as a social reformer and early planner, Ebenezer Howard (1850-1928) broke away from the

authoritarian and industrial communities' frameworks of the late 19th-century Britain. Howard first published these ideas in 1898 in his book '*To-Morrow: A Peaceful Path to Real Reform*', stressing the importance of planning a peripheral settlement (or new town) (Howard, 1898). His 'social city' model comprised of an orderly network of new towns – connected with and surrounding – the old towns. The model offered socio-economic self-sufficiency and better integration with the natural environment while setting precedent for an ecosocialist agenda (Hall and Ward, 1998; Roelofs, 1999). In 1902 the book was published under a new title '*Garden Cities of To-Morrow*' with relatively less focus on the social city aspects, but with emphasis on sustainable human-nature interaction in terms of land-use¹. In his Garden City model, Howard outlined an ecologically sustainable community with provisions for waste recycling, local agriculture, silviculture, health-care, efficient public transport and the development of an environment in which local demands were met through localised social and economic reproduction (Howard, 1902; Clark, 2003). Howard's model (re)defined the relationship between space and institutions in a decentralised civic society. As figure 1 illustrates, his ideal town was in a circular plan, with radial streets, boulevards from centre to circumference, with park space in the centre and allotments in the fringe. Howard maintained that the circular diagrams were for illustration purpose only and would have to be modified in the actual use (Glover, 2005: 557). In this sense, the 'Garden City' model offered a cooperative, shared and metabolic use of land and resources. It also proposed thresholds on the use of space for the sake of social, economic and environmental sustainability. For example, in a garden city, it limited the maximum population to not exceed more than 32,000 inhabitants and the number of buildings to 5,500, beyond which a new well-connected town of similar size should be built nearby. On the other hand the central city, which was to be surrounded by a network of garden cities, would have an optimal number of 58,000 residents. In all, his Social City structure comprising of a "group of slumless smokeless" settlements would accommodate 250,000 people over an area of 66,000 acres (Howard, 1898: 130-131).

1 Howard's contemporary Theodor Fritsch (1852-1933) in Germany proposed similar ideas in his 1896 book *Die Stadt der Zukunft*. See Schubert (2004) for further details.

