

Towards diverse and sustainable governance – Assessment of biocultural diversity (BCD) in European cities

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Today more than half of the global population lives in urban regions and by 2030 the proportion is expected to have increased to 60 % (Elmqvist et al., 2013). To meet the needs of future generation, to support social cohesion within and among different socio-cultural groups, and to enable healthy living environments, cities are the main arena where sustainable solutions have to be developed. Especially urban green spaces (e.g. parks, forests, gardens, meadows, seashores) can support to meet these challenges. Urban green areas have been found to support citizen's physical and mental wellbeing and social cohesion (Peters et al., 2010; Tzoulas and Green, 2011).

Introduction – towards transdisciplinary in cities

Recently, the European Commission launched an assessment and mapping of the current state of ecosystems and ecosystem services (ES) in its Member States, advocating for this effort by highlighting the relevance of ecosystem services to the public (MAES, 2015). However, ES approach has become rather inaccessible for non-scientists, and it has been reported for being an expert-oriented, standardized system that can fail to support local citizen's engagement in decision-making and practices (Chan et al., 2012, Krasny et al. 2014). Thus, with the ongoing tendency of ES to

become the dominant concept for steering policy interventions, it seems grave to put an effort on

development alternative concepts and add these to the repertoire of sustainability research. This is not to say that we are demanding the demise of the ES-concept. However, we argue that enhancing transdisciplinary forms of knowledge exchange between different researchers, policy-makers and citizens is needed to promote forms of urban governance that recognise conflicts, vulnerabilities and diversity.

Biocultural diversity in urban settings

One promising concept in the debate about a more transdisciplinary assessment of urban biodiversity in relationship with green space governance is biocultural diversity (BCD). BCD has been introduced for studying the interrelationships between nature and culture and is referring to the inextricable linkages between cultural diversity and biological diversity and what these mean for nature and culture (Posey, 1999, p. 3) recently also in relation to urban settings (Elands et al., submitted). Predominantly, the BCD approach has so far been used for studying traditional ecological knowledge (TEK) of indigenous groups and their roles in nature conservation in developing countries, particularly through case studies in Latin America, Asia and South Africa (Pretty et al., 2009; Maffi and

Woodley, 2010). Subsequently, the concept was specified as involving the diversity of life in all its manifestations – biological, cultural, and linguistic – which are interrelated (and likely co-evolved) within a complex socio-ecological system (Persic and Martin, 2008; Maffi and Woodley, 2010). However, using BCD in such generic or static way of measuring linkages between biodiversity and cultural diversity is not our proposal to assess BCD in urban context. On the contrary, the aim is to support heuristic and transdisciplinary research to focus on diversity of life in cities (Buizer et al., submitted). The concept of BCD offers a new way of thinking about biodiversity conservation by looking at culturally significant and valued biodiversity (Cocks and Wiersum, 2014). It especially draws attention to the diversity of interactions and manifestations within and between culture and nature in cities, and to the necessity of exploring, deliberating about and acting upon those in transdisciplinary ways.

What can BCD contribute to our understanding of the dynamics of urban biodiversity conservation efforts? Cities can be seen as cultural and biological *rendezvous* providing many situations for diverse associations within and between culture and biodiversity. Cultural practices of urban policies and urban dwellers can threaten urban and peri-urban biodiversity and diminishing the impacts of these practices calls for understanding and negotiating with these practices. Meanwhile, cultural values held by urban inhabitants also create opportunities for developing innovative approaches towards biodiversity conservation (Buizer et al., 2015).

Research on BCD

The EU-funded GREEN SURGE¹ research project (2013-2017) will assess diversity in values and

¹ The GREEN SURGE project is a collaborative project between 24 partners in 11 countries. It is funded by the European Commission Seventh Framework Programme

culturally inspired practices of people in dealing with biodiversity, and the diversity in biophysical manifestations (e.g. species richness or variety in biotopes, green spaces) of urban BCD and their interactions (Vierikko et al., 2015). This innovative research has as specific aims (i) to develop the BCD concept in urban context; (ii) to apply an urban BCD concept in studying integration between culture and biodiversity, and (iii) to develop successful participatory governance for strengthening social cohesion and biodiversity conservation in cities. The general objective of the urban BCD studies is to contribute towards better understanding of the multiple manifestations of BCD in European cities and find a way of working towards strategies to live sustainably with nature in cities (Buizer et al., submitted; Vierikko et al., 2015; Elands et al., submitted).

