



GREEN SURGE

Deliverable 6.2:

INNOVATIVE GOVERNANCE OF URBAN GREEN SPACES

Learning from 18 innovative examples across
Europe

**Work Package 6:
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INNOVATIVE GOVERNANCE

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The contents of this report outline the results of the second phase of research into
innovative forms of participatory governance in Europe as part of the EU FP7 pro-
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SUMMARY

In this report we have investigated 18 examples of innovative governance arrangements in urban green space management across Europe. In this analyses, we focused on three inter-related research questions: i) What do innovative governance arrangements look like in terms of aims, actors, structure, contexts, dynamics, and which of their elements can be seen as innovative? ii) Which are the most important perceived effects of these arrangements in their environmental and political contexts? iii) What lessons can be drawn from the supporting and hindering factors for these arrangements, and the power dynamics that take place?

Based on our analysis, we identified six dominant governance arrangements, illustrated below. Although this typology is not exhaustive, it may help in mapping the diversity of arrangements across cities.

Typology of governance arrangements		
	Municipalities mobilising social capital	Strategic planning instruments to invite grassroots and individual citizens to participate in place making or place-keeping
	Green hubs	Experimental, creative coalitions connecting various networks and knowledges to develop community based solutions.
	Grassroots initiatives	Relatively small scale initiatives located on public land, started and maintained quite autonomously by local residents.
	Co-governance	Partnerships between municipality and citizens or grassroots with power being between across actors.
	Organization initiated grassroots	Social enterprises or NGO's mobilising community action, in focus and power located between co-governance and grassroots initiatives.
	Green barter	Maintenance or development obligation for businesses in exchange for a formalised right to use the values of space for business profits.

The innovative governance arrangements showcase how planning styles across Europe are changing towards more flexible and networked governance arrangements and self-governance. We have identified several examples of an evolving role of municipalities from being providers of green services to citizens, to creating value together with citizens. Although whether arrangements are innovative is highly dependent on local context, we do see interesting innovations from a European point of view. In our view, especially the efforts to overcome the barriers between strategical UGI planning and local grassroots are instructive for other cities. The neighbourhood planning systems developed in Bristol and Utrecht to incorporate grassroots in government planning strategies are efforts to combine the merits of strategical planning and the fostering of local initiatives. Also the examples of urban agriculture on temporary lands are especially instructive for its contribution to biocul-

tural diversity and social cohesion. Green barter examples illustrate the strength of flexible regulatory instruments to stimulate economic actors to participate, although even in such arrangements, personal commitments remain an important driver to create high quality green areas. The use of e-tools and social media has potential to not only strengthen public participation, but especially also to share knowledge and expertise. Such tools can be a powerful instrument for local communities to organise themselves on green topics.

The perceived effects of the governance arrangements are manifold, ranging from 120 hectares of green space in Milan to a patchwork of grassroots initiatives and urban agriculture plots in several other cities. All our examples deliver ecosystem services, especially cultural and supporting services. Climate change adaptation wasn't an important driver for most grassroots. Next to environmental effects, the social effects are at least as important. Social values are important drivers for many citizens to become involved in green space protection. Contributions of governance arrangements to citizen empowerment and social cohesion strengthen civil society and cultural capital in neighbourhoods and cities, also of less privileged sections of the society such as cultural minorities. While most arrangements contributed to people's connections to urban green space, some stood out as especially contributing to biocultural diversity in cities, through e.g. the exchange of cultural food growing traditions.

Power relationships in these arrangements are complex. However, we witnessed genuine efforts from authorities to re-establish power relations with citizens. Meanwhile, although grassroots often have control over management decisions, much of the power remains with authorities, for example as owners, legislative bodies, or through regulation on subsidies. Innovative governance and the re-distribution of power may result in the weakening of democratic institutions and responsibilities. Furthermore, new distributive mechanisms are explicitly or implicitly introduced in many arrangements. Collaboration with new actors, be it citizens, NGO's or businesses, introduces new distributive mechanisms based on e.g. economic or cultural capital. Probably the most important challenge is the unequal availability of social capital across citizens and neighbourhoods. Consequently, the effects of decentralised and networked governance arrangements on environmental justice are important to address.

Combining strategic UGI planning and innovative governance still is a challenge in most of our cases. If we analyse the roles of the most important UGI principles in our arrangements, we witness how multi-functionality and inclusiveness were a core element of most arrangements. However, the connectivity and multi-scale principles of UGI planning are without doubt a big challenge. In many cases both municipalities as well as grassroots put little emphasis on the connectivity of green spaces. The *Municipalities mobilising social capital* and *co-governance* arrangements were promising in this respect, and showed a clear strategic input, developing long term instruments and collaboration. However, it remains difficult to overcome the trade-off between a focus on the strategic level and respecting the autonomy of grassroots working in a diversity of unconnected green dots on the neighbourhood or street level. We suggest that municipalities may need to develop a form of localised *mosaic governance*, sensitive to diversity in the local social and environmental diversity, the availability of cultural capital and already existing grassroots initiatives.

For municipalities, saving costs on ‘place making’, but especially on the maintenance costs of ‘place keeping’ (Dempsey & Burton, 2012) is an important driver to reach out to local communities. Many officials refer to the democratic need for developing participatory and inclusive ways of decision-making. The often suggested increase in quality of decision-making through participatory governance was hardly mentioned. Citizens were often motivated by normative motivations to enhance biodiversity, social cohesion or the accessibility of green for a diverse group of people. Many of our arrangements thrive on the enthusiasm of people. However, enthusiasm isn’t enough for a new arrangement to become successful. Probably the most important factor for success is the availability of resources, including economic resources and the available time to invest in the initiative. Most important however are the cultural resources. People and communities need to be *capable* of organising themselves, have access to relevant networks and also to environmental knowledge and expertise.

Developing a good relationship with the municipality is pivotal for the longevity of arrangements. Municipalities play a crucial role as owners of the land, in providing financial and political support, and can provide additional knowledge and expertise. Especially our *co-management* and *grassroots initiatives* cases show that communities are able to manage green space for long periods of time, even decades. Key to the success in long-term community management of a green space is flexibility in the governance arrangement to adapt to the dynamics of local planning and politics as well as the ability to adapt to changing demographics and society at large. Especially in difficult times, strong leadership and a well-established organisation structure seems to be important. As such, internal institutionalisation of rules and resources is probably as important as the embeddedness in external structures.

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1 INTRODUCTION

1.1 GREEN SURGE

In a time of continuing urbanization, there is an increasing focus on developing attractive and healthy urban environments. Green spaces, ranging from woodlands and parks to allotment gardens and green roofs, provide a range of ecosystem services that contribute to the value of cities (Lovell and Taylor, 2013).

The Green Infrastructure and Urban Biodiversity for Sustainable Urban Development and the Green Economy project (GREEN SURGE in brief), funded under the EU's 7th Framework Programme for research, identifies, develops and tests ways of linking green spaces, biodiversity, people and the green economy in order to meet the major urban challenges related to land use conflicts, climate change adaptation, demographic changes and human health and wellbeing. It will provide an evidence base for urban green infrastructure planning and implementation, exploring the potential for innovation in better linking environmental, social and ecosystem services with local communities.

The GREEN SURGE project aims to:

- **Develop the planning concept of urban green infrastructure for both integration and promotion of biodiversity and ecosystem services, and adapt it to local contexts.**
- **Apply an innovative biocultural diversity perspective to develop successful governance arrangements facilitating socio-ecological integration and local engagement in planning of urban green spaces.**
- **Explore how valuation and real market integration of biodiversity and ecosystem services can facilitate choices in favour of the development of multifunctional green spaces in urban areas.**

Approaches and tools under these three interlinked objectives are developed and implemented through an integrative, iterative and transdisciplinary process organised into 8 Work Packages (WPs). GREEN SURGE uses a three-tiered approach of comparative European cases, synthesis of good practices, and establishment of five Urban Learning Labs, strategically selected to represent different urban situations in Europe. GREEN SURGE works with cooperative Learning Alliances, a specific type of multi-stakeholder involvement designed to enhance a process of shared learning and understanding in situations with a high degree of complexity and unpredictability. GREEN SURGE will thus combine a project-wide, science-driven approach based on a common framework methodology with an approach based on bottom-up knowledge or experience at the local level.

1.1.1 GREEN SURGE Work Package 6: the governance of urban green spaces

This manuscript reports the work conducted in Work Package 6, one of the eight Work Packages of GREEN SURGE. Work Package 6 focuses on governance arrangements for urban green spaces. Traditionally, local authorities were the primary responsible for urban green space planning and management. It is now widely recognised, however, that while local

authorities retain a role, local communities, enterprises and other non-governmental stakeholders also need to be involved in green space decision-making processes. This change in thinking about the role of various actors in society is often described as a shift from top-down oriented 'government' to 'governance', which is an interplay between the top-down and bottom-up decision-making. Governance embodies the formal and informal institutions, rules, mechanisms and processes of collective decision-making that enable stakeholders to influence and coordinate their interdependent needs and interests and their interactions with the environment at different scales (Taconi, 2011).

This shift towards governance has resulted in new forms of interaction between government bodies, urban residents and other non-state actors. It includes policy arrangements in which non-state actors are consulted in green space decision-making processes, or in which there is a form of cooperation between government actors and non-government actors. The concept of stakeholder involvement has been broadened in recent years, and nowadays also includes forms of self-governance where self-organizing non-state actor groups play a major role in green space decision-making or management and where the role of authorities is either distant, facilitating or absent (Arnouts et al., 2012). It has been suggested that self-governance increasingly contributes to the delivery of Urban Green Infrastructure (UGI; see e.g. Davies et al, 2015). Examples of non-state stakeholders playing a role in delivering UGI can be found at all scales, and include a range of management approaches and foci, from urban agriculture to grassroots' guerrilla gardening initiatives, and from businesses adopting botanic gardens to the integration of brownfields into the UGI.

Within GREEN SURGE, Urban Green Infrastructure (UGI) stands for a specific perspective on natural areas and other open spaces in urban and non-urban surroundings. This perspective considers these areas as crucial for human life as other infrastructure types (Davies et al, 2015). Green Infrastructure is understood as an interconnected network of green spaces that provides multiple benefits for humans and embodies the principles of multi-functionality and connectivity (ibid.). UGI planning addresses the usually public sector-led process of planning and implementing green space-related policy goals. UGI planning is differentiated from other green space planning approaches by being based on a specific set of principles that relate to the content as well as the process of planning, and which are defined below (ibid.).

Work Package 6 of the GREEN SURGE project focuses on governance arrangements for urban green spaces. Whenever the term 'governance' is used for research purposes, it requires a careful operationalization. WP6 focuses on participatory governance (of urban green spaces), defined here as arrangements in which citizens¹, entrepreneurs, NGOs or

¹ When we talk in this report of citizens, we refer to all kinds of urban residents, including residents who may not have an official status being e.g. a refugee.

other non-governmental parties develop and manage networks of urban green spaces at different levels, with or without the involvement of formal authorities. WP6 is looking for arrangements going beyond the traditional, government-dominated paradigm, with a particular focus on socially-inclusive decision-making. These arrangements might contribute to the UGI, but do not necessarily.

In contrast and complementary to WP5, in WP6 we also highlight the often spontaneous, local and multi-actor initiatives, not necessarily dependent on formal participation policies. We will investigate which governance arrangements have been successful, for whom and what, and in which particular contexts. These initiatives have not necessarily led to a strong spatial green structure, but they can be highly influential in determining the quality and quantity of green spaces in a city. The initiatives that we focus on in WP6 each involve different actors, apply different rules of the game and mobilise different resources. When we discuss ‘initiatives’, we are referring to activities undertaken by coalitions of actors in relation to urban green spaces which may be intended to make changes to these spaces or to use them for specific purposes.

WP6 has the following objectives:

1. To identify and conceptualise innovative participatory governance arrangements in which a variety of stakeholders engage in the governance of UGI and biocultural diversity decision-making.
2. To investigate which governance arrangements are most successful in terms of delivering: biodiversity conservation, ecosystem services, community empowerment and connecting people to urban green spaces as well as contributing to the green economy and promoting climate change adaptation.
3. To develop guidelines on effective participatory governance arrangements for UGI planning and management in different contexts and for different purposes.

This report focuses on objective 2. Tier 1 focused on objective 1 (Buizer et al. 2015), and Tier 3 studies will focus on objective 3.

1.1.2 A layered approach to researching participatory governance

WP6 distinguishes four layers of research as part of a layered approach to study governance (Buizer et al., 2014). These different layers function to iteratively scrutinize participatory governance in relation to urban green. Each layer builds upon the work conducted in the previous layers and helps to further examine participatory governance related to urban green. The first two layers of this WP are the most broadly oriented and provide an overview of the planning and governance situation in a total of 20 selected cities (Buizer et al. 2015). The third layer of WP6, which corresponds with Tier 2, involves carrying out in-depth studies to provide insight into the dynamics of green space initiatives given their specific context. The fourth layer broadens the focus again by sharing insights, critical analyses and lessons learnt in the GREEN SURGE Urban Learning Labs (ULLs) and Focal Learning Alliances.

The green shading at the bottom of Figure 1.1 represents the process of moving from a broad EU-wide orientation to a more in-depth focus in a selected number of cases, to again a broader EU-wide orientation through the ULLs. The majority of the questions relevant for the third layer, and some of the questions for the first two layers will be dealt with in the Tier 2 in-depth case studies.

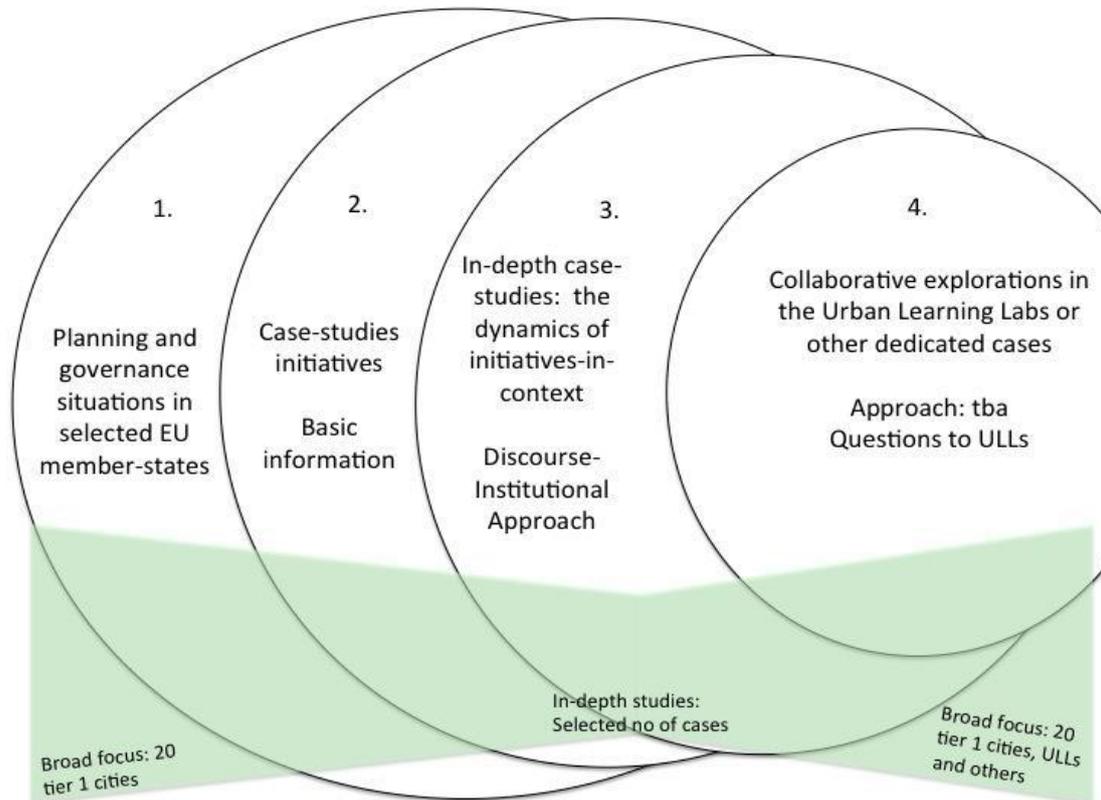


Figure 1.1 A layered approach to researching participatory governance

Tier 2 of WP6 focuses on assessing process, perceived effects of different governance arrangements within 16 of the GREEN SURGE cities. Outputs are directly (short-term) tangible and/or measurable products. This can be a produced report or plan, but could also include directly measurable biophysical attributes in the environment such as a row of trees planted in a neighbourhood.

Effects are defined as observable economical, institutional, environmental and societal changes over the short- and medium-terms (this can for example be seen in an increased area of green or in the development of a new instrument to facilitate participatory governance). Partly because of the short time scale in some studies, it is not easy to decide whether an effect is strongly related to a certain action or a result of a set of different actions that happen independently. Perceptions on effects will likely differ between different respondents. We therefore prefer to use ‘perceived effects’.

Effects are related to success and failures, but these are not the same things. Success refers to the achievement of objectives. Success is thus (also) in the eye of the beholder, as (1) objective may differ between actors and (2) perceived effects may differ between stakeholders. Again, our analysis on the achievements of objectives will mostly be based on self-assessment by respondents. Consequently, when we speak about ‘success’ or ‘failure’, we speak about success and failure as they are perceived by respondents.

1.2 Governance

1.2.1 The concept of governance

Governance as a concept has moved out of the realm of political science into other disciplines such as practical policy and delivery arenas (Bryant and Wilson, 1998; Kooiman, 1993; World Bank, 1991). It is often used as a term to refer to the involvement of a range of actors in the process of governing, in a decentralised, networked and participatory manner.

Compared to the past situation where land use planning and management were mainly considered to be governmental tasks, local communities, private enterprises and non-governmental organizations are more often expected to get involved in land use decision-making processes in present times (Cowell and Murdoch, 1999). This has brought about two trends across Europe: 1) the development of the concept of governance and 2) higher prevalence of stakeholder inclusion, specifically of civil society organisations and citizens (Rosol, 2010). Notwithstanding these trends, in practice governments still play an important role in the management and planning of (large) green spaces (Mattijssen et al., 2015; Hysing, 2009).

The central question addressed by any investigation of governance is how decisions are made and implemented (Jouve, 2005). This involves consideration of a range of issues including: politics and the role of government; citizenship and the role of civic society and civil organisations; rights and responsibilities; accountability; legitimacy and partnership working (Durose and Rummery, 2006).

Over time, and perhaps because of its inclination to become an empty signifier, the concept of governance has become paired with a range of adjectives to accentuate specific characteristics, such as: participatory (Fung and Wright, 2001), multi-level (Hooghe, 2003), landscape (Buizer et al., in press; Görg, 2007), experimentalist (Sabel and Zeitlin, 2008), network (Ernstson et al. 2010) and recently, evolutionary (Assche et al., 2014). The term has also been interpreted in a normative way, as in ‘Good Governance’, to denote a development that is inherently desirable (see for example Stoker, 1998; Agere, 2000).

Despite the recognition that within the sphere of urban natural resource management ‘government’ is being more and more replaced with ‘governance’, ‘governance’ is a concept that remains contested. The degree to which government and non-government actors and institutions are involved in

Governance as analytical concept

environmental decision making can differ between various practices (see for example Bell and Hindmoor, 2012; Rosenau and Czempiel, 1992) and can lead to different results in different contexts. In some examples, we observe a process that has been called ‘jumping scales’ (Smith, 1984 in Swyngedouw, 2005), where local or issue-based groups realise changes by accessing or applying transnational (e.g., European) resources or rules (Buizer and Turnhout, 2011). Furthermore, there is a debate about formal and informal forms of decision making within governance frameworks (see for example Fung and Wright, 2001) and about clashes between formal mechanisms and informal rules (Van Dam et al., 2010).

Power and the legitimacy of representation are also important topics related to governance: which actors are empowered and which are not? Who are represented in governance arrangements, and who are not? (see for example Connelly et al. 2006; Leino and Peltomaa, 2012; Smith, 2009). Critics have pointed out that there are potential pitfalls associated with new forms of governance such as the risk of initiatives becoming institutionalised in such a way that some stakeholders are empowered while others are disempowered (Cooke and Kothari, 2001). Governance can also bring about the risk of a democratic deficit when a local decision-making process is not well connected with formal democratic decision-making institutions, or the imposition of market rules when forms of governance are applied that rely heavily on financial mechanisms (Bond and Thompson-Fawcett, 2007; Swyngedouw, 2005), which is also highlighted in other GREEN SURGE reports (e.a. Anderson et al. 2015).

1.2.2 Analysing governance arrangements

In the different GREEN SURGE countries, there are different degrees to which non-government actors get a say in decision-making about the planning, design and management of urban green spaces (Buizer et al., 2015). In order to gain insight into forms of governance related to urban green space and measures of success we need an analytical approach which allows to gain insights into arrangements of governance. The policy arrangement approach provides an analytical lens to study the different forms of ‘working together’ of both governments and non-governmental actors to fulfil tasks in relation to urban green spaces (Arts et al., 2006). A policy arrangement can be defined as ‘the temporary stabilisation of the organisation and substance of a policy domain at a specific level of policy making’ (Van Tatenhove et al., 2000, p. 54). In figure 1.2, a policy arrangement is visualized as a tetrahedron in which each of the four corners represents one of the dimensions. A change in one of the dimensions will affect the other dimensions and alter the shape of the entity.

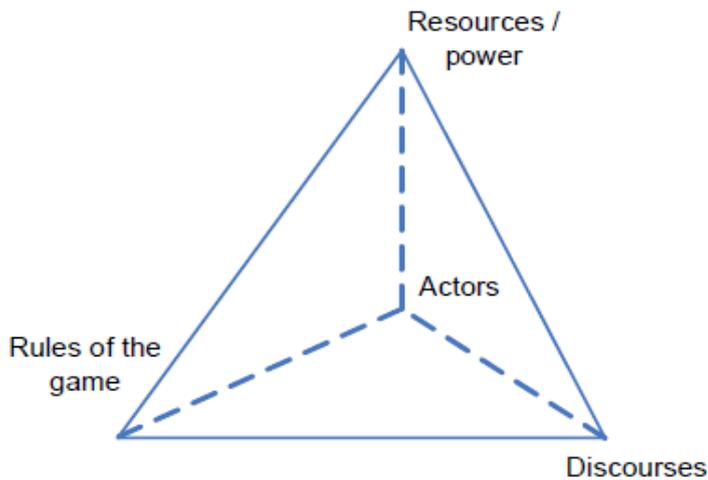


Figure 1.2 A policy arrangement visualized as tetrahedron (Liefferink, 2006)

In WP6, we also speak of ‘governance arrangements’ rather than policy arrangements (see also Arnouts et al., 2012), because not all initiatives have stabilized into formal policies, yet they can be understood and described in terms of the four dimensions distinguished by Arts et al. (2006): discourse, actors, resources and rules of the game.

Discourse can be understood as ‘a specific ensemble of ideas, concepts, and categorizations that are produced, reproduced and transformed in a particular set of practices and through which meaning is given to physical and social realities’ (Hajer, 1995: 44). The analysis of a discourse is concerned with the storylines and visions of those involved. Attention needs to be paid to how these visions are perceived and socially constructed and to how they are embedded in social and institutional practices (Buizer, 2008).

Actors are individuals or organizations involved in a specific area (Buizer, 2008). Actors can be a part of a certain governance arrangement and can exercise influence within the structural context provided by the other dimensions of such an arrangement. A coalition can be seen as a cooperation of actors to achieve (more or less) shared objectives.

Resources can be mobilized to achieve certain outcomes, and can be found in different types: financial resources may be the first to come to mind, but knowledge, skills, land or status are also sources of power (Van Tatenhove et al., 2000).

The Rules of the game determine opportunities and barriers for actors to act. These may be formal or informal. Formal rules are fixed in legal texts and documents; informal rules represent the dos and don’ts of a political culture. Rules can be both constraining and enabling (Van Tatenhove et al., 2000).

1.2.3 Changing relations between governments and society

Urban green space governance is believed to thrive on the involvement of stakeholders in the process of decision making as well as in the realisation of urban green space (Buizer et al. 2015). By their policy, governments play active roles in this involvement and efforts to hand over a degree of power to other stakeholders are commonplace. In the analyses of Tier 1, based on desk studies on urban green governance in twenty cities in Europe, five types of involvement were identified, which can be placed along two axes: physical versus political activity and governmental regulation versus self-governance. Based on the types of involvements found in these desk studies, we develop a typology of urban green governance in this report. For this, we use the analysis of the dynamics in governance, as developed by Van der Steen et al (2013).

To describe the context of changing relationships between governments and stakeholders involved in planning and its execution, Van der Steen et al. (2013) identified two main characterizing axes describing the focus and the aims of arrangements (figure 1.3). The horizontal axis focuses on the relative power distribution between municipalities and citizens or other societal stakeholders. The left side represents arrangements where governments are in control and have full responsibility over the design of policy or its execution. In its extremity, other parties are the subjects of a policy, having no say over it. The right side represents a situation where control is in the hands of society, which could be citizens, NGOs, social enterprises or other relevant organizations. In the right extremity, organizations offer no room for input of governmental organizations.

Changing relationships between governments and stakeholders

The vertical axis in this figure represents the relative emphasis on political goal setting (“Political choice”) versus smooth implementation (“Public performance”). It asks if an arrangement is primarily focused on designing and creating new policy or community goals (*political choice*), or if its main focus is on how to execute and implement prior established policy (*public performance*). Political choice is defined in a very broad way, not only referring to public policies. Also citizens focusing on goal setting are making political choices in this interpretation. It is important to emphasize here that this axis refers to a difference in accent, as governance encompasses some of both per definition.

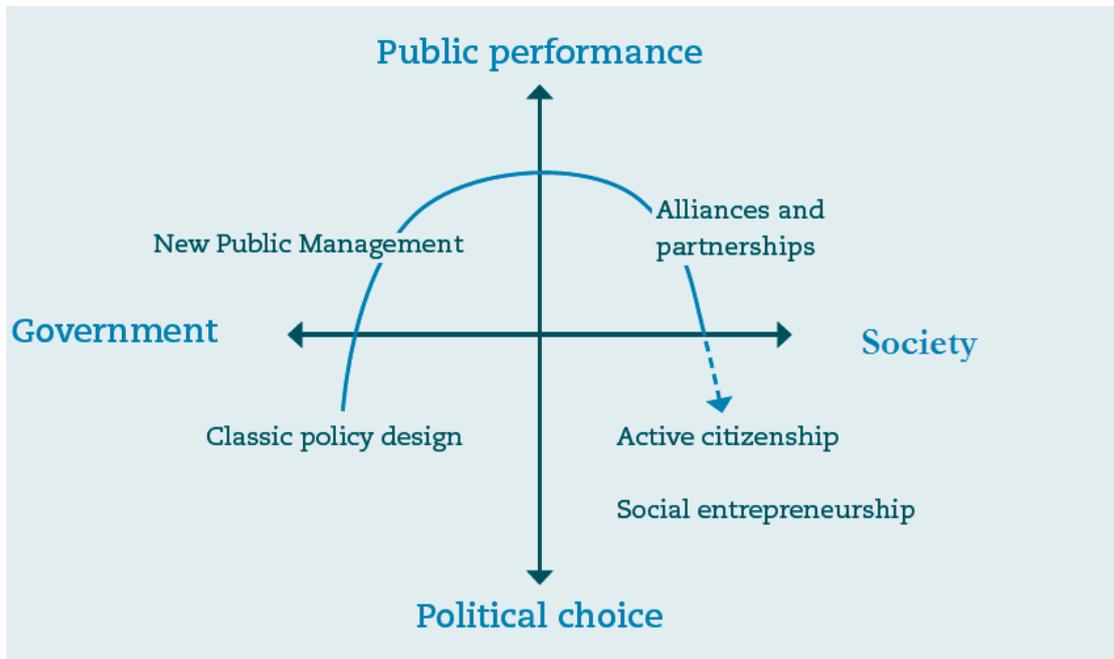


Figure 1.3 Dynamics in governance. Adapted from Van der Steen et al. 2015.

The combination of axes leads to four types of governance arrangements. We will describe them from classical policy design on the left-down side, following the arrow to active citizenship on the right and down side. In classical policy design, governments take the lead in formulating the goals of a new policy, more or less informed by society at large. In new public management, governments execute a predefined policy in a manner in which market parties are responsible for implementation. Societal alliances and partnerships are joint ways to execute similar policy goals in the best possible way. Here, society works as a partner of governments, or it works mostly independently. The final quadrant represents types of citizenship where civic society makes autonomous choices, identifying and carrying out their own activities. Standalone citizen initiatives are the prototype of such practices. The middle part of the horizontal axis is also a relevant one: this is a situation where government and societal organizations truly co-create policy and/or implementation. Governments nor grassroots have dominance, but through negotiations, the two work look for common ground and work together in goal achievements.

The position of these axes has implications for the way in which involved actors organize themselves and relate to each other (Van der Steen et al., 2015). Most importantly, the movement of governmental actors towards the right side of the diagram, requires increased flexibility and openness to the dynamics in civil society. Operating with autonomous, independent actors does not work in a top-down way, and therefore requires different approaches. The same is true for autonomous society actors who orient towards a larger scale implementation of their ideal, and are forced to build new alliances.

Hence, specific arrangements can be placed in specific positions in the diagram. In some arrangements, goal setting is still primarily done by local governments, and grassroots or

businesses only come in during the implementation of these policies, for example through outsourcing or through the use of innovative financing mechanisms to enhance resources for implementation. Such arrangements would fall under the upper left quadrant of new public management. In others, grassroots are almost independent in their decision-making, and municipalities only supply some resources, such as the free use of land. These arrangements would fall under the active citizenship quadrant, in the bottom-right. Van der Steen et al. (2015) postulate that as initiatives evolve, their quadrant position may shift. For example, government-induced community initiatives may become more independent and thus move from the upper left to the upper right quadrant.

1.2.4 Tier 1: Trends in Urban Green Governance

The analysis of 60 green space initiatives the 20 GREEN SURGE cities in Tier 1 resulted in identification of two main types of objectives: environmentally related objectives and social objectives. The environmentally related objectives aimed to increase the green space cover, improve the quality of existing green space, contribute to biodiversity, enhance ecosystem services and improve ecosystem connectivity. Socially related objectives aimed to exert political influence, promote the experiencing of green space, promote social cohesion and integration, contribute to environmental education and improve human health.

From Tier 1 studies, it was also concluded that several trends exist in the domain of green space planning and governance across Europe, some of which are at the methodological basis of the Tier 2 methodology (section 1.3). First, European municipalities are developing, using and considering novel (usually electronic) instruments for *co-governance* to involve a broader and more extensive group of citizens in decision making processes about green space planning. Such tools are used to increase transparency, enable citizen input and maintain a pathway of communication between citizens and the government. The second European trend identified in Tier 1 is the inclusion of green space in social-cultural objectives. This trend is not new: parks, for example, were historically designed as meeting place for urban citizens. But it has grown to something broader, encompassing art, social inclusion and participation in politics. Socio-cultural objectives have become an integral part of green space initiatives. Third, Tier 1 identified the persistence of participation through activism and protest groups. Even if governments actively reach out to citizens, resistance continues, particularly when development plans are proposed for highly appreciated areas. Outsourcing is the fourth important trend emerging from Tier 1. The omnipresent budget cuts in European cities push officials to seek help from external specialized parties, sometimes paid for a limited amount of time, sometimes rewarded in kind. Fifth, previously non-green areas such as derelict land and rooftops are converted into green space across Europe, by municipalities, citizen groups or private initiatives. This enhances their use value and increases their capacity to mitigate climate change related hazards. Finally, a related trend is the expansion of urban agriculture in the vast majority of Tier 1 cities. This finding bears witness of a renewed focus on communal food production in European urban areas. Overall, these trends indicate that the use of urban green space is important for both municipalities and citizens, and that related governance processes are in ongoing development.

1.3 Review: trends in urban green governance

One of the recommendations following from Work Programme 6 Tier 1 research was to undertake a “state-of-the-art” review of what is known about governance of urban green infrastructure by citizens and citizen groups. The general purpose of this review was to provide evidence that would inform the Green Surge project (specifically WP6 partners) of the latest knowledge about urban green governance across Europe, and would also help to situate Tier 1 and Tier 2 research within the wider research context. Specifications on the methods for this review, as well as further results, can be found in the technical annex (Havik et al, 2016). Here, we present the most important trends we distinguished, organised across four lines of research:

- Community-based natural resource management and adaptive management;
- Development of the urban commons;
- Re-naturing cities;
- Governance in the context of policy and spatial planning

1.3.1 Community-based natural resource management and adaptive management

This group of papers represents the largest number of documents and has a broad coverage across different kinds of urban green space: parks and woodlands, community gardens, urban and community supported agriculture, wild and transient spaces including brownfield sites and river corridors are all included. However, there is a strong focus on community growing and food production. The theoretical foundations of this group of papers include place making and place keeping literature, framed in terms of adaptation, adaptive management and social learning. There are many more empirical studies in this cluster of research than in the others, and many papers are descriptive rather than critical or developing theory. The examples included in the empirical work are however detailed enough to provide evidence of the specific governance arrangements of interest to WP6.