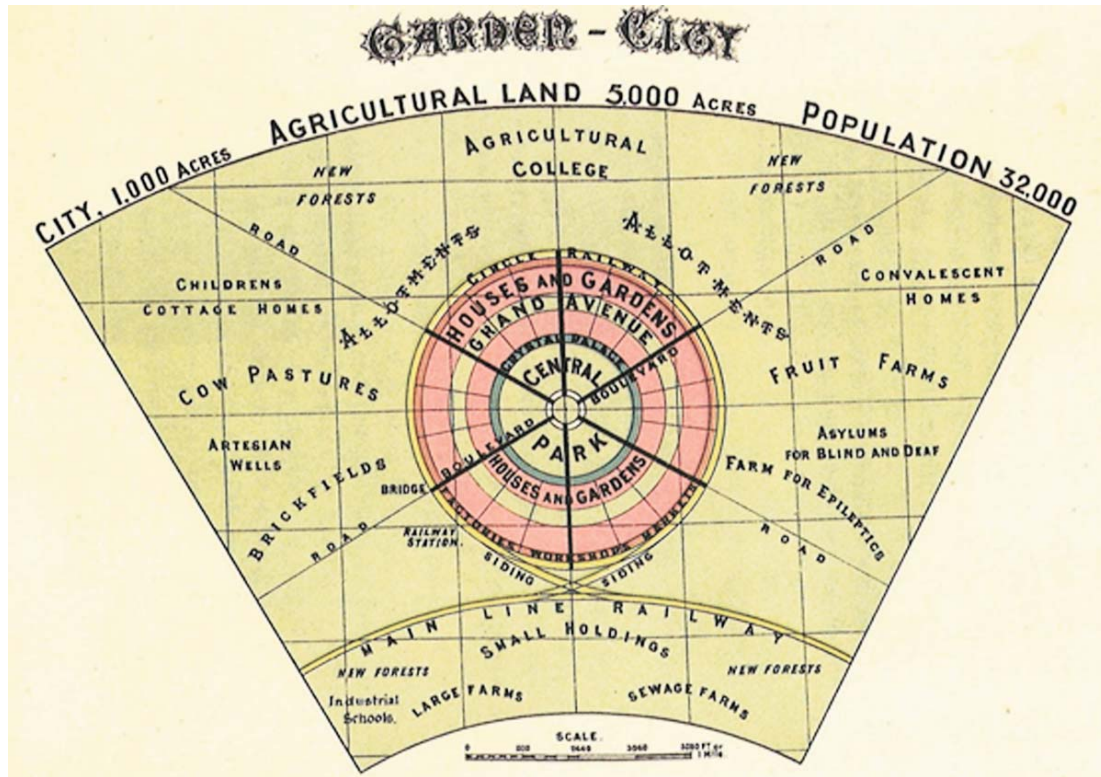


Figure 1: Garden City and surroundings as proposed by Ebenezer Howard (1898)

Howard had an opportunity to put his ideas into practice by building the ‘garden cities’ of Letchworth (in 1903) and Welwyn (in 1919) as cooperative settlements with collective land ownership, localised food production and economic activity, and provisions for education and entertainment (Clark, 2003). His abstraction of a network of interconnected suburban settlements – linked with, and encircling the ‘central city’ – became an inspiration for the town and country planning movement in Britain and subsequently, rest of the Western world. As an exemplar of an ecologically sustainable society — connecting the town and the country, it also became a leading force behind the Greater London plan in 1944, and subsequently the enactment of the New Towns Act in 1946, which allowed development of new towns beyond London’s greenbelt (Hall and Ward, 1998).

Despite these innovations and the underpinning metabolic philosophy, the land use model was considered utopian, blamed for “desecration of countryside” and as “a depressing aesthetic

experience” (Edwards, 1914: 312). More recently, Clark (2003) has argued that Howard’s model cannot be termed ‘environmentally friendly’ because it pays scant regard to aspects such as the ecological costs of building new infrastructure. Nonetheless, within its wider objectives, the model has been a stimulant for ecological design, particularly around the issues of sustainability, neighbourhood development, and land use planning (Parsons and Schuyler, 2002). In this sense, the model became a vital tool for understanding the relationships between the social objectives of a community and spatial controls to achieve those objectives. Howard’s model paved the way for the new professions in urban land use planning and design, which elevated the importance of urban reform for the production of socially cohesive, inclusive and sustainable communities. In the UK, the model has been acknowledged by the national government as an inspiration behind the top down eco-towns policies and practice (Communities and Local Government, 2007: 9). The same inspiration is equally visible, though relatively less acknowledged, in the bottom-up ‘*Transition Towns*’ movement (see section 4).

Although Howard’s urban plans were innovative, his lack of knowledge and experience in urban design meant that his land use models remained very geometric and rather mechanistic; they looked at urban systems as collection of parts that could be adjusted to perfection in the event of a malfunction (Fishman, 1977). One of Howard’s contemporaries though, and a leading town planner of the time — Patrick Geddes, supported the Garden City movement, but disagreed over the use of mechanistic philosophy inherent in Howard’s model. Geddes instead offered an organic and holistic approach to nature-society relations embodied within town planning thought, in terms of individual wellbeing, social renewal and productive efficiency. His holistic approach revived the tradition of urban and regional planning in the UK (Mehmood, 2010). Geddes particularly emphasised an ‘*organicist*’² approach to spatial planning emphasising the correlation between the environment, society and land-use both inside a town, as well as with its surroundings (Geddes, 1904; Welter, 2003). His sociological,

