

# Best practice techniques for engaging and listening to diverse voices in the planning and management of urban green infrastructure

## Deliverable 2.1



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# VIVA PLAN

## FORMAS

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Led by the Swedish University of Agricultural Sciences, VIVA-PLAN involves six institutions in fields including urban governance, ecology, landscape architecture, geography and natural resource management. We will draw on multiple methods to assess the co-benefits and costs of nature-based solutions, including green spaces and meeting spots, in vulnerable residential housing areas in cities in Sweden and Denmark. Project results may support the creation of sustainable spatial planning frameworks that promote biodiversity conservation, social inclusion and well-being (including safety and security) in cities in Sweden, Denmark and other parts of the globe.

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## 1 Introduction

Engaging vulnerable groups in urban green infrastructure (UGI) management is critical to social justice (Rutt and Gulsrud 2016), social inclusion, and resilience (Gulsrud et al. 2018). Photo elicitation techniques have been developed to construct new migrant and long-term residents' narratives of inclusion and well-being (Ortega-Alcázar and Dyck 2012), but few techniques enable a comparison of the views of youth, the elderly and migrants. Such information is essential to inform an inclusive, just, and socially-resilient approach to the planning and governance of UGI (Nesshöver et al. 2017; Haase et al. 2017).

The VIVA-PLAN project has set out to investigate methods and techniques for engaging and listening to diverse voices in UGI planning including those of youth, the socio-economically marginalized, new immigrant groups, and the elderly. This paper aims to a) review social inclusion, sense of place and environmental justice concepts that underpin much of the work of the VIVA-PLAN project and b) provide an overview of 3 techniques for assessing these concepts in residential housing areas.

To achieve these aims, it provides preliminary findings from research conducted at the Urbanplanen case site (Copenhagen, Denmark) in November 2019 to January 2020. They provide insight into how land-use planners and developers can engage such techniques to create environments which are friendly to the needs of youth, the socio-economically marginalized, new immigrant groups, and the elderly. We draw on both a review of peer-reviewed and practical literature highlighting best practices in just and inclusive sustainable spatial planning as well as on-site ecological and social analysis including 45 interviews and over 900 observations. The data were collected by 23 master students and 4 instructors in the Urban Forestry & Urban Greening urbanism studio taught at the University of Copenhagen.

## 2 Literature review of key concepts

### 2.1 UGI governance

Cities are seen as sites of environmental challenges but also as critical sites of environmental solutions (Bai 2018). Along these lines, politicians are calling for landscape planners and managers to develop solutions for urban climate resilience that draw on an integrated approach to social, cultural, digital, and nature-based solutions (European Commission 2015).

Recent focus has identified urban green infrastructure (UGI), including urban trees, parks, blue and green open spaces, and green walls and roofs, as a "nature-based solution" to urban climate resilience (Eggermont et al. 2015; Kabisch et al. 2016; Gulsrud et al. 2018). A UGI planning approach delivers direct benefits by linking green spaces and multi-functional built systems for improved ecological connectivity and habitat conservation (Davies et al. 2015). Additionally, UGI provides a range of co-benefits to urban societies such as increased air and water quality, improved technological solutions to storm water management, increased real estate values, social cohesion, and increased human health and well-being (Raymond et al. 2017). These findings indicate that UGI strategies can cost-effectively address a diverse set of environmental challenges in urban areas.

This is just the case in Copenhagen where the city's UGI (parks, nature areas, gardens, blue areas, and trees) is seen as a solution for storm water mitigation, enhanced biodiversity, and a strengthened sense of community in and across neighborhoods. Here, the municipality strives for "more everyday meetings between people from different parts of society" where UGI supports interactions between Copenhageners and facilitates so called green fellowship and a city with an edge (City of Copenhagen 2015a, b). In this context urban nature is seen as a solution to support human wellbeing and increasingly social inclusion and cohesion.