A cluster of papers in this group looked at urban food production in the UK, Germany, Sweden, France, Denmark, described it as a political act (Tornaghi and Van Dyck, 2015) and stressed the importance of maintaining social-ecological practice and biocultural memory for social learning and the capacity to respond to change and disturbance (Barthel et al., 2015, Halloran and Magid, 2013, Swagemakers et al., 2015). The continuing involvement of local authorities was identified as important to legitimising urban agriculture and protecting space (Halloran and Magid, 2013). Co-production and the involvement of local government was a continuing theme where governance was expected to move from place making to place keeping (the latter being defined as the long term management of a place Dempsey and Burton, 2012) although this requires the transfer of knowledge and skills to raise the capacity of civil society actors (Franklin and Marsden, 2015, Molin and Konijnendijk van den Bosch, 2014), although in some instances the expectations of local government about what it means to be a good citizen can have a significant effect on participation and governance outcomes (Van Dam et al., 2014).

Community gardens were used to show the importance of social networks to successful governance and to extending the reach and political leverage of community groups operating in this sector (Clavin, 2011, Ghose and Pettygrove, 2014, Green et al., 2015, Rosol, 2010, Veen, 2015). Social network analysis was also shown to be important in other urban green

space stewardship examples including conservation areas, and urban river corridors, as a means not only to negotiate shared objectives and outcomes between stakeholders, maintain stakeholder interest through time, but to extend governance networks beyond traditional sector boundaries (Connolly et al., 2014, Eckerberg, 2012, Holt et al., 2012).

A cohort of papers in this group used the focus on community based management to explore engagement tools and deliberative methods of inclusion in governance processes facilitated by place-based social learning (Cheng and Mattor, 2010), demonstrating how these could lead to self-governance by changing local politics to a new politics of support for citizen engagement in green space management (Cheng and Mattor, 2010, Rijke et al., 2012, Sorensen and Sagaris, 2010).

1.3.2 Development of the urban commons

A new and emerging area of research interest, the papers in this cluster are still at the stage of defining what an ‘urban common’ is. In contrast to public urban green spaces, defined as open spaces that are “publicly accessible, non-excludable, and managed through shared governance” (Campbell and Wiesen 2008 quoted in Colding et al 2013: 1041), urban green commons can be defined as “physical green spaces in urban settings of diverse ownership that depend on collective organization and management and to which individuals and interest groups participating in management hold a rich set of bundles of rights, including rights to craft their own institutions and to decide whom they want to include in management schemes” (Colding and Barthel, 2013). This small cluster includes papers covering Britain, Sweden, and Germany that consider perspectives on formal and informal governance through new “movements”. These movements constitute emerging forms of political resistance and informal governance such as foraging of wild food and guerrilla gardening in public and neglected spaces (Adams and Hardman, 2014, Adams et al., 2013, Colding and Barthel, 2013, Colding et al., 2013); collective action in private and public spaces as responses to crisis which have insights for resilience and social-ecological systems thinking (Barthel et al., 2015, Colding and Barthel, 2013); and collective action on new commons as alternative forms of governance to decision making powers in the neoliberal city (Follmann and Viehoff, 2014).

Although there is no explicit comment on the success of urban common regimes, Colding et al (2013) use a property rights framing to identify conditions for emergence which include: diversity in property rights regimes; individual self-emergency within societal level crisis; and the allocation of physical space in the adaptive renewal cycle. Colding and Barthel (2013), Colding et al (2013) and Barthel et al. (2015) suggest that cultural diversity, socio-ecological learning and knowledge are fundamental components of a resilient and adaptive response to urban change; whilst Adams et al (2013) see the urban commons as innovative governance in the form of a reaction to constrained decision making spaces in formal planning systems, making new “landscapes out of order” (ibid., p. 375).

1.3.3 Re-naturing cities

The few papers included in this cluster come from a body of literature which concentrates on identifying “nature-based solutions” to the problem of sustainable and liveable cities which is currently represented by research around urban energy, waste management and economic innovation rather than the governance of green space and urban nature. Howev-

er, Huston et al. (2015) looked at smart sustainable urban regeneration projects in the UK and the Netherlands and concluded that public-private partnerships required dialogue and discussion with “diverse locals and stakeholders” to progress projects that included more “risky” design elements such as green infrastructure; Puppim De Oliveira et al (2013) examined mechanisms for greening city economies, and identified the key governance challenges as circulation of appropriate knowledge, supporting technology as social process, and building appropriate governance institutions and capacity; Evans (2012) working in the USA, believes greening and “ecologising” the city rests on building experimental governance to test adaptive responses within a social-ecological approach to change; whilst Nastran and Regina (2015) show that opening up urban spaces for public use in Slovenia, and working to include civil society in the management of these places, not only prevents environmental degradation, but also provides new urban green and improves the quality of urban ecosystems.

Re-naturing cities

1.3.4 Governance in the context of policy and spatial planning

This group of papers has a close association with GREEN SURGE Work Package 5. We have limited the literature included in this review to those papers which explicitly look at the issue of governance. This group of papers is dominated by insights from Britain and the Netherlands, although they encompass the widest variety of European countries including Romania, Poland, Switzerland, Italy, Finland, Sweden, Norway, and Germany. Some papers present frameworks for understanding the connection between governance and planning policy using the governance arrangements framework (Arnouts et al., 2012, Buizer and Herzele, 2012, Bailey, 2010a), or the kinds of local groups characterised by the type of relationships they have with formal institutions (de Wilde et al., 2014). Such papers explore the contradiction between increasing centralisation through planning legislation and regulation at the same time as increasing integration of local ideas and decision making powers within decision making processes (Birkmann et al., 2014, Ioris, 2014, Kabisch, 2015, McGuinness et al., 2015, Muñoz-Erickson, 2014).

Tools for public integration and inclusion in planning processes are explored and the integration of local knowledge emerges as a key factor in local influence over planning decisions and negotiations, as well as the move to adaptation planning and resilient spatial planning frameworks (Faehnle et al., 2014, Faehnle and Tyrväinen, 2013, Secco et al., 2011, Tudor et al., 2014, Wilson and Hughes, 2011, Wittmayer et al., 2015, Mees and Driessen, 2011). There is creativity in the development and application of tools, e.g. the use of art and theatre to move stakeholders past stalemates in conversations and negotiations (Karadimitriou and Mironowicz, 2012). However, in some circumstances, planners are not necessarily willing to incorporate citizen viewpoints or engage with them despite the rhetoric of participatory planning and governance (Karadimitriou and Mironowicz, 2012, Kronenberg et al., 2015, Pacione, 2014).

Trade-offs can be observed between greater inclusion and ownership of governance processes and efficiency in the delivery of urban greenspace projects and management (Hofstad, 2013). However, in some local circumstances the opportunities for public involvement remain limited when local political narratives affect willingness to engage, when community expectations of what can be achieved are shown to be too high, or when local

capacity and interest are low at the outset (Lawless and Pearson, 2012, McGuinness et al., 2015, Pacione, 2014).

1.4 Objectives of this study

In Tier 1, we obtained insight into the policies and practices, actors and objectives of initiatives in order to understand the state of the art of participatory governance in urban green space in Europe. In the Tier 2 studies on governance arrangements, WP6 will investigate a number of innovative governance arrangements in a more in-depth way, analysing in which sense they have been innovative or successful and why, for whom, how, and in which particular contexts. WP6 will also look at the dynamics between top-down and bottom-up arrangements, and at the way these create or transform institutions. The research question is split into three sub questions. The first sub question especially relates to the four themes identified in the policy arrangements approach: discourse, actors, rules of the game, and resources. Research question two relates to the physical effects of studied governance arrangements. The third sub question relates to understanding success and failure, including the power dimension.

Main Research Question

- Which governance arrangements are most successful in terms of delivering: biodiversity conservation, ecosystem services, community empowerment, connecting people to urban green spaces as well as contributing to the green economy and promoting climate change adaptation.

Sub questions

- What do innovative governance arrangements look like in terms of aims, actors, structure, contexts, dynamics, and which of their elements can be seen as innovative?
- Which are the most important perceived effects of these arrangements in their environmental and political contexts?
- What lessons can be drawn from the supporting and hindering factors for these arrangements, and the power dynamics that take place?

1.5 Methodology

The methodology of WP6 has been developed in cooperation with WP5. In this section, we will describe the methodology of WP6 Tier 2, including the selection of cases, definition of clusters, data collection and data analysis.

1.5.1 Case Selection

The aim of the case studies was to look for instructive policy arrangements and to understand these more thoroughly. The selection of the cases for this deepening study was based

on two main considerations. First of all, to be considered as a WP6 Tier 2 case, potential cases needed to be situated in one of the 20 GREEN SURGE cities (for selection of these cities, see Davies et al. 2015). Second, all possible cases needed to fit a number of predefined criteria described below:

- The cases needed to have a good potential for learning experiences for other European cities and/or countries.
- The case needed to be elaborate enough for a detailed analysis with multiple interviews. The case study had to include multiple viewpoints.
- Access to multiple sources of data in relation to the case was a precondition, e.g. different types of documents and respondents from different backgrounds.
- Examples had to be innovative within the local context.

To facilitate identification of factors for success and failure, The Tier 2 research of WP6 is based on cross case comparisons. Through comparisons, we try to identify the factors that may have contributed to success or failure. Meanwhile, we do recognise that the diversity of cases make true and systematic comparisons difficult. Not only is each case thoroughly embedded within the local political, social and cultural context, also the aims of the cases differ significantly. To enhance the depth of the comparisons, we grouped the cases into five clusters, based on thematic correspondence. These clusters were developed after the identification of the individual cases. The themes of the clusters were: A) Integration of Green Space in Participatory Planning and Budgetting, B) Urban Agriculture, C) Community-led management of urban green space, D) Public-private partnerships for green space and E) Electronic Governance in UGI. A summarized overview of the cases can be found in tables 1.1 and 1.2. Figure 1.4 illustrates the geographical location of our case studies across Europe.

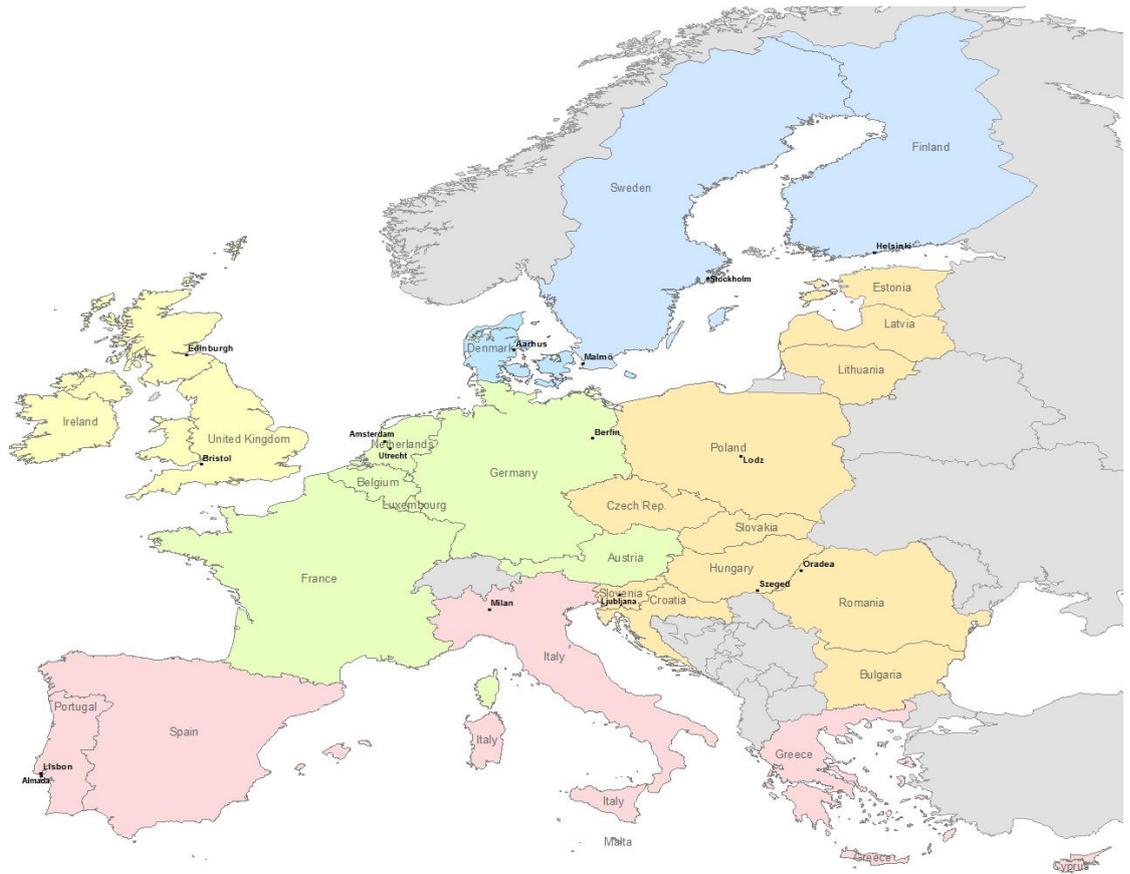


Figure 1.4: Selected case study cities for the Tier 2 analysis. (Adapted from <http://www.naturalearthdata.com/downloads/10m-cultural-vectors/>)

TABLE 1.1 OVERVIEW OVER THE CASE STUDIES PER CLUSTER (PART ONE: METHODS)

Cluster	Case study	City	Country	Year of Implementation	Data sources			
					Interviews	Websites	Papers and reports	
A	Integration of green space in participatory planning and budgeting	Neighbourhood Planning	Bristol	England	2010	1	7	26
		Participatory Budgeting	Lisbon	Portugal	2009	2	1	4
		Neighbourhood Green Plans	Utrecht	The Netherlands	2010	17	1	7
B	Urban Agriculture and temporary gardening	Granton Community Gardeners	Edinburgh	Scotland	2010	7	2	1
		Municipal Allotment Gardens	Lisbon	Portugal	2007	4	2	-
		Beyond the Construction Site	Ljubljana	Slovenia	2010	5	1	-
		Urban Farming in Hyllie	Malmö	Sweden	2015	5	-	3
		Igelbäcken Allotment Garden	Stockholm	Sweden	1978	7	2	3
		Stopping-place - the first community garden	Szeged	Hungary	2014	8	3	2
C	Community-led management of green spaces	Nature Society De Ruige Hof	Amsterdam	The Netherlands	1986	5	2	5
		Volkspark Lichtenrade	Berlin	Germany	1981	6	7	13
		Duddingston Field Group	Edinburgh	Scotland	2011	7	2	2
		Boscoincittà Park	Milan	Italy	1974	12	4	1
D	Public-private partnerships for green space and ESS development	The Aabo Forest	Aarhus	Denmark	2014	4	9	6
		Lisciasta Park Residence	Lodz	Poland	2013	3	-	4
		Adoption' of Green Spaces by Companies	Oradea	Romania	2015	3	2	1
E	Electronic governance in UGI	The ByHøst web tools	Copenhagen	Denmark	2011	3	5	5
		E-governance	Helsinki	Finland	2009	5	5	4

TABLE 1.2: OVERVIEW OVER THE CASE STUDIES PER CLUSTER (PART TWO: CONTENT)

Cluster	Case study	City	Area (ha)	General aim	Innovative highlights	Main stakeholders
A: Integration of green space in participatory planning and budgeting	Neighbourhood Planning	Bristol	n.a.	Implement the national Localism Act.	The integration of community views within the formal planning system of urban green-spaces	Bristol City Council
	Participatory Budgeting	Lisbon	n.a.	Involve citizens in the development of the city.	The first European capital to adopt a Participatory Budget (PB) process at a municipal scale; the use of new technologies to present and rank proposals	Lisbon City Council
	Neighbourhood Green Plans	Utrecht	n.a.	Create and enhance green spaces in the neighborhoods.	Citizens are actively involved in the development of green-spaces across the city; it was the first time that such an approach has been chosen	Utrecht City Council
B: Urban Agriculture and temporary gardening	Granton Community Gardeners	Edinburgh	<1	Enhance green spaces, support gardening and food production, promote community cohesion, encourage healthy habits, and environmental awareness.	A true bottom-up grassroots community garden in the city; high community engagement and buy-in	Local community Edinburgh City Council
	Municipal Allotment Gardens	Lisbon	38	Enhance green space, contribute to ecological balance of the territory, socio-economic stability of municipality and welfare of its population.	Allotments are integrated into urban parks and gardens; an important feature in the UGI planning	Lisbon City Council
	Beyond the Construction Site	Ljubljana	<1	Inclusion of local residents in governing the city green space.	The crucial role of facilitators in assessing citizens' needs and engaging them in the governance process.	KUD Obrat association
	Urban Farming in Hyllie	Malmö	<1	Fight unemployment, utilize knowledge about farming and foreign crops, and develop sustainable solution for unused land.	The business model, where the main idea is economical sustainability; using municipal land for commercial use	Xenofilia / Malmö City Council / SLU
	Igelbäcken Allotment Garden	Stockholm	2	To serve as a place for people to grow food and flowers, and to promote social interactions.	It has served as a testing ground for a changing demography of people in the city; an opportunity for social interactions by people from different cultural backgrounds	Stockholm City Council / Association of Stockholm allotment gardens
	Stopping-place	Szeged	<1	Reducing alienation among residents, creating accessible green areas and developing a living community.	First community garden in the region	MASZK Association

C: Community-led management of green spaces	Nature Society De Ruige Hof	Amsterdam	13	Bringing citizens closer to nature and nature closer to citizens; and developing, managing and protecting nature.	De Ruige Hof is and has been an inspiring example for other green initiatives; integration of volunteers with a background as a psychiatric patient	De Ruige Hof Association
	Volkspark Lichtenrade	Berlin	5	To provide and preserve a park.	The first initiative in Germany in which an association created, maintains, and finances a public park.	Trägerverein Lichtenrade Association
	Duddingston Field Group	Edinburgh	3	Creation and management of semi-natural habitats using sustainable practices, promoting environmental education and recreation.	The successful management of a prominent and large area of land by a community group	Duddingston Field Group / Municipality
	Boscoincittà Park	Milan	120	To mitigate air pollution, increase the amount of green space per capita, improve connectivity, and to provide green spaces for leisure, social and sports activities.	A multifunctional park that is based on the participatory process of community-led management and self-generation of funds; implementation mechanisms such as monitoring of wildlife, botanical and soil surveys	Italia Nostra NGO / Center for Urban Forestation
D: Public-private partnerships for green space and ESS development	The Aabo Forest	Aarhus	76	Securing clean groundwater resources for a wider community in sites owned by private owners.	The combination of different compensation tools (e.g. land swaps, financial compensation, trees for free) in order to lure the interests of private actors in investing for public purposes.	Municipality
	Lisciasta Park Residence	Lodz	<1	Rehabilitate a green area in order to enhance its recreational and aesthetic aspects.	There is no tradition of such collaborations in Lodz and it opened up opportunities for similar partnerships in the future, potentially also in other areas of governance	Lisciasta Park Residence
	Adoption' of Green Spaces by Companies	Oradea	<1	Increase good quality green spaces in the city shifting the implementation and maintenance responsibility and costs to the business community.	A good equilibrium between what the public actor can request regarding development and maintenance of green spaces and what should be offered in return (e.g. advertising possibilities).	Municipality and businesses
Electronic governance in UGI	The ByHøst web tools	Copenhagen	n.a.	Share and disseminate knowledge about urban biodiversity, in particular edible plants, and guide users towards nature experiences.	The first of its kind in Denmark; several municipalities have taken interest in using the ByHøst app in urban greening projects as a direct and tangible way to users	ByHøst NGO
	E-governance	Helsinki	n.a.	Enhance and promote citizen participation in the city planning and management.	It facilitates knowledge sharing and links to other activities; improve transparency of the planning and management of green spaces; enhances knowledge building and shapes on-ground group activities	Municipality

1.5.2 Methodological guidelines

As consistency in methodology across cases is very important for a comparative analysis between cases within and between clusters, we formulated research questions and the

methodological guidelines, and five different sets of research questions for all case studies within each cluster. All steps in collecting and recording data were well documented (see Technical Annex: Havik et al., 2016) both for the benefits of transparency of our work and for comparability between cases. Since each case was specific to and situated within a context, the methodological guidelines did not precisely prescribe what data were to be collected and where these data should be found.

1.5.3 Document analysis

Document analysis involves the reading and interpreting of all kinds of documents including websites, reports, newspaper articles, blogs, opinion pieces, policy documents and even items on TV or radio. Before conducting interviews, researchers carefully read through these documents and actively looked for more background knowledge about the case and to support the construction of interview questions. During the interviewing, researchers attempted to locate additional documents through the respondents. In some cases, little or no documentation was available. If this was the case, additional data were collected by conducting extra interviews. For transparency, and in order to present evidence for the analyses, researchers kept a list of all documents they collected for the case analysis.

1.5.4 Interviews

Researchers interviewed respondents with different backgrounds (e.g. municipality officials on both the strategic and operational level; citizen members of a certain group and other citizens). During the process of data collection researchers actively approached respondents with different backgrounds than the ones already interviewed. Respondents were promised anonymity and had given free, prior and informed consent. A minimum of 5 interviews were conducted, including at least the viewpoints of local citizens and of municipal officials. Researchers worked with the principle of saturation (Kumar, 2005). Cases are context dependent and local researchers know best what to ask. No fixed interview guides were therefore designed for the interviews. Instead, an example questionnaire was given as inspiration to all researchers. Researchers recorded the interviews and either transcribed them verbatim, or wrote extensive summaries of the interviews. All findings were summarized in English.

1.5.5 Comparative case study analysis

Case tables were established in Excel, aiming to summarize the main findings of each data source, increase transparency of the evidence and facilitate cross-case comparisons (Miles et al., 2013). Findings in relation to each topic were summarized in a separate cell for that topic. Researchers finally constructed a specific narrative to present and integrate the main research findings.

After completion of all case studies and case study tables, cluster coordinators made comparative analyses within the clusters. The comparison of the results from these studies was done with care, taking into account the context dependency of the cases. During the process of cross case analysis, cluster coordinators kept in close touch with the case researchers in order to clarify misunderstandings and gain verification of their own interpretations.

Comparative analyses were predominantly made within the clusters, although some cross cluster analyses were done to look for answers that could not be found within clusters.

2 CLUSTER A: PARTICIPATORY PLANNING AND BUDGETING

2.1 Introduction

2.1.1 Cluster theme

Cluster A covered three different approaches to citizen engagement in participatory planning processes. These were all led by municipalities but intended to facilitate greater community involvement in i) strategic decision making, and ii) project funding allocations including those associated with green initiatives. Two of the cases, one in Utrecht (Netherlands) and one in Bristol (England) concerned citizen participation in two different forms of urban spatial planning at city neighbourhood level; the third case in Lisbon (Portugal) concerned participatory budgeting allocating funding for projects including greenspace proposals.

Boxes 1-3 provide a short description of each of the case studies.

Box 1. Neighbourhood Green Plans in Utrecht

Established in 2010, Neighbourhood Green Planning is a municipal level policy programme facilitating citizen involvement in the development of green infrastructure projects across the city of Utrecht. The initiative includes 10 neighbourhoods, covering the entire municipality, in the Green Planning process with an allocated budget of €500.000 each. For each neighbourhood, citizens are encouraged to share their ideas about projects that can improve both the quantity and quality of green spaces. These ideas are screened for feasibility by the municipality before selection and implementation through the Neighbourhood Green Plan (NGP). Any one NGP might implement a number of different project ideas, and to date, about 140 projects have been approved and/or delivered. The NGPs in each neighbourhood were developed separately and there have been differences in the procedures, funding, content and involved actors between the 10 NGPs. Each neighbourhood also has a different social and environmental character, which affected the opportunities and outcomes. For example, the NGP Leidsche Rijn covers a newly planned and built expansion to the city over greenfield areas, whereas the NGP Binnenstad area covers the historic high density housing and canaled central area of the city. The municipality is actively seeking the participation of citizens in the continued care and maintenance of the projects and greenspaces (i.e. promoting self-management). The innovative aspects of this case study centre on the policy practice and process implemented at a city-wide scale, and the greater inclusion of citizens cultural knowledge, values and green space preferences.

<http://www.utrecht.nl/groenbeleid/wijkgroenplannen/>

Box 2.2. Neighbourhood Planning in Bristol – Old Market Quarter

Neighbourhood Planning (NP) is an England-wide national level planning policy introduced through the Localism Act 2011. NP provides a formally prescribed process to include the views of citizens in producing a strategic vision for a designated Neighbourhood Planning Area (NPAs). The structuring parameters of the NP process are clearly defined and NPs must be compliant with the Local Planning Authority's Local Development Plan. Bristol is one of the few English cities developing urban NPs. Old Market Quarter and Redcliffe Way are two NPAs located in the centre of Bristol at different stages in the NP process. They represent quite different communities and development planning opportunities. Old Market is an historic area, with mixed residential and economic functions, where local residents are interested in developing green spaces as part of urban regeneration and support for local economic development. Redcliffe Way is a modern redeveloped zone with few residents but a large professional working population commuting into the area daily; the key focus here is improving "city liveability" infrastructure which includes green infrastructure such as green roofs and vertical planting. The intent of the NP process is to produce strategic guidance, and is not concerned with the direct delivery of projects. Funding is available (between £4-8,000) through national government to support the community level deliberative process. In Old Market Quarter the community sought funding for specific studies and plan development from the Local Authority and civil society charities and organisations. The innovative aspects of this case study centre on the policy practice and process implemented in a way that influences formal planning procedures, along with the greater inclusion of communities' cultural knowledge, values and environmental preferences.

<http://www.bristol.gov.uk/page/planning-and-building-regulations/neighbourhood-planning->

Box 2.3. Participatory budgeting in Lisbon

Participatory Budgeting is a Lisbon-wide municipal level initiative initiated in 2008/9. The aim of Lisbon Participatory Budgeting (L-PB) is to include people in decisions about the allocation of municipal funding for projects providing social and environmental benefits to the city. The only limitations on the kinds of projects that can be proposed are that they are for public benefit, are overseen by the municipality and do not support private entities. A budget of €5 million was originally set aside for the L-PB, however this has been reduced to €2.5 million to account for budget challenges. The deliberative process allows citizens to propose projects and then to vote on which projects they favour. More than 65,000 votes were cast between 2008-2012. In the first years of the programme environmental and green space projects made up the majority of the ideas put forward and voted for. As such the programme has had a major impact on green infrastructure in Lisbon. For example, almost all the city's cycle paths had their origin in L-PB, as did the park and garden creation that produced a significant ecological corridor linking Monsanto Forest Park with Eduardo VII Park. Projects with the greatest number of public votes are funded. In the 2013 edition of the L-PB the most number of votes ever for a single project, over 7,500, was awarded to the restoration of Lisbon Botanic Garden. The innovative aspects of this case study centre on the policy practice and process implementation. Lisbon was the first European city to try PB at such a scale. Innovations in voting and ranking methods and the outreach techniques used to diversify the kinds of people engaged have widened the base of cultural and environmental values incorporated in the successful projects.

<http://www.cm-lisboa.pt/en/participate/participatory-budget>

2.1.2 Literature Overview

There is a growing body of evidence investigating the governance aspects of participatory planning and participatory budgeting across Europe and other areas of the world.

Considering citizen involvement in participatory planning processes (the approach taken in the Utrecht and Bristol cases) evidence from Europe has already identified some key issues regarding the success of such initiatives and the impacts they have. These include: limitations to the realisation of citizens' ideas in concrete projects if citizens are not included in the implementation phase of development projects; the over-representation in planning processes by citizens or citizen organisations that are able to communicate using the discourse and language of the formal planning culture; the importance of trust in formal institutions and processes as a prerequisite for citizen participation and the quality of that participation; the need to recognise citizen knowledge as specifically local in focus and reconcile this with the need for strategic context; and the friction between representative and participatory engagement and the inclusion of minority voices in the participatory planning process (Johansen and Chandler, 2015, McTague and Jakubowski, 2013, Menzel et al., 2013, Natarajan, Attuyer, 2015, Beaumont and Loopmans, 2008, Beaumont and Nicholls, 2008, Uitermark and Duyvendak, 2008, Falleth and Hansen, 2011, Chapman, 2011, Rosol, 2015, Pill and Bailey, 2014, Parker and Murray, 2012, Folmer and Risselada, 2013, Crabtree and Mackay, 2013, Sorensen and Sagaris, 2010).

Participatory budgeting (PB), the approach taken in the Lisbon case, has been around for about 25 years since introduction in Brazil where the process was primarily used to promote social inclusion and redistributive justice on behalf of more disadvantaged groups in society (Allegretti and Antunes, 2014, Avritzer, 2012, Nelson Dias, 2014). In Europe, the process is still rather innovative, since the transfer from developing countries opens opportunities for different forms of application and integration of different governance tools. Looking at the international literature investigating the success of participatory budgeting initiatives, key factors seem to be: political will (Krenjova and Raudla, 2013); institutional arrangements capable of facilitating the deliberative participatory process (Moir and Leyshon, 2013); actual implementation of the budget spend without political prejudice (Krenjova and Raudla, 2013); and interest amongst a wide section of the population to take part (Allegretti and Antunes, 2014, Moir and Leyshon, 2013). The various models of PB that are applied across Europe have been reviewed by Sintomer et al (2008), who show that variations in outcomes depend on underlying participatory traditions, and on how far citizens are able to directly assume decision making power.

There is very little literature and evidence dealing specifically with the connection between urban greenspace policies and projects and either participatory planning or participatory budgeting. It is this gap in empirical evidence and interpretation that the case studies presented in this section attempt to address.

2.2 Dominant governance arrangements

Table 2.1 below presents a summary of the dominant governance arrangements across the three case studies.

TABLE 2.1 OVERVIEW OF POLICY ARRANGEMENTS IN PARTICIPATORY PLANNING AND BUDGETING CASES

	Discourse	Actors	Rules of the Game	Resources
Utrecht (Netherlands)	Creating greenspace on municipal land using community generated ideas and projects	Municipality, local residents, facilitating NGO	Slight variation in the rules by District, but ideas submitted by citizens limited to public land, generating public benefit. Municipality selection of project ideas bundled as Neighbourhood Green Plan, criteria for selection include “feasibility”, potential for impact and popular support, although these soft criteria may vary by District.	Municipality budget for NGP €500.000 per neighbourhood for development of 10 each individual plans and implementation of the projects. No more than €80.000 of this to be spent on process. Co-funding from other public sources. Citizen time, municipal time.
Bristol, UK	Improving community representation in municipal strategic planning policy	Municipality, NP Forum, local residents, facilitating NGOs	Neighbourhood Planning process clearly prescribed. Conformity with Bristol City strategic plans mandatory. Formally constituted Planning Forum required for community and stakeholder engagement. Neighbourhood Planning process guided by municipality and examined by independent planning professional. Community consensus required for final approval of Neighbourhood Plan.	Early funding for public consultation provided by national charity. Some funding from municipality and national government available for Neighbourhood Plan production and studies around particular issues. Citizen time provided on NP Forum as well as taking part in consultation processes. City official time. Consultants used by community to prepare NP.
Lisbon, Portugal	Legitimising public spending decisions for public benefit projects through the expression of resident preferences and voting selection	Municipality, citizens, facilitating NGO	L-BP process clearly prescribed. Rules for the submission of project ideas stated. Selection of shortlist of projects for voting undertaken by municipality using feasibility criteria. Voting process through prescribed on-line and off line methods. Implementation of winning green projects subject to final negotiation and approval with municipality.	L-PB budget initially €5 million, declined to €2.5 million. Citizen time to submit proposals, and citizen interest and time to take part in voting. City official time. Consultants used by community to prepare NP.

2.2.1 Actors

There are three groups of important actors involved in each of the case study governance approaches these are: grassroots initiatives; individual participants; and municipal officials.

In Bristol and Utrecht the involvement of grassroots organisations is difficult to disentangle. In Bristol the Old Market Community Association (OMCA) was created specifically to facilitate resident's interactions with governance processes. Other grassroots organisations representing different groups within the community (e.g. the Somali community association) were involved in the consultation activity. A similar situation existed in Utrecht where it was really individual citizens rather than civil society groups (i.e. community groups, grassroots organisations or NGOs) who were involved in the projects. In Lisbon there was a slightly stronger association since some of the project ideas put forward were linked with grassroots initiatives important to local citizens. Other involved actors in the Utrecht case included water boards, housing associations, entrepreneurs and several NGO's.