2 *Organicism* defines a holistic view of the relationship and interaction between human beings, nature and the environment. It is also regarded as the precursor of the modern field of *urban ecology*.

ecological and environmental views have had enormous influence on the British town and country planning movement (Abercrombie, 1927; Mather, 1999) as well as the emerging urban land use planning fora in the United States, most particularly in the works of Lewis Mumford and the Chicago School (Berry and Horton, 1970). The architectural, urban design and sustainability features of Howard's model, combined with Geddes' organicist principles is visible in various British colonies of the time such as Adelaide in Australia and Christchurch in New Zealand. A specific example is the Model Town in Lahore, Pakistan. Built in 1921 through a limited partnership company of The Model Town Cooperative Society, the settlement was located farther away from the walled central city and reflects a faithful image of the Garden City with circular geometry, radial streets and symmetric constructions (Glover, 2005: 558-559). The self-contained environment of the settlement has remained a place for the people belonging to higher social and economic strata.

While, acknowledging the fact that *sustainability* remains one of those scientific signifiers that have a multiplicity of definitions and is somewhat contested within the land use planning arena (Jepson, 2001; Gunder and Hillier, 2009), the following section discusses the growing trend of building new eco-places – based on principles articulated in Howard's model – through means such as government policy, support, and private sector funding.

2. Eco-towns as Top-down Actions for Building Sustainable Places

Planning law acts as a principal regulatory tool for managing land use; often overlooked, however, is the parallel role of the relationship between land tenure and land management, in decision making over the use of land. According to the UK's Department of Communities and Local Government (CLG), domestic greenhouse gas (GHG) emissions from homes are responsible for 27% of the national total (Scott, 2008). This prompted the UK government to enact strict measures for climate change mitigation and adaptation for the built environment (Davoudi et al, 2009). The first policy document to implement such measures appeared in the form of the *Code for Sustainable Homes* (Communities and Local Government, 2006). Implemented from 13th December 2006 as a national

standard for designing and building new homes, the Code was developed in consultation with professional bodies, industry and NGO representatives. It remains a voluntary standard for the private sector. Acknowledging the fact that UK needs 240,000 new homes by 2016, the Code follows a star rating system based on the sustainability performance of new homes in terms of carbon emissions, resilience and adaptability to climate change (Shaw, 2007; Scott, 2008). A single star rating means entry-level performance whereas six stars show the highest achievement on sustainability criteria. The Code gives particular attention to the local land use ecology and environmental impacts as well as human health and wellbeing in the new developments (Communities and Local Government, 2008a). It aims to support the national targets of having all newly built homes carbon neutral from 2016 onwards. To promote best practice examples, CLG published results from its case studies of the 'Code Homes' developments in March 2009 and 2010 respectively (Communities and Local Government, 2009a; 2010). The case studies covered a range of plans for building new developments and regeneration of existing building stock in England. Out of a total of nine case studies, most of the new developments were very small scale and aimed to achieve star ratings between 3-5. The only development to aim for 6 stars rating was a plan to build six three-bedrooms two-storey terraced houses in Northampton. One of the reasons for the lack of ambition among developers for the highest rating has been attributed to the estimated costs per unit that range "from around £4000 for a Code Level 3 home to £50,000 for a Code Level 6 home" (Communities and Local Government, 2010: 8).

Eco-towns, A Policy Evolution

Immediately following its implementation, the Code for Sustainable Homes became a major impetus in the development of the eco-towns policies and plans to combine the benefits of green infrastructure with those of affordable housing. Launched on 23rd July 2007, the *Eco-towns Prospectus* (Communities and Local Government, 2007) outlined criteria to measure the impacts of ecological urban land use. The document addresses two critical objectives of development: building more new homes and confronting climate change (Lupton, 2008). It draws on examples of healthy living and work environment from

Howard's Garden Cities, and cites successful applications of eco-elements from Germany, The Netherlands and Sweden (Communities and Local Government, 2007). Its initial targets aimed for: settlements that could accommodate at least 5,000 inhabitants; environmental standards that would ensure zero carbon emissions; meeting at the least a 4 stars rating for Code for Sustainable Homes; provision of education, retail, business and leisure facilities; mixed use development and community housing for small and large families; and a good range of public transportation options. Subsequently, local authorities and various stakeholders were invited to come forward with suggestions and site recommendations.

