Re-defining the characteristics of environmental volunteering: Creating a typology of community-scale green infrastructure

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ABSTRACT

One way to engage people with green infrastructure (GI) is as environmental volunteers. Previous studies explored the nature of such groups/projects in terms of the benefits they deliver such as their impact on levels of social capital within a pre-defined community. However, existing literature contributes little to our understanding of the composition, characteristics and mechanisms used to form and maintain these groups. As such, it is difficult to establish the influencing factors determining the capacity of a group to sustain its provision over time. This paper serves to offer a more nuanced understanding of local-scale environmental stewardship by outlining the diversity of volunteer-led GI activities observed at the community-scale. Evidence presented from a desk-based examination of observable activity within The Mersey area Forest in North-West England represents a re-conceptualisation of existing definitions of Community-Scale GI (CSGI). Using thematic criteria, the paper clusters characteristics into key classification affecting group dynamics, composition and objectives. Initial findings identified the following categories as being significant descriptors for community-scale green infrastructure: status, location, timeframe, membership, activity focus, governance, resources and recognition, and communications. Thus, we classify four distinct types of group engaged in voluntary activity contributing to local level GI creation and long-term management: Formal Group (Active), Formal Group (Inactive), Formal Project and Informal Group. Creating a nuanced typology of CSGI provides further opportunities to analysis the creation and long-term management of GI at a site, neighbourhood and city-scale. In turn, this contributes to our understanding of how multiple actors remain engaged in the decision-making processes of GI management and maintenance.

1. Introduction

The range of benefits that green infrastructure can deliver has been widely discussed in the academic and practitioner literature (cf. Bentley, 2000; Benedict and McMahon, 2006; Landscape Institute, 2013; Natural England and Landuse Consultants, 2009). It provides societal benefits for health and social inclusion (Ward Thompson et al., 2010; Selman, 2012), economically in terms of uplift in property values (Mell et al., 2013; Payne and Barker, 2015), and ecologically in terms of the development of biodiverse environments (Sadler et al., 2010). However, although we can identify a ‘global’ narrative of what green infrastructure is and does, meta-level discussions of green infrastructure value, as described by Mell (2016a, 2016b, 2016c), often underestimate the complexity and inclusion of functionality and interactivity with ‘local-scale’ green spaces. Consequently, we posit that a dislocation exists between the overarching, and in many cases accepted definition of green infrastructure as ‘an interconnected network of green spaces that conserves natural ecosystems values and functions and provides associated benefits to human populations. Green infrastructure is the ecological framework needed for environmental, social and economic sustainability’ (Benedict and McMahon, 2002:12), within the global-scale discourse which differ to the factors which facilitate engagement with, and the longer-term use of green infrastructure at the local (Hale and Sadler, 2012; Reid et al., 2006). The following paper explores the intersection of these issues focussing on the growing research on Community-Scale Green Infrastructure (CSGI).

Within the paper ‘green infrastructure’ is framed as apposite for Nature-Based Solutions (NBS) illustrating the various socio-economic and ecological complexities of urban development. Community-Scale Green Infrastructure (CSGI) is defined as green infrastructure features

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which deliver multi-functionality and associated benefits at the local-level, through small-scale areas of land managed and maintained by groups of community volunteers. (Jerome, 2017b) Examples of CSGI include the activities of Friends groups who are actively engaged in land management of parks and woodlands; community garden volunteers engaged in food production; and voluntary participants engaged in health and wellbeing projects which create opportunities for people to spend time outdoors in nature for therapeutic benefits.

Moreover, whilst green infrastructure has been extensively defined (cf. Austin, 2014; Benedict and McMalon, 2006; Mell, 2016a; Sinnett et al., 2015), NBS are still evolving. NBS are considered by the European Union as approaches to urban management inspired and/or supported by nature-based ecological systems and resources (European Commission, 2015). However, other agencies including the IUCN define NBS as: ‘actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits’ by the IUCN (2016:xii). Thus, as with green infrastructure, NBS provide myriad approaches to investment (and management) that promote environmental, social and economic benefits enabling areas, and by extension decision-makers, ‘to build in’ ecological resilience (Kabisch et al., 2016). NBS, thus, provide options for landscape planners to invest in a diverse portfolio of ecologically inspired solutions to address a wide range of issues including climate change, social exclusion, and economic viability (Bentley, 2010).

NBS can thus be positioned as offering comparable benefits to green infrastructure, however, it has not, as yet, gained the same level of traction as a ‘go-to’ approach to urban landscape management (Ahern et al., 2014). Moreover, green infrastructure commentators have explored the role that biodiverse locations hold in promoting sustainable places – a central principle of NBS - that are resilient to socio-economic and environmental stresses (Mell, 2009; Wolch et al., 2014). Unfortunately, the current global green infrastructure narrative, and the subsequent discussions of NBS are frequently focussed on city or landscape scale issues – the normative realm of city planners and local government. The local, and specifically the community-scale in green infrastructure and NBS discussions are afforded more limited space. Focussing on the ‘local’, and specifically how CSGI is conceptualised within community interactions with green space provides additional evidence supporting the extension of research into green infrastructure at a sub-city scale (Allen, 2012; Campbell, 2005; Dempsey et al., 2014; Young et al., 2014).