Yet little is known about how UGI governance actually supports social inclusion and cohesion (Pauleit et al. 2018) and considerably less is known about whom exactly benefits (Depietri et al. 2016). Many tout the potential for UGI planning to challenge and re-frame conventional environmental management methods by refocusing solutions from technological strategies to socio-ecological principles such as social cohesion and community-based governance models, thereby improving and legitimizing the delivery of ecological benefits

(Eggermont et al. 2015; van der Jagt et al. 2017; Gulsrud et al. 2018). Yet the nature, quality and delivery of UGI is greatly influenced by political considerations, not only at the municipal level but also within the “nested” context of urban environmental planning and governance from the local to trans-national level (Laforteza et al. 2013). Studies show that ethno-cultural preferences and a lack of “sense of belonging” impact the distribution of cultural ecosystem services in UGI planning, raising questions of which services are provided through ecological networks and for whom? (Byrne 2012; Wolch et al. 2014). Also, UGI has been associated with gentrification in cities like Barcelona (Anguelovski et al. 2018). This implies a lack of local socio-cultural context in urban environmental governance, management, and planning, a knowledge gap highlighted by Kabisch et al. (2016) in their assessment of a how a nature-based solutions approach to climate resilience could impact environmental governance. Along these lines, it is increasingly important to better understand the diverse and conflicting values of nature and place attachment and how these play out in diverse UGI governance contexts.

In response, the VIVA-PLAN project aims to better understand how UGI is socially valued and used by residents, including how the use of this space contributes to social inclusion and cohesion. Such insights will provide knowledge and practices to further planning and governance models and social networking processes able to build and bridge social capital and address issues of ecological sustainability, safety, and wellbeing. Peer-reviewed and practical literature highlighting best practices in just and inclusive sustainable spatial planning offers insights into the aspects discussed in the next section.

## 2.2 Social inclusion, cohesion, and sense of place in UGI governance

Social inclusion and cohesion are largely context dependent and sociologists, environmental psychologists, and policy makers have contributed to current definitions used in sustainable spatial planning. Social inclusion is broadly understood as the access to informal and formal networks of emotional, social and material support (Chan et al. 2006) while social cohesion encompasses the vertical and the horizontal interactions among members of society including attitudes and norms such as trust, a sense of belonging, and the ability and willingness to engage with and assist others within a place-specific community (Chan et al. 2006; Christensen et al. 2019). In a UGI governance context, social inclusion and cohesion are conceptualized as co-benefits of urban greening projects such as urban gardens (van der Jagt et al. 2017; Langemeyer et al. 2019), parks (Sia et al. 2020) and green roofs (Langemeyer et al. 2019) whereby residents and local users gain increased access to social, emotional and materially supportive networks. For example, urban gardening is shown to support strong relations between gardeners in addition to increased food security and ecological learning (Barthel and Isendahl 2013; Andersson and Barthel 2016). Social exclusion can be a contextually-dependent negative effect of urban greening projects. While social inclusion provides social, emotional, and material benefits, social exclusion leads to the uneven access to resources, procedures, and rights to benefits and can be a consequence of economic, political, social, and or cultural power differences (United Nations Department of Economic and Social Affairs 2017). For example, research on urban gardening in a diverse and socio-economically challenged neighborhood of Copenhagen has shown that despite efforts by municipal planners to establish an inclusive green meeting spot for local residents, only certain neighborhood ethnic groups feel welcome in the garden (Christensen et al. 2019). This finding is supported by international research on urban greening, illustrating that sense of belonging in urban greening is complex and should be considered on a regular basis by planners and other stakeholders. Sense of belonging can be understood as a feeling of membership to a group, including an emotional connection based on shared history, interests, or concerns (Manzo and Devine-Wright 2013). A strong sense of place to a community can support neighborhood-led action and cooperation around urban greening goals such as community gardening (Barthel et al. 2010). A strong sense of place can also be felt through individual actions in gardens (Raymond et al. 2019).

Sense of place is a field of study that has its roots in human geography. It investigates the meanings and attachment that individuals or groups hold to places (Tuan 1977). Place attachment and place meanings are two distinct streams of research within the broader sense of place scholarship (Stedman 2016). Place attachment is fundamentally evaluative, i.e., it measures, often quantitatively, the emotional bond that an individual or a group holds to a place. While place attachment evaluates, place meaning, on the other hand, is an essentially descriptive concept, and research in this field can therefore employ a more qualitative



approach. Place meaning responds to questions such as “what kind of place is this” or “what kinds of meanings are associated with greater or lesser attachment” (Stedman 2016).