The evidence suggests that in all three cases, those citizens leading the governance processes tended to be white, middle class, middle aged and well educated. In Old Market Quarter Bristol these people were primarily local residents and those running local businesses. The Neighbourhood Planning process they followed did, however, open up a very transparent consultation process and encouraged dialogue with a wide range of other local individuals, community groups, and other local stakeholders. Views representative of the local population (which has a high proportion of people from Black and Minority Ethnic backgrounds as well as students and young professionals) were probably well captured, even if it were not representatives from these parts of the community who actually were members of the Neighbourhood Planning Forum. The data show a range of comments about the range and depth of citizen contributions through the engagement process. These ideas went beyond the proposals OMCA originally identified as being important in terms of regeneration to support business in the Old Market area. OMCA went to some effort to include the less common voices. In summary then, in Bristol it was the civic core (i.e. individuals already involved in volunteering or getting involved in other community initiatives), rather than citizen experts (i.e. individuals with specific knowledge of the planning system and planning process) who represented the community through the NP process. However, acting as a community association (i.e. OMCA) these individuals do seem to have been able to represent the wider community.

The situation was very similar in Utrecht, the people involved in NGPs were more likely to be white, older, middle class, and those more interested in green issues. People from poorer neighbourhoods (often with less green) generally seemed to be less interested in submitting ideas for the NGP's. However, in parts of the city where the population was more diverse, there were examples of efforts from citizens and the municipality to include people from other backgrounds, e.g. the example of trying to engage people with Moroccan ethnicity.

Participation related to age, ethnicity and social class

In the Lisbon case, the basic characteristics of the people who took part in the voting process were recorded, showing that they were mainly aged between 26-45, mostly well educated, with an almost even split of female and male overall. Looking at the on-line engagement the participants using this method of engagement were 67% male 33% female. Analysis of the age and education of the participants in the PB process showed a distinct difference in profiles according to the kind of engagement tool that was used, with Participatory

Assemblies (open meetings and idea submission venues) and Polling Stations (off-line voting stations) attracting a slightly wider age range including older people compared to on-line based techniques.

In Utrecht, the municipal officials that shaped the process and assessed the feasibility of the submitted ideas and project proposals were based at the different municipality departments, including Environment & Mobility, Urban Design, Heritage and Urban.

Neighbourhood councils, consisting of engaged residents and functioning as a consultancy body for the municipality for each specific neighbourhood, were almost always involved in the NGPs. The different neighbourhood councils have had different roles and degrees of involvement in different NGPs.

In Bristol it was individuals from the strategic city planning team who took the lead in guiding the Neighbourhood Planning process. However, officials representative of other departments such as economic development, parks and green spaces, transport and community development were included in Planning Forum meetings at different points in the process.

In Lisbon, the main sector within the municipality managing the L-PB process was the sector for Administrative Modernisation, Innovation, Economy and Entrepreneurship although there was interaction with other officials with responsibility for the Municipal Directorate of Green Structure, Environment and Energy, Municipal Directorate of Mobility and Transport, Municipal Directorate of Projects and Construction works, Municipal Directorate of Urbanism, among others.

2.2.2 Discourse, objectives and motivations

These different groups of actors all had slightly different reasons for getting involved, and therefore focused on realising slightly different outcomes.

The motivations of the different grassroots organisations that had some part on the case studies are not easy to discern, and it is not possible to trace which groups might have influenced the suggested green space 'projects' in the Neighbourhood Plan.

In terms of individual participants, the community leaders of the Bristol Neighbourhood Planning process clearly stated their interest in improving the quality of the local environment for residents and also, perhaps more importantly, for businesses. The initial interest in the condition of the built heritage and transport issues by the community association was mediated through the community consultation exercises. The people who took part in those exercises generated ideas about green space they wanted to see included, and which expressed their bio-cultural values. These were connected with a sense of local character, the desire for places to socialise and relax, bring nature into the urban landscape, and provide more pleasant and mediate urban climate. From the point of view of the City Council *"The inclusion of so many "ordinary" voices means perhaps that the greenspace element of the plan was emphasised more than it might have done otherwise"*.

The involved 'citizens' in Utrecht included a large group of different residents across the municipality of Utrecht. Interview evidence suggest that their motivations and objectives participating in the Neighbourhood Green Plan process were very wide too. The motivations ranged from a general desire to 'green' their neighbourhoods; a recognition of wanting to promote biodiversity and particular culturally and ecologically important species; creating pleasant meeting and sitting places; reducing nuisance in unloved areas; promoting street and neighbourhood safety; and creating playing facilities and safe play spaces for children.

In Lisbon it is harder to track citizen motivation for taking part in the voting process, other than respondents having strong values or preferences attached to particular projects. Con-

sidering the prominence of greenspace projects that were voted in during the first years of the participatory budgeting programme, the values citizens attached to green spaces was relatively high.

In all three cases the members of the municipality were following through on political initiatives that had been developed into formal policy and programmes. In all cases the inclusion of “citizen voice” in the planning and budget allocation process was seen by officials as engagement to increase democratic representation and thereby the legitimacy of decisions taken and projects implemented. The motivations of the Bristol City Planning Officials had to respond to the demands of the Old Market and Redcliffe community for Neighbourhood Plans. They wanted to integrate community views since it was believed this would likely facilitate better and less contested spatial planning decisions in the future, and had a planning policy to include communities in decision making. In Utrecht the aims were also made explicitly to facilitate a more ‘bottom-up’ way of working in which citizens have a stronger say in what and how green infrastructure develops, but also an increased responsibility for maintaining public green space. However, in all three examples, city officials did not want to relinquish full control of either the process of green space governance or the delivery and maintenance of greenspace projects to the community. In this sense, it could be argued that participation was regarded as a tool to facilitate the work and responsibilities of certain parts of the municipality.

2.2.3 Rules of the game

One important similarity between the three case studies is the political support behind the initiation and the development of these inclusive governance approaches. In the case of Utrecht, the political party *GroenLinks Utrecht*, which became a member of the local governing coalition in 2010, had a specific ambition to develop green space within 300m of every home in the city and to involve citizens in the design of a “pleasant living environment”. The Neighbourhood Green Plans were a direct consequence of this political initiative. In Lisbon the Socialist leader of the city council sought legitimacy from the electorate through the implementation of “spaces for dialogue” involving citizens in new ways of governing the city. A “Charter of Principles” for participatory budgeting was one of the main methods of administering this change (Allegretti and Antunes, 2014). In Britain, the Labour government’s ideals around promoting greater decentralisation and “local voice”, which was then followed by the Conservative coalition government’s neoliberal project to alter the role of local government in England, are two political initiatives that have both supported the idea of localism, the development of the Localism Act 2010, and the Neighbourhood Planning process enabled by the Act.

Each of the three approaches had a defined process. In the case of Neighbourhood Planning in Bristol, this was very closely prescribed with clear rules about conformity with policy, inclusion of the community and steps to developing, examining and ratifying the plans produced. In Utrecht there was no prescription to the kinds of ideas that could be submitted as long as they were for public land. There were differences in the process and the criteria for judging feasibility and inclusion in NGPs that varied by District. In Lisbon the rules for submitting ideas and voting were published as a regulation contains general rules, but also the differences between the two types of projects that could be submitted, i.e. between €150.000 - 500.000 and below €150.000. Every citizen was entitled to two votes, one for each group of projects.

In summary, participation of citizens was motivated by slightly different reasons and slightly different expected outcomes. In Bristol participation was seen as a form of democratic decision making within the limitations of the formal planning and NP process. In Lisbon, partici-

pation was seen very much as democratic decision making for legitimate budget allocation and spending on project for public benefits. In Utrecht, citizen involvement was contingent on two reasons. One was to ensure democratic decision making within the creation and development of urban green space. The second objective was more instrumental in terms of realising the political aims of the Green party commitment to green space creation.

If we examine the kinds of projects included within these participatory planning processes that actually gained support from government actors we find... In Bristol it was clear that the culture and language of formal planning was the dominant power within the Neighbourhood Planning process. As such the community could not put forward proposals which contradicted strategic city planning policies, and they also had to learn to adopt this way of presenting their ideas and evidence to city planners as a prerequisite to gaining support. None the less, the draft Neighbourhood Plan has retained the green space projects the community identified as important priority actions. In Utrecht and Lisbon the first criteria for acceptance was the “feasibility” of projects as judged by the municipality. Beyond basic criteria e.g. in the case of Lisbon projects not being on private land and for private benefit, the selection criteria were not explicitly articulated. Citizens in Utrecht for example did note that they had little idea about how decisions on selection were organised within the municipality. In Lisbon, between 2008 and 2012 about 30-35% of the suggested projects actually made it onto the voting list (Câmara Municipal de Lisboa 2013). However, the range of projects that were put forward in Lisbon and Utrecht demonstrates that there were really no prescriptions or trends in terms of size or scope of the projects that were supported. A range of different citizen generated ideas and proposals were included. In the case of Lisbon Botanic Garden the support from the municipality was strong enough for them to approve the whole restoration project, even though the PB only covered funding for part of the work, and the municipality were obliged only to approve that part of the plan. The projects in all three of the cases fit in with UGI planning strategies. Only in Utrecht did citizens show a concern that the municipality had not made the most of considering integration of Neighbourhood Green Plan project support and selection with the aims of the city’s Urban Green Strategy.

Looking at the issue of implementation to see just how far citizen ideas were delivered on the ground the cases reveal slightly different situations. In Utrecht, opinions differed: Some citizens felt their ideas were incorporated within the projects that were taken forward as part of the Neighbourhood Green Plans, but there were other participants who felt less represented. A view from the city officials was that by and large, a general assessment of the projects included in plans would suggest that as many of the citizen ideas that could be included within the constraints of budgets, time and the use of other municipal resources, were actually included. In the Bristol case study, the community initially misunderstood what the Neighbourhood Plan could deliver. Whilst community aspirations were about developing potential projects including some small and large green space initiatives, this was not the purpose of the NP process. In this sense then the lack of implemented projects – the action communities wanted – means that community aspirations and ideas were not delivered, even though the Neighbourhood Plan was a vehicle that would never have done this for them. In the Lisbon case the process of project shortlisting and later implementation was a process of reaching consensus in decision making between the municipality and project proponents. In this sense citizen ideas were delivered within the constraints of budget allocation, feasibility assessment and technical compliance with municipal policies and standards. One of the most important factors affecting the incorporation of citizen ideas has been the timescale of the participatory process. The longer the idea to implementation process takes, the fewer the people who engage in the process and the narrower the design

influence on the final realisation of projects. In common with all other green space projects that are developed in Lisbon, the final details and modalities of project implementation are agreed with the municipality to ensure fit with the strategic planning and other obligations of the city. In the case of the Botanic Garden this consultation process has led to delays in implementation.

2.2.4 Resources

In order to implement the NGPs, the municipality reserved a budget of €500.000 for each neighbourhood, amounting to a total budget of €5 million for the development and implementation of the NGPs in Utrecht. Of the €500.000 budget per neighbourhood, at least €420.000 had to be spent on the implementation of the eventual NGPs. The remaining €80.000 could be used for process costs, facilitation of participation and developing ideas. Of the three different cases Utrecht and Lisbon had dedicated budgets to facilitate the participatory approaches. From the start, the intention has been to find co-financing for the eventual implementation of NGP-projects (see e.g. Municipality of Utrecht, 2014). On average, about €175.000 on co-financing was obtained per NGP.

€175.000 on co-financing per NGP, but mostly public sources

This co-finance generally came from other public sources – there was hardly any private cofunding. Sources of co-financing include, inter alia, several municipality budgets (see Municipality of Utrecht, 2015), the water board, the province of Utrecht, the ministry of Economic Affairs and housing associations. Additional expertise in the Utrecht case was provided by the NGOs and entrepreneurial actors, for example, in NGP Zuidwest, the participation trajectory was supervised by TALrijk, a platform consisting of three people with a green, communicative background. They offered the municipality to guide the participation trajectory with the residents in NGP Zuidwest, which was accepted by the municipality. TALrijk tried to involve the residents in a bottom-up way, and particularly aimed to inform the residents about the regulations and conditions.

In Lisbon, funding for project implementation comes from the municipal budget originally set at €5 million although this has been reduced to €2.5 million to account for budget challenges. Sometimes there are partnerships with the business community which provide extra funding. The project proposals are only applicable on municipality land. Sometimes it is necessary to resort to private partners or associations that have the know-how to best implement the project, so they may lend resources of time and expertise in these circumstances. The In Loco Association for Development also helped the Lisbon municipality with designing, implementing and then evaluating the platforms that citizens used to engage with the voting process.

In Bristol, there was no specific budget allocation for the Neighbourhood Planning process. Municipal officials had to find the time amongst their other duties to support the process particularly mentoring the community association. In addition to this, OMCA received financial and technical support from The Princes Foundation in 2011, to undertake an initial round of community consultation. The community was also able to access £4,800 to enable professional support to write-up the Neighbourhood Plan: This came through Locality the body responsible for distributing central government funding for Neighbourhood Planning. A further £2,000 from Bristol City Council was secured to cover other miscellaneous costs associated with consultation and discussion of the draft Neighbourhood Plan. A sum of £40,000 was secured to carry out a study of potential sustainable transport modifications. OMCA mobilised its members and community volunteers to undertake en-

agement exercises, including: collating and analysing all the research and consultation material that was gathered; and volunteering to display the outcomes of consultation at local venues.

2.3 Relationship with government, policy and UGI

There are links between each of the case study initiatives and formal planning processes but these links differ in terms of scope and strength. In England, the Neighbourhood Planning process is formalised and closely tied to spatial planning procedures, and the Neighbourhood Plans once produced, are used in conjunction with core city strategies and the Local Development Plan to guide Planning Authority (i.e. Bristol City Council) decision making. The Old Market Quarter and Redcliffe way Neighbourhood Plans have both referenced the city's Green Infrastructure Plan and the obligations the spatial planning system has to international, e.g. European biodiversity protection, legislation. In Utrecht the NGP initiative was mentioned in the 2007 Green Structure Plan as an ideal mechanism for instituting change through the Multiannual Green Programme of the municipality. However, in actual implementation the projects included within NGPs have not made explicit reference back to the Green Structure Plan, even though the objectives of the NGPs were determined by the municipality rather than citizens themselves. In Lisbon, the projects which find themselves on the voting have been pre-screened for conformity with municipal policies, and if they win the vote, during the process of implementation staff of the Municipal Department of Greenspaces examine the strategic fit and detail of any green space projects to spatial planning and other policy.

A point of difference between the cases is the explicit connection with green space. Green space projects were the central focus of the Utrecht case. However, in Lisbon and Bristol the green space projects and greenspace planning were not predetermined aspects of participatory budgets or Neighbourhood Plans, but a reflection of citizen priorities for their local living and working milieu. In the Lisbon case citizens chose to vote for green space projects above others, and in Bristol Old Market Quarter residents identified green areas of community importance and areas they felt should be greened. In the case of Old Market Quarter, the English national government's Department for Communities and Local Government promoted the Neighbourhood Plan as an example focusing on the protection and enhancement of local green spaces contributing to the cultural and economic character of the area (Department for Communities and Local Government, 2014). The value of green space to citizens in each of the case studies, was emphasised in the Lisbon and Bristol cases, but was also important in Utrecht since citizens mentioned a range of cultural ecosystem services linked to the green space projects and plans that they supported. There is very little information available about the biodiversity characteristics of the green space projects and plans. In Utrecht there was some evidence of concern for the promotion of native biodiversity.

The time required to evolve the process is a similar consideration across the three cases. For the Utrecht and Bristol case studies work on developing the neighbourhood plans/green plans began in 2010. It has taken 5 years to move through the process close to completion in the case of the Old Market Quarter NP and realisation of all the green space projects in the case of Utrecht. Similarly in Lisbon the implementation timetable for some of the successful projects has been between 1-3 years. Whilst this timescale has enabled discussion between citizens and municipal departments, and in the case of Bristol and Utrecht has facilitated the

It has taken 5 years to move through the process.

inclusion of a range of supporting and opposing citizen's viewpoints, the evidence suggests that citizens in all case studies have been frustrated by perceptions of the municipal timescale being particularly slow. This highlights a difference in the understanding of the institutional arrangements and agency, or the "rules of the game" involved in the *co-governance* process. From the point of view of the municipal actors, there are frustrations more to do with the level of resources available to coach and manage the governance approaches over this time frame. This was perhaps particularly acute in the case of Bristol, and expressed to a lesser extent in the Lisbon and Utrecht examples. Overall the progress in transforming governance towards greater citizen participation, particularly in the sustained maintenance of green spaces through co-management or self-management arrangements, or in the case of Bristol the development of actual projects rather than strategic guidance, is a relatively long venture. Sustaining interest amongst the population over this time scale appears to have been a challenge. In all three case studies there was evidence to suggest that the presence of pre-existing local governance structures was important to maintaining engagement with the initiatives over time.

In Lisbon the power and influence of the citizens is expressed through the voting procedure, and through the process of negotiation at the implementation stage. Voting campaigns vary between projects depending on the capacity of the organisations or individuals involved to mobilise citizen interest and support. In Utrecht and Bristol it is the "civic core" who led in the participatory process and strengthened their influence by using the language and of the dominant culture – i.e. planning culture or municipality departmental culture.

2.4 Perceived effects

The perceived effects and whether these indicated successes or challenges varied in each case study and differed according to the stakeholder view point and at for the part of the governance process considered. The effects and successes brought about by the planning processes may not be the same as the impacts brought about through delivering the projects on the ground, or the long term maintenance of any of the urban green initiatives. Table 2 below summaries the perceived effects at different stages in the process according to the type of impacts.

TABLE 2.2 OVERVIEW OF PERCEIVED EFFECTS OF PARTICIPATORY PLANNING AND BUDGETING CASES

	Green Effects	Social Effects	Economic Effects	Institutional Effects	Other Effects
Utrecht (Netherlands)	Around 140 projects delivered providing new and enhanced green spaces and ecosystem services	Improvements to the general amenity values of areas with greenspace projects, and the involvement of different groups of people within greenspace initiatives may increase social interaction and social cohesion.	None recorded. However improvements to the quality of green space in residential areas may have improved house values	Self-management of greenspace projects by citizens	None evidenced
Bristol, UK	Nothing on the ground. If adopted the Neighbourhood Plan (NP) will become a strategic document that identifies important green space and potential greenspace projects.	Some evidence of social capital building but also evidence of emerging differences between social groups. Views of some minority groups included in process.	None. However, primary motivation behind NP was to improve the local environment to encourage business activity.	Formation of group to represent Old Market quarter. Learning within stakeholder group about participatory processes.	None evidenced
Lisbon, Portugal	Major impact through several large city wide schemes such as the cycle path network and the ecological corridor linking two parks	Increased civic engagement	Assumed improvements to businesses connected with greenspace initiatives e.g. cycling, recreation and tourism, and the Botanic Garden and rehabilitation of urban areas increasing the value of those areas	Some proposals within city planning strategies have been changed in response to citizen generated ideas	None evidenced

2.4.1 Green effects

For the Lisbon and Utrecht cases there is a general level of satisfaction from city officials and community representatives about the overall range and type of greenspace projects that have been delivered. In Utrecht and Lisbon these newly created and improved green spaces have made a tangible impact on the green infrastructure in the cities. However, from the point of view of some citizens in Utrecht, the lack of connection between the NGPs and the city's strategic Green Structure Plan means that the citizen-initiated local projects could have been better mediated by city officials for greater overall impact. The process of NPG planning was not always a success for participants in Utrecht either. The perceived inconsistencies in the application of rules and limitations were seen as confusing and not necessarily fair, as well as missing an opportunity for coherence with the strategic greenspace aims of the city. In Lisbon the number of projects with a GI component was very high at the start of the L-PB process, although the proportion of greenspace projects has slowly reduced over the years. It is interesting to note that in the early rounds the citizens were limited to choosing their three priority projects from a pool of choices, so the high selection of greenspace projects at that stage would suggest green space is a particular priority to citizens. Even with a change in the voting system to a free vote across all projects, one of the biggest campaigns and largest voting numbers was for the Botanic Garden restoration. The success in Lisbon is that citizen concern for their urban environment was captured by the L-BP process. It may also be the case that the L-BP process increased awareness of the relevance of green to the public.

In Bristol the perceived success by the City Council planners is really taking the NP process in Old Market Quarter to the final stages. It is the first NP in Bristol to do this and adds to the relatively small number of urban NPs in England. The process itself was deemed a success because the pool of people contributing went beyond the Council's list of community consultees. The process overseen by the Forum provided far more opportunity for discussion and the generation of ideas and consensus around future opportunities and future directions for a neighbourhood amongst the people who live and work there. However, because the Neighbourhood Plan is a strategic planning document intended to provide Guidance for future development, there are no projects or direct physical changes brought about as a consequence. So, from the point of view of the community, success was rather limited compared with their initial expectations and aspirations which were all about making physical improvements to their neighbourhood through the delivery of projects including urban greenspace initiatives. Urban green was seen as an important component of this particularly to improve the business and trading environment.

2.4.2 Social effects

Although interviewees from the Utrecht case mentioned increase in social cohesion as one of the impacts of the NGP process, there is little empirical evidence to support this narrative. There was some evidence to suggest quite the opposite: In one case certain residents used legal procedures to oppose the projects included in the NGPs. In the Bristol example building social capital and social cohesion were not explicitly discussed. However, there were some activities on social media platforms associated with OMCA and business groups which suggest increased connectivity between some sections of the Old Market population, along with a few voluntary initiatives looking to maintain and improve green spaces included in the NP. However, the NP process in Bristol was also evidenced to open up divisions between different sections of the community wanting to work towards different objectives. This had the effect of changing the composition of the NP Forum, and increased the number of different social media groups involved in discussing Old Market developments.

2.4.3 Economic effects

In the Lisbon case study a city official stated that they felt there was an impact on the green economy, and in Old Market, Bristol urban green spaces were seen as an important component of the urban regeneration that the community wanted to encourage business and trading activity in the quarter. The connections to the local economy and green economy in Utrecht were less clear.

2.4.4 Institutional effects

The institutional effects that were reported included the formation of new community level governance structures in the Bristol case, the development of arrangement for community self-management of green space in Utrecht and the development and refinement of the rules for PB in Lisbon. In the Lisbon case it is also worth noting that in some instances existing formalised urban development plans for an area were changed in response to some of the ideas and project proposals coming through from citizens' suggestions as part of the L-BP process. In addition, in order to better integrate the ideas and vision of citizens, there were regular meetings with the proponents of the projects to discuss details and technical options. At these meetings the municipality tried to reach a consensus with the proponent taking into account their vision and the planning/legal/funding constraints.

2.4.5 Other effects

The Lisbon case was subject to an evaluation by the *Optar* project, which assessed participant's perception of the main impacts of the L-PB process. In this exercise, citizens identified the possibility of presenting problems and issues of real importance to the Lisbon population as the most highly ranked effect, with the possibility to interact with other citizens in this PB space being the third most important. However, levels of trust in public bodies to actually implement projects as conceived in original plans, were very low.

2.5 Successes, controversies and tensions

The important drivers of innovation that emerged from evidence across the case studies can be summarised as:

- **Political will** to initiate and drive forward the three different governance approaches.
- **Available capacity** within the community to act on the opportunities provided by the new governance process. This includes time, access to resources, skills and knowledge resources that only certain communities or community members may have access to. In Bristol the city officials noted the difficulty of engagement with an urban community that had no established community level governance institutions. Lack of capacity might account for why some people did not take part or why innovation was slow.
- **Adequate time** for deliberation and consensus building, for both the community and municipal officials, was important for the success of all three cases. Taking enough time for new governance processes and the implementation of new ideas is important to the success of consensus, joint understanding, and the embedding of process. on the other hand, taking time was also shown to act as a disincentive to some participating citizens who found it difficult to maintain interest and active engagement over time, or became frustrated when implementation of projects was slow to happen.
- The **perceived legitimacy and eligibility of participants** – the speed of process and the degree of participation and innovation are reduced if not all participants are viewed as legitimate parts of the process or the stakeholder landscape.
- The **involvement of external organisations** in supporting citizen involvement in the processes helped to bring in new ideas as well as providing a secure framework and “safe spaces” for the exploration of ideas and opportunities, e.g. In Loco Association for Development in Lisbon, Princes Foundation in Bristol and TALrijk in a specific NGP in Utrecht.

There were certain aspects of the formal planning context that were important to realising the positive effects of the three governance approaches. These were:

- **Space for governance opportunities to grow**, in other words opportunities and enabling conditions within the structuring spatial planning policies, which allowed for flexibility and the accommodation of innovation or citizen ideas, projects and preferences. For example in the Bristol case the Neighbourhood Planning system is not aimed at developing projects, but projects the community identified and designed were included as Annexes within the Plan. In the Lisbon case the method and tools of engagement changed over different editions of the L-PB to improve participation by citizens and speed the implementation processes. This also included flexibility and adaptation within professional planning culture to respect and integrate citizen viewpoints and ideas.
- The **communication of planning culture**, i.e. priorities, concepts, language and time scales, to citizens was essential to managing citizen expectation, being explicit about the limitations and real intent of the governance processes and the opportunities provided.
- **A properly defined process** perceived to be managed fairly leads to citizen trust and confidence in the governance approach and this in turn encourages their active involvement and commitment to the process. Where the rules of the game are not clear, as in the case of idea selection and feasibility screening some of the Utrecht Neighbourhood Plans, or where there is perceived unfairness, as was the case with some of the early voting procedures in Lisbon, citizens may also question the legitimacy of final outcomes.

Other factors that were found to contribute to the success of the governance approaches include:

- The ability of the citizens involved in the processes to **generate support** amongst the wider local community to take part in both the idea generating and consensus building process. This was an important aspect of the Utrecht and Bristol case studies.
- The **use of social media** as a tool to mobilise and manage citizen interaction and engagement. There was some evidence of this in both Bristol and Utrecht, and some of the voting campaigns in Lisbon also relied on social media platforms to rally citizen support. In fact the Lisbon-PB made extensive use of on-line systems to engage citizens.
- The success of all three case studies relied, to a greater or lesser degree, on **motivated and qualified officials** being in the right positions to support and develop citizen engagement. This was evident in the Utrecht case, and in Bristol, too, where the personal contribution in terms of enthusiasm and motivation of the leader of the city Neighbourhood Planning team was recognised through the award of an OBE.
- **Synchronicity with other greenspace or participatory initiatives** building interest and momentum for the participatory planning process. For example, in Lisbon the co-occurrence of other programmes built on participation opening at the same time (e.g. Agenda 21, Priority Intervention Zones, Neighbourhoods Programmes) supported the publicity and general level of activity around participatory processes including L-PB.

use of social media as a
tool to mobilise citizens

The way in which tools contributed to the success of the different approaches is interesting to note. The key points were:

- Using a **variety of different engagement tools** was clearly the best way to reach the greatest number of people across the widest social spectrum. This was clear in Lisbon (on-line tools mixed with different forms of real world voting fora) and Bristol (large

number of different kinds of deliberative platforms, group meetings, participatory research exercises and consultation devices) cases, as well as in Utrecht across the different Neighbourhood Green Plans.

- The **support by other external organisations** in guiding the community engagement and making sure that the actual writing and presentation of plans and proposals met professional standards, as was seen in the Bristol and Utrecht cases.
- **Flexibility in the tools** used through deliberation. Both the Lisbon and Utrecht participatory processes changed the method and array of tools used in response to issues and ideas that emerged during the process.

2.6 Lessons to be learned

There are a few important learning points that these three case studies have to offer understanding of developing governance processes that support urban green spaces.

All three case studies demonstrate that wherever participatory processes are implemented, these tend to evolve over time, with each new case or new step in the process providing the potential to influence on the subsequent rounds of the planning or budgeting. In Lisbon the proposal, voting and engagement system changed as lessons were learnt about the need to increase the legitimacy of the vote and the scope for ideas to be carried forward. In Utrecht, learning from the development of one NGP affected the process of others, although this ability to tailor the process slightly to fit different neighbourhoods may have been the reason for the criticisms that processes were not always consistent or according to properly articulated “soft criteria”. In Bristol, Old Market Quarter NP was the first to reach the final drafting and referendum stage. The City Council planners learnt more about the process so they were better able to manage the development of NPs in other neighbourhoods, and the communities involved have networked through an association of NP Forums to share their understandings and perspectives. One of the proposed NPs in a particularly disadvantaged area of the city is no longer going ahead as planners and communities were able to look to the lessons from Old Market Quarter and Redcliffe and better appreciate the lack of capacity available to push forward with the initiative. Adaptive responses to the changing institutional and local context through social learning are a strength within the participatory governance context.

In terms of the case studies providing models and inspiration for other cities, the Lisbon-PB process proved itself as an exemplar for other cities in Portugal and across Europe. In addition the NGO facilitating the process for the municipality – In Loco – won the European Democratic Citizenship Award. The mix of on-line and “real world” tools and voting procedures they designed have wide applicability across Europe. In England the Bristol case study has been picked up by national government and used as an exemplar of i) how Neighbourhood Planning can be conducted in urban areas, and ii) promoted as an example of how the participatory planning process can support citizen’s concern for keeping and improving local green space provision.

2.7 Discussion and conclusions

Looking across the case studies there are differences in the opportunities provided for citizen engagement, and the degree decision making power citizens were able to leverage. This varied during the participatory planning process itself and the actual implementation and delivery of projects, and in the longer term maintenance of those projects. In these case studies there was far more evidence of citizen decision making and action in the planning process through the generation of ideas and negotiation of consensus around the ideas, than of the co-delivery or the continued self-management or co-management of urban “place keeping”.

Perhaps this is not a surprising conclusion considering that all three case studies were essentially about process tools for integrating citizen values and preferences, rather than project-based action. However, for some of the stakeholders involved, building a sense of community ownership of a place and extending citizen participation in the delivery and maintenance phases of projects were certainly hoped-for outcomes of the participatory planning approach. The evidence from Bristol and Utrecht in particular suggests that this is only likely to happen where citizens are connected with community level organisations and governance structures (e.g. residents associations, environmental actions groups, neighbourhood councils), or to other organisations (e.g. NGOs, other projects and programmes) that have the relevant capacity to support these kinds of longer term changes.

3 CLUSTER B: URBAN AGRICULTURE

3.1 Introduction

3.1.1 Cluster theme

This cluster is concerned with innovative governance arrangements in relation to urban agriculture (UA). Urban agriculture can be defined as “the production of crop and livestock goods within cities and towns” (Zeza and Tasciotti, 2010, p. 265). It includes a wide range of practices, including “allotment gardening and bee- and chicken keeping, urban farms and balcony gardens, peri-urban farms and inner-city community gardens, food growing and food education [practices]” (Veen, 2015, p. 17).

Urban agriculture (UA) has been identified relevant to all research themes in GREEN SURGE. Firstly, it is of interest to colleagues studying biocultural diversity as they provide places par excellence in which links between cultural diversity and biodiversity can be studied given the inter-cultural variety in agricultural practices and food preferences. Secondly, researchers studying the functional linkages have identified allotment and community gardens as a distinct category of urban green space, and have an interest in questions such as the different cooling functions of different green spaces, why land used for urban agriculture is often under pressure of development and what can be done about it. Researchers studying green economy are scrutinizing the potential of urban agriculture in creating a low-carbon, resource-efficient and socially inclusive economy. For example, by studying annual cost-savings and/or profits associated with urban gardening in an analysis of 127 urban gardeners in Ljubljana. Finally, colleagues studying planning are also considering urban agriculture as a policy theme in municipal green space plans, as well as innovative methods for implementation of this concept.

The key focus of our research in this cluster is on the role of UA in the creation of urban green infrastructure (UGI), which is reflected in the cluster-specific research questions addressing this theme. As such, all initiatives considered in this cluster maintain at least one green space/plot within the city area and provide multiple ecosystem services. This excludes practices such as food coops in which involved residents do not work the land. If relevant, aspects of urban agriculture practices that go beyond transforming green spaces (e.g., campaigning, knowledge exchange, marketing or trading activities) have been captured for land-based initiatives. Given the focus on participatory governance, we limited ourselves to those examples of urban agriculture in which non-governmental actors have a dominant role in garden management or upkeep. As a result, all our cases concern community and/or allotment gardens in urban contexts. Community gardens have been previously defined as “public garden[s] in terms of ownership, access, and degree of democratic control” (Ferris et al. 2001, p. 560), or simply as “public green spaces run by volunteers” (Rosol, 2010, p. 552). Allotment gardens have been defined as: “pieces of land in cities and towns provided either by local authorities or landlords where plot holders grow their own food, mainly vegetables and soft-fruits for self-consumption and for their families” (House of Commons, 1998, p. 61).