A second report in the series *Eco-towns: Living a greener future* (Communities and Local Government, 2008b) appeared as a consultation document in April 2008 highlighting initial perspectives on the eco-towns vision and potential locations. From the Expressions of Interest submitted by private sector developers and local authorities, 15 locations were short-listed. Subsequently, a select group of planners, practitioners and people from the fields of sustainable development, transport, and ecology were invited to give expert advice, support and delivery possibilities on these sites. After a range of sustainability appraisals, consultations and financial viability assessments, in July 2009 the Government announced the local authority locations for building eco-towns (Communities and Local Government, 2009b).

One of the parallel developments on the eco-towns theme was the preparation of a Planning Policy Statement (PPS)³. The eco-towns PPS provided a list of standards to be followed by all eco-towns in England (Communities and Local Government, 2009c). In July 2009, four locations were found to have met the standards for the development of eco-towns. These included Whitehill-Bordon, Rackheath (Norwich), North West Bicester and St Austell. In December 2009, proposals were announced for a second wave of eco-towns with the names of local authorities that were considering plans to build new developments to eco-town standards. In this respect, the government also promised financial support to these local

3 Planning Policy Statements (PPS) are statutory documents for all town and country planning issues in England. The documents are prepared and issued by the Government's Department of Communities and Local Government (CLG) and provide reference material for consideration of all planning applications.

authorities in developing their eco-towns proposals (Donnelly, 2009).

Manns (2008) sees eco-towns as an opportunity for planners to create sustainable communities, economies and environments. The specific aspects of eco-towns policies include the following four initiatives: (1) building green transport hubs for sustainable travel that would allow integrating local and regional transport, by such means as electric bus networks and rapid bus lanes servicing nearby towns; (2) constructing walking and cycle paths, promoting community bicycle and bike hire schemes to encourage walking and cycling as a major means of transport; (3) car sharing schemes and facilitating use of electric vehicles, bikes and charging points; and (4) clean energy schemes such as community-wide heat and power sources (e.g. biomass boilers, solar panels and wind turbines). Similarly, the green lifestyles of the inhabitants of the eco-towns would also come under scrutiny to achieve the required environmental standards (Booth, 2008). The eco-towns PPS supports such development and provides a likely timescale, as identified in table 1 below:

Table 1: The Eco-towns Timescale

Year	Initiative / Action
2009/2010	Initial demonstration projects, in each of the 4 'first wave' locations to showcase technology and innovation
2010	Consideration and decision on planning applications for master plan and major development schemes in the first wave locations
2010-onwards	Identification of 'second wave' of eco-towns through local and regional plans
2016	10,000 homes in place in the 4 pioneer locations, of which at least 30 per cent are to be affordable, other second wave eco-towns underway
2020	Up to 10 eco-town developments built out or well under way

Source: Communities and Local Government, 2009c

Responses to, and Criticisms of, Eco-towns

Given the scale and range of development and their direct relationship with the environment, the UK's leading policy and professional bodies have taken a keen interest from the beginning of the process for eco-towns policy development. Some of their responses are now discussed – including those of the Town and Country Planning Association and the Royal Town Planning Institute.