While clear links are made within the literature illustrating how the provision of green infrastructure and NBS can improve health, wellbeing and liveability at a city-scale (cf. CABE Space, 2005; Kabisch et al., 2016), there is a more limited discussion of how engagement and environmental stewardship assists this process at the local level. Furthermore, whilst extensive research focussing on physical and mental health benefits associated with high quality, accessible and functional urban green infrastructure exists this same focus has not extended to evaluate aspects of social/community resilience (Coutts, 2016; Rutt and Gulsrud, 2016; Lovell et al., 2014; Howland, 2013; Ward Thompson et al., 2010) Moreover, the links promoting communal resilience through stewardship of green spaces are less well defined. The specific role of community participation as part of the long-term management of green infrastructure has been brought into focus most recently in the conceptualisation of ‘place keeping’ (Dempsey et al., 2014) and environmental stewardship (Fisher et al., 2015). Where emphasis has been placed on the evolving dynamics between stakeholders from private, public, voluntary and community sectors to manage green infrastructure at the point of initial creation or enhancement. Moreover, the outcomes associated with partnership approaches to long-term management and maintenance foregrounded within the literature tend to highlight social capital and community capacity building as key outcomes (Glover, 2004; Kreutz et al., 2014; Measham and Barnett, 2007; Wolch et al., 2014).

In response to this scalar disparity there are ongoing discussions within green infrastructure planning attempting to investigate the links between landscape resilience, environmental sustainability and communal interaction with green space to promote a more nuanced approach to urban greening (Ahern et al., 2014; Bealey and Newman, 2013). Our understanding of resilience as the ability of a system to find equilibrium following environmental or socio-economic stresses is therefore gaining traction as both a conceptual and as a practice-based conduit to improve the sustainability of places (Reid et al., 2006).

Furthermore, discussions of resilience reflect upon the vulnerability to ecological stresses and propose communal and society-based solutions, i.e. local engagement and stewardship, as a key process in addressing environmental change (Ahern, 2013). Green infrastructure planning therefore attempts to utilise the conceptual understandings of resilience within policy-making, but asks how it acknowledges, and indeed responds to the needs of ‘communities’ (Fisher et al., 2015).

Green infrastructure, and more pertinently NBS, are thus presented within this paper as both conceptual and implementation anchors that act as signifiers of resilience and sustainability (Kabisch et al., 2016). The following examines the dislocation between how green infrastructure is discussed as an approach to landscape and urban planning, and the ways in which we understand notions of community participation/stewardship for local green spaces. This is presented as an evaluation of our understanding of what green infrastructure is and questions the complexities of how, where and why people engage with these resources. The main questions addressed in the paper focus on:

a) The conceptualisation of CSGI and its principles,
b) What influences, if any, green infrastructure and NBA have on the development of functional and resilient CSGI,
c) Are NBS a key influence on the creation of longer-term bonds with the natural elements of the built environment.

This is achieved through the presentation of a case study of CSGI projects in the Mersey Forest area of North-West of England, which utilises a qualitative analysis of local level engagement/volunteering with green infrastructure projects coupled with a quantitative evaluation of the characteristics of green space projects in The Mersey Forest area of Liverpool, Merseyside and Cheshire. This Mersey Forest area is used because as an organisation they have been at the forefront of small-scale green infrastructure projects in the north-west for over twenty-five years, and have delivered a range of community engagement programmes to establish better links between communities and their local landscapes. The Mersey Forest also have an extensive archive of material assessing the successes of community engagement work, which has been used to develop a conceptual framework for CSGI that identifies key factors which influence engagement, as well as how this can be characterised as a set of ‘project typologies’.

To achieve this the paper employs a synonymous and interchangeable use of green infrastructure and NBS. This is done as the core principles of both are comparable, and promotes a more flexible understanding in planning terms and the perceptions of communities as to how ‘nature’ can, and is, being integrated within development. Table 1 below outlines the similarities between these concepts, which is used to shape the following discussion of CSGI.

2. Conceptualising green infrastructure

Research over the proceeding decade has formulated a series of areas where green infrastructure can, and is being valued (Mell, 2016b). These discussions focus on a range of social, economic and ecological variables, institutional and legal characteristics, and variations in national and sub-national approaches to landscape planning. What is less well defined is how people, and specifically local-level interactions with green infrastructure are conceptualised and evaluated. This ‘gap’ highlights the complexity of integrating a global
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