Despite the multiple benefits of green spaces, there is increasing awareness of the many social issues presented by them, including issues of environmental justice (Kabisch and Haase 2014; Haase et al. 2017; Casey et al. 2017; Schüle et al. 2019). Environmental justice broadly refers to issues of distribution, procedure, recognition and capability (Schlosberg 2007). Distributional justice refers to issues of access to environmental goods and amenities, and how this distribution affects the wellbeing of low-income and minority groups (Haase et al. 2017). Procedural justice is defined as “fair and equitable institutional processes of a state” (Schlosberg 2007, p. 25). It can range from minimum guarantees of equal basic rights in decision-making to supporting marginalized groups, such as women, elderly and ethnic minorities, with respect to accessing natural resources (McDermott et al. 2013). Recognition justice refers to how individuals and communities are recognized in regards to different identities and cultures (Fraser and Honneth 2003). “It is about the extent to which different agents, ideas and cultures are respected and valued in interpersonal encounters and in public discourse and practice” (Martin et al. 2016, p. 255). Justice as capability pertains to individuals’ specific capabilities to transform and use resources so that they can function fully in the lives they choose for themselves (Schlosberg 2007) (McDermott et al. 2013). Rutt and Gulsrud (2016) assert that within urban green space planning, capability of choice is critical, for example, to be able to choose to participate or not in decision-making or to use green spaces or not.

Despite general awareness of the environmental justice issues posed by UGI governance, there are comparatively few methods in the UGI literature for systematically assessing and integrating multiple elements of environmental justice into green space planning and management. In the next section, we present a brief overview of three methods for eliciting environmental justice and sense of place. We chose to review these methods because they are being employed in the VIVA-PLAN project.

### 3 Examples of methods for eliciting environmental justice and sense of place

#### 3.1 Public participation geographic information systems

Public participation geographic information systems (PPGIS) focus on ways the public can use geospatial technologies to participate in public processes for decision making (NCGIA 1996; Sieber 2006). While PPGIS is valuable for targeting management to areas of high value or conflict in urban parks (Rall et al. 2019), issues of environmental justice and PPGIS have largely been overlooked. Studies have considered elements of environmental justice in isolation such as perceived or physical access (Wang et al. 2015) and the abundance or diversity of physical activities and park benefits (Brown et al. 2014). Raymond et al. (2016) examined the diversity and spatial distribution of clusters based on the activities undertaken in urban blue space; (2) the diversity of users in each cluster, representing a composite measure of income, age and family income, and; (3) the extent of perceived problems and unpleasant experiences in each cluster. They found that contrasting combinations of activity and user diversity (high-low, low-high) showed very different spatial distributions, dominant activities and perceived problems and unpleasant experiences. However, PPGIS techniques have rarely been used to assess indicators of procedural and recognition justice. In VIVA-PLAN we are taking up this knowledge gap in our PPGIS investigation by focusing on aspects such as inclusion in decision making in local UGI governance as well as personal preferences for local UGI.

#### 3.2 Rapid ethnographic assessment

Rapid assessment methods place importance on local people and how they relate with powerful actors (e.g., researchers, governments, and funding agencies) to construct reality (Taplin et al. 2002). In the case of VIVA-PLAN, we are specifically interested in hearing from diverse voices in UGI governance processes such as youth, the socio-economically marginalized, new immigrant groups, and the elderly. According to Taplin, rapid assessments differ from traditional qualitative research in that more than one researcher is always involved in an often-multidisciplinary team and research team interaction is critical to the methodology. The two-basic methodological principles in rapid research are triangulation and iteration. Triangulation “aims at maximizing the validity and reliability of data” (Manderson 1997, p. 6). The semi-structured interview, expert interview, and the community focus group are the characteristic elements of a triangulated methodology. In

contrast, iteration involves constantly refining and re-evaluating observations based on the collation of new data (Manderson 1997).