Ebenezer Howard founded Garden Cities Association in 1899. The Association renamed itself to the Town and Country Planning Association (TCPA) in 1941. Today, it remains the world's oldest charity engaged with planning and sustainability issues. It has been regularly involved in an advisory capacity with the Department of Communities and Local Government (CLG) on social, economic and environmental sustainability issues for the eco-towns (Town and Country Planning Association, 2013a). The TCPA viewed eco-towns as completely new places rather than as merely urban extensions which aim to bring change in the quantity and quality of housing. In order to help meet the high standards for sustainable development, minimise emissions, support social justice and inclusive communities goals for eco-towns, the TCPA cooperated with CLG and other bodies to prepare a range of work sheets that offered recommendations and identified sources for further information and facilitate the sharing of experiences by planning practitioners and developers from public and private sectors who were involved in designing and developing eco-towns (Town and Country Planning Association, 2013b).

The Royal Town Planning Institute (RTPI) represents the interests of town planning professionals in the United Kingdom. The institute gave a cautious response to eco-towns development, and stressed the need for the new towns to be adequately linked with existing communities. According to the RTPI, the image of a perfect, isolated and sterile suburb of new eco-towns locations fails to give a message of community engagement. Particularly in relation with Howard's model, the new settlements should have strong public transport links to other major metropolitan centres, and be able to offer adequate local jobs to support a larger part of the population. There is also a need for sufficient recreational resources within the settlements.

The RTPI further warned that any failure to follow the contemporary and future needs of the local eco-town populations would result in the towns becoming isolated and soulless, and weaken their environmental achievements (Royal Town Planning Institute, 2008).

Examining the extent to which ‘sustainable development’ issues have been embodied in the national eco-towns agenda, Rose (2009) conducted an interview survey of people involved in the design and delivery of eco-towns. He argues that the focus on ecological aspects and zero-carbon concepts may undermine the wider social considerations of sustainable development. Also, as raised above by the RTPI, there has been limited reference to employment provision within these towns, which may lead to economic issues. Rose concludes that a valuable initiative of eco-towns will potentially become a problem if the social and economic aspects of the towns are not carefully planned and if the environmental targets are not set systematically. Similarly, Sharp (2009) – while appreciating the stringent selection processes for eco-towns – raises concerns about the manner in which the required environmental standards can be monitored within a planning system that has not been designed for such strict standards.

From the above discussion, it is obvious that the government has put a lot of effort in formalising the eco-towns development through rigorous consultations, policy improvements and setting up environmental standards and processes. Building eco-towns, therefore, emerges as a complex process that involves top-down management via reviewing proposals, evaluating compliance with targets and objectives and monitoring developments according to strict environmental and sustainability criteria. However, there are certain issues and historical aspects that have been overlooked. First of all the ‘social city’ aspect of Howard’s model – which considers Garden City as part of a network of interlinked settlements – has been ignored. Secondly, Geddes’ organic relationship with the environment is not given due thought. And finally, the eco-towns as new suburban settlements – though ecologically viable – do not appear to be sustainable in terms of economies within and outside the settlements.

3. Transition Towns as Grass Roots Initiatives

Currently, in the UK, there is widespread interest in community level sustainability practice, including: government-led ‘Building sustainable communities’ and urban regeneration policy; and, community-led sustainability initiatives, but also, issues such as challenges of ‘scaling-up’ and/ or ‘scaling out’ community sustainability initiatives, as well as an environmental justice perspective. Increasingly it is the community groups themselves who are taking the lead in establishing more sustainable forms of living from the bottom-up across a full range of sectors. Although the individual characteristics of each initiative are often very place specific, a common determining factor shared by the majority is the land use.

In contrast with eco-towns, the Transition Towns movement demonstrates how a cooperative bottom-up approach to developing/retrofitting existing infrastructure can produce socially, economically and ecologically responsive communities. The movement loosely follows Howard’s garden city objectives, albeit for existing settlements. To qualify for the Transition Town status, any community can nominate to meet certain key criteria (Transition Network, 2013a) listed as the 12 key ingredients of Transition model in Box 1 below:

Box 1: The Twelve Key Ingredients to the Transition Model

1. Set up a steering group and design its demise/transformation from the outset
2. Start raising awareness
3. Lay the foundations
4. Organise a Great Unleashing
5. Form theme (or special interest) groups
6. Use Open Space
7. Develop visible practical manifestations of the project
8. Facilitate the Great Reskilling
9. Build a bridge to Local Government
10. Honour the elders
11. Let it go where it wants to go...
12. Create an Energy Descent Action Plan

Source: <http://www.transitionnetwork.org/community/support/12-ingredients>, accessed 23 March 2013.