In some countries, community gardening is much more established than in others. For example, Edinburgh has had allotments since the end of the 19th century and growing spaces are much less prevalent now than they used to be in the past when they played a key role in food provision. Similarly, Stockholm has had allotments since the early 20th century. On the

other end of the spectrum, Ljubljana reached its peak in area of urban gardens only in the nineties of the 20th century. In 1997, gardens in the city occupied an area equal to a narrow centre of the town in size of at least 250 hectares with over a thousand gardens (Jamnik et al., 2009). In Szeged, the “Stopping Place” that was studied as part of this cluster opened in 2014 and provides the to our knowledge very first example of community gardening in that town. Cities also vary in the extent to which urban agriculture is part and parcel of the cultural customs and habits. For example, spontaneously occurring informal urban agriculture on derelict land is quite common in Lisbon, whereas this is less of an issue in countries in which urban agriculture is less broadly accepted as a cultural practice. Finally, countries also vary in the extent and level to which communities are engaged in planning and, hence, in the degree to which they are politically empowered to initiate community gardening projects. For example, in Edinburgh decentralization policies have resulted in about 50 communities taking on an active role in their local park management within the last decade, whereas in Szeged and Ljubljana community involvement in green space management is a new phenomenon.

This cluster includes cases illustrating how UA is integrated in contemporary UGI governance across a range of European cities. Although most case studies concern permanent gardens, we also considered temporary gardening initiatives that are carried out in partnership with municipalities and developers. This cluster includes one study on temporary gardening on a brownfield site (Ljubljana) and one on land in transition (an urban development project) (Malmö).

Descriptions of each of the six case studies in this cluster, covering group aims, key actors, location, a brief history and main outcomes, are provided in the boxes below:

Box. 3.1. Hyllie (Malmö, Sweden)

Hyllie is a temporary urban agriculture project in a new development area on the outskirts of Malmö. The process of developing the area will take a significant period of time, resulting in much of the land acquired as part of the development lying vacant and unused. The project was initiated by Xenofilia, a company that works with social innovations, together with the City of Malmö and the Swedish University of Agricultural Sciences (SLU). One aspect of the project is the creation of a temporary garden with raised beds for small scale leisure farming. The area for temporary gardening will be turned into a permanent public green space once encapsulated by the housing development. A second aspect of the project is the creation of medium-sized plots (1000m² each) for a dynamic type of urban gardening. These plots will be a dynamic feature in the landscape, and are thought to be moved to other unused spots in the future. These plots will be used to provide jobs in order to tackle the issue of high unemployment. An aim of this project is to tackle social inequity by means of urban farming. This project is still in its early stage of development with the first farmers having only just arrived.

Box 3.2. Granton Community Gardeners (Edinburgh, United Kingdom)

Granton Community Gardeners is a grassroots community gardening initiative in an area of multiple deprivation in north Edinburgh. It was started in 2010 by local people living in flats without a garden, and was born out of a desire of community members to grow vegetables near home. It is operating largely independent of the municipality and any other organisations, and has a very strong community buy-in. It is unique in Edinburgh in the sense that gardeners do not have individual plots but work together, sometimes across different plots, and share the produce. Over the years, the group has gradually expanded activities from managing a single garden to nearly 10 gardens at present. These gardens are situated on street corners, back greens and institutional land (e.g., at local nursery). Each of these gardens has been created on relatively small plots that had previously been maintained as grassland. The gardens that the community group is managing are nearly all situated on public land. A letter of comfort has been provided by the municipality indicating that they agree with community management of these green spaces for gardening. In addition to gardening, the group also organizes a kids gardening club at the library and community meals using fresh produce. They are also liaising with the municipality regarding green space provision and management in the community.

Box 3.3. The "Beyond the Construction" Site (Ljubljana, Slovenia)

The Beyond the Construction Site is a civil initiative exploring the capacity of unused land in the city of Ljubljana to support a project aimed at inclusion of local residents in governing an urban green space. It was initiated by the KUD Obrat (Obrat Culture and Art Association) as a cultural intervention in the urban space and is supported by the city council, which allows use of land free of charge. The facilitators are a group of enthusiasts and activists, including sociologists, landscape architects and architects, who help users to plan and govern the site. The place is run as a temporary community garden of 0.2 ha in a dormant construction pit in the centre of Ljubljana, and operating since 2010. The project has been successful in turning a degraded area into a green area with gardens and attracts a range of visitors. The initiative has also revived public participation in experimental management of green spaces within the city. Cultural and educational events, open for all, are occasionally organised at the site.

Box 3.4 The municipal allotment garden network (Lisbon, Portugal)

The allotment garden network in Lisbon was started by the municipality and provides allotments integrated in urban parks and gardens that are considered an important feature of the UGI. The gardens are implemented in existing as well as new green spaces, and sometimes placed strategically to connect green spaces. The allotment gardens network in Lisbon therefore constitutes an important element of the city's strategy for achieving a more sustainable and inclusive future. This network is promoted not only because it contributes to the city's biodiversity, but also to self-sufficiency in food production. The project started in 2007 with the first allotment opening in 2011. Eleven allotments have been created thus far with seven more under construction and three in the planning phase. The municipality is a key promoter of these allotments, providing the plots and associated fences, shelters for storage of tools, water for irrigation, training and technical support to all the users. Gardeners apply directly to the municipality for a plot and pay an annual fee that contributes to some of the maintenance. Each allotment, however, has its own dynamic. For example, one of the sites belongs to the Resident Association of Telheiras, which played a key role in development and implementation. The city's allotment gardens policy has a strong educational and recreational focus and fosters relationships between neighbours and cultural groups.

Box 3.5. Igelbäcken allotment garden (Stockholm, Sweden)

Igelbäcken allotment garden is located in the Rinkeby-Kista municipal district of Stockholm municipality, and occupies 2.3 ha of land divided into 160 plots. Gardeners pay a fee to the municipality and agree to manage the land under terms agreed to with the municipality. The allotment also has a board, an elected body from the garden membership, acting as the day-to-day administrator and enforcer of regulations for the garden. The allotment is embedded in "Järvafältet" (Järva field), a former military training ground now part of the regional green infrastructure known as the green wedges of Stockholm. The Igelbäcken allotment was founded in 1978 during a "Green Wave" period, mainly to provide a place for workers to get outside of the inner city, get exposure to some healthy fresh air, and provide food. The surrounding residential area is comprised of dense, high-rise apartment buildings that were erected as part of the "Millions Project," in which Stockholm municipality added a million units of housing stock during the late 1960s to early 1970s. The areas immediately adjacent to the garden consist of fields that are used for a variety of purposes, ranging from football and cricket games, to religious gatherings and ceremonies. Over the years there has been a shift in the demographics in the allotment, with the majority of users now originating from a foreign country. In addition to gardening, gardeners organize events and frequently use their plots for social gatherings.

Box 3.6 The Stopping Place (Szeged, Hungary)

The Stopping Place (“Megálló”) is a community garden that opened in June 2014 and was the very first community garden in the city. It was created with support of EU funds as part of an initiative by a local NGO (Maszk Association) to create a Community Center with associated community garden. The land and building used for the garden and Community Centre is owned by a subsidiary (Environmental Management of Szeged Nonprofit Ltd.) wholly owned by the municipality and is leased by Maszk Association. There are twelve plots of lands with raised beds, each of which is 7m². The garden accommodates eleven users, mostly families with children, with one plot functioning as a shared herb and spice garden. Due to its popularity, there is a waiting list for joining the community garden. The centre aims to create a community place for council estate residents from within the area, and organizes many different kinds of events and programmes. For example, interactive lectures on a variety of topics and yoga classes. The garden is also used for educational purposes; it brings together children from local kindergartens to study about

3.1.2 Literature overview

In many countries in the Global North, urban agriculture is a well-established practice. However, its level of popularity has fluctuated over time. For example, during both World Wars, many urban gardens were created for their food supplies. Some countries saw a renewed interest in community gardening in the 60s and 70s. In the UK and US, this can be explained by the decay of urban environments, the disappearance of communities and the poor quality of food, (Lovell et al., 2014; Saldivar-Tanaka and Krasny, 2004). More recently, studies report mounting interest in urban agriculture once again. There are several million allotment and community gardens in Europe alone and their numbers are growing (Jongerden et al., 2014).

Community gardens are created for a variety of reasons; promoting sustainable production and consumption, promoting environmental protection, improving social cohesion, providing social justice and creating healthier and resilient cities are just a few examples of the many goals these modern-day community gardens aim to fulfil (Barthel et al., 2015; Church et al., 2015; Dobernig and Stagl, 2015; Grivins and Tisenkopfs, 2014; Lovell et al., 2014; Müller, 2012; Swagemakers et al., 2014). Providing food security, however, remains a dominant motivation for urban agriculture in many European countries (Church et al., 2015).

In current times, municipalities in countries of the Global North are generally supportive of community engagement in urban agriculture (Bendt et al., 2013). For example, Rosol (2010) reports on how the municipality of Berlin provided community gardens with legal support in preparing contracts, financial support, knowledge and expertise, soil tests, and even organized public meetings to mobilize local people to take on a gardening project. Similarly, Jermé and Wakefield (2013) describe for their case study in Hamilton (Canada) the process of implementing a community gardening policy in which the municipality commits to supporting community gardening practices in several ways. This includes preparing an inventory of uncontaminated public land with long-term availability and no conflicting land uses nearby, fit for community gardening. In addition, a budget for creating five new gardens annually has been ring-fenced, and a legal framework for land tenure with lease agreements for prospective community gardening groups. In North American cases, municipalities may even

support communities managing a garden in setting up a business plan, considering issues such as storage and setting up supply chains for food distribution (Hayhurst et al., 2013). This is less likely in Europe, as municipalities typically do not allow commercial activities on public land (e.g., Rosol, 2010).

It follows from the above that municipalities are key actors in many community gardening initiatives. Other actors sometimes playing a central role in initiating or supporting community gardens are: schools, NGOs, government agencies, private individuals, housing corporations, community councils and health centres (Middle et al., 2014; Rosol, 2010; Veen, 2015).

Despite municipal support, community gardens often face uncertain futures. This has been explained by a lack of strong leadership or limited availability of human/financial resources (Glover et al., 2005; Zoellner et al., 2012). This is not always due to inadequate municipal support; groups vary in the degree to which they desire to link up with municipal frameworks for governing community gardens (Cohen and Reynolds, 2014). An additional threat to community gardens is the lack of a guarantee for long-term land tenure given their consideration as contested territory in spatial planning. Consequently, they are usually not given the same level of protection as more “permanent” property (Lawson, 2004). Relatively little is also known regarding variability of municipal support for community gardens in different cities and countries across the EU. The literature reveals suggestive evidence for such differences to exist. For example, the above example of proactive municipal support for community gardens in Berlin (Germany) can be contrasted with the reactive approach to investing time and energy in urban agriculture in Copenhagen (Denmark) (Halloran and Magid, 2013).

A number of benefits can be associated with community gardens. We split these into environmental, social, biocultural and economic effects. Environmentally, community gardens usually contribute to greening of the city and tend to support local biodiversity, pollination activity and provide regulating ecosystem services, such as mitigating the urban heat island effect and improving stormwater runoff (Beilin and Hunter, 2011; Bendt et al., 2013; Cohen and Reynolds, 2014; El Bilali et al., 2013; Krasny et al. 2014; Middle et al., 2014). Moreover, community gardens also have the potential to shorten food supply chains, which is an essential aspect of a sustainable food system (Dobernig and Stagl, 2015; El Bilali et al., 2013; Veen, 2015).

In many studies, social benefits are considered the key benefits of community gardens. Firstly, they often facilitate social interactions, which offers potential for increasing social cohesion and sense of place (Beilin and Hunter, 2011; Gray et al., 2014; Middle et al., 2014; Veen, 2015). Secondly, a number of studies report physical and mental health and well-being benefits associated with gardening. These benefits are derived through one or more of the following: a) reduced stress levels as a result of exposure to natural environments (Hawkins et al., 2011; Van den Berg and Custers, 2011), b) an increase in healthy food habits due to improved access to and awareness of nutritional food (Alaimo et al., 2008; Barnidge et al., 2013), c) increased physical activity of moderate intensity (Lemaitre et al., 1999; Litt et al., 2011; Middle et al., 2014; Wakefield et al., 2007) and d) increased social cohesion (Armstrong, 2000; Varley-Winter, 2011; Wakefield et al., 2007) and e) increased neighbourhood aesthetics, driving people to actively spend time outdoors and further contributing to “neighbourhood attachment” (Hale et al., 2011; Litt et al., 2011). Thirdly, different studies have shown that learning in community gardens has several benefits over and above class-

room-based education. Gardens enable both users and visitors to learn about the local ecosystem, (organic) food production and interactions between humans and the natural environment (Bendt et al., 2013; El Bilali et al., 2013; Halloran and Magid, 2013; Middle et al., 2014; Müller, 2012; Salvidar-Tanaka and Krasny, 2004). Potentially, acquiring knowledge and skills regarding urban politics, social entrepreneurship and self-organization are additional benefits specific to community-managed gardens (Bendt et al., 2013).

Related to the social benefits, community gardens may also act as manifestations of biocultural diversity. Urban agriculture has the potential to bring together socially and culturally diverse groups of people (Middle et al., 2014). At the same time, community gardens may also be a way for people to affirm or express their culture (Gray et al., 2014; Salvidar-Tanaka and Krasny, 2004; Varley-Winter, 2011). Thus, community gardening could lead the way in achieving the political and social change required to address class- and race-based disparities in urban centres (Cohen and Reynolds, 2014).

Community gardens may also act as manifestations of biocultural diversity

Several economic benefits can be associated with community-led urban agriculture as well. Some projects may employ people directly or enable garden users to sell their produce (Feenstra et al., 1999; Varley-Winter, 2011). In addition, involvement in community gardening projects may contribute to the development of transferable skills, from gardening through to teamwork and social entrepreneurship (Bendt et al. 2013; Middle et al., 2014; Varley-Winter, 2011). Community gardens enable people to take charge of organizing their communities (Salvidar-Tanaka and Krasny, 2004). The sense of agency developed as a result of this may boost confidence levels beneficial for employability (Varley-Winter, 2011). Finally, community gardens have also been shown to increase neighbouring property value (Voicu and Been, 2008), and urban agriculture sometimes play a role in municipal marketing plans aimed at drawing in tourists and investment. For example, reference is made to urban agriculture practices in Vancouver (Canada) to advertise the city as a sustainable place supporting a green lifestyle (Walker, 2015).

Figure 3.1. Overview of studied urban agriculture cases (Showing clockwise from top, The Stopping Place in Szeged (Luca Száraz, 2015), Granton Community Gardeners in Edinburgh (GCG, 2015), Hyllie in Malmö (Eva Delshammar, 2015), allotment garden network in Lisbon (Câmara Municipal de Lisboa, 2015), Beyond the Construction in Ljubljana (BCS, 2015), Igelbäcken allotment garden)



3.2 Dominant governance arrangements of the cases

TABLE 3.1 OVERVIEW OF POLICY ARRANGEMENTS IN URBAN AGRICULTURE CASES

	Discourse	Actors	Rules of the game	Resources
Hyllie (Malmö, Sweden)	Creating job opportunities, self-sufficiency and strengthening the ecological sustainability of the region	Municipality, business (Xenofilia), university (SLU), funding body, farmers	The municipality, business and university have signed a contract agreeing to a shared set of rules. Farmers need to set themselves up as a company handling food and therefore need to meet regulation regarding food handling and pay tax. Users are expected to attend meetings and spend a set amount of hours on common operations. They need to apply for a building permit if planning to construct containers or sheds	Construction of raised beds, shed etc. funded by municipality. Land and expertise provided by project partners, part-funded by an Innovation Agency (Vinnova).
Granton Community Gardeners (Edinburgh, United Kingdom)	Improving nutrition and health, environmental awareness and community integration	Municipality (city-wide & local level), local residents, NGOs	As part of the agreement with the municipality, GCG needs to have public liability insurance. Internally, the group has set rules regarding organizing regular volunteer days for gardening.	Land provided by municipality. Largely reliant on volunteers contributing their time and donating tools; a small amount of grant aid has been received; a business sends c. 30 employees to volunteer as part of CSR programme 1-2 times p/year
The Beyond the Construction Site (Ljubljana, Slovenia)	Social regeneration of city quarter; creating sense of place and fostering social relationships	NGO (Obrat Culture and Art Association), (neighbouring) residents, municipality	Gardeners are expected to participate in meetings and take shared responsibility of taking care of shared materials. There are also rules regarding gardening practice (e.g., organic cultivation methods).	Land provided by the municipality. Smaller donations provided by an NGO, the municipality, EU, the Ministry of Culture of the Republic of Slovenia, and a business providing seeds.

The municipal allotment garden network (Lisbon, Portugal)	Reducing green space maintenance costs, strengthening environmental sustainability, promoting food sovereignty	Municipality, resident associations, sponsoring businesses and citizens.	Only applicants living close to the (planned) allotment can apply for a plot. Gardeners pay an annual fee and need to work sustainably by using organic farming methods.	Land provided and implementation funded by the municipality, annual fee paid by gardeners, contributions by businesses as part of corporate social responsibility activities. Expertise by landscape architects, organic farming experts and geographers used in policy development
The Stopping Place (Szeged, Hungary)	Reducing alienation in council estate and provide more accessible green space given health benefits	NGO (MASZK Association), municipality, land-owning business, residents from council estate	Users are expected to do common tasks such as cleaning the paths or cutting the grass according to a schedule. The gardeners must keep their plots and immediate surroundings tidy and free from weeds. The produce cannot be sold or traded.	Land leased from municipality. Started up by the leading NGO with support of a grant by the European Social Fund. Currently maintained with support of monthly fee by gardeners, income from programs and events and municipal support. Expertise provided by employees from leading NGO, municipality and paid professionals
Igelbäcken allotment garden (Stockholm, Sweden)	Providing a place to grow food and to support health and well-being	Gardeners (incl. allotment board), allotment garden associations (FSSK, FOR), municipality	Each gardener pays an annual fee and is expected to keep plots and adjacent walkways free from weeds and obstructions. It is forbidden to litter or build small houses/cabins on the plots. Users are expected to show consideration for their neighbours. Mandatory is also the participation in two cleaning days per year.	Land provided by municipality, annual fee for gardeners. Legal support, public liability insurance and opportunities for knowledge exchange provided by allotment garden associations

3.2.1 Actors

Municipalities have in all cases been involved as a primary actor; as the provider of land, but also frequently as provider of infrastructure and/or facilities to support gardening. In Malmö, Lisbon and Szeged, city officials additionally provided expertise, whereas in Ljubljana they provided direct financial support to the NGO driving the project. In both the Stockholm and Lisbon cases, which concern allotments, the municipality had been the key driver of the initiative. In Stockholm, the day-to-day decision-making, such as management of the waiting list, has been delegated to the elected board of Igelbäcken allotment. In Lisbon, the municipality is still in the process of creating and handing over the allotments. It follows from this that in

all cases the municipality is supportive of community involvement in food growing on public land.

In two cases, the key driver of the gardening project had been an NGO (Ljubljana & Szeged), in both cases relying on external funding to purchase materials. Businesses also play a central role in some of the gardening initiatives. In Malmö, a company promoting social innovations had been the key stakeholder of the project, working together with the local university and municipality. In Lisbon, businesses played their part by sponsoring some of the allotments, whereas in Szeged the land used for community gardening was leased from a business (a subsidiary wholly owned by the municipality engaging in environmental management).

Finally, local community members had been the key instigators of the urban agriculture project covered in the Edinburgh case study. In all other case studies, community members also played a key role as users of the space, although a significant proportion of gardeners were resident in different parts of town in Ljubljana and Malmö.

There is some variation between case studies in the degree to which they succeed to attract a cross-section of the local population. In the Szeged case, all gardeners are ethnic Hungarians. Moreover, they are all young adults, most of them with young children, and most families have at least one highly educated member. Hence, there is limited variability in ethnicity, age and level of education. In Ljubljana, similarly, all gardeners are from the (upper) middle class of society. Age-wise, this group manages to engage a diverse group of people, including children, adults and retired people. In Malmö, the project is still in an early stage and has not yet been successful in getting a representative sample of non-ethnic Swedes engaged.

On the opposite end of the spectrum, we find the Edinburgh case, which is engaging a high number of non-ethnic Britons from Polish, French, Kenyan, Nepalese, Dutch, Bengali and Kurdish descents. Ironically, native British people are somewhat underrepresented, allegedly because “they think that all community initiatives are for migrant people” [comment by gardener]. Both the cases in Lisbon and Stockholm also report the engagement of people from a variety of ethnic backgrounds and walks of life. For example, in Lisbon’s Quinta da Granja Park allotment, one can encounter “a judge and an elderly person, who doesn’t even know how to read” [comment by Lisbon city official] working in the same place, and gardeners vary in age from 18 to 92 years old. In Stockholm, the number of immigrant residents involved in the initiative has increased over the years, reflecting the changing demographics of the neighbouring estate. Countries of origin of the current gardeners include: Brazil, Cape Verde, Chile, Finland, Gambia, Greece, Guinea Bissau, Kenya, Iran, Iraq, Pakistan, Senegal and Turkey. Sometimes people have done gardening in their native countries before. The garden also successfully engages older and retired people as well as people who are ill and cannot work a formal job, or are generally unemployed.

In addition to those directly involved as gardeners, some of our urban agriculture cases also engage in outreach by organizing educational and/or cultural events or activities. These mostly involve school children (Edinburgh and Szeged) or the general public (Edinburgh, Szeged and Ljubljana). It is unclear whether those groups engaging with gardening in this way provide a representative cross-section of the local population.

3.2.2 Discourse, objectives and motivations

The discourses (i.e., dominant ideas or objectives) column in Table 3.1 shows that providing socio-cultural benefits, including health and well-being, social cohesion and a sense of community are prominent drivers of urban agriculture in all initiatives. The only exception is the Malmö case, which is more about tackling social inequity. Other dominant ideas are environmental and economic in nature. In two cases, urban agriculture was especially relied upon as an approach to support sustainable living and urban ecosystems (Malmö and Lisbon). In two cases, economic considerations were at the heart of the project; creating job opportunities (Malmö) and saving on green space maintenance cost (Lisbon). In three cases, the need for healthy eating and/or food sovereignty was central to the initiative (Edinburgh, Stockholm and Lisbon).

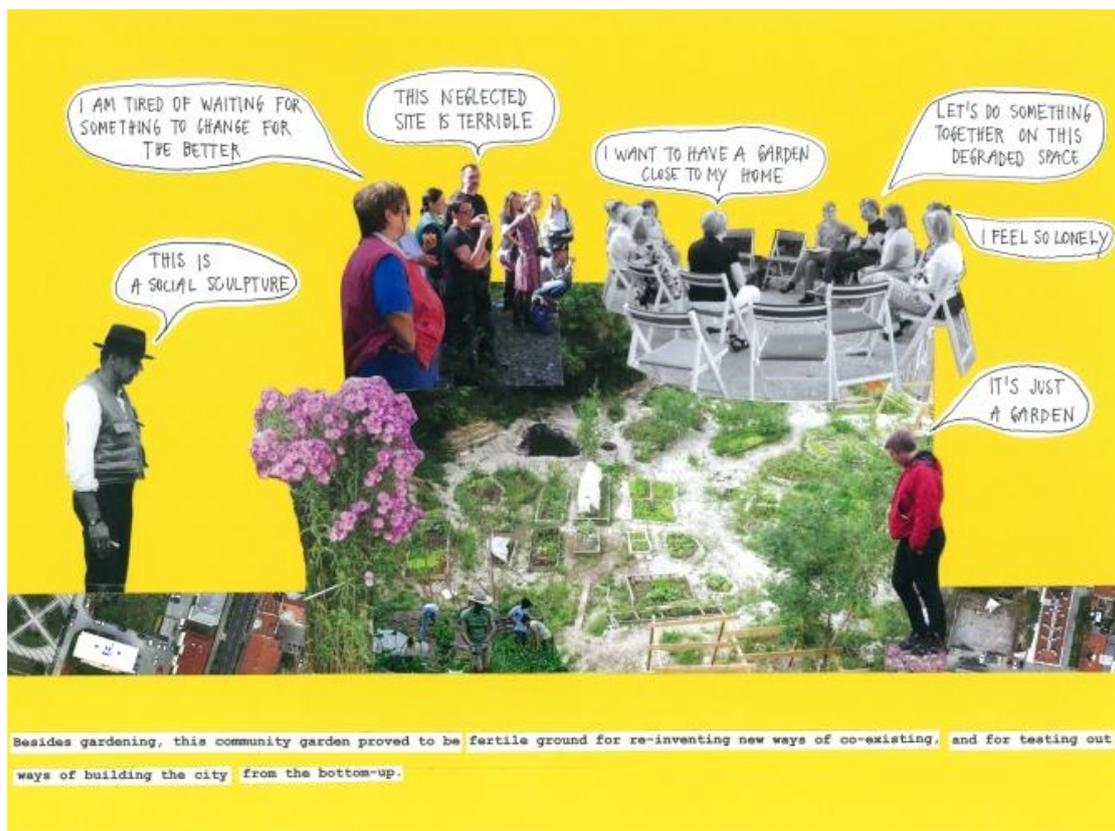


Figure 3.2. Different garden user motivations at the Beyond the Construction site in Ljubljana (BCS, 2015).

The motivations of garden users varied between places and were also influenced by an individual's background, family situation, financial circumstances and housing type (see Figure 3.2).² In line with the dominant discourse in gardening initiatives, socio-cultural motivations prevailed. Some people indicated to be involved in order to gain access to affordable and healthy, vitamin-rich nutrition (Szeged, Lisbon, Stockholm, Ljubljana), whereas others joined

² When interpreting these findings, it is important to realize that they are strongly dependent on the individuals approached within the initiative during the period of data collection. It is likely that the actual range of motivations that exist within the different initiatives is much wider than reported here.

to engage in a meaningful pastime activity and/or to relax (Szeged, Stockholm). Caring for the environment and/or a desire to spend more time outdoors in close contact with nature were also mentioned as drivers by some (Szeged, Ljubljana). Yet others wanted to use the garden to increase environmental awareness of their children (Szeged, Ljubljana). For another set of users, the desire to socialize, build community and/or engage in active citizenship had been a key driver (Ljubljana, Stockholm, Edinburgh). Finally, subsistence and health improvement were listed as motivating factors by gardeners in Lisbon and Malmö, respectively.

3.2.3 Rules of the game

In all cases, a set of formal or informal rules serves to regulate gardening practice. Typically, gardeners are expected to keep their plots tidy, safe and free of weeds, and to contribute to the maintenance of common areas. Restrictions regarding use of synthetic pesticides and fertilisers, and commercial activities using garden produce, also apply in most studied cases. A small number of cases applied regulations regarding payment of fees, attending meetings and construction of sheds and other buildings. Some initiatives operate with an elected board of gardeners, representing the interests of the garden membership. In those cases, there will be a constitution with additional rules regarding election of board members and annual reporting. Some groups also indicated having a legal obligation to buy public liability insurance.

3.2.4 Resources

As highlighted in Section 1.2.2, all of the studied cases relied on municipalities for the provision of land, and in some cases infrastructure, expertise and funding as well. NGOs also often played an important role in providing expertise and funding. In Ljubljana and Szeged, EU funds contributed to the development of community gardens. Businesses made contributions, either financial or in-kind, as part of their CSR (Corporate Social Responsibility) Program in Edinburgh, Szeged and Lisbon. Gardeners sometimes also contribute financially for use value by paying membership fees (Lisbon, Stockholm, Szeged) or donating (Ljubljana), and bring relevant expertise (e.g., in gardening, fundraising and building community) as well. In the Edinburgh case, volunteers also contributed tools and materials.

3.3 Relationship with government, policy and UGI

In all cases, municipalities play a role in sustaining the community gardens, by providing one or more of the following: land, a use or lease agreement, planning support (see Figure 3), planning advice for plots, finance, letters of support, infrastructure, tools and materials, practical advice and support (also see Section 1.2.2). The key involvement of municipalities in all projects suggests that urban agriculture is of relevance to spatial planning, which was confirmed by stakeholders in some of our cases. For example, the deputy mayor of Ljubljana plainly acknowledged the socio-cultural benefits associated with the “Beyond the Construction Site” community gardens, although this support is yet to be formalized at policy level. Formal policies on urban agriculture are similarly lacking in Szeged. Yet, the municipality’s “city development movement” has invited the “Stopping Place” community garden to participate in their competition for the “Most Beautiful Kitchen Garden”. Last year, the garden won this award.

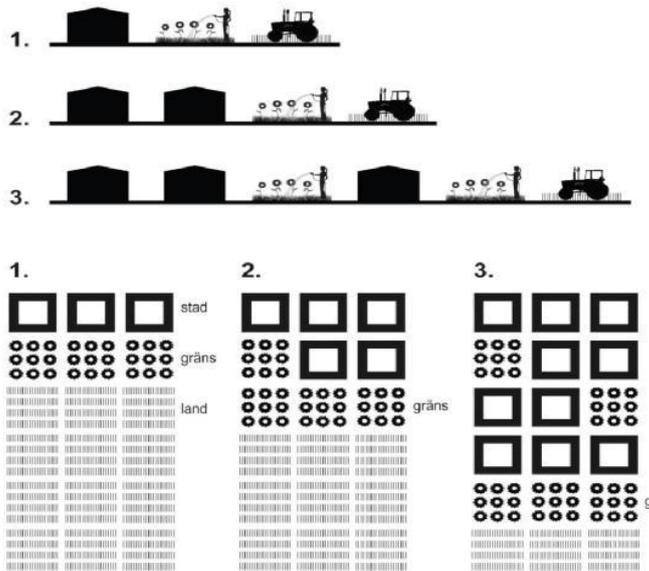


Figure 3.3: Illustration of Malmö's vision for urban development incorporating small-scale urban farming at South Hyllie, taken from the municipal Comprehensive Plan. The figure shows how the farming plots (tractor symbol) will move to unused land as the city (house symbol) expands, while some of the urban garden sites (watering flowers symbol) initially at the outskirts of the city may be incorporated as a public green space within the new development (Malmö Stad, 2015).

In some of our cases, the gardening initiative operates relatively independently from external governance structures in their day-to-day management, but can draw upon their support if required. For example, in Szeged the municipality's wholly owned subsidiary, which manages the land, actively monitors the community centre and associated gardening initiative, providing advice, practical support and materials when required.

Despite the apparent absence of conflict between the studied urban agriculture cases and the municipality, two case studies revealed concerns by gardeners regarding their collaboration with city officials. In both cases this was due to a lack of communication. In Stockholm, for example, there had been questions and complaints as to the rigidity of certain structures, and wishes that the garden and board had more power to change policies on such issues as housing/cottage allowances, toilets and electricity on plots. Whilst the allotment board had raised these issues with the municipality, they had been stalled or lost at these higher levels. The allotment also had some reservations about discussing some of the more pressing issues with the municipality out of a fear for being penalized or closed.

In most of the cases considered in this cluster, the concept of UGI has not been taken into consideration in planning the site, leading to fragmented green spaces. Only the relatively large-scale allotment gardens in Stockholm and Lisbon have high connectivity as part of a green network. In Stockholm, the allotment is an element of the city's system of green wedges separating lobes of urban development. In Lisbon, the urban allotments had purposely been connected with the urban green infrastructure in order to support biodiversity. In the latter case, urban agriculture is a fundamental component of the city's green space strategy (see Figure 3.4). Connectivity of allotments, sometimes acting as stepping-stones

between other green spaces, was mainly done to promote ecological functionality. Connectivity was also deemed to increase public interest in visiting urban green spaces.