Key issues for policymakers

The concept of biocultural diversity (BCD) has been advocated in international committees and policy circles in the context of developing countries. Consequently the European Conference for the Implementation of the UNESCO-SCBD Joint Programme on Biological and Cultural Diversity has been established and recently organised its first conference in Florence. Focus of the conference was the importance of to the cultural component of biodiversity conservation and the usefulness of the concept of BCD with its tangible and intangible values in European landscapes (Florence Declaration, 2014). The Florence Declaration (2014) for conserving BCD in Europe explicitly indicates the need to recognise “*the vital importance of cultural and biological diversity for present and future generations and the well-being of contemporary societies in urban and rural settings*”.

In order to recognise the indivisible link between the biological diversity across all its levels and

(FP7, Grant ENV.2013.6.2-5603567). Read more about the project at www.greensurge.eu.

cultural diversity with its manifestations, BCD is as the outcome of a process in which cultural values and practices interact with biodiversity (Vierikko et al., 2015).

In the urban context, the following issues could be considered by policymakers:

- Policymakers have to understand that BCD is not just a sum of biological and cultural diversity.
 - Biocultural creatives (Elands and van Koppen, 2013) develop innovative practices to maintain BCD either through new ways of human interaction with biodiversity or through creation of new biocultural assemblages. To support these creative
- Policymakers need to understand how different cultural groups (e.g. ethnic, socio-economic, immigrants) interact with biodiversity associated to urban green spaces to support. What kind of biodiversity is meaningful for different groups?
 - They need to analyse how current governmental and institutional norms, rules and practices influence relationships between cultural and biological diversity, and vice versa
 - And finally develop operational tools to stimulate biocultural creatives under changing ecological, social and economic conditions on the basis of ‘learning and making together’.

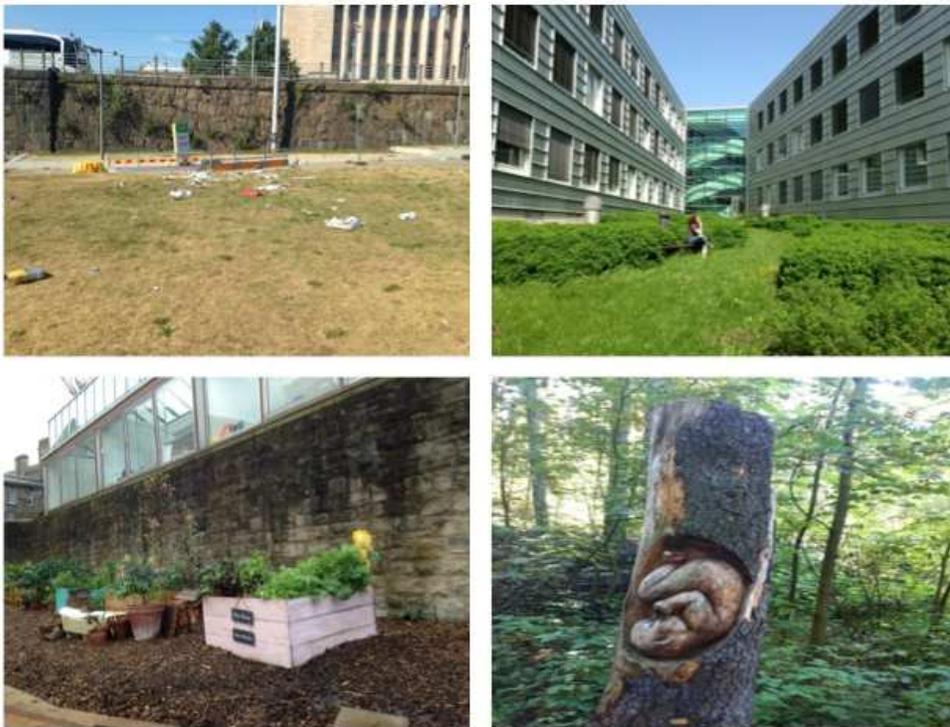


Figure 1. The BCD approach in urban context will identify how different socio-cultural groups value biodiversity and influence it. Preliminary explorative studies on BCD assessment in 20 European cities in the GREEN SURGE project indicate that the interconnection between biodiversity and culture varies from consuming (recreational needs) towards more close bonding in place making or in urban gardening (Elands et al., 2015; Vierikko et al., 2015). Finally, co-management of nature can result in novel biocultural creatives who intertwine biological and cultural diversity.

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