The Transition Towns ideology is based upon two contentions: peak oil and climate change. Our built environments are currently entirely dependent upon cheap energy – mostly sourced from fossil fuels. As the developing economies have increased their energy requirements to match those of the Western world, global oil reserves are being rapidly depleted. The price of remaining oil has escalated, and it has become harder to extract. The peak oil hypothesis suggests that we have now discovered virtually all the fossil fuels resources available on the planet, and have either exhausted or will soon exhaust most of the easily recoverable oil reserves (Bardi, 2009). According to some estimates, these reserves peak sometime between 2010 and 2020, after which time consumption will dramatically exceed supply, with unprecedented impacts for our cities (Newman and Kenworthy, 1989; Dodson and Sipe, 2007; Kenworthy, 2007; Hopkins, 2008). As environmental disasters related to oil extraction, transport and refining are on the rise, there is little evidence to suggest that this will change until we abandon oil-dependence. The massive oil spill in the Gulf of Mexico in 2010 has just been the latest in a series of oil-disasters including the Exxon Valdez incident in 1989, the Alaskan pipeline spill of 2006, the Nigerian Delta and Western Australian Kimberley region spills of 2009. Transition towns seek to reduce these impacts by limiting the demand for fossil fuels.

Second, greenhouse gasses, produced through the burning of fossil fuels like oil and coal, have now reached dangerous levels in the earth's atmosphere, resulting in seemingly irreversible climate change (global warming) (Solomon et al., 2009). Global warming this century is expected to extensively damage urban infrastructure (e.g. bridges, pipelines, roads etc.), predominantly through increased storminess (wind and flood damage), sea-level rise (inundation), and higher temperatures (heat island effects and damage to road and rail infrastructure). Anthropogenic activities are largely assumed as responsible for this change (Cowie, 2007). But adapting our built environments to climate change through initiatives such as: switching to renewable energy; inducing people to abandon their cars for public transportation, cycling or walking; recycling water, urban greening, and other environmentally responsive land use interventions will also make our cities more sustainable over the longer term (Newman et al., 2009). Unfortunately,

national governments tend to be slow in responding to such global challenges and ordinary people must take action at the local scale (bottom-up) to stave off the potentially catastrophic impacts of these problems. This is the underlying purpose of ‘*Transition Towns*’.

Development of Transition Town Network

The transition Town movement was launched as a cooperative grass-roots initiative by a permaculturalist – Rob Hopkins, at the English town of Totnes in September 2006. Today, the Transition Towns Network (TTN) comprises an international membership of more than 400 communities (Transition Network, 2013b). The network maintains an online presence by sharing experiences in ‘real time’ through Blogs and Wikis etc (Transition Towns, 2013). Besides Hopkins’ (2008) *Transitioning Handbook*, a number of documents help to define the purposes of, and processes for, transitioning towns. For example, the *Transition Primer* enables towns to prepare for transitioning into sustainable settlements through self-assessment, experience-sharing, and mutual learning (Mitchell, 2013). Similarly, *The Transition Timeline* (Chamberlain, 2009) provides visions and scenarios for towns in the UK and the world, to help them develop transitional strategies and to effectively confront social, economic and environmental challenges in areas such as food and energy production, demographic change, transport, and healthcare. Pinkerton and Hopkins’ (2009) book on *Local Food* provides recommendations about making use of land for growing food locally and establishing local food networks through community gardens and farmers’ markets etc. Similarly, *Local Money* (North, 2010) reflects Peter North’s experiences and observations from assorted models of alternative/diverse economies and Local Exchange Trading Systems (LETS) from around the world, together with their impacts on local resilience, economic development and sustainable production.