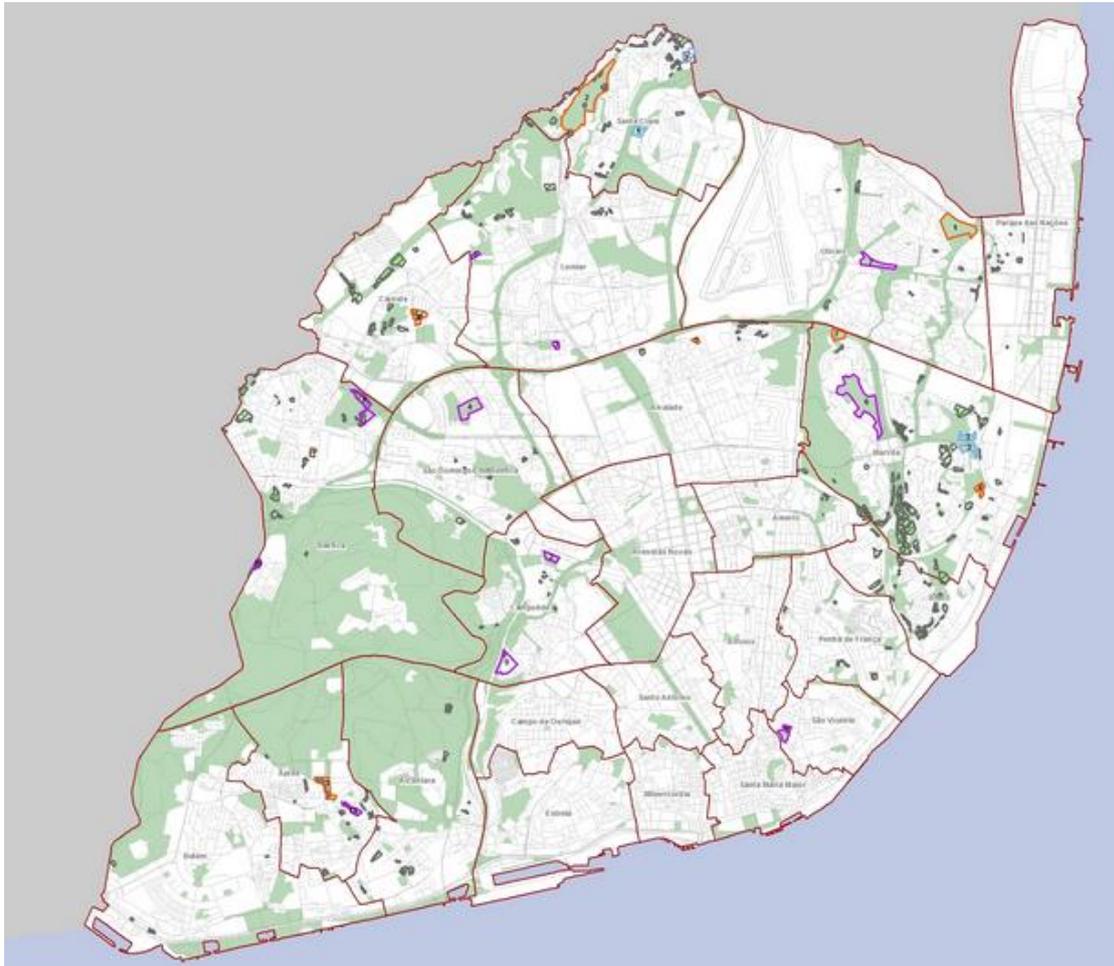


Figure 3.4. Illustration of the strategic implementation of allotment gardens to increase connectivity of urban green space in Lisbon. Green areas in the map represent existing green spaces. The map further shows implemented allotments (purple outline), allotments under construction (orange outline) and planned allotments (blue outline) (Câmara Municipal de Lisboa, 2015).

The Lisbon allotments are also integrated with the wider pedestrian path network and interwoven with other types of public green space, providing access to facilities such as lawns, playgrounds, fitness equipment, cycling paths and coffee shops. Therefore, they are easily accessible from neighbouring parks and woodlands, adding to the variety of the urban green network and providing places that are welcoming to non-members of allotments. Integration was given high priority because of their potential to improve environmental awareness and healthy nutrition. The high level of public accessibility of the Lisbon allotments sets them apart from many allotments elsewhere that tend to be fenced off at least part of the time and only accessible to members (e.g., Szeged and Stockholm in our case study sample). Removing physical barriers to green spaces and integration with the public path or street network and other types of green spaces (e.g., flower beds, woodland) also featured in the studied Edinburgh, Malmö and Ljubljana cases.

Green spaces provide a variety of functions and generally urban agriculture was perceived to increase multi-functionality compared to the situation before the gardening intervention. In addition to the previously discussed provision of supporting, provisioning and regulating ecosystem services, community gardens also tend to have social and economic benefits (see Section 1.4).

3.4 Perceived effects

3.4.1 Green effects

All gardens in our study take a sustainable approach to urban agriculture, avoiding the use of synthetic fertilisers and pesticides. Reported green benefits of cases studied as part of this cluster therefore include increased organic matter in soils, which is beneficial for soil fertility and biodiversity in the long term. This benefit is likely to be especially profound in Lisbon as some of the allotments were implemented in places where previously unplanned agriculture, in this case untidy and characterized by people relying on unsustainable practices such as using synthetic fertilisers, had taken place. Biodiversity had not been systematically monitored in any of the gardens. However, increased biodiversity of invertebrates was perceived by some of the stakeholders in Ljubljana, Szeged, Stockholm and Edinburgh. This was linked to green space diversification, improved soil conditions and/or the removal of invasive plant species as a result of the gardens.

Gardens were also considered by some to be conducive to a number of regulating ecosystem services. Effects such as climate change adaptation as a result of more sustainable supply chains (Malmö), improved stormwater and runoff, air purification and erosion prevention (Lisbon) were listed as green benefits in some cities, mainly by institutional actors.

3.4.2 Social effects

As discussed previously, providing socio-cultural benefits is a discourse dominant in nearly all of the studied initiatives. This is reflected in their outcomes. Nearly all groups report increased social interaction as a consequence of the initiative. Such interaction can be with friends and families when using the garden as an outdoor meeting place or with other gardeners, often around sharing seed(lings), crops, tools, skills and expertise. In addition, most of the initiatives organize regular on- and off-site events such as barbecuing, cleaning days and courses in organic farming, horticulture and permaculture. These effects may already be observed in the short run, as illustrated by the comments of a small-scale leisure farmer in Malmö: “I almost always run into someone living in the area when I am at the [gardening] site. We have been “vegetable-sitting” [looking after each other’s crops when going on holidays] and have had discussions on buying equipment together.”

Increased social interaction as a consequence of the initiative

In many cases, increased social interaction and collaboration was reported to promote social cohesion. In the case of Edinburgh, and Ljubljana, where the UA initiative was situated at degraded or deprived areas, , independently working together towards a common goal, while looking after each other, creating a shared value system and improving the look and feel of the area, has instilled a sense of community pride. This has benefited place identity for many in an area with a bad reputation.

TABLE 3.2 OVERVIEW OF PERCEIVED EFFECTS OF URBAN AGRICULTURE CASES

	Green Effects	Social Effects	Economic Effects	Institutional Effects	Other Effects
Hyllie (Malmö, Sweden)	Expected effects include: creation of a “natural cycling effect” with food production, consumption and composting all done within the city; new areas identified and utilised as cultivated land	Increased social interaction; improved health and well-being	Expected effects include: income from sale of produce; professional skills development; revenue by social innovation business actor to continue project beyond external funding period	Expected effects include: developing and comprehensively documenting the innovative approach to urban farming to facilitate transferability to other cities; establishing a model for local food procurement for schools	Beautification of the city
Granton Community Gardeners (Edinburgh, United Kingdom)	Diversification of green space locally; improved biodiversity (anecdotally) due to sustainable gardening practice and planting of flowers to attract pollinators	Increased social interaction; improved sense of identity, belonging and community ; reduced vandalism	Avoided cost due to consumption of produce; some income from sale of produce to local cooking classes and one/off events	Change of policy on charging community groups a commercial lease for urban agriculture; reduced staff cost associated with local grounds maintenance; organized after-school gardening clubs at library and community centre	Improved aesthetics of the neighbourhood ; improved health and well-being; improved environmental and nutritional awareness
The Beyond the Construction Site (Ljubljana, Slovenia)	Increased area of green space; removal of invasive and allergenic plant species, likely supporting biodiversity	Increased social interaction and social inclusion	Provided live case training for professional facilitators interested in empowering communities in governing	Increased affinity with concept of community-led UA as a realistic, innovative governance practice; formal acknowledgement of temporary land	Greater gardening knowledge and skills development; greater integration of space with surrounding urban space by

			urban sites; avoided cost due to consumption of produce	use and preparation of guidance to support its development	changing the fencing from opaque to transparent; improved mental and physical health
The municipal allotment garden network (Lisbon, Portugal)	Increased area of green space, improved soil quality and flood protection; improved ecological connectivity	Increased safety and reduced vandalism; enhanced social inclusion and cohesion	Income from selling produce and avoided cost of buying produce; lower green space maintenance costs for municipality	Other municipalities (e.g., Almada, Cascais and Funchal) have copied Lisbon's approach after sharing of expertise	Improved environmental awareness and education
The Stopping Place (Szeged, Hungary)	Diversification of green space locally by growing a diversity of plants; perceived increase of biodiversity	Increased inter-personal tolerance (social cohesion); gardeners looking after each other's children;	Avoided cost due to consumption of produce; sharing of seedlings, crops and tools	Municipality is monitoring the project, no effects reported yet; provided environmental education to groups of children from nearby kindergartens	Improved aesthetic of local environment; environmental education by relevant lectures and gardening; increased environmental awareness by children; improved health
Igelbäcken allotment garden (Stockholm, Sweden)	Using organic production methods and growing a variety of plants, herbs, flowers, berry bushes and fruit trees benefits the local ecosystem and possibly biodiversity; introduction of crops from people's country of origin across the world	Increased social interaction with friends, family and gardeners; improved social inclusion (of immigrants)	Exchange of plants and tools; avoided cost due to consumption of produce and some income from selling produce; site used for young people temporary employment program	The board has been unsuccessful in attempts to lobby for allotment policy change	Environmental education (organic gardening & composting course) ; improved health and well-being

In four case studies, social inclusion was highlighted as a benefit of practising urban agriculture. For example, in Stockholm and Edinburgh, the case study gardens provided opportunities for, respectively, ethnic Swedes and Britons to interact with new immigrant residents. Incomers, especially those from rural backgrounds, had a strong representation in these initiatives. Along similar lines, exposure to different gardening styles had anecdotally made garden users in the Ljubljana case more tolerant towards different lifestyles and had contributed to tackling prejudice toward ethnic groups in Lisbon. It could therefore be argued that urban gardens have the potential to serve as a testing ground for a changing demographic of people in European cities.

Community and allotment gardens may thus come to serve as places in which native people and immigrants meet, interact and (re-)negotiate a shared value system. Hence, they can be considered a socio-cultural integration tool. This observation might be of particular interest in light of current levels of human migration on the European continent. Although this process

socio-cultural integration tool

of adaptation to a changing demographic is not always easy, the upside is that for every challenge there is an opportunity. For example, the allotment board at Igelbäcken (Stockholm) is liaising with higher level organisations around the question of how to best accommodate the needs and desires of immigrant members in the way allotment rules are enforced. For example, immigrants would like to build structures on allotments to use as meeting places; a practice currently not permitted. Similarly, a city official in Lisbon described how a man, who initially refused to share a local allotment site with African immigrants, has ended up sharing his plot with a Cape Verdean woman, while getting along very well.

In addition, the gardens in both Edinburgh and Lisbon had led to improved (informal) social control as a result of more people spending time outdoors and/or increased sense of community. Local people therefore reported an increased sense of safety. Moreover, the availability of neat and cared for places were also purported to discourage vandalism and littering. Sometimes, reduced vandalism may also be explained by locals being less likely to vandalize something created by people they identify with. For example, one of the founding actors in the Edinburgh case had previously been active as a youth worker and therefore was acquainted with many of the youths in the area, some of whom were known to have vandalized public spaces in the past. To the surprise of many local people, the Granton community gardens have never been vandalized. The good reputation of involved key actors locally, giving the project a high level of legitimacy, has likely contributed to that.

3.4.3 Economic effects

In the majority of the case study gardens, the sale of produce is either not permitted or plots are too small to generate surplus produce. Nonetheless, small sums of money had been made by selling produce, mostly to individuals at markets or fairs (Lisbon, Stockholm, Edinburgh). In Malmö, the project was partially set up to provide urban farmers with land and an income. In addition to expected income from trading produce, farmers are also predicted to gain professional skills and knowledge by means of training in UA and internships.

The farmers are also supported by a facilitator in developing a viable business model (i.e. choosing the right crop, product packaging and distribution). The future goal is to create larger areas (up to 16 ha) for farming as part of a working model where users can move in and out of the initiative, becoming partly self-sustained. The Stockholm case, together with other allotments in the city, offered a paid gardening and construction work program for young people. Volunteers and paid members of staff in the other studied cases might similarly improve their employability by acquiring new knowledge and skills. In addition to direct income, there were cost saving benefits as garden users spent less money on buying fruit and vegetables, and possibly transport to allotments further afield or in pursuit of other recreational opportunities. Avoided cost also concerns sharing or exchange of seeds, plants, tools and materials between gardeners.

In some cases, other actors financially benefited from the case study gardens as well. In Edinburgh and Lisbon, part of the original ground maintenance costs has been “transferred” to the gardeners, as they now manage the sites. It should be noted, however, that municipalities possibly spend more on human resources to advice and support gardening initiatives. In Malmö, the social innovation business that had initiated the actual urban farming project anticipates selling their expertise to other municipalities interested in developing similar initiatives and to gain a percentage of the revenue generated by the urban farmers, the local university might benefit from their involvement through winning future research grants and the municipality envisages that their sustainable city district will increase the city’s attractiveness to investors. Furthermore, the food retail sector might benefit from the availability of locally sourced produce by saving on transport costs and (potentially) increased revenue. GREEN SURGE Deliverable 4.2 suggests that other types of local businesses (e.g., cafés) may also increase their turnover as a result of increased attractiveness of, and footfall in, areas with a successful UA initiative. However, this was not mentioned as a benefit by any of the interviewed stakeholders.

3.4.4 Institutional effects

UA initiatives are often bound by rules and regulations set at municipal level, and our set of studied cases includes several examples of attempts by garden representatives to change such rules and regulations. In Edinburgh, for example, the community gardening initiative had successfully lobbied the municipality to change their policy on community food growing. In Edinburgh, the need for policy change came about as a municipal committee made the decision to charge all communities managing public land a commercial lease in a bid to level the playing field for all community groups. In response to this, representatives of Granton Community Gardeners and a nearby community group arranged for a deputation to go to this committee. This was successful, resulting in the committee to come back on their decision. The current city-wide policy is that land for community growing should be made available at a symbolic (peppercorn) rent or no rent at all. In Ljubljana and Malmö, plans to engage with formal municipal decision-making processes exist as well. For example, experiences around project implementation are (going to be) documented in Malmö for the purpose of compiling guidance on the farming and commercial aspects of the project to be disseminated to other municipalities in Sweden. Lobbying for policy change is not always successful; attempts in Stockholm have stalled at higher municipal levels.

In Lisbon, municipal engagement in the allotments initiative allegedly increased trust in the municipality. It can be reasonably expected that similar benefits exist elsewhere, but these have not been recorded as part of this study. Equally, positive experiences with community involvement in UA may also increase the level of municipal trust in local people as responsible land managers. The studied Ljubljana case illustrates how henceforth community-led UA may start to be considered as a realistic alternative to the more conventional top-down approach to land management. In some cases, municipalities also learnt from each other regarding UA planning and policy by exchanging experiences (see Section 1.6.2).

Institutional effects were not just observed at the municipal level. In Szeged, environmental education was provided to groups of children from the kindergarten, while the same was done for school children in Edinburgh at the local library and community centre. Partners in the studied case in Malmö are planning to establish new models to facilitate local food procurement at schools.

3.4.5 Other effects

In all of our case study cities, adult volunteers increased their skills and knowledge regarding urban agriculture and sometimes also site planning and governance, either through learning from peers or from courses on relevant topics. Increased environmental awareness of volunteers was reported in most studied cases. The studied case in Edinburgh, additionally, also educated people about healthy nutrition and cooking techniques from around the world. This was done through regular community meals, which were organized at the local Community Centre using produce from the gardens. These have been a great success with on average 60-80 people participating.

Besides learning, an improved aesthetic of the local environment as a result of UA and people caring more about the local environment had been observed in Szeged, Edinburgh and Lisbon, and was an expected outcome of planned activities in Malmö. In Ljubljana, improved visual access to the site on which the garden is situated by exchanging the opaque for a transparent fence may have improved the visual experience of the local environment as well.

Education and exchange
of cooking techniques
from around the world

Although not evidence by explicit research, stakeholders suggested improved health and well-being as a result of UA, which can be partly explained by some of the effects described previously. To explain improved health, stakeholders explicitly referred to: improved nutrition and/or food quality (Edinburgh, Lisbon, Szeged, Ljubljana), subsistence (Lisbon), increased and varied physical activity (Szeged, Ljubljana, Malmö), increased social interaction and cohesion, especially for those who are socially isolated and/or living in cramped high rise flats far removed from public life (Stockholm, Edinburgh) and providing meaning and purpose, in particular for unemployed people (Lisbon, Stockholm).

3.5 Successes, controversies and tensions

In addition to key actors and available financial and human resources as discussed in Section 1.2, a number of contextual and socio-cultural factors can also predict the success of initiatives. These can be grouped in governmental plans, policies and legislation, inspiring examples from elsewhere, food growing culture, economic circumstances, geographical context of the initiative and the socio-demographic characteristics of local people.

When considered a policy goal, plans, policies and legislation at different levels of government can play an important role in stimulating UA. For example, Malmö aims to create a green and compact city according to the city's development plan, while "culture" and "farming" are the central themes of the master plan of the newly developed area of which the urban agriculture initiative is part of. Lisbon's Green Plan similarly mentions a need for urban agriculture in the city. In Ljubljana and Edinburgh, legislation, bills and/or national policies contributed to municipal support of community gardens on public land. Slovenia's Physical Assets of the State and Local Government Act permits community-oriented initiatives to freely use "immovable property", which is temporarily not in use by a direct contractor. In Edinburgh, and Scotland as a whole, there is a strong desire to strengthen community planning and control over the management of public land and buildings. This is reflected in the Community Empowerment Bill as well as Edinburgh's Open Space Strategy, and policy to devolve central services to neighbourhood level.

In Malmö, one of the informants discussed how a recent change to an EU policy had contributed to municipal support for the initiative. This policy concerned regulations for public food procurement, which had shifted from "lowest cost" to quality indicators. In response to this, a project objective is to develop new models for public procurement of local food to schools. If successful, this will increase the likelihood of the medium-sized farms created as part of the project becoming profitable.

Moving beyond the influence of government, it could be argued that many of the studied UA cases drew inspiration from other initiatives nearby. For example, the company initiating the creation of urban farming plots studied in Malmö drew the inspiration for this project from a project called "Herbs from Rosengård" that they had previously coordinated. This had revealed that many non-ethnic Swedes have the relevant knowledge and expertise to grow exotic crops that are in demand, but not currently cultivated, in Sweden. This, combined with a relatively high level of unemployment amongst these minorities, then kicked off the idea to develop the project at Hyllie that is currently under way. Similarly, facilitators in Ljubljana indicated to have drawn inspiration from urban gardens elsewhere – ECO Box in Paris, Prinzessinengarten in Berlin and Hamburg Park Fiction – that was put to good use in assisting users to develop the site.

Local food growing culture is an important prerequisite for widespread (support of) community gardening and, while we do not have any evidence to claim that such a culture has been historically lacking, our findings suggest that community gardening is on the rise in several of the case study cities. For example, the Szeged case revealed that the first community gardens in Hungary only started appearing several years ago, with the first of these created in Budapest in 2011. Since then, community gardening has been mushrooming giv-

en that 33 new community gardens have been created in just a few years, with 19 of these situated in Budapest. This is an ongoing process; there are plans for many more community gardens both in the capital and elsewhere. In Edinburgh, increased appetite for food growing has also been observed over the past 5-10 years, which is reflected in the number of small-scale community-led projects emerging and the ever-increasing waiting list for allotment gardens, despite the municipality having created at least one new allotment every year over the past five years.

In Edinburgh and Malmö, the surge in popularity of growing your own food was explained by an increased public concern about food security and traceability. A Community Gardening Development Officer in Edinburgh also suggested that better public awareness of the links between green space activities and mental and physical health, as a result of outreach by NGOs and public bodies on this topic could play a role. When reputable actors or organisations start to embrace UA as a practice, this could raise the popularity of UA even more. In Edinburgh, a number of influential people in the city driving and supporting community gardening initiatives (e.g., the community orchard at the Edinburgh hospital was created by the outgoing chief executive of the National Health Service). Moreover, many primary schools have both introduced gardening activities into their curriculum and joined up with local gardening community groups.

In some regions, the economic downturn of the past decade might also have played a role in explaining the upsurge of urban citizen's interest in practising urban agriculture. For example, in Lisbon the economic crisis drove people to seek alternative ways of achieving self-sufficiency, which resulted in spontaneous, often illegal, allotments on public space. Over time, many of these areas have now been incorporated into the municipal network of allotment gardens in the city, and gardeners are provided with adequate support to engage in sustainable land use.

Our set of case studies also points to the role played by geographical context in influencing success. For example, the gardens in Edinburgh, Ljubljana, Szeged and Lisbon are all situated in densely populated urban areas with many high rise flats inhabited by people without garden access and/or limited accessible public green space, possibly giving rise to a desire for public gardens. In other places, local people expressed a desire to preserve some of the lands traditionally used for agriculture for food growing. In Ljubljana, concerns about the large amount of derelict land and buildings as a result of abandoned industries, described as "points where the city is dying", motivated the idea to create a temporary community green space.

Finally, variation in socio-demographic characteristics of local people was highlighted as a key factor in explaining the successes and failures of the studied Stockholm case. For example, tensions have been known to exist between gardeners around issues such as the location of a shared beehive, noise disturbance and illegal activities such as gambling for money and building of house-like structures on plots. At the same time, variation in demographics lead to exchange of many interesting stories between garden users, as well as excitement over learning about new fruit and veg varieties and cultivation or cooking techniques, as illustrated by the Edinburgh case.

Although contextual factors go some way in explaining the success of initiatives and need to be considered when planning new initiatives, these are usually difficult to mould to one's advantage. This is unlike decisions about project governance, which we will discuss in the next section.

3.6 Lessons to be learned

3.6.1 innovation

The variety between cities in institutional and socio-cultural context impacts on what is considered innovative in different places. To illustrate, in Szeged the mere act of community gardening and the approval and support of this practice by the municipality is considered the most innovative aspect. In Ljubljana, the explicit role of facilitators, comprising a group of enthusiasts and activists, in running the process of socially inclusive governance of the site is regarded as most innovative aspect. Elsewhere, community-led urban agriculture performed almost completely independent of external stakeholder support (Edinburgh), the success in accommodating a shifting cultural make-up of garden users (Stockholm), the use of public space for job creation and consideration of urban agriculture as a spatially dynamic planning concept (Malmö) and integration of urban agriculture in the urban green infrastructure (Lisbon) were mentioned as factors explaining high innovation.

3.6.2 Inspiration for other cities

Lessons can be drawn from our set of case studies regarding the participatory governance of urban agriculture, which is of value to others seeking to engage communities with this practice. The lessons drawn from the case studies in this cluster can be roughly grouped into two groups, loosely defined as: preparing the soil for citizen cultivation and sustaining fertile soil for citizen engagement.

A commonality between all case studies is that they were started up by skilled horticulturists or else by actors with the right resources (e.g. funding or social network) to bring in such expertise. Each studied case had at least one such key person, or facilitator, preparing the soil for citizen cultivation, which refers to activities empowering communities and/or individuals to participate and take ownership of the project.

Expertise and network essential in starting phase

An important first step in this process is to ensure the legal permissions, funding and expertise is in place to start up a garden and prepare inexperienced users for their roles. For example, the municipality set up the (allotment) gardens in Lisbon, Malmö and Stockholm, providing plots and necessary facilities such as fences, sheds and running water, as well as education in organic farming (Lisbon). They also made sure the garden was granted a level of protection within the long-term development plan. Moreover, farmers of medium-sized plots in Malmö are provided with support in finding suitable plots and developing a business plan with a view of making them self-supportive. Similarly, the project initiators in the studied Ljubljana, Szeged and Edinburgh cases played a key role in their success by making the necessary legal agreements with the municipality, identifying the needs of local people

and recruiting gardeners, as well as providing them with the right skills and knowledge through lectures, workshops and support by people with gardening experience.

The Edinburgh and Ljubljana case studies demonstrate how volunteers benefit from being provided with a structure of regular meetings, easy to approach contact persons and/or a clear idea of how the plots can be put to use. Project initiators also have an important role in managing expectations; several gardeners dropped out in the studied Szeged case at an early stage of the project because the garden opened several months later than initially was communicated. Furthermore, a clear set of rules and regulations regarding issues such as plot maintenance, cultivation methods and building regulations (see Section 1.2.3), is key to maintaining a smooth operation of the garden. Rules and regulations may also aid in preventing and mitigating conflict. For example, regulations regarding the provision of scheduled events and programmes for structured interaction between gardeners may provide a strong sense of community, but also have the potential to produce some conflict along the way. In case of initiatives started by external actors (e.g. municipality, NGO), it is also important to carefully consider the administrative level that is responsible for conflict mediation and setting the rules. Assigning this responsibility to a board comprising gardeners provides a basis for a local and immediate response. However, a level of backup and general oversight at a higher level may help to provide an alternative route for resolution, and possibly help to alleviate some of the pressure on the volunteers and community in some situations.

Community consultation provides an opportunity for ensuring compatibility of activities with, the interests and socio-economic realities of local people. This was done in several of the urban gardening initiatives in our set of case studies ahead of garden implementation using surveys, focus groups and interviews with a view on finding out more about the preferences of local people regarding green space use (Edinburgh, Szeged, Ljubljana). Consultation is not always passive, as in mainstream “top-down” planning approaches. In the Ljubljana case, for example, the users with help of the facilitators installed a tree house and beehive after developing the idea together with them in an action plan.

Some of the garden facilitators have also consulted with key people involved with similar projects elsewhere and implemented lessons drawn from their experiences in their own approach. For example, Lisbon municipality created a task force comprising several city officials ahead of implementing the studied allotment garden project. This task force visited other European cities such as Nantes and Rennes to learn about experiences elsewhere. This revealed that most allotments in European cities are fenced off and have limited public access. The idea to create publicly accessible, welcoming allotments, integrated with UGI, was born out of a desire to make available the benefits of urban gardens – including healthy nutrition and environmental awareness – to as many people as possible.

In some of the initiatives, we find clear indications of adaptation to local context on the basis of knowledge of local history of land use, place identity and socio-economic circumstances. For example, the studied urban gardens in Lisbon and Malmö connected with geographical context by linking in with the agricultural past of communities (see Section 1.5). The social allotments implemented in Lisbon, specifically tailored towards supporting peo-

ple in deprived areas, provide an example of socio-economically integrated UA. Unlike conventional allotments users, who have been allocated plots in more affluent parts of Lisbon, social allotment users are provided with free access to drinking water, are permitted to sell produce from their gardens and only pay a symbolic rent. In both typologies gardeners are obliged to practice sustainable, organic agriculture at the risk of losing their plot.

After all barriers to get the UA-initiative up and running have been overcome, an even bigger challenge is likely to keep it that way after initial enthusiasm and (financial) support wanes off. We identified two types of strategies that have enabled actors to sustain fertile soil for citizen engagement: 1) building and engaging a support network and 2) a degree of flexibility in dealings with users and partners.

Building and engaging a support network refers to all activities undertaken by groups to engage with existing governance structures, and link in with users, local people, experts and other parties, acting in the interest of, or promoting, urban agriculture. As discussed in Section 1.2.1, municipalities play a key role in all initiatives in this cluster, as facilitator or provider of funds, land and infrastructure, expertise or a combination of these. The community garden examples in Ljubljana and Edinburgh highlight that actively engaging with the municipality may provide an opportunity for groups managing urban gardens to influence municipal urban agriculture policies to their advantage (see Section 1.4.4). This and other examples also highlight the importance of building and maintaining good links with the municipality to access the (non-)monetary support structures and networks offered by them.

Maintaining good rapport relations with local people by being transparent about (planned) activities was also considered important by some stakeholders. In Edinburgh, Ljubljana and Szeged, the community gardening initiatives engaged with local people using their own websites, those of key organisations, social media, hanging posters at strategic locations and/or (door-to-door) flyerling.

Several of the facilitators in the studied initiatives engaged in partnership working with non-governmental actors to tap into additional sources of funding or goods (Lisbon and Ljubljana, see Section 1.2.4). In Stockholm, the allotment board collaborated with two allotment associations for guidance on good practice, insurance, legal advice and opportunities for knowledge exchange. Partnership working was also used as a strategy to draw in more people at garden-related events. For example, an event and community meal organized by Granton Community Gardeners (Edinburgh) in partnership with Living in Harmony – a government funded project to promote integration and community cohesion – attracted 250 people.

Finally, the Edinburgh and Stockholm cases, the latter being the longest running initiative in our sample, provide some key insights into how and why a degree of flexibility in dealings with individual gardeners and with partnering organisations can be conducive to long-term viability. In both cases, gardening activities and interactions between users proceed in a fairly unstructured and informal manner. That is, the initiative has been allowed to happen and unfold organically, through observing one another and seeing what everyone grows in their garden, through talking, and through the cleaning days and socializing over barbecuing

and tea. Moreover, there are little or no mandatory events in both gardens, gardeners are free to interact and contribute as much or as little as they wish. This is illustrated by the following quotes by interviewed gardeners:

Our long-term sustainability plan has always been to keep it so that if it never got any more funding we can still keep going. This means only doing stuff that people are happy to volunteer to do. We all do it because we want to do it, not because of any sense of duty or whatever. [Edinburgh]

It is a long-term project and it really works. They [local government] can put in as much money as they like in short-term projects that die after a couple years but we have been here since 1976 and it works relatively well. [Stockholm]

The gradual approach taken by the studied cases in these cities can be contrasted with the studied Malmö case in which facilitators started parachuted in with bold plans and somewhat underestimated project implementation. This has sadly resulted in several (prospective) farmers to withdraw from the project at an early stage. They came to this decision after finding out that they could not continue to receive state benefits when self-employed as urban farmer. As a result, they would not be able to sustain themselves initially. Another set of farmers left after it was discovered, after having started already, that the soil at Hyllie was not immediately suitable for organic farming. Moreover, it turned out that there are unforeseen practical issues that need to be tackled such as providing an adequate water supply and culling the local rabbit population threatening agricultural crops.

Contributing to the flexibility in both the Edinburgh and Stockholm case has been the installation of a committee comprising gardeners that engages in day-to-day decision-making relatively independently from external governance structures (e.g., municipalities and grant funding bodies). That is not to say that those organisations operate as anarchist entities, completely independent of external regulation. For example, the municipality and the allotment organisations at Igelbäcken (Stockholm) have some overarching power in terms of dictating the rules of the garden and the lease of land. However, the restrictions are not overly tight, providing the allotment board with sufficient leeway to adjust to changing circumstances.

Individuals with the drive and resources are key for success

3.6.3 Transferability

Key to the transferability of the initiatives considered here to different contexts are individuals with the drive and (access to) the resources to make it happen. These individuals are influenced by inspiring examples from elsewhere as well as local food growing culture and variables such as economic circumstances, geographical context of the initiative and the socio-demographic characteristics of local people (see Section 1.5). Municipal support for participatory governance of UA also plays a role in enabling this practice, although our set of case studies shows that the availability of a clear municipal framework and/or policy for supporting this practice is not essential to their success. Grassroots community food growing initiatives are not yet established as a formalized practice in many of the studied case

study cities, and a formal framework to support such initiatives is therefore lacking. Some of the studied cases show how groups, simply by keeping themselves on the right side of powerful actors and having the confidence to pioneer unexplored territory, have prompted municipalities to introduce or change policies, removing barriers for similar initiatives in the city.

The flexible approach to governance characteristic of the gardening initiatives in Stockholm and Edinburgh may not necessarily be easy to emulate elsewhere. Many community and allotment gardens depend on the support of external bodies for funding and/or expertise, especially when seeking to professionalize their organisation, and therefore will to some extent be bound by externally imposed rules and regulations. Consequently, UA initiatives may sooner or later be presented with the challenge of finding the middle ground between responding to the needs and desires of garden users and rubbing shoulders with actors with the power to provide the necessary resources for sustaining and/or further developing or professionalizing the garden.

3.7 Conclusion

Six urban agriculture initiatives with a physical green space component and involving non-governmental actors in a dominant role were scrutinized. Several key findings emerged. Firstly, the delivery of socio-cultural benefits was a key driver in the majority of initiatives. While a variety of actors was involved across the range of studied cases, the municipality had been a key actor in all of them, mostly as the provider of land, infrastructure and/or facilities to support gardening. All initiatives were either overtly or covertly supported by the municipality. Only in one instance, collaboration was a two-way street with the initiative bringing about policy change at municipal level. The relationship with planning, in particular the lack of communication, was of concern to gardeners in some cases.