In VIVA-PLAN our rapid assessments are based on local needs, focused on activities and groups already in place and in collaboration; in this sense we promote qualitative information and place-based knowledge. In wider research on urban parks, rapid assessments have shed light on the rules, beliefs, feelings, and practices that make up public life (Low et al. 2005). We have focused on local residents' attachment to area parks and other UGI, including nature preferences and perceived inclusion and or exclusion in UGI governance processes. In addition to experts, community groups active in the area will also be interviewed for their views. Critics of rapid methods focus on questions of external validity and reliability. Because the research participants are selected on a cluster basis or on other non-probability criteria, the results are generally considered to be unrepresentative of the total population (Manderson 1997). Rapid-methods data give a relatively accurate picture of the prevalence of a phenomenon, attitude, perception, or behavior pattern, but not its extent or pervasiveness (Kumar 1993).

### 3.3 Social network analysis

Social network analysis (SNA) provides a method of identifying and analyzing relations between people and within social systems (or governance regimes) (Bodin and Prell 2011; Nunan 2015). Traditionally, SNA has been characterized by a mathematical and quantitative approach to mapping the density of social relations through ties and nodes, yet some, such as Adams et al. (2018) have challenged this purely quantitative approach by suggesting that it masks the need to assess power relations in social networks and governance regimes. In line with this approach, VIVA-PLAN is taking a grounded, bottom-up approach to SNA linked to place-based perspectives of local residents and affording room for diverse social-cultural understandings and subjective values-driven perspectives. Such an approach engages SNA in questions of procedural and representative environmental justice opening up for how place-based perspectives and values in diverse formal and informal social networks can inform a more just approach to planning by engaging new and frequently silenced voices (Nesbitt et al. 2018).

This grounded approach to SNA builds off of Nunan, 2015's "realistic approach to SNA" which acknowledges that the boundaries of social networks are based on "fuzzy and subjective" knowledge of a situation and a place. A network exists because it is experienced by an individual or a group yet every individual and group experiences the network differently meaning that the boundaries will be diverse and subjective instead of driven by quantitative measures such as connections and density of nodes (Castree 2002; Holifield 2009).

To capture diversity in sense of place and how this links to perceived procedural and representative environmental justice, we are conducting a complete network analysis based on a mosaic governance arrangement. The network analysis includes individual residents, community groups, expert groups and politicians at the city and the national level. Such an analysis uncovers social cohesion or dissonance on a broader scale and provides insight into governance trends and mechanisms. Cohesion is defined as when feelings of belonging are seen as going hand in hand with relations of belonging. VIVA-PLAN is therefore interested in how groups and or individuals are linked through visions and missions or shared values. Focusing on sub-groups and individuals in a SNA provides insights into access to green space, procedural engagement and spatial connectivity. Which constraints to access are experienced by groups and individuals? SNA can unpack the nature of power distribution in UGI governance and how people gain or are denied access to green spaces. Procedural engagement can be measured in SNA by something called centrality in a network to understand how involved an individual or group is in a network. Which role do they play in processes? How engaged are groups in broader institutional processes? Recognition justice can be measured in SNA by assessing how connected individuals and groups are not only to each other but also to common or conflictual issues. Here SNA can be particularly useful when investigating discourses or visions concerning green spaces. Is there collaboration? Conflict? Coordination or a lack thereof? This measure can help us to better understand how UGI governance works or fails to produce sustainable and equitable outcomes.

## 4 Core gaps in knowledge and future directions for VIVA-PLAN

- How to elicit and integrate multiple indicators of environmental justice (e.g., procedural, distributional and recognition) to develop a more nuanced and holistic understanding of issues of social inclusion in green spaces.
- How to develop qualitative methods for understanding the depth and breadth of social networks in vulnerable groups in residential housing areas.
- How to understand the interplay between environmental justice and sense of place in highly mobile and vulnerable groups, and how to manage for different forms of sense of place in these contexts.
- How to design sustainable spatial plans that build on the social cohesion strengths and capacities of vulnerable groups, as opposed to reinforcing deficits.

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