The movement has also created mutually beneficial effects with other ecological and environmental urban initiatives such as eco-villages (Anslow, 2006) and eco-localisation (North, 2010), addressing such issues as: how to reduce carbon emissions; how to develop sustainable communities in the face of climate change; and how to prepare for fossil fuel depletion.

In this respect, Scott-Cato and Hillier (2010) while looking at ‘transition’ as a change process to low-carbon economy, assert that Transition Towns initiatives represent a form of social innovation beyond path dependence (see also Moulaert et al, 2007).

Major Inspirations for the Movement

Peñuelas and Carnicer (2010, 88) argue that the sheer scale, importance and gravity of peak oil and climate change dictate that “no action is too small to matter, too large to contemplate, or too soon to begin”. According to Scott-Cato and Hillier (2010) the message of Transition is not new, and the style and presentation of the Transition Towns movement appears rather revivalist. Although Rob Hopkins (progenitor of the transition-towns movement) does not envisage that modern cities will return to subsistence-based livelihoods, his visit to the Hunza Valley in Northern Pakistan in 1990 profoundly influenced his philosophy about eco-places. Hopkins’ (2008) idea is essentially to revive the human-nature interactions, first proposed by Ebenezer Howard and strengthened by Patrick Geddes, as a basis for a re-imagined city.

During Hopkins’ visit to mountainous rural areas in Northern Pakistan, he observed that local agricultural practices were very sustainable because they gave prominence to metabolic systems. All waste was recycled and composted. Local communities were largely separated from the outside world, so they harvested a variety of natural food sources. People were communicative, cooperative and lived healthy lifestyles. All buildings were constructed using local resources (mud-bricks, etc).

There are numerous examples of such communities in Africa, Asia and Latin America, taking grass-root actions to sustain local economies and the environment upon which these settlements depend (Ghai and Vivian, 1992). A good example is an integrated sustainable development approach that was adopted through both top-down and bottom-up initiatives in Cuba following end of the Soviet Union in 1990. Cuba entered a desperate situation as its economic ties with Eastern Europe were severed; petrochemical imports virtually evaporated overnight. Food imports declined by 80% and fossil fuel imports

dropped by more than 50% (The Power of Community, 2013). This situation forced Cuba to transition from dependence on external resources and petrochemicals to more localised, biophilic systems of production, using creative social, economic and ecological initiatives. Cuba's post-soviet economic crisis resulted in a new culture. The country's focus shifted towards renewable energy sources. Community participation in 'urban agriculture' transformed the urban landscape (Funes et al. 2002). Walking, travelling by bicycle, car-sharing and public transport replaced private automobile use with and reduced fossil fuel dependence (Courret, 2005). This so-called 'special period' in the history of Cuba offers a glimpse of the resource constraints that may soon confront other cities. The lessons Cuba learned, together with many other examples from across the world, are regularly circulated within the Transition Towns Network, not as ideals, but as concrete examples of how to successfully transition towards a sustainable urban world.

Activities and Future Concerns

The Transition Towns Movement has been successful in awareness raising, skills building and community development for a low-carbon living and sustainable land use. The originators understand that community-led transition is not an overnight change process, hence anticipate a 15-20 years timescale (Haxeltine, 2009). The town of Totnes in County Devon remains the movement's headquarters. But many other towns of various sizes across the globe have successfully implemented social, economic and ecological initiatives of the transition-towns movement. Both of Howard's flagship garden cities of Letchworth and Welwyn have also been designated as Transition Towns⁴. But transition-towns are not without their problems. As Scott-Cato and Hillier (2010) point out, with the growth and diversification of the network, there are increasing needs to demonstrate the relevance and applicability of the movement's ideas to a wider variety of urban settlements. For example, could transition-towns ideas work in the developing countries? And if so, how might these ideas be adapted to the respective local contexts? The process of acquiring official status of a 'Transition Town' is quite rigorous. Yet once the Transition Town status is acquired, there seems little monitoring to ensure