Anecdotal evidence suggested a link between urban agriculture and green effects, in particular biodiversity and climate change adaptation. Moreover, some of our case studies showed the potential of urban agriculture to be designed as an integral part of the urban green infrastructure, providing connected, integrated and multifunctional green spaces. Socio-cultural benefits were most widely reported. These include enhanced social cohesion, inclusion and sense of safety as a result of more social interaction. Our findings suggest that community gardens may come to serve as meeting places for native people and immigrants, and therefore could function as a socio-cultural integration tool. This finding may be of particular relevance in light of current levels of human migration on the European continent. Other benefits were increased health and well-being as well as gaining new knowledge and (transferable) skills. Community gardens also had some cost-saving, and occasionally income generating, benefits to users, and potentially local businesses.

Some factors outside of with the immediate control of non-governmental actors were considered important in explaining the success of the urban agriculture initiatives. These were relevant governmental plans, policies and legislation, inspiring examples from elsewhere, food growing culture, economic circumstances, geographical context of the initiative and the socio-demographics of local people. Internally, providing the necessary legal permis-

sions, funding and expertise as well as a support structure with regular meetings, clear rules and regulations are important to empower non-governmental actors. In addition, consultation with stakeholders and being sensitive to local context are relevant to achieve project buy-in. Moreover, linking in with existing governance structures, providing transparent communication about activities and partnership working are important in building a support network. Finally, a degree of flexibility in dealings with users and partners was also considered to contribute to project viability.

4 CLUSTER C: COMMUNITY-LED MANAGEMENT OF GREEN SPACES

4.1 Introduction

Cluster C focuses on the long-term community management of urban green spaces on a relatively large scale, up to 120 hectares. This cluster encompasses a variety of green space settings that are connected to formal governance arrangements, because the green space is legally recognised by function (e.g. parks, woodlands). In these examples, communities of citizens play an important role in the design and management of green space and have formally adopted the management of the involved green space. As a part of formal governance arrangements, there is also a role for authorities in our case studies.

In our review of trends in urban green governance, we collected quite a large number of papers on the community management of green space. Most of these papers, however, are not explicitly long-term in their empirical scope. Although studies on the long-term community management of green space have been conducted before (e.g. Rosol, 2010), such studies are quite rare and provide only a limited insight into the general long-term perspective for community groups managing green space and the important factors in this long-term perspective. Similarly, the long-term effects of green space management by communities have also been studied to a limited extent. In this light, the focus in this cluster is on long-term processes and the important factors in such processes at different points in time. The first cluster specific research question in this chapter is:

1. What is the long-term perspective for community managed green spaces?

The cases in this cluster have an important role for authorities as well as for community groups and citizens. Existing literature on the involvement of communities in governance often highlights the role of authorities as an important factor, for example in legitimising the involvement of communities (Halloran and Magid, 2013), but also in setting boundaries (Bailey and Pill, 2011) and in supporting community groups (Van Dam et al., 2014). Authorities also have an own agenda in engaging with communities (Wallace, 2010) and pursue their own objectives, which might cause them to support some initiatives while hindering others (Mattijsen et al., 2016). An important point of critique in some papers is that authorities pay little attention to the political, economic and social forces that shape local communities (Bailey and Pill, 2011; Wallace, 2010), while generic policies are often not suited to deal with all specific local initiatives (Mattijsen et al., 2016). In this chapter, the role of authorities is an important point of analysis. Next to this, and in light of the above critique, we also apply a specific focus on local culture and identity and on the influence of this on governance processes as well as on green space. The second cluster specific research question in this chapter is:

2. Has the local identity or culture of people in this community influenced the green space associated with this initiative?

4.1.1 Cluster cases

Included in this cluster are four case studies of community-led management:

- Duddingston Field Group, Edinburgh (UK)
- Volkspark Lichtenrade, Berlin (DE)
- De Ruige Hof, Amsterdam (NL)
- Boscoincittà, Milan (IT)

The four cases are briefly described in the individual text boxes below. For more information on the cases, we refer to the technical annex.

Box 4.1. De Ruige Hof, Amsterdam (The Netherlands)

Nature association De Ruige Hof ('the rough court') is an association that manages about 13 hectares of nature in two areas in the southeast of Amsterdam, leased from the municipality. They have about 450 members and a total of about 50-60 active volunteers – about half of which have a background as a psychiatric patient. De Ruige Hof has a daily board as the highest decision making body and employs a part-time coordinator to supervise activities. Most of their annual budget of around €20.000 comes from membership contributions and donations.

De Ruige Hof was established in 1986. At that time, the municipality of Amsterdam had started to develop a number of abandoned construction sites. A group of citizens stood up to protect the spontaneously emerging nature on these sites and founded De Ruige Hof. After meeting with the municipality of Amsterdam, they adopted the management of the site 'De Riethoek', and a few years later also a second area called 'Klarenbeek'.

De Ruige Hof aims to bring nature closer to citizens and also to bring citizens closer to nature. To this end, they organize a wide variety of activities, many of which directly revolve around the management of Klarenbeek and De Riethoek. They also organize activities aimed at reaching the public, such as lectures and excursions. De Ruige Hof publishes its own magazine, which is published three times per year. They also have a Kids Club, called De Ruige Kids.

Although De Ruige Hof has contributed to biodiversity and the wellbeing of its volunteers, their activities have been somewhat under pressure. As a result of government budget cuts and a decrease in sponsoring by companies in recent years, they currently operate at a small deficit. Also, there have been plans to construct a road through one of De Ruige Hof areas, which has also been designated as an area for housing by the municipality. Both plans were eventually abolished, but in a growing city such as Amsterdam, urban development remains a threat.

Box 4.2 Volkspark Lichtenrade, Berlin (Germany)

The “Volkspark Lichtenrade” is a community managed park in the district of Tempelhof-Schöneberg in Berlin, existing since more than three decades. Before the German Reunification, the Lichtenrade quarter represented the southern tip of West-Berlin, encapsulated on three sides by the Berlin Wall and thus with limited access to green and open space.

In 1979, as an act of peaceful protest, citizens “occupied” the area by planting trees when the owner, the “Evangelischer Kirche” (Protestant church), wanted to convert the site into housing development. Since then, the area has been developed into a park and is managed by the non-profit park association “Trägerverein Lichtenrade”. The Volkspark property was sold to the federal state Berlin and the lease contract is prolonged on a yearly basis and allows free usage in exchange for maintenance of the park.

The park is mostly financed by donations, sponsorships, and park association membership fees, and maintained by volunteers. Currently 8-10 active members meet twice a week to work in the park. The park association maintains a good network with other local associations and companies, which provide mutual help or financial support such as supply with machinery or plants, and expert knowledge. However, lack of volunteers and changing social structure in the neighbourhood represent challenges for the park’s future.

Today, the Volkspark Lichtenrade provides a recreational area of 4.6 ha including a playground and a non-public building yard with plant beds for association members. It is not only popular by local people but also by visitors from other districts. The park is integrated in the land use plan as a green space and is officially acknowledged as such. The association has been awarded for their engagement several times (e.g. local environment or citizen’s awards). It is also acknowledged that the park association was the first initiative in Germany which created, maintained, and financed a public park.

Box 4.3 Duddingston Field Group, Edinburgh (United Kingdom)

Duddingston Field Group (DFG) is an urban community woodland group based in Edinburgh, United Kingdom. According to the group's constitution it is organized as a Scottish Charitable Incorporated Organisation (SCIO). It is run by a group of Trustees, working on a voluntary basis, who together comprise the Board of DFG. DFG acts on behalf of the community of the Duddingston and Craightinny neighbourhoods.

The group manages a 2.5 ha green space, which they lease from the City of Edinburgh Council (CEC) for a symbolic rent of £100 per year. This was made possible because the municipality supports community management of green spaces in various policies, including the Park and Gardens Strategy. Moreover, CEC has started to work more closely with communities after devolving some of its services to neighbourhood level in order to better meet local demand.

DFG does not have a formal use or management agreement with the CEC, although the lease agreement puts certain restrictions on the group's activities. The group is in the process of converting a significant portion of the meadow area into native broad-leaf forest. DFG has also planted an apple orchard with over 100 trees, with a significant number of Scottish varieties, as well as a small plum orchard. As a result of community management of the field, it is now publicly accessible and has several paths, including benches and visitor information provided at various locations in the field.

Box 4.4 Boscoincittà, Milan (Italy)

Boscoincittà (The Forest in the City) is the first Italian urban reforestation project based on a participatory process involving schools, associations, institutions and citizens. It is a public nature park located in a green belt in the suburbs of Milan, which was created with the idea of being a ‘natural forest’ penetrating into the urban center to counter the effects of urbanization, implement recreational green areas, promote social cohesion and well-being, and improve connectivity with peri-urban areas. The park was established in 1974 on 35 ha of abandoned farmland and has grown since to about 120 ha.

The Municipality of Milan retains ownership of the park, but conceded it to the NGO ‘Italia Nostra’ with the agreement of renewing the contract every nine years. The NGO is responsible for developing and maintaining the park, while the Center for Urban Forestry, founded in 1981, is the executive unit that launches and coordinates initiatives. The park is mostly funded by volunteer organizations, institutions (e.g. bank) and individuals through donations and sponsorships, but also by the Municipality through an annual basic grant.

Networking between associations, groups, citizens, and institutions has led to the development of a vast green system, which gained the park international recognition in 2003. Boscoincittà contributes to the green ring of the metropolitan area and has become a model for creating new parks in the green belt of Milan and in Europe. Because of its extensions and status, the park can pose restrictions on surrounding urban development and attributes greater economic value to nearby housing.

Boscoincittà is innovative due to its multifunctionality, NGO-conceived and community-led participation, educational and social impacts, innovative tools and implementation methods. The park features 150 allotment gardens based on a ‘no waste’ of resources concept.

Tensions initially arose to obtain autonomy from the Municipality, which was later acquired through confidence in the park’s management and the numerous volunteers. Changing administrations and slow bureaucracy were also causes of tension.

4.2 Dominant governance arrangements

Table 4.1 summarizes the most important findings for each case study in relation to the four dimensions of the PAA. In this way, the content and organization of the four cases of community-led management are briefly described.

TABLE 4.1 OVERVIEW OF POLICY ARRANGEMENTS IN COMMUNITY-LED MANAGEMENT CASES

	Discourse	Actors	Rules of the game	Resources
De Ruige Hof, Amsterdam (NL)	Emphasis on the importance of urban green. Aims for bringing citizens closer to nature and nature closer to citizens.	De Ruige Hof has around 450 members and 50-60 active volunteers. Important role for municipality, neighbourhood council and an environmental NGO.	Association with members who have a formal say, supervised by a daily board as highest decision making body. Activities are supervised by the coordinator. Management takes place on the basis of an official management plan.	13 Hectares of land, owned by the municipality and leased to De Ruige Hof. Most funding is collected through contributions and other donations, also irregular subsidies and generated income. There is currently a (small) shortage in the annual budget.
Volkspark Lichtenrade, Berlin (DE)	Creation and conservation of a park in a neighbourhood with limited access to public green space.	Established through citizens who occupied the area. In 1981 the management association was founded, they were supported by the prior owner (Protestant church). Local politicians also support the park.	A lease contract grants the association free usage of the area in exchange for maintenance of the park. Since the initiative is organized as an association, there is a statute which defines decision-making and internal structure.	Regular income is secured by membership fees. Additional money is generated through an annual Harvest Festival, district and municipality subsidies, funded projects or donations from private persons or companies. 4.6 hectares of park land are leased from the Federal State Berlin.
Duddingston Field Group, Edinburgh (UK)	Involvement of community in green space management. Creating local green space for recreation, climate change mitigation, facilitating biodiversity. Supporting health, well-being and social cohesion.	Volunteers have a very important role as the implementers of management. Also an important (supporting) role played by the City of Edinburgh Council and its local neighbourhood service. Some cooperation with NGOs.	The group is guided by a board of trustees, who have prepared a 5-year work plan. As a charitable organization, they have to annually report their activities and finances. Under the conditions of the lease agreement, they cannot pursue commercial interests on the land.	The main source of funding is grant aid. The group also receives donations, both financial (e.g., from apple tree sponsorships and organizing events) and in-kind (e.g., trees). The group manages 2,5 hectares of land adopted from the municipality.

Boscoincittà, Milan (IT)	Develop and share a common green space to spend leisure time, some emphasis on the importance of green space and its diverse functions. Involving citizens in management of green.	NGO 'Italia Nostra' founded the park in 1974. Its centre for urban forestry (CFU), has an important role in park management. There are many volunteers in different groups. The Municipality has an important supporting role.	Management decisions for the park are made by a director together with the CFU. Decisions often relate to of proposals made by volunteers, citizens, schools, etc. The park hosts many different initiatives.	There is a basic grant from the municipality, but much funding comes from volunteers and other sources, including public/private partnerships. 120 hectares of parkland leased from municipality.
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All case studies in this cluster involve examples of community governance in which green space has been created and/or maintained throughout the years. In terms of size these case studies are relatively large examples, ranging from 2.5 hectares (Duddingston Field Group) to over 120 hectares (Boscoincittà). Three of these cases have been existing for decades already: Boscoincittà was established in Milan in 1974, and the first actions leading towards Volkspark Lichtenrade were taken in Berlin in 1979. De Ruige Hof in Amsterdam was established in 1986. A more recent example is Duddingston Field Group in Edinburgh, which was established in 2011 and has existed for about four years at the time of writing.

4.2.1 Actors

In all four cases studied in this cluster, non-government actors have the lead in governing a particular green space. This also includes an important role for citizens in the physical management of green space. In other words, citizens physically work on these sites and contribute to the quality and/or quantity of urban green. Next to this, there is an involvement of authorities in all four cases as well.

When looking at the volunteer demographics, the cases are predominantly managed by relatively old people. This is perhaps most striking for Volkspark Lichtenrade, but also visible at the other cases. Perhaps also remarkable is that volunteers are not always 'local', in the sense that they come from the direct surroundings of the initiative, but often also include people from other neighbourhoods. Volunteers are also not always an 'equal representation' of people living in the neighbourhood. De Ruige Hof is active in a neighbourhood where the majority of inhabitants is from non-Dutch descent, but the volunteers are, in the words of the coordinator, 'almost all white people.' Duddingston Field Group has volunteers that are representative of the neighbourhood, but does not engage many people from surrounding, more deprived, communities.

4.2.2 Discourse, motivations and objectives

All four initiatives of community management in this cluster have an explicit aim to contribute to green space quality and/or quantity. This can mostly focus on (re)developing green space such as in Boscoincittà, where agricultural land was developed into a park. Other examples, such as De Ruige Hof, have a stronger focus on conserving and improving existing green spaces. Although these areas were also developed further, this was mostly done with the existing green as a starting point. Another important aim of our case studies includes a

desire to involve local citizens or specific groups, such as school children for Duddingston Field Group, in green space management.

The experiences from our case studies clearly show that volunteers cannot be treated as a homogenous group: there are many different reasons for individuals to participate in the community management of green space, and different volunteers also contribute in different ways. People take on different roles: some are interested in green space management, while others might contribute to PR or bookkeeping. Some people are explicitly interested in contributing to green space, while for others social aspects are more important.

Volunteers are not a homogenous group

Local authorities also have different objectives for supporting community management. First of all, they can support community management of green space out of an interest in improving quality or quantity of urban green space, which is likely important in all four cases in this cluster. Authorities can also perceive community-led management of green to contribute to the involvement of citizens with their environment and/or as desirable from a democratic point of view where citizens take matters into their own hand, as shown in the example of Boscoincittà. In some cases, it is more cost-efficient for authorities if communities manage green spaces. This has been emphasized in the example of Volkspark Lichtenrade, but is also suggested as a possible benefit for authorities in the other cases³.

4.2.3 Rules

All community groups in this cluster are part of formal governance structures. In all four cases, these groups have signed (lease) agreements with the municipality in which they have adopted the 'rights and responsibilities' for managing green space. This green space is in all cases fully accessible to the public. There are relatively few rules imposed on visitors (e.g. on prohibited behaviour), and all sites in our cases offer opportunities for recreation.

The community groups themselves have also been formalized as legal entities: Duddingston Field Group is a charitable (incorporated) organization, while the NGO managing Boscoincittà is also a charity. The groups managing De Ruige Hof and Volkspark Lichtenrade are both associations. In all cases, there is a formalized decision making structure: there are statutes and/or regulations which define decision-making and responsibilities. They are generally guided and supervised by a daily board/board of trustees. De Ruige Hof and Volkspark Lichtenrade are both associations, which means that members have a formal say in the management of green space. In Boscoincittà, the Centre for Urban Forestry has an important say in management decisions.

³ In other GREEN SURGE work, Andersson et al. (2015a) discuss several issues related to the management of UGI from the perspective of costs and effectiveness and the involvement of different actors.

4.2.4 Resources

For De Ruige Hof, Volkspark Lichtenrade and Boscoincittà, volunteers/members contribute an important part of the funding. For Duddingston Field Group, on the other hand, grant aid is the major source of income, although donations are also an important component of their income stream. Donations also contribute to the financing in at least De Ruige Hof, Duddingston Field Group and Volkspark Lichtenrade. These donations can come from private persons as well as from companies, who sometimes also provide materials. Volkspark Lichtenrade has an annual harvest festival which generates additional income. Other important material resources include tools used for management of green space. In all four cases, the group is managing land owned by the municipality.

In all cases, volunteers contribute many hours of work, which would have cost a lot of money if it had been conducted by professionals. Both the municipalities of Amsterdam and Berlin have stated that they would not be able or willing to perform this management themselves because of the high labour costs that would be associated with it if there were no volunteers. Volunteers also contribute (local) knowledge and expertise, often related to specific forms of management. For example, volunteers at Duddingston Field Group have learned how to graft apple trees and volunteers at De Ruige Hof have created specific habitats for Kingfishers that nowadays live in both areas they manage. The general view is that the community groups are quite knowledgeable, but if necessary such groups can also receive external advice from NGOs or authorities.

Municipalities are not willing or able to take over management from grassroots

4.2.5 Differences and important specific characteristics

Boscoincittà has a somewhat special position in this cluster on community management, as the management in this area is not conducted by a single community group like in the other cases. Rather, many different user groups are involved in the management of the park. This case has a high level of institutionalization: its development and growth is linked to policy made by authorities and there is a strong network with many NGO's around Boscoincittà. Also, the involvement of experts is far larger in scale than in the other cases in this cluster. In Boscoincittà, there is a continued monitoring of social, ecological and safety-related aspects, something which is absent or less present in other cases.

Interesting for De Ruige Hof is its strong focus on ecological values and the high biodiversity in their areas - actually surpassing that of neighbouring green areas which are managed by authorities. Remarkable in this case is also that a large number of their volunteers were former psychiatric patients –about half of the total group of volunteers. Although there are some 50-60 active volunteers at De Ruige Hof, they are in fact an association with about 450 members who financially contribute to their activities.

Volkspark Lichtenrade has a history that is related to that of the city of Berlin and the Berlin wall. It is officially recognized as 'the first of its kind' in Germany. Yet, they currently struggle to continue their activities. In Volkspark Lichtenrade, accessibility is an important point:

the area will remain open to the public as long as the association can manage it. However, without volunteer management, the green space will likely be closed/fenced off since the district authority lacks resources to take over the management.

Duddingston Field Group is a case that is considerably younger than the other three. An important aspect of this case is a tension between involving (too) many different user groups and the desire of volunteers to have a tranquil green space. Unlike other cases, the site is not widely promoted, but rather promoted for specific user groups, such as school children. They receive a high level of support and trust from the local authority.

4.3 Relationship with government, policy and UGI

4.3.1 Rules, regulations and laws

The initiatives of community management that we have studied must deal with several official plans and policies. First of all, there are rules, regulations and laws which have to be abided by and which influence the management of green space. For example, in Berlin, policy requires that certain native tree species are protected and there are also requirements to ensure public safety in Volkspark Lichtenrade. In Amsterdam, policy prescribes that paths have to be maintained and that ditches have to be cleaned regularly, resulting in certain management duties for De Ruige Hof. Part of the lease agreement between De Ruige Hof and the municipality of Amsterdam also includes that De Ruige Hof takes over the formal responsibility for the management of ditches in the areas. Duddingston Field Group manages land that is part of the Edinburgh Green Belt, and it is therefore protected from development by several policies.

Rules and regulations on the protection of sites are also important. Volkspark Lichtenrade is a protected green space, which prevents urban development. However, this does not necessarily safeguard public access of the area. Boscoincittà is also protected from urban development by several local policies. On the other hand, both areas managed by De Ruige Hof are not formally protected. These areas, thus, can be developed. In the past, there have been plans to construct a road through one of De Ruige Hof areas, and this area has also been designated as an area for possible urban development/housing by the municipality of Amsterdam. Although on both occasions these plans were eventually abolished, this shows that it can make a large difference if a site is protected (or not).

4.3.2 Cooperation with (local) authorities

In all case studies of this cluster, the municipality is the actual owner of the community-managed green space. As a landowner, the municipality has a very important (enabling) role. The municipalities of Amsterdam, Berlin, Edinburgh and Milan have signed lease agreements with local community groups (or in the case of Boscoincittà, several NGOs) to enable the community management of green space. Without cooperation from those municipalities, it seems unlikely that these four examples of community management would have got off the ground in the first place. This, however, results in a strong dependency on local authorities for the community groups managing green space. These authorities have the power to discontinue the management of the green spaces by deciding not to renew lease contracts.

While local authorities formally are quite powerful and have instruments to influence or even terminate the community management of green space, all of our four case studies shows that they do not exercise this power very strongly. The local governments have small and largely supporting roles in the actual management of the involved green spaces. The community groups are largely autonomous in deciding how they manage the green space and even in designing what the area looks like, as long as they operate within the boundaries of policies, rules, and regulations. Rather than directly influencing the management of green space, authorities have made agreements with the community groups about rules and responsibilities in all cases.

The observation that the municipalities in our four cases do not strongly steer the content does not mean that they are not involved in the management of the green spaces: they support the community groups in our cases in various ways. First of all, local authorities can have a role in financially supporting community management: we see this for Volkspark Lichtenrade and De Ruige Hof (irregular project subsidies) and also for Boscoincittà (regular annual subsidies). The small fee for which the ground is leased to the communities can also be seen as a form of support. Duddingston Field Group pays £100/year for the lease of 2.5 hectares of land, which is far below market prices. Apart from the role as landowner and financial contributor the municipality also provides advisory and/or material support in all four case studies.

4.3.3 Link with Urban Green Infrastructure

The examples of community management studied in this cluster are all managing relatively large areas of land. The green spaces managed by Boscoincittà, De Ruige Hof and Duddingston Field Group are connected with and part of a wider physical network of green spaces. As such, they link up with other urban green infrastructure (UGI), and contribute to *connectivity* as part of a larger green network (see also Davies et al., 2015). The Klarenbeek area managed by De Ruige Hof forms an important part of an ecological corridor, and connects green spaces in- and outside the city of Amsterdam with the National Ecological Network of the Netherlands. Boscoincittà has a very important role in connecting different green spaces in and around the city of Milan, also on a regional level. Volkspark Lichtenrade, on the other hand, is an isolated green area that links up with other UGI only to a limited extent.

Examples manage large areas of land, up to 120 ha.

4.4 Perceived effects

4.4.1 Green effects

Volkspark Lichtenrade and De Ruige Hof have likely contributed to the conservation of green space and preserving its green character. Boscoincittà has contributed to a large increase in publicly accessible green space quantity in the southwest region of Milan. In all four cases, this amounts to quite substantial areas, also indicating the scale of effects that community management of green space can possibly have.

Apart from contributing to green space quantity, community management can also contribute to an increase in the quality of green space. In all case studies, the claim is made that green space quality has been improved in terms of biodiversity, ecosystem services or the presence of certain species. In both Ruige Hof areas, the presence of species has been monitored over the years and can be seen as an indicator of a (relatively high) biodiversity that has increased over time and is actually higher than in surrounding green areas managed by authorities. In Boscoincittà, biodiversity is also monitored and has increased as a result of the development of the park. The long-term continuity of the management is also important for (urban) ecosystems, as older systems generally have a higher biodiversity, as shown in the above two examples.

4.4.2 Social effects

In all four case studies, community management has not just contributed to the delivery of green and biodiversity, but also provides social benefits. This relates to the concept of *multi-functionality*. In our studies, the community managed green space also provides opportunities for recreation (see also Davies et al., 2015). In Duddingston Field Group and Boscoincittà, the community management also contributes to the production of food.

There are several social effects attributed to the studied examples of community-led management. Perhaps most important is that such management can contribute to a sense of community and social cohesion, both for volunteers and people visiting the areas. It is hard to estimate the extent of these effects, as they are not 'objectively' measured and/or monitored, but they are perceived to play an important role in all cases.

In all case studies, community-led management of green space also contributes to access and use of this green space by non-volunteers. Interesting in this is that De Ruige Hof, Boscoincittà and Volkspark Lichtenrade all widely promote access to their area, while the site managed by Duddingston Field Group is not widely promoted as they volunteers desire to have a tranquil green space. But even here, there are no formal mechanisms of excluding people to visit the areas.

Health benefits that go with working in green space are explicitly identified in De Ruige Hof and Boscoincittà, but are most likely existent also in the other two cases. Interesting in De Ruige Hof is the way in which it provides a stepping stone towards societal participation for people with a history as a psychiatric patient make up about half of the volunteers. Through their involvement in green space management, these volunteers meet other people, learn from nature and each other and develop themselves.

4.4.3 Economic effects

For most respondents in our case studies, the perceived economic effects of community green space management seem to be less important than its social and green effects. This certainly does not mean that community management of urban green is not of economic value. Andersson et al. (2015a) show a wide variety of possible economic effects related to UGI). However, this does show that economic effects are generally less of a focus in our

case studies, with weight and importance mostly given to the delivery of green/biodiversity and on realizing social effects. Economic effects that are identified relate to a possible contribution of green space to property/housing prices (Duddingston Field Group, Boscoincittà, see also Andersson et al., 2015b) and the provision of employment (De Ruige Hof). As already identified, community-led management of green space can contribute to cost-savings for authorities, although this is not mentioned as an economic effect in our case studies.

4.4.4 Institutional and other effects

The examples of community-led management in our case studies often play an important role in (local) knowledge exchange and function as an example to other initiatives. Boscoincittà has been an inspiration for other parks and community initiatives around Milan, and De Ruige Hof is regularly visited by volunteers from other initiatives to 'see how it's done'. On an institutional level, experiences with community management might also have an impact on the position of local authorities. Experiences with Duddingston Field Group have resulted in more confidence about the idea of community management at the level of the city council of Edinburgh, possibly creating space and support for the rise of other initiatives.

Cases function as examples for other initiatives

TABLE 4.2 OVERVIEW OF PERCEIVED EFFECTS OF COMMUNITY-LED MANAGEMENT CASES

	Green Effects	Social Effects	Economic Effects	Institutional Effects	Other Effects
De Ruige Hof, Amsterdam (NL)	Conservation of existing green space. Increase in biodiversity and presence of red-list species.	Health benefits, social cohesion, contribution towards participation in society for some volunteers.	Provision of part-time employment to coordinator.	Possible influence on policy, no strong evidence.	Knowledge exchange.
Volkspark Lichtenrade, Berlin (DE)	The park functions as a green lung in the city and hosts many different species.	Recreational quality of park, community engagement with green space.	None registered	Park is integrated in the land use plan and officially recognized as a green space.	None registered
Duddingston Field Group, Edinburgh (UK)	Planting of over 2000 native trees, meadow diversification, wetland development, likely increase in biodiversity.	Increased sense of community and increased access to green space/site.	Suggested increase in nearby property prices and increase in turnover of local business	Increased confidence about the idea of communities managing (large) green spaces	Good practice: example of inspiration to other community green initiatives.
Boscoincittà, Milan (IT)	Creation of large size park with positive effects to biodiversity.	Social cohesion, health effects, contribution to wellbeing and recreation	Increase of nearby property values, small effects related to local food production	Greater sensitivity for public institution regarding green issues, supportive effect towards other green initiatives.	Knowledge exchange. Good example, inspiration to other park initiatives.

4.5 Successes, controversies and tensions

Remarkable across our case studies is that the long-term continuity of management is celebrated as an important success by many volunteers. Although continuity itself is not an objective in most cases, it is important to realize that continuity is a critical aspect for realizing certain effects. For example, across the cases where it has been monitored, biodiversity has increased over the years as a result of continued management.

Groups of community-led management of green space have been able to continue their management for decades, even though all kinds of external developments have taken place over the years. In Boscoincittà, the continued involvement of volunteers and the growth

and development of the park over the years are perceived as an important success. The most important perceived success for volunteers from both Volkspark Lichtenrade and De Ruige Hof is also in their long-term continuity. Although Duddingston Field Group has a shorter history, its stability over the years is also seen as an important success by respondents.

Other important successes that are mentioned relate to the realization the delivery of green and also to the realization of social effects. For the latter, the many users/visitors of the areas are seen as an important success in all cases, also showing the social importance of the sites.

4.5.1 Rise, development and drivers

Historically, the local context has played an important role in the rise of the four initiatives of community management. All four cases in our cluster were triggered and motivated by specific local circumstances. A lack of urban green was an important driver behind the establishment of Boscoincittà park. A fear of urban development threatening the quality and/or quantity of existing green space was an important trigger for De Ruige Hof and Duddingston Field Group, where community initiatives were started to conserve and improve this green space. For Volkspark Lichtenrade, green space in the neighbourhood was not only scarce and poorly accessible; it was also under threat of urban development. This motivated local citizens to take action for the conservation of this green space.

The initiatives in all four of our case studies have changed over the years. External changes, outside of the direct influence of initiatives, in the context can trigger innovations/modifications in initiatives of community management. In the example of De Ruige Hof, a decline in income meant that the group had to reduce its expenses and also that it had to look for other sources of funding. New policies, changes in the social structure of the neighbourhood, economic developments or spatial developments are example of such contextual changes that might impact the community management of green space. This changing context often requires some adaptive capacity of groups of community management. As the example from Volkspark Lichtenrade shows, drastic contextual changes and a lack of adaptation to a changing context can eventually threaten the continuity of the community management if there is no capacity (internally or externally) to align the initiative with these changes.

4.5.2 Policy context, local characteristics and planning

The specific characteristics of the local areas play an important role in the examples of community-led management and might influence their objectives and activities. Also, the local context is important when looking at available financial and human resources and specific policies that might support or hinder community-led management of green space. In Volkspark

Lichtenrade, the lack of green space was an important contextual factor motivating the management of the park. However, the changes in the neighbourhood after the German reunification are also reflected in the park. The surroundings of the park have changed and

Lack of green space motivated citizens to engage

the people living in the area have a below-average income and often lack volunteer experience. This makes it hard for the existing volunteers to reach new people from the neighbourhood. De Ruige Hof is situated in a very multicultural neighbourhood where, in their eyes, (multi)cultural projects are often prioritized by politicians and they have to work hard to be recognized. They also struggle to reach non-Dutch people, especially for volunteering.

As already discussed, local authorities play a very important (enabling) role in our cases on community management of green space. For Duddingston Field Group, De Ruige Hof and Volkspark Lichtenrade, contacts with the municipality mainly take place on the district/neighbourhood level (e.g. with district councils), although there are also contacts with authorities on the level of the city as a whole. Boscoincittà mainly has contacts with authorities on the city-level, being a much bigger site than the other three cases. Contacts with the municipality are generally seen as good by most respondents in the four case studies, but there are also some critical remarks. In Boscoincittà this has to do with 'too much bureaucracy', which can discourage local initiatives. De Ruige Hof has had problems with ambiguous communication structures.

4.5.3 Challenges

Next to the above successes, there are also some difficulties which are identified across the studied cases, although for Duddingston Field Group, no real difficulties seem to be currently relevant. The lack of conflict in this case can likely be explained by the close-knit community and the flexible management approach.

Volkspark Lichtenrade struggles with declining numbers of volunteers, up to the point where it has become uncertain if park management can actually continue in the long term. Related to changing socio-demographics of the area, including the influx of ethnic minorities, the number of volunteers for park management has declined since the 1990's and there is no current influx of volunteers. Existing volunteers are mostly retired people who find it difficult to continue the management activities. If these volunteers, at some point, are not able to maintain the park, the area will likely be fenced off and closed to the public, as there are no public resources to maintain the park.

For Boscoincittà, the communication and cooperation between public administrations/politicians and park workers has been difficult at times. Tensions originated in changing administrations and the impact this had on the park. As stated by the director of Boscoincittà, conflicts caused by speculation on behalf of political and private actors forced restitution of Parco delle Cave (Cave Park), at that point a part of Boscoincittà, to the municipality. Other difficulties are that some reforestation initiatives in Boscoincittà have advanced at a slower pace than originally planned.

For De Ruige Hof, a decline in public funding and sponsoring in recent years has resulted in a (relatively small) deficit for several years. While this is not imminently threatening, as they have some financial reserves, De Ruige Hof finds it difficult to find new sources of funding. As a result, they had to cut their budgets for several things. Another difficulty for De Ruige Hof is that both their areas still face the threat of urban development. Although this threat

currently does not appear to be imminent, experiences from the past have shown that both areas are not protected from such developments.

4.6 Lessons to be learned

4.6.1 Innovation and local lessons

All examples of community management in our case studies are locally unique in terms of their scale, the number of volunteers involved and their topic. They were early examples which have been of inspiration to others - and this is even the case in Duddingston Field Group, the youngest example of this cluster. Although perhaps not as innovative in today's world as in the 1970's or 1980's, the cases of community-led management continue to function as important examples and as an inspiration for other examples of space governance. Our analysis shows that the policy context and several other local circumstances have greatly influenced the outcomes of all cases. It is therefore not always easy to transfer observations from the studies in this chapter to other contexts. Nevertheless, we do believe that our case studies offer some important lessons, which might be applicable to other cases of community management.

Volkspark Lichtenrade is still unique in Berlin as a successful example of community management of a park, and has even been awarded by a nature association for being 'the first one of its kind' in Germany. This case demonstrates that good public relationships and a network of supporters facilitate success in terms of stable establishment. External support has helped to develop and maintain the park over the years, and is still very important for the park management. Compared to other green initiatives, a district green space manager considered the Volkspark, due to its size and self-organization, as a model that actually produces a 'profit' for green space authorities: they are largely independent, require relatively little resources and do not require a shift of work from authorities towards consulting and monitoring volunteers. However, the case of Volkspark Lichtenrade also points to the importance of maintaining an active membership, which is one of the biggest difficulties that the group is currently facing. Compared to other green initiatives, a district green space manager considered the Volkspark, due to its size and self-organization, as a model that actually produces a 'profit' for green space authorities: they are largely independent, require relatively little resources and do not require a shift of work from authorities towards consulting and monitoring volunteers. Volkspark Lichtenrade is still unique for Berlin since there is no community-managed park with comparable size or longevity.

Boscoincittà stands out in this cluster because of its very large scale and its high level of institutionalization. Boscoincittà was one of the first of its kind in Italy and the first experience in Milan of creating a public park in this way. The case has been of inspiration to many other examples of community management in the city of Milan and also across Italy, where the park was an early example of empowering individuals and played an important role in the dissemination and exchange of knowledge/ideas. The supporting role of and cooperation with local authorities is important. With the assistance and example function of Boscoincittà, other initiatives in and around Milan have also gained autonomy. This shows that good examples of green space management can also trigger and promote other. Working together with experts and professional has also contributed to the development of

knowledge and skills for volunteers. Boscoincittà was one of the first of its kind in Italy and has been of inspiration to many other examples of community management in the city of Milan and also across Italy, which even gained the park some international recognition. In Italy, the park was an early example of empowering individuals and the park played an important role in the dissemination and exchange of knowledge/ideas. The very large scale of this park is also remarkable, even within this cluster where most examples span multiple hectares. Boscoincittà continues to be an inspiration and exemplary case and has over the years also introduced new state of the art elements in the park, such as solar panels for powering the watering of the gardens.

De Ruige Hof has been an early example of community management in the Netherlands. They inspired many other green initiatives and played an important role in local knowledge dissemination. Over the years, they have shown that long-term green space management by a community can yield many social and ecological benefits, including a high biodiversity. However, De Ruige Hof never really gained the formal recognition that the above two examples cases did, and certainly not on the national level. This case also revealed that external developments can threaten community management and that continuity from the side of authorities can be a very important factor, as changes on this level can greatly impact the community management. Over the years, even though the group so far has been able to adapt to changing circumstances, external developments have shown to be more threatening to the continuity of De Ruige Hof than internal dynamics. Nevertheless, the group is seen as a very good example of community-led management by many respondents and still functions as an example to other groups. Their work with 'special volunteers' – people with a psychiatric history, can also be seen as innovative. De Ruige Hof also shows that long-term community-led management of green space can realize a high biodiversity.

Duddingston Field Group is a more recent example of community management that can also be seen as unique within its local context. Within the city boundaries of Edinburgh, there is no other community group managing such a prominent and large area of land. Duddingston Field Group shows the importance of a supportive policy context to enable community management, with an important enabling role for the municipality. This case study also emphasizes the 'organic development' of the group with a flexible and dynamic management approach open to change and local input. Although the group has had a work plan since the early days, it is not very strict and leaves plenty of leeway for responding to changing circumstances – a deliberate approach. The group chose to only set the rough parameters early on, postponed some decisions about what was going to happen until a better feel for the place had been achieved following a few years of experience. The success of Duddingston Field Group in this regard is considered innovative by some of the interviewees. The group chose to only set the rough parameters early on, and made the decision to leave some decisions about what was going to happen until a better feel for the place had been achieved following a few years of experience. The Chair of this group felt that not many people do that and that it had been really useful in order not to feel pressured to do things.

For this case, the tension between involving many different user groups and the desire from volunteers to have a tranquil green space is also interesting. Unlike in the above three cases, the site is not widely promoted, but is rather for specific user groups.

4.6.2 Long-term perspective for community managed green spaces

The case studies in this cluster can be seen as good practices of long-term community management. They show that citizens are able to continue and safeguard the management of green space over long periods of time, even spanning multiple decades. This long-term continuity is seen as an important achievement and celebrated as a success.

The supporting role of local authorities can be seen as important in this long-term perspective. All four groups are to some extent dependent on cooperation from the local authorities, who have a strong enabling role: they lease the ground to them for a symbolic fee and can also provide financial, material and advisory support. Local authorities can thus have an important supporting role for community-led management. Yet, while the objectives of all four cases in this cluster seem to align nicely with those of involved authorities, it is not unlikely that authorities might have been less supportive if this wasn't the case. In some examples, but their role of authorities can sometimes is also shown to be also be a bit problematic. Changing administrations can sometimes make it difficult to actually establish long-term relationships, for example when contact persons at the municipality change jobs, or when policy changes as a result of municipal elections. Ambiguous communication structures and bureaucratic procedures can also have a hindering or discouraging impact on community-led management.

Continuity depends on supportive role of municipality

Our case studies show that the long-term management of green space by a community is not self-evident and that it requires constant investment of time and resources from citizens to continue. The groups need to manage their budgets, activities, organisational structures and numbers of volunteers over the years. An adaptive attitude is important when there are changes in the larger case context, e.g. when policies or subsidies change (De Ruijge Hof) or when the social character of the neighbourhood changes (Volkspark Lichtenrade). Long-term continuity does not imply that the management of green space is stable: all cases in our cluster have changed over the years: members come and go, objectives develop, financial structures change and the activities performed also change. This development can result both from internal and external developments. In our case studies, we see several (possible) threats to the continuity of management:

- *A formal dependency on external actors means that, in theory, such actors have the power to discontinue community management. In our four case studies, the municipality is the landowner and has the ability to stop the rent/lease to the community.*
- *Urban development/expansion can threaten the associated green spaces when they are not formally protected (De Ruijge Hof).*

- *Disconnection with the local context: If the initiative fails to “activate” members from local communities and gather local support, a lack of volunteers can occur (Volkspark Lichtenrade) and/or support of authorities, NGOs and other actors might decline. This can result in an inability to adequately manage green space and might eventually result in the termination of this management when the community group is unable to continue it (Volkspark Lichtenrade).*
- *A lack of funding can prove to be a threat to continuity, for example when management costs cannot be paid or when volunteers have to invest their own money. In this light, budget cuts from authorities/other funding sources can pose a threat to the continuity of community management, if it depends on such funding (De Ruige Hof).*
- *Lack of internal management capacity. If an initiative is not able to properly organize and coordinate its activities, there is a risk that the green space will be poorly managed and the management will eventually stop (not of application to one of our case studies, but identified as a threat by some respondents).*

It remains hard to say what exactly has contributed to the long-term continuity of the case studies. However, several important aspects that have likely contributed to this are identified across the case studies. These include:

- *An adaptive capacity, allowing the community groups managing green space to cope with changes in context, including policy changes, spatial developments and social developments (De Ruige Hof, Volkspark Lichtenrade, Boscoincittà).*
- *It seems to be important for internal stability that community groups managing green space have a set of established rules and procedures (all cases) to guide their activities and organizational structuring.*
- *The case study of Duddingston Field Group talks about ‘organic development’: objectives and activities develop naturally but do not shift drastically over short periods of time. This is visible in the other cases as well.*
- *A supporting role from local authorities is important to enable community-led management of green space (all cases), but continued support over the years is also important for the stability and continuity of this management.*
- *The formal protection of areas (Boscoincittà, Duddingston Field Group, Volkspark Lichtenrade) and long-term lease contracts (Boscoincittà) provide a long-term perspective and also offer a form of legal protection for the community-led management.*
- *A large and stable social network and cooperation with NGOs can support the community groups over the years and help when things are difficult (De Ruige Hof, Duddingston Field Group and Boscoincittà).*

4.7 Conclusions and discussion

All individual cases in this cluster offer unique lessons. They can all be seen as good practices of community management of green space, and show that communities are able to manage green space for long periods of time while creating and maintaining high quality public space. Although the four cases are all very different and have their individual characteristics, there are also some general lessons that can be drawn from the case studies.

A first lesson is that community management of green space can realize important “green” and social effects, and to a lesser extent also economic and institutional effects. Important green effects include an increase in green space quantity, the conservation of existing green space and an increase in biodiversity. Important social effects relate to an increase in social cohesion, recreational value and positive health and well-being effects associated with exposure to “green” and volunteering. In all case studies, these effects would likely not have been realised to the same extent without the community-led management, as authorities were not actively managing the sites in the way the communities are. Community management of green space can thus provide valuable benefits when compared to the more traditional “top-down” green space governance approach.

A second lesson is that, as already identified in some literature, the role of local authorities is often of key importance to the establishment and success of community management. Without the cooperation from authorities, the community management in our cases would not have been possible. Within the specific local context of each case, the municipality has a very strong enabling role as a landowner. While this results in a dependency on the municipality, formally, for the continuation of this management, the communities in our case studies were largely autonomous in their management and the organization of their activities. Authorities were mainly setting boundaries and preconditions, as well as providing support. So, even though these authorities have a very important enabling role, their role in the actual management is not that big. If municipalities want to stimulate the community-led management of green space, it is important that they are aware of the most effective ways of achieving this.

A third lesson is that communities are able to manage green space for long periods of time, even decades, but that this long-term management is far from self-evident. The long-term management of green space by a community requires constant investment of time and resources from citizens. Over the years, the context of such cases can significantly change. Key to the success in long-term community management of a green space is an adaptive attitude.

5 Cluster D: Public-private partnerships

5.1 Introduction

This cluster concentrates on the involvement of business actors as partners in the decision making process. This chapter has clear linkages to GREEN SURGE Work Package 4 (Green Economy). However, while WP4 concentrates on the valuation and financing of Urban Green Infrastructure, WP6 focuses on the ways and means of governance arrangements that ensure the cooperation of different actors.

According to OECD (2012) there are several forms of involving private funds to finance investments in public green infrastructure (including Public-Private Partnerships (PPP's), tax increment financing, development charges and fees, carbon finance). In addition to that Deliverable 4.1 ("Integrating green infrastructure ecosystem services into real economies") lists further tools to attract private funding like:

- charity funding
- sponsorship
- adoption of green spaces
- selling contribution certificates
- compensation of environmental damages caused by creation of new businesses

As WP6 deals with the methods of inclusive decision making, we focus on the forms of inclusion of private actors to green space development where private actors not only generate funds (like taxes, fees and charges) but are part of the decision making process. Here this means PPP like solutions. As the OECD study writes: "PPPs are broadly defined as long-term contractual agreements between a private operator/company (or a consortium) and a public entity, under which a service is provided, generally with related investments. Fundamental to this funding approach is the private partner's both long-term relationship with the public partner and assumption of some investment risk." As investment risks of the private actors can hardly be found in those private-public contracts that are about outsourcing public services to private actors we exclude these forms of relationships and concentrate on cases of shared risks and responsibilities. Based on the PPP principles cluster D focuses on business actors that operate under market conditions (not social enterprises neither the CSR activities of companies are relevant here). By this focus Cluster D tries to investigate how the economic value of green spaces are evaluated by the private and the public actors, how this economic value can be used to raise interest in and contribution to developing or maintaining green space by private companies and which tools help them find an equilibrium of costs and benefits of green space development.

5.1.1 Main characteristics of the cases

Three cases in cluster D were selected (based on Tier 1 results of Green Surge) as instructive examples of cooperation between public actors and business actors advised by the municipal officers (20 cities were surveyed in the Tier 1 phase of the research in order to get an overview on their strategies concerning green space management). The cases are representative neither for Europe nor for the countries or cities they are located in. However, the three cases were selected to show a spectrum of possible PPP solutions and are able to

demonstrate to practitioners under which circumstances private actors can be successfully included in green space projects.

The largest among the cases is from Denmark where the project under investigation is part of a wider policy approach that aims to secure non-polluted water sources for the inhabitants of Aarhus.

Box 5.1 Lodz, Poland

Lisciasta Park Residence (Osiedle Liściasta Park in Polish) is a new residential area in the northern part of Lodz, built in 2009–2013. The Residence has seven buildings with 158 apartments. This residential area is bordered in the south and east by a green space – a park with a small river (Sokolowka) and several reservoirs.

The wilder parts of the park just by the new residential area were hiding a lot of construction waste from the nearby estates, which had been built in the 1980s and the 1990s. Construction waste had been deposited in the green area and since then been overgrown by new shrubs, trees and other plants. Budomal (the developer company) started the construction of the Residence in 2009. In 2013 – when the sales of the second batch of apartments started – the company suggested that it would clean up and rehabilitate the adjacent land, partly as compensation for the trees that they had had to remove to build the residential area (such a compensation is legally required), and partly to improve the neighbourhood of the residences. The City Office did not have additional means for rehabilitating this area, which was another argument for such an arrangement. Under these circumstances, a short-term public-private partnership was established between the City Office and the Developer to rehabilitate part of the park adjacent to the residential area. This was a temporary arrangement – undertaken to solve one single problem; the land is still publicly owned and after rehabilitation its everyday management has been taken over by the City Office. The area under consideration (the piece which was heavily contaminated by construction waste) is about 600 m².



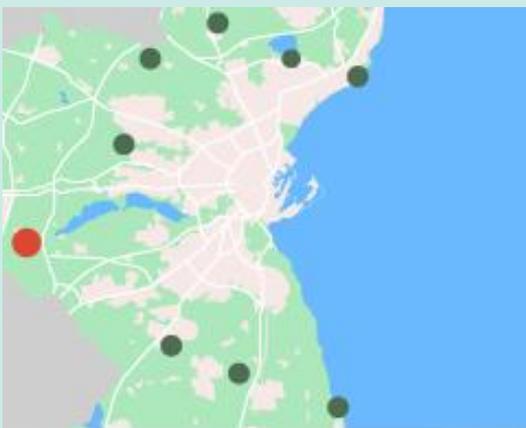
Photos on the state of the area before and after the intervention (photos provided by Tomasz Jochim, CEO of Budomal)

Box 5.2 Aarhus (Denmark)

In order to protect the drinking water for the future inhabitants (intakes of 1/3 of which was stated to be polluted already in the 1990s) the City Council of Aarhus decided to implement an overall water protection plan (entitled by the national Environmental Protection Act of 1998), which was approved by the city council in 1999. The plan stated that more information on ground water protection should be promulgated broadly and particularly to farmers and gardeners, and that voluntary agreements should be made with them to encourage a switch to pesticide free management activities in vulnerable areas. Also, it was decided that forest should be planted around groundwater sources to provide protection. Doing so would at the same time support the political aim of establishing more recreational areas for citizens in Aarhus, and have beneficial outcomes for nature and biodiversity conservation. The water protection plan was positively received and broadly supported, and in 2005 it was followed up by several action plans. The action plans stated that the Aarhus Water (municipally owned company) should be responsible of establishing volunteer agreements with farmers and gardeners to keep vulnerable areas free from pesticides and toxics and thus secure the groundwater.

In the Aabo forest initiative, afforestation was carried out through successful collaboration between private and public partners. The 76 ha of forest includes both municipal forest (51 ha) and private forest (25 ha owned and managed by a private farmer). The farmer bought the land from a local Golf club with the help of a subsidy from the Aarhus Water company. The Municipality and this farmer planted forest on their lands with financial support from the Danish Nature Agency. Furthermore, the afforestation contributed to the creation of new outdoor recreation possibilities. On the lands of the other farmer, cattle is grazing on meadows along the 'Aarhus stream' (not afforested any more).

The project started in 2010 and the Aabo Forest was inaugurated on the 21st of June 2014. The Aabo Forest nowadays includes 6 lakes and a stream as well as 5.5 km of hiking paths, which link up to other municipal forest trails, leading all the way to the city centre of Aarhus city through a continuous 12 km long green belt.



1st picture: The Åbo Forest marked with red. The dots indicate 9 recreational spots recommended at the Municipal website. (<https://www.aarhus.dk/da/borger/natur-og-miljoe/Ud-i-naturen/Groenne-udflugtssteder/Aabo-Skov/Billeder-fra-Aabo-Skov.aspx>)

2nd picture: Photo taken on the inauguration day in June 2014. The local farmer can be seen on the picture in planting tree. Picture: Growing Trees Network

Box 5.3 Oradea, Romania

In 2009 the municipality of Oradea decided to follow the example of some other Romanian cities in allowing some smaller green spaces to be 'adopted' by private companies. Companies sign contracts with the municipality for one year (that can be extended) to develop and maintain smaller pieces of green spaces and are in return entitled to place their 'name cards' on them. These companies are exempt from fees that should be normally paid for using public spaces for private purposes. Through this arrangement the residual public spaces are kept in a good condition (thus public expenses are saved) on the other hand the companies obtain a unique opportunity to promote themselves.

The demand for such green space development has increased substantially (partly as a result of the fact that self-promotion possibilities in public spaces are in general restricted, with green spaces providing an exceptional opportunity); currently the companies are queuing for acquiring new places, since no more land under the aegis of the project is available. By May 2015, 56 pieces of green space were 'adopted', out of which 18 are roundabouts.



Examples of adopted green spaces (photos taken by Éva Gerőházi)

The cases above display a policy and practice within which companies are involved in developing and maintaining public (or at least publicly accessible) green spaces based on their pure business interests.

5.2 Dominant governance arrangements

The three cases under analysis show very different governance arrangements. The Aarhus case is by far the biggest one, in size (25 ha) and in the multi-stakeholder nature of the whole scheme, and it also has the strongest legal and institutional background. The farmer (who has had to create a completely new business model herself, and undertake the implementation of the afforestation, albeit with a strong financial and human support) was the less powerful decision making party among the three cases. This is rooted in the fact that the public interest (protecting drinking water wells) was the strongest here, with a very strong legal framework that created obligations towards the land owners. The farmer had two choices: either to contest the obligation and go to court (as many others did), or to cooperate with the authorities demonstrating that changing business paradigm is possible – if all the pieces of the puzzle are there (e.g. if the amount of compensation is significant, if

external parties provide trees, if there is external legal and technical expertise involved, if there are several sources of new business incomes established in the scheme). In such a complex project with several stakeholders, complicated rules and mixture of resources, the business actor is just one small part of the whole.

In the two other cases (Lodz and Oradea) the scale of the projects was much smaller, the public interest was less overwhelming, and the number of actors was much lower. Still, the bargaining powers of the business actors varied. In the Lodz case the developer had a relatively good position as he was less dependent on the goodwill of the municipality: in the case of not reaching an agreement with the municipality he would not have had any financial losses (he would have been able to sell his properties anyway – at least this is what he stated). In the Oradea case the lacking transparency of the decision making process (no formal calls, no formal application, no pre-defined decision making conditions) made the business actors more vulnerable and politically more dependent on the decision makers. The municipality needed the contribution of the business society to improve the green spaces, but did not need the contribution of specific actors. In addition, after some years the demand from the side of the business actors increased significantly, while the number of available spaces decreased, so the power of individual companies decreased as a result.

TABLE 5.1 OVERVIEW OF POLICY ARRANGEMENTS IN PUBLIC-PRIVATE PARTNERSHIP CASES

	Discourse	Actors	Rules of the game	Resources
Aarhus Denmark	Protecting ground water resources; finding the right equilibrium (activities allowed + compensation) to implement the protection on areas of business activities	Danish Nature Agency, Municipality (Department of Nature and Environment), Aarhus Water (municipally owned), subcontracted experts, Growing Trees Network (NGO), two farmers (one is in focus), Golf Club	Local action plans based on the national legislation. Co-operation between private and public partners is compulsory. Public actors provide compensation for turning private land pesticide free, NGO provides part of the trees for afforestation and the farmers need new business models for long term operation.	State and local financial resources, municipality's mentoring and expertise, NGO 's trees – partly – business's partial funds for the investment and a new business model for operation.
Lodz Poland	Compensation of the negative effects of construction (cutting trees) and turning it into business benefits	Municipality (Urban Greenery Maintenance Authority, Investment and Municipal Infrastructure Division of the Lodz City Office's Department for Municipal Management), developer	Legal framework obliges developers to compensate the removed trees. This general rule was turned to individual type of compensation (green space development in the neighbourhood) based on negotiations between the developer and the municipality.	Developer's funds for development and municipal resources for maintenance.
Oradea Romania	Municipality transferred the inefficient task of developing and maintaining small scale green spaces to businesses by providing them business opportunities	Municipality (major, Public Service and Green Spaces department), companies	Very loose legal framework (on the use of public green areas by private entities), the current practice exceeds this framework. The current practice does not have formal rules rather informal ones. There is no formal call, businesses submit their proposal and a municipal department negotiates and decides (controlled by the Major).	Municipally owned land, expertise and monitoring provided by the municipality. Companies' sources for development and maintenance (work is mostly subcontracted).

5.3 Relationship with government, policy and UGI

Cluster D of WP6 concentrates on instructive cases in which private and public actors are part of a co-decision making process with their room for manoeuvre. However we learnt from two of the three cases (Aarhus and Oradea) that the strict planning framework (manifested in local action plans, decrees or laws) may help to attract private partners without giving up on original goals.

The looser the written strategic framework is, the more room there is for flexible individual decisions. In the Aarhus case the planning background was very well established. All the actions were rooted in the recognition that pesticides already polluted 1/3 of drinking water intakes in Aarhus – besides other areas in the country. Thus a strong national level legal foundation was established (based on the Environmental Protection Act) in 1998, which empowered the local municipalities, in the case of action plans for vulnerable areas, to impose pollution control measures on the owners of the properties. In 1999-2000 a general action plan was developed for Aarhus, and in 2005-2006 7 detailed action plans were completed (covering 11 of the vulnerable areas). In 2009 a Forest Action Plan was developed with the aim to plant 320 ha new forests over 4 years to protect the water sources. Based on this plan, the afforestation project of the Aabo area started in 2010, with the implementation phase starting in in 2013 and the official inauguration in June 2014.

Based on these plans and legislation the municipal actors and the Aarhus Water company were powerful enough to effect changes on extensive stretches of land. Without this backing the municipality would have had very little space or leverage for action. (The strength of this legal background is now being challenged by the National Farmers' Association on court due to dissatisfied owners of vulnerable areas.)

In the Oradea case the planning background is much looser (there is a decree on the maintenance of public green spaces mentioning the possibility to make public spaces adopted by companies, individuals or institutions), however there is an existing practice being applied for seven years now which might be considered as a kind of strategic planning context. This practice created the basic rules of the adoption scheme however each small piece of land being adopted has different size, location and characteristics and each contract is different somewhat. However there is a trend of increasing quality of adopted green spaces. In spite of the "tradition" of adoption the ways to contact the businesses (or the ways of contacting the municipality by the businesses) and the rules of selecting the proper candidates are still unclear. There is no open call for adoption, but the companies – that might have information from the press or from their network – approach the municipality with written proposals and the municipal officers responsible for green space development and maintenance lead the negotiations with the companies. However, the role of the mayor as a political leader still seems to be decisive for inviting the companies and deciding on the contracts.

The case of Lodz was not embedded in a concrete planning context on the development of the green space in the neighbourhood, neither did the project fit directly into any green space plans of the municipality. However, in a wider context the green space in focus is located by the Teresa Reservoir that was created as part of the Blue-Green Network of the

city (the concept of a green and blue infrastructure spanning the whole urban and peri-urban area, which is included in the major strategic documents of the city).

The role of planning in general is decisive to reach environmental goals in PPP projects. However, the three cases have shown that some flexibility is needed inside the strategic framework to get to individual contracting solutions.

5.4 Perceived effects

The perceived effects (whether they can be considered successes or not) are summarised in the table below:

TABLE 5.2 OVERVIEW OF PERCEIVED EFFECTS OF THE PUBLIC-PRIVATE PARTNERSHIP CASES

	Green Effects	Social Effects	Economic Effects	Institutional Effects	Other Effects
Aarhus Denmark	25 ha newly afforested area with 27 tree species	New publicly accessible recreational forest	For the owner: possibilities for forestry, tourism, hunting + impact on real estate value (owned by the farmer)	The legal framework is challenged (court cases are effectuated) so successful examples contribute to stabilise the legal background	Health effect is perceived as the most significant one as the goal of afforestation was to get rid of pesticides that pollute water sources
Lodz Poland	600 m ² area with limited variation of tress but free from construction waste	Publicly accessible park connected to the already existing recreational areas	Perceived real estate price increase and reduced selling time (regarding the neighbouring estate)	Case by case solutions so far. Municipality considers institutionalizing the solution.	Aesthetic effect – more attractive urban area
Oradea Romania	56 small pieces of public places becoming green and/or better taken care off	Not significant	Possibilities for corporate self-promotion on the green areas	The high demand from business side shows that the institutional (legal, procedure) setting is efficient so no major change is expected	Aesthetic effect – more attractive urban area

The projects of the case studies are in general considered to be successes as the aesthetic quality and sometimes also the ecological quality of the green spaces involved is improved. The actors themselves expected different results from the projects: the public actors had expectations concerning the quality of green spaces while the business actors preferred direct business revenues from the projects. The cases seem to fulfil both expectations to stronger a greater or lesser degree. From a business point of view all cases resulted in multiple benefits. In Aarhus the land owners taking part in the project got a compensation for the land/loss of revenues/change of their business strategy. In addition new sources of benefits appeared like touristic opportunities, real estate market opportunities. The success

of the business model of the farmer who implemented the afforestation can be proved in 10 years' time when the trees will be ready for harvesting. So far there is only a hope on the success of her decision.

In Lodz the developer became partly exempt from the obligation to replace the trees that were removed because of the construction (part of the trees must have been planted however in the rehabilitated area by the estate and not in other parts of the city). Also the municipality assumes (as an officer mentioned) that the developer can obtain additional real estate value to the properties he sells because of the improved environment.

The Developer no longer needed to replant all trees cut for housing developments

In Oradea the project provided new possibilities for self-promotion which was highly priced by the business actors. The increasing demand for places to adopt (which currently exceeds the amount of available sites dedicated to adoption) shows that there is a real business interest in connection with the green space adoption policy. There is also an estimation – mentioned by a municipal officer – that the turnover of a company has increased by 10% as a result of a nicely developed roundabout just beside its shop.

On the other hand the success from an environmental point of view differs per case. In case of Aarhus 25 ha of new forest was created in the framework of the project. Part of the public funds was tied to certain requirements concerning the quality of green spaces (sponsored by the Danish Nature Agency). In the planting design of the forest there are trees of different growing conditions – some, like Oak, will grow for a long time and thus be more lasting trees, others, like poplars, the farmer can take out (and sell) in 5-10 years' time and at the same time assure the trees growing dynamics. The farmer has planted 27 species – with a focus on having attractive species for game food (hunting interest). In the other two cases rather the aesthetic characteristics and the possibly low level of maintenance the given areas require became the most relevant aspects of choosing the species.

However in the case of Oradea there is a trend mentioned by the municipal representatives according to which the negotiating power of the local government has improved in the last years as the interest towards the adaptation programme for adoption of green spaces has increased and the municipality has the possibility to choose between the companies. The municipal officers lately are able to require green space interventions with higher quality requirements, being the compulsory installation of watering systems and a thicker layer of soil. The share of surface covered by plants is also increasing (as formerly relevant parts of the appointed green spaces were covered by gravel in order to reduce maintenance costs). In spite of this the small size of the areas that were adopted by companies does not provide much space for creating diverse natural environment. However, they may still be important parts of the green infrastructure network especially in the case of pollinators, compared to concrete roundabouts.

In the Lodz case the results are contradictory from an ecological point of view. The size of the area is relatively small (600 m²), so its effects are not autonomous, but exist in addition to the already created recreational green area. The density and the diversity of plants have decreased substantially as a result of cleaning the area, on the other hand the construction waste has also disappeared. Currently the area can be used for recreational purposes and provides a nice view for the inhabitants, especially those in the new residential area. This fact in return increases – or at least the municipality has such an assumption – the value of the newly built apartments. However, the specific area has already had a quite high prestigious real estate position, so the price that the developer could charge did not necessarily increase further, yet the developer recorded a shorter than expected sales period. The increase of property value as a side effect was a major consideration in the Aarhus case as well, (as part of the business model of the farmer being the implementer of the tree planting project) since the value of the properties owned by the farmer in the neighbourhood of the afforested sites has increased.

It is important to note that in none of the cases the inhabitants or civil society were involved in the planning process (in case of Aarhus an NGO – Growing Trees Network – donated 7000 trees for the afforestation). The project procedures were based on the negotiations between the companies and the public actors. Even if the results affected the quality of life of a wider (in case of Aarhus and Oradea) or a smaller (in case of Lodz) community the decisions were made by a limited number of actors. Thus, the planning process itself did not result in significant social inclusion. However, the social effect of the projects is worth mentioning as publicly available green spaces were created that can be used by any inhabitants. In the Aarhus case the Åbo area has the potential to include social interactions in the future as the place is devoted to touristic and recreational purposes (besides logging).

Regarding the institutional effects the cases have limited outcomes. They were either part of an already set legal or procedural framework (Aarhus, Oradea) and proved the appropriateness of the existing mechanisms, or (in case of Lodz) it seems possible that the municipality is willing to create a better defined mechanism that may rule the similar cases in the future or it rather relies on the case-by-case cooperation with the business actors.

5.5 Motivations and objectives

The main motivation of the public actors was to implement green space development without having the proper funds or the proper authorisation. In the Lodz and Oradea cases the developments may not have been implemented or would have been implemented on a lower quality without the involvement of the public actors. In the Aarhus case the specific sites were in private ownership. The easy and clear way of implementing water protection interventions in them would have been to buy them, thus making them publicly owned and open for use (e.g. for recreational purposes). On the other hand, in many cases it is less efficient to invest public money in the purchase and maintenance of green areas if they can generate partial business benefits and are managed by business oriented owners. Protecting water intakes does not necessarily mean to expropriate sites - this is rather a final tool – finding the private interests in new ways of creating benefits from green spaces combined with a compensation system that secures public interests is a much more efficient way of spending public money. Thus the motivation of the public actors (Municipality of Aarhus

and the Aarhus Water Company) was to protect the intakes of drinking water with the involvement of only limited amount of public funds. Concerning the compensation schemes: one type of agreement was made between Aarhus Water and the Municipality and a similar one between Aarhus Water and the State. Aarhus Water financed 50% of the purchase costs paid for the lands and left the ownership to the other part in exchange for afforestation and management. In the case of the private farmer she received a one-time payment of 90.000 DKR (approx. 12.000 Euros) per hectare land that she would keep free from pesticides. This economic support enabled the farmer to buy 17 ha of land from the neighbouring Golf Club and, by adding 8 ha of her own land, she managed to acquire financial support from the Danish Nature Agency for the afforestation of 25 ha of land.

The motivation of the business actors was either to meet legal requirements (on protection of water intakes or replacing the trees that were removed because of construction) or/and to gain economic benefits (increase property values, find new ways of farming, find new ways of corporate promotion). It is important to emphasize that Corporate Social Responsibility approaches did not play a major role, companies rather wanted to have direct or indirect revenues from the projects. In addition to these motivations one may find an additional aspect in case of Oradea where several companies that were either partially owned by the municipality or had a direct relationship with it (like service providers) were approached by the mayor of Oradea to join the program. These companies might take into account keeping the good relationship with the municipality by the adoption of green spaces.

Concerning purely green motivations it is quite questionable how much role green considerations had from the side of the business actors. In the Lodz and Oradea cases the interviewees did not mention any relevant green consideration. The business actors considered the quality of the green space as their “identity card”. They were keen on improving the green space quality in order to show a positive image of their company and/or their project. In the Aarhus case however the farmer that implemented the tree planting program in her site had an attachment to the environment rooting back to her childhood. (The farmer told that forest/forestry fascinates her and that she as a child has enjoyed many visits to nature/forests and as adult has been engaged in a scouts association.)