4 Letchworth (<http://ttletchworth.org/>) and Welwyn (<http://www.transitionwelwyngarden.webs.com/>)

that standards are properly maintained. Also Transition Towns have a limited presence in developing countries, being disproportionately concentrated in so-called developed nations (e.g. Australia, Canada, Ireland, New Zealand, United Kingdom and United States). Perhaps this is because many of the transition-towns initiatives came from the developing world or perhaps it is because technologies like large solar panels are beyond the budget of many people in the developing world. While some UK towns (e.g. Totnes, Lewes, Stroud and Brixton) have been developing their own community currencies and Local Exchange Trading Systems (North, 2010) to support localised economies, such initiatives may not be possible or relevant in other parts of the world. The challenge facing the movement will be how to adapt its principles to suit diverse urban forms, cultural practices, systems of government and environmental conditions.

4. Conclusion

This paper has traced the lineage of the eco place ideas in the UK environmental planning and grassroots movements. Whereas the garden city model reflected Howard's ecosocialist perspective for a socially, economically and ecologically sustainable land use, the town and country planning movement subsequently derived momentum from Geddes' organicist approach for human-nature interactions. These ideologies have been replicated around the world, a more recent example of which has been discussed in the form of new eco-towns in England. Built using private sector funding in cooperation with local councils under strict policy guidelines from the national government eco-towns represent one way of achieving a sustainable living.. The new eco-towns essentially symbolise new developments rather than retrofitting or adapting with changing climate. With more than 50% of the world's population living in urban areas, and when most of the built environments are already well constructed, the challenge is also how to existing urban forms and living conditions. The Transition Towns Movement attempts to do just that through localised, self-help community and neighbourhood level initiatives for adapting existing towns, suburbs and cities to make them more ecologically resilient and sustainable. Concerns over the potential consequences of climate change, including widespread flooding, erosion, drought and the subsequent impacts of these changes on vital resource

supply chains, bring to the fore the fact that land is a finite resource which is subject to increasing pressures of use. However, there are many challenges that still confront both top-down and bottom-up approaches to sustainable land use. Whereas eco-towns still need to identify how best to achieve economic and social benefits, Transition Towns need to find ways to move beyond their narrow Anglo-centric base to broaden their appeal, and improve their relevance to the developing world.

For the vastly expanding cities in developing countries where 15 of the world's largest 20 cities by population are located in the developing countries, there is a growing need to find ways for sustainable land use and urban planning measures. We propose two main courses of action in this respect. First is the 'political will' and policy action to take drastic measures and achieve more sustainable forms of urbanisation. At present it is difficult to set aside the short-term allure of growth for a longer-term vision of development about how to maintain ecological balance, create a direct relationship with nature, ensure minimal environmental impacts and encourage greater community participation in land use decision-making. This also means that without compromising their lifestyles, people should be encouraged to follow higher social, cultural and environmental standards. This should have been the primary objective of the eco-towns agenda. The second course of action is to emphasise the role of citizens and communities by encouraging community participation to help 'transition' the existing urban settlements beyond materialistic norms, to embrace more sustainable forms of living. A practical application of such ambitions has been portrayed in the example of transition towns movement above. This would allow for social, economic and ecological innovation through ideas and practices emerging from path dependency but progressing through desire for change. Local empowerment also means that people can contribute to major decisions for improving their livelihoods, avoid urban violence, reduce carbon footprints, use renewable sources of energy, and become self-sufficient and self-sustained while enhancing their lifestyles. With the rapid urbanisation trends, policy makers, communities and citizens must find ways to stave off the calamities that await us if we continue with the 'business as usual'.

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