What is important to conclude here is that although it seems that incorporating green ambitions and motivations in PPP projects may be an advantage, high quality interventions can be implemented without them when other motivations and the institutional framework can lead to the proper results.

5.6 Successes, controversies and tensions

As was described above, the projects in all three locations can be regarded successful in general (despite their deficiencies) mainly if one considers that the solutions implemented had not been applied - or not applied at such a scale - before in their home cities. However, we have to note that in case of Lodz and Aarhus there were also unsuccessful cases under the same framework (in Lodz there was an investor who had stepped back from the neighbourhood green recovery programme right before the implementation and in Aarhus a lot of farmers found the compensation levels too low for entering into a contract with Aarhus

Water company). This means that among the success factors there are the ones that root from the structure itself and there are the ones that are characteristics of the specific cases.

In all three cases there is a legal obligation that drives the decisions of the actors. In case of Aarhus the Local Government Action plan on protecting the water intakes and the Environment Protection Act envisaged that the private owners of the sites would be obliged anyhow to make protective measures. The question (and the topic of negotiations) was to find the proper amount of compensation paid by the public actors and

A legal obligation functions as driver for the involved businesses

the proper sources of business income to generate revenues. It is important to note that several farmers were approached by the Aarhus Water company and not all of them found the amount of compensation proper enough that is why cases at the court are going on. As one of the farmers says *“All farmers would agree to protect drinking water, you can ask anyone, but we do not agree on HOW to do that (...) if the municipality wants afforestation or non-pesticide use – they should buy up the lands and sell it for that purpose”*

In case of Lodz the developer was obliged to replace the trees that were removed because of the construction works, so costs arising from this obligation would have occurred anyhow. This cost (with extra money) was devoted to the new green space development project.

In case of Oradea there was no legal obligation to develop and maintain green spaces, rather it was the fact that possibilities for advertising in public spaces were restricted that made green space adoption attractive. In addition, exemption (a legal possibility) from fees that would be normally obligatory to pay for using public spaces for private – commercial - purposes in case of participating in the adoption program increased the interest from the business sector.

Besides the legal obligations (as push factors) there were also business values that could have been found in the projects (as pull factors). Two out of the three projects contained multiple business opportunities: in case of Aarhus, they consisted of revenue from subsidies and compensations, harvesting trees, tourism and hunting at the new forest contributed to revenues. In addition to that the increase of residential property value endowed to land located near the forest provided additional arguments. In the case of Lodz, the increased sales prices of the residential properties, or at least the faster sales, are considered to be additional business benefits.

In case of Aarhus, the whole process was highly supported by professionals paid by the municipality (like lawyers, ecologist). This helped to make the whole process more smooth and professionalised. However it strengthened the existing information asymmetry between the municipality and the individual farmers.

All the three cases proved that the legal (or procedural) background created a certain framework in which the projects were the results of individual negotiations. In order to

come to an agreement certain flexibility was required from all parties in terms of how they interpret the prescribed requirements and what they think their role would be in implementing the project. For example, in the Lodz case it was a matter of consideration of the municipality how many removed trees were counted as a counterpart for the green space development of the developer. In the Oradea case the exact content of each small scale green space development project was the result of what the municipality considered to be essential to implement under the given circumstances – like size of the place, the availability of watering infrastructure nearby, the mixture of plants offered by the companies.

Time was mentioned as an important factor for success in the Aarhus case. It takes time for an idea like protection of groundwater to mature into an executable process. As the representative person from Aarhus Water explained, the afforestation project is the result of many years of work. Also, Aarhus Water has sent professional consultants to visit every individual farmer in the Municipality to inform the farmers about conversion to non-pesticide use farming, about groundwater protection and have offered free consultancy about conversion into organic farming, non-pesticide use and afforestation.

Success also depends on human factors on both the public and the private side. PPP solutions are quite new for most of the actors, so there is a need for a certain level of openness and willingness to negotiate. There can also be major actors whose devotedness to the issue may influence the results quite substantially: For example, in Oradea the mayor had quite ambitious plans for green infrastructure and he was willing to contact personally the companies, inviting them to take part in the green space adoption program. In the Lodz case, the developer seems to be the main driver of the process as it was he who approached the local government with his offer. In the Aarhus case the farmer who implemented the afforestation had a personal attachment to the forests that made her more willing to cooperate with the Aarhus Water Company than several other farmers. The success is based not only on one factor but a fortunate combination of several factors.

The three cases that are analysed in this chapter were successfully implemented, but there were some limitations. The fact that there were failures under the same legal framework is important to consider, as well as the fact that most of the projects (except for the Aarhus case) are small scale and there seem to be limitations to additional extension of their size. This shows that not only success factors but failure factors should be mentioned.

The most important factor that can make a project a success or a failure is to find the appropriate price/value ratio, meaning that the compensated public interests should be in line with the business benefits. In the Aarhus case, for example, it was discovered that afforestation is a more favourable option for small scale farmers than for large scale ones because it does not require the change of a complete business activity rather forestry can be a complement to the existing activities. In all three cases the efforts that had to be done by the business actors were considered (by the business actors themselves) to be in line with their costs. The limits to this equilibrium can be seen on scale and quality issues. It is interesting to note that Oradea municipality plans to make bigger pieces of public spaces such as parks adopted by companies, but the municipal experts think it may be impossible based on pure business cost-benefit analysis as it would require a lot of resources from the busi-

ness actors that cannot be balanced by the advantages offered by the public actors. That is why the Oradea municipality hopes to base the adoption of bigger scale green spaces on higher level of local-patriotism or high level of devotedness to green values by business actors. In case local-patriotism and devotedness cannot be expected, the amount of public funds available becomes important even in PPP cases. Interestingly enough it was named that the lack of public resources is a precondition of PPP solutions in most cases as it forces the public actor to rely on private funds. However, if there are higher level environmental goals to achieve or large pieces of land included into the project the involvement of public resources seems inevitable.

Concerning the tools that can be applied in order to create a well-balanced PPP construction we list the following:

- *Financial techniques like land swaps, compensation schemes (see the Aarhus case)*
- *Strict contracts on the rights and responsibilities of the stakeholders and the outputs required however containing the possibility of extension in case the PPP performance turns to be successful. The contracts must contain proper sanctions in case any party breaks the written obligations.*
- *Monitoring tools to verify the performance of the private sector which enables the public sector to intervene on time if necessary.*

5.7 Learning capacity

As was emphasized before, the cases described in the chapter are considered to be innovative mainly by overcoming the general mistrust that can be experienced between the public and private actors. This mistrust roots in the fact that the interests and the pricing strategy of the partners may not be transparent. The innovation in these cases is about finding the mechanisms that make this “pricing process” more transparent, at least for the participating actors.

Further to that it is important to emphasize in the Aarhus case that the innovation also roots from the fact that it is a “patchwork” like solution in which the financial loss of the farmer originating from avoiding the use of pesticides is compensated by different means like financial compensation (from different actors), provision of trees from an NGO, transferring harvesting and hunting rights and the increase of real estate value. This case shows that in case the expected contribution of the business actor is high (in the form of loss of revenues) than the compensation can also be complex and manifold.

In the Lodz case the innovation lays in the flexible approach of both the public and the private actors to interpret the local regulations and turn the obligations into green space investment possibilities.

In Oradea the most important feature of the innovation can be the combination of incentives: exemption from the fee due to the use of public spaces, the limited possibility to corporate advertisements besides the appointed green spaces, the flexible time scale of maintenance contracts.

The keys to success (and the main message of transferability) as were highlighted in chapter 5.6 are the legal obligations, multiple business interests and innovative human approach. Besides these generic factors of success the local context should be considered. The cases show that there are certain characteristics of the localities that seem to be inevitable for the success:

- *The strong local economic environment creates more affluent business actors to be able to act for public purposes, supported by public actors. In flourishing economic circumstances the business value of e.g. advertisement on green spaces, touristic value of creating new recreational areas is high. The local real estate environment (concerning not only the city but the site itself) also may have a great influence on the success of the PPP projects. The cases of the chapter show that the increase of real estate prices in the neighbourhood of the newly developed green spaces may contribute to the business benefits of the projects thus create more incentives for the PPP cooperation.*

In two of the three cities (Aarhus, Oradea) the PPP projects were created within an institutionalised framework that should enable the projects to be replicated. In case of Lodz there is no guarantee that the example will be repeated again as it was one of the few projects that were worked out by the developer and the municipal officers. *“The developers in Lodz in general rather tend to require public interventions linked to private development than to offer services for the public”* – as one of the municipal officer phrased. However, if the municipality is interested enough to promote the example and define clearly under which circumstances this solution can be applied and if there are business cases where this offer is favourable in business terms then the arrangement could be replicated.

In the run-up to tier 3, we arrived at a set of preliminary recommendations for cities that are aiming to transfer the lessons identified in the three cases:

- *There is a need for devotedness to strategic planning to define public interests that can be split into concrete actions into which private investors can be involved. These strategic planning procedures can lead to the creation of a legal framework that can lever participation from non-public actors.*
- *In case a legal framework already exists each PPP case must be dealt with on the basis of its specific cost-benefit balance, meaning that the application of regulations must have a measure of flexibility.*
- *In each case where a need for development of publicly used green spaces occur it is important to investigate if local businesses might have direct or indirect interest in the development. Public actors tend to forget about discovering these possibilities and tend to think of their own space of action.*
- *Public actors can promote private interests by providing possibilities for business income: e.g. advertising possibilities, touristic possibilities.*
- *It is easier to start the cooperation with more motivated, more open business actors. Finding the pioneers and then scaling up the good patterns can be a way towards institutionalisation and the creation of a stabilised process of cooperation.*

5.8 Discussion and conclusions

The cooperation of public and private actors in planning, implementing and financing green space projects were analysed based on three case studies. Naturally such a limited number of cases are not enough to draw a complete picture on the ways and means of PPP structures rather it can provide lessons on under which circumstances such kind of projects can have the chance to be more or be less successful. The role of businesses in creating green economy is evaluated in WP4, WP6 rather concentrate on governance arrangements that define the rules of cooperation and the narratives behind them.

We have to understand that the business actors can be considered as kinds of intermediaries in the green development processes. Each case highlights that green space development is in the interest of a wider or smaller group of residents or users of the urban environment. Thus it is typically the public actor that plans, implements and finances such kind of interventions while the benefits belong to private persons. There are already tools developed to bridge the difference between the cost and the benefit parts and also between the time of intervention and benefit stream (like property taxes or green infrastructure benefit tax), however in these cases the ones that take the costs and the ones that have the benefits are bridged. In our three cases the business actors stepped into the process and took one part of all of the costs of green space development while also got the opportunity to “levy” it somehow to the final beneficiaries (throughout the increased price of their property investments in Lodz, throughout touristic incomes in Aarhus, throughout pushing corporate announcements in Oradea).

According to Deliverable 4.1 of WP4 (“Integrating green infrastructure ecosystem services into real economies” p. 43) “Traditional economic structures may not necessarily favour sound UGI management” The cause of it is that cooperation and contracts between business and private actors tend to focus on limited scale projects – in which the financial equilibrium can be created – and due to this the complexity of the UGI approach (like connectivity of green spaces, multi-functionality of green areas) can be lost. This potential danger of losing the complexity of a big urban social and ecological picture calls the importance of planning and governance arrangements according to which the wider public interests can be safeguarded. These planning and governance arrangements can be named as:

- *Long term strategic/ecological planning that creates a basis for implementing developments that finally can become a part of a network of interconnected green spaces. (In case of Lodz this strategic planning was manifested in the Blue-Green Network Concept)*
- *Strong legal framework that defines the rules of the game and also lays down the cornerstones of the public interest. This legal framework was extraordinary strong in the Aarhus case, in which the Environmental Protection Act and its sub-regulations on local level pointed out the areas for protection and the goals that must be achieved there.*
- *Stable institutional structure that is able to incorporate several actors and larger pieces of intervention. Such an institutional structure can be a formal long term partnership (typical in the UK) or a complete business investment district (typical in the US) in which the rules are laid down precisely. However our three cases rather belonged to ad-hoc, project based solutions than to institutionalised structures. It may be one of the causes which is why the*

public actors had a governing role in all three cases in order to ensure the wider public interests.

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The three cases are specifically about Public-Private Partnerships implemented in order to improve the quality of green spaces for public uses and benefits – regardless of whether the land is owned by private or public actors. In all three cases the public and private actors influenced the decisions even if the public actors had the leading role in the process. The three cases show:

- *The importance of a legal framework as the main push factor that restricts the business opportunities and diverts the business actors to reduce their level of obligation and turn it into business revenues as much as possible.*
- *That even if there is a standard legal framework all cases are different and the same legal framework can result in successful projects but in failures as well. In addition to push factors pull factors are needed (on project by project basis) such as emotional attachment, extra business opportunities, extra real estate opportunities. Any of these factors or a mixture of them increases the chance for a good quality PPP project.*
- *A certain time is needed to introduce and sophisticate PPP solutions and to find the proper equilibrium between individual and public costs and benefits in case of each project.*
- *That high quality green spaces are not natural outcomes of PPP projects rather the ecological values can be endangered in many cases. For higher quality green spaces either 1) higher amount of public funds, 2) higher emotional attachment, 3) strong monitoring systems, 4) high competition for available PPP possibilities should be in place.*

6 CLUSTER E: E-TOOLS FOR PARTICIPATORY GOVERNANCE OF URBAN GREEN SPACES

6.1 Introduction

The current information age, with its emerging technologies and digitalization offers enhanced opportunities for communication, self-organization and value creation (Benkler, 2006 in Linders, 2011). Collaboration and participation in actions leading to sustainable transition require knowledge from a variety of actors, and insight into their motivations and abilities. A growing body of scientific studies argues for the potential of digitalization for transparency and democracy. See elaboration on literature in section 6.1.2.

High level decisions like The Aarhus convention (1998), adopted by United Nations Economic Commission for Europe (2001), make clear the need to *“guarantee the rights of access to information, public participation in decision-making, and access to justice in environmental matters”*, and the European Landscape Convention’s *“landscape quality objectives”* (prescribing people-centered landscape management policies) as well as local budget strapped governments call for innovative ways to deliver public value to their society. E-tools have the potential to actively involve citizens and other actors, and the advantage of using place based specific knowledge. E-tools can help visualize place-based knowledge, communication and stakeholder perceptions. Visualizations, such as maps, photos, films, narratives etc. could support collaborative processes as citizens and planners can follow and interact with the community engagement.

In both Denmark and Finland legislation is highly supportive of citizens’ participation in planning and decision-making processes related to land use. The Danish Planning Act (Planloven) lays the ground rules that public authorities are required to follow in spatial planning. This includes: combine social interests, contribute to protection of nature and environment through prevention of pollution and to include the public in planning (Danish Planning Act 1978). The recent municipal green space plan for Copenhagen (2015-2025) states many aims regarding mediation and learning about nature, i.e. to map urban nature and to improve knowledge of user behavior and citizens recreational needs to better target development that match those needs and wishes. The plan also expresses needs for communicating and sharing data between citizens, green interest groups and the city. Internet-based tools providing easy communication and knowledge sharing pathways seem relevant to incorporate into such activities. In Copenhagen, official e-tools related to urban green spaces are still not extensively developed, but some grassroots initiatives have been developing digital tools that deal with sharing economy, sustainable behavior and sustainable transition. These tools have been developed with financial support from public funds. One of them is the initiative ‘Byhøst’ which will be analyzed in this chapter.

The Finnish Government has put much effort into developing e-governance since 2009, when the 6-year national program for promoting digital and online services, public participation and democracy called SADE was launched (The Ministry of Finance 2015). In Helsinki various e-tools for participatory city planning have been developed, tested and implemented.

“If government is not part of public interaction and debate, it will be out of it – and the debate will proceed without government”, says Pekka Sauri, Deputy Mayor of the City of Helsinki in a talk about open government and participation he recently published on the city’s

website (16.10.2015. <http://www.hel.fi/www/uutiset/en/kaupunginkanslia/sauri-government-and-social-media>). Two tried and tested tools from Helsinki, ‘Maptionnaire’ and ‘Kerro kartalla’, are analyzed in this chapter.

6.1.1 Main characteristics of the cases

Box 6.1. Maptionnaire – a tool developed by a private company, Mapita, in Helsinki, Finland

Maptionnaire is a cloud service for map based online surveys. Maptionnaire comes with an easy-to-use editor tool for the creation of surveys and analysis of respondent data. Services are provided by a professional private enterprise called Mapita. The Maptionnaire tool is built from a program structure that makes it possible for people to build their own surveys. Maptionnaire tools are used by an array of different people: planners, politicians, scientists and private people. As Mapita state on their website, the reasons for online public participation are multiple and profound:

Online tools allow the participation of thousands of people at low cost;

Broader groups of people can participate online;

It is possible to locate places, routes, and areas with high precision;

Digital coordinates enable efficient analysis and visualizations.

[\(<http://maptionnaire.com>\)](http://maptionnaire.com)

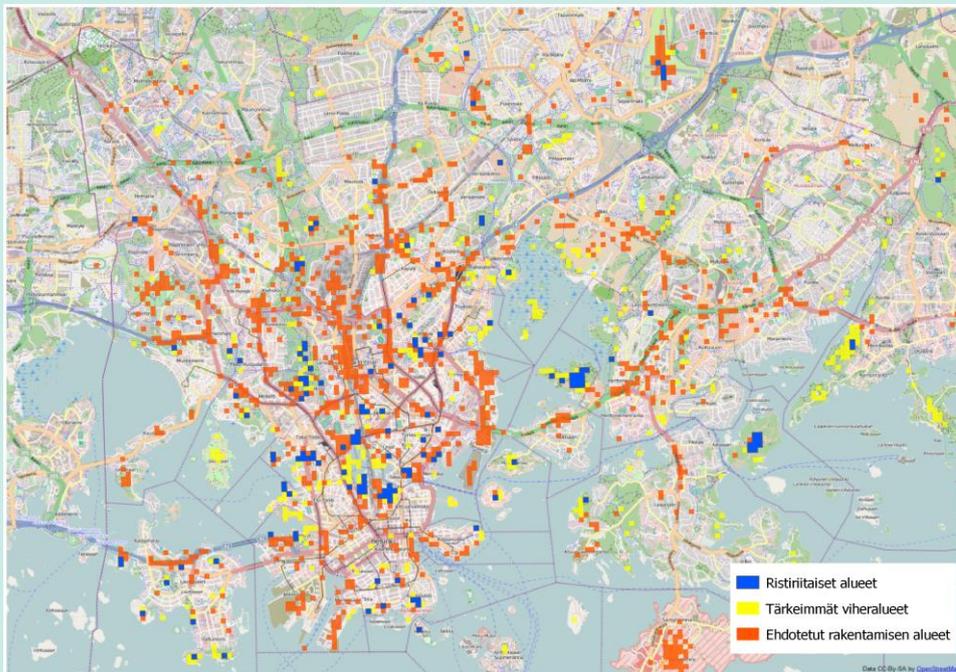


Figure 4. Researchers in Mapita conducted various spatial analyses to make results of online survey of the city of Helsinki visible. A special data visualization tool for public use summarized to the point-based data (33.000 locations of almost 4000 citizens) and highlighted identified clusters. Blue cluster indicate areas where opposing opinions met, yellow imply places important for recreation and oranges for areas suggested for construction by respondents. Illustration: Mapita.

Box 6.2. Byhøst (City Foraging app) Copenhagen, Denmark

Byhøst is an association that has developed an application (app) for mobile phones, the Byhøst app (in English, 'city harvest' or 'urban foraging'), as well as an internet platform. Byhøst also hosts various events related to foraging in urban green spaces.

The aim of the initiative is to use the app to facilitate sharing of knowledge, experiences and fascination about urban edible plants (biodiversity), to map the urban Danish edible nature and to “develop greener, smarter and tastier cities” (www.byhøst.dk). Increased knowledge about the edible wild plants may strengthen the perceived quality and value of urban biodiversity, and in the extension in the urban wild nature itself.

The app contains a map service where users can see a map of the city with a lot of markings for places where different kinds of products can be foraged i.e. berries, fruits, mushrooms and herbs. Users upload geo-tagged (place pointed out on a map) photos of plants and information about what can be harvested at a given spot. This information is shared at the map interface, indicated by a plant icon. Other users can then see the information and go to the place themselves. The app also includes a guide called 'The Almanac', giving descriptions and information about the plants and their usage. When using the Byhøst Interface, users can either seek info via The Almanac, via the map or choose to see a list of what is in season for harvesting right now. The Byhøst website also displays certain rules about how to forage to not cause damage to the plants.

Byhøst started out as a volunteer-based organisation by the end of 2011, and a few years later managed to establish a professional secretariat with 2 employees. One of the reasons that Byhøst could do so was the financial support from the State-provided fund 'Puljen for Grønne Ildsjele' ('The Green Moving Spirits Fond'). Another reason to the professionalization was the collaboration with the City of Copenhagen and later also other municipalities and public/private actors.

Tapping into the discourse on sharing economy, sustainable urban living and development, the Byhøst app and community have gained increasing popularity, not only from users but also among city planners that sees the potential in Byhøst as a link between sustainable city development and the citizens. The app has been downloaded 12.500 times and the webpage had 2000 visits in January 2016, which is in low season.



Photo by Nicolai Engel

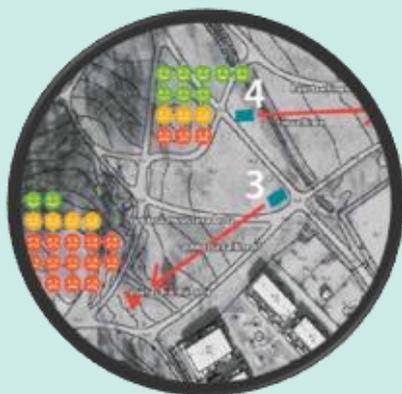
Box 6.3. Kerro kartalla, Public tool developed by the City of Helsinki, Finland

The Kerro kartalla system was developed by the city of Helsinki to support the use of e-tools and to help collect experientially based knowledge in public participation (Kyttä and Kahila 2008). The platform was implemented as a participation tool for the green area management plan by the Public Works Department in 2010 in Helsinki. The Green Space Management Department was the first to start using e-tools as an inherent part of planning processes or collecting information or observations from citizens, other departments later followed.

On the Kerro kartalla platform, online surveys based on maps are published and citizens are invited to comment on them and share their opinions and observations. The Green Space Management Department uses the survey to get input to updates on the green space management plan. The survey is an evaluation of the impacts of the former plan, a tool for reporting on-site problems, and a bottom-up data collection tool for reports on urban nature, e.g. when rare birds nest at a particular site (Czepakiewicz, 2013). It allows for citizens' ideas and opinions to be linked to and inform the official planning process of the city. The interaction process is open and public: citizens comments can be viewed by and commented on by any other user as well as green space officers from the city.

The city of Helsinki is divided into 9 green area planning and management districts (City of Helsinki 2015b). Approximately every 10th year a region's management plan is updated, one region each year. When a management plan is about to be updated, the Green Space Department sends an invitation - a postcard - to all residents in the planning district, advertising the possibility for the citizens to give their opinions about the qualities and challenges of the local urban nature and related plan.

A survey of green area management, uses and perceptions, using the "Kerro Kartalla" platform, is designed at the Green Space Department and made accessible for input at their website for 6 weeks before the plan is revised. During these 6 weeks, the green space managers enter "Kerro Kartalla" daily to comment and answers questions. After six weeks, the survey is closed and the processing and analysis of data begin. An external data analysis firm is used for this process. Results and summary of the comments are published online. The following management plan, taking input into consideration, is also published. Plans from the past 10 years are available online. Kerro kartalla also offers the opportunity for citizens to design their own survey (Eurocities 2013).



In 2011, plans to establish a Frisbee golf court in one of the Helsinki parks were discussed. Participants in the online discussion included residents of the district where the park is situated, park users i.e. dog walkers and families, as well as potential users, such as Frisbee golf lovers. The survey received 170 responses had over 1,200 views during that month. The opinions that were shared helped to find a solution that considered the mixed uses. Illustration and example from Czepakiewicz, 2014.

6.1.2 Overview of relevant literature on E-governance

A growing body of research considers the possibilities of linking people to their local environment through the use of mobile phones and other internet based devices. (Arts et al., 2016; Barry, 2013; Boone, 2015; Coller et al., 2013; Czepkiewicz, 2014; Dickinson et al., 2013; Damiano, 2015; Dunkel, 2015; Foth et al., 2011; Goodchild, 2007; Kahila, 2015; Karatzas, 2011; Linders, 2011; Maffey et al., 2015; Nam, 2012; Rowe, 2000; Schneckenberg, 2009; Shelton et al., 2015; Sui et al., 2011; Wallin et al., 2010, and others). Possibilities of using ICT (information and communication technologies) are promising in many ways, e.g. to enhance transparency and democracy. A growing percentage of the World's population uses smartphones that are connected to the Internet and have advanced features for photographing, filming, tracking and mapping, and for sharing these types of experience-based and place specific data (Boone 2015). Goodchild (2007) refers to this phenomenon as "Citizens as sensors".

Linders (2011) addresses the transition from e-government (citizen as customer) to We-government (citizen as partner) and the value of shifting focus to personal responsibility and solidarity.

From a planning perspective, e-tools and online civic participation may also offer new understandings of urban areas as fluid, porous and actively produced, rather than as rigid, static or top down controlled (Shelton et al., 2015). Even though the potential for using modern technology in civic participation processes seems very promising, there are barriers to e-governance tools becoming as engaging, transparent and democratic as one might wish for. In the following, some overall potentials and pitfalls, according to the literature on e-governance, will be highlighted. Further on, some of these will be exemplified by the 3 case study examples of this chapter.

Some potentials of online civic participation through e-tools:

- **Transparency.** *Manage and disseminate information openly between citizens, planners and other stakeholders (Bertot, 2010).*
- **Sustain learning and knowledge production** among local residents, experts and scientist. **Creating** shared, accessible online knowledge pools. (Barry, 2013; Brabham, 2009; Boone, 2015; Kahila, 2015; Wallin et al., 2010).
- **Pulse of the city, sense of place:** *Use of E-tools can open up for new ways of perceiving localities over time through novel visualization and communication possibilities (Dunkel, 2015; Shelton et al., 2015; Wallin et al., 2010).*
- **Citizen sourcing.** *Citizens generate innovation and problem solving ideas in a creative co-production and the two way exchange of ideas (Steward et al, 2011)*
- **Citizens as sensors,** *crowd sourced geodata provide an otherwise unavailable perspective on the complex connections between space, identity and personal perception and opens up new possibilities for planners to understand how people interact with the physical environment and how people perceive their surroundings (Dunkel, 2015; Howe, 2009). However, crowd sourced data does not tend to engage people to interact in 2-way communication (Steward et al. 2011).*
- **Save time and resources.** *Modern technologies allow citizens to interact at the time and place they wish (compared to traditional face-to-face meetings) (Kahila, 2015).*

- **Expand inclusion.** Inclusion of new groups of citizens, i.e. younger citizens and citizens from multicultural backgrounds i.e. by providing information in languages that reflect people's needs (Kahila, 2015).
- **Support dialogue** between stakeholder groups, useful for planning (Afzalan et al., 2014).
- **Identify** underutilized places and hotspots (Dunkel, 2015).

Pitfalls:

- **Ethics.** The majority of users are not aware that third parties can use their data, including tracking their daily movement, reading what they write or seeing what pictures they post or 'like' (Damiano, 2015).
- **Accessibility.** Not everybody owns smartphones or navigates easily online. Young people tend to participate more than senior citizens (Boulos et al., 2011; Chou et al., 2009; Schein et al., 2011 in Steward et al., 2011).
- **Representativeness.** It is difficult to know who participates if no person data is gathered through the e-tools (often because of ethical reasons or to not 'scare' people away). This raises the question of degree of representativeness and points at the fact that e-tools cannot perform as the only method in collaborative planning processes (Eyvindson et al., 2011).
- **Lack of skills.** Users (both citizens and planners) might need education / training to be able to interact through e-tools (Boone, 2015)
- **Disempowerment.** Happens when the collected data from citizens are not taken into consideration (Kim, 2015, Kahila, 2015).
- **Social imbalance.** People who are used to interact using social media platforms understand the social norms that govern these spaces and, as such, can more effectively communicate because they will appear more authentic and trustworthy (Schein et al., 2011 in Steward et al., 2011).
- **Technology evolves fast.** Platforms and apps can quickly be out-dated, therefore it is recommended to use existing platforms where citizens already interact such as Facebook, Instagram etc. instead of developing new tools (UN, 2014)
- **Barriers.** People can be skeptical if tools are too High-Tec (Boone, 2015) or if communication about goal and visions for input are not clearly defined (UN, 2014).
- **Accuracy.** Depending on tools and web connection, i.e. geo-tagged pictures are not always indicating exact locations. If web tools are not well defined, result might be blurry (UN, 2014).
- **Disconnection** from in-situ social-ecological dynamics and place-specific learning through experiences (Shelton et al., 2015. See the example of traditional ecological knowledge (TEK) in Turner and Spalding, 2013).

These trends extracted from literature on e-participation can provide an overall insight to the state of the art, however, it is important to stress that individual cases call for individual approaches, tools, and processes (UN, 2014).

6.2 Dominant governance arrangements

Governance arrangements, understood as the interactions between public authorities and the users, are analyzed in this section. The 3 cases differ in governance approaches, as their scopes, aims and designs are different.

Byhøst is developed by green entrepreneurs that reacted to a need of enhancing the quality of edible urban biodiversity in the minds of citizens. The Byhøst initiative does not regard policies as important to their activities, however several Danish municipalities have shown interest in the initiative as it represent a direct way to reach citizens with interest in urban biodiversity and so, the governance aspect becomes present. In the collaboration with municipalities, the governance aspect becomes evident, as citizens are encouraged to interact with public authorities. Otherwise, the governance aspect of the tool is weak, as it does not encourage interaction with green space authorities or policies.

Governance arrangements, understood as the interactions between public authorities and the users, are analysed in this section. The 3 cases differ in governance approaches, since their scopes, aims and designs are different.

Byhøst was developed by green entrepreneurs who responded to the need to enhance the quality and value of edible urban biodiversity in the minds of citizens. The Byhøst initiative does not regard policies as important to their activities. However, several Danish municipalities have shown interest in the initiative as it represents a direct way to reach citizens with an interest in urban biodiversity. In the collaboration with municipalities, the governance aspect becomes evident as citizens are encouraged to interact with public authorities. Otherwise, the governance aspect of the tool is weak, as it does not encourage interaction with green space authorities or policies.

Maptionnaire is used by city officials, private persons and companies in Finland, other parts of Europe and Globally to survey citizens' opinions about urban development plans, and as such encourage governance approaches where citizens' ideas are taken into account in planning and development.

Kerro kartalla is developed by the City of Helsinki and is used by the green space management department to survey citizens' opinions on green space management plans. The tool was developed to increase public participation in governance and could be developed further to include more user-to-user communication and link to in-situ and as such encourage place-based governance (Molin, 2014).

TABLE 6.1 OVERVIEW OF POLICY ARRANGEMENTS OF CASES ON E-TOOLS FOR PARTICIPATORY GOVERNANCE

	Discourse	Actors	Rules of the game	Resources
Byhøst Copenhagen, Denmark	Share knowledge about edible nature, promote sustainable consumption patterns and add to the understanding and perception of value of wild urban nature	The Byhøst secretariat, local residents (users) and municipalities who have seen potential to ‘use’ Byhøst to reach citizens for sustainable projects, events and activities	Everyone with a smartphone can download the free app. The basic idea is to share knowledge on grow spots and species with the community on the online map	Started with grant from government fund. Today, Byhøst runs by funds from i.e. events related to city foraging. Volunteers run and update the app and web platform.
Maptionnaire Helsinki	Improving civic participation, for the creation of democratic, liveable healthy cities, environmental awareness and community integration.	The Municipality, local residents, research institutions, NGOs and private companies. Mapita also engage in research projects.	Anybody can make their own survey. The Maptionnaire staff (with scientific background) can assist in securing research potential in surveys as well as in analysing the collected data.	Maptionnaire is developed by the private company Mapita. A fee is charged when using Maptionnaire and services of Mapita.
Kerro kartalla, Helsinki Finland	Citizen opinions and proposals are gathered through the Kerro kartalla service (Interactive map based questionnaire at the city’s website) This is to easily reach citizens and collect their value statements to improve quality of urban green spaces and target management efforts.	The Municipality (Green space management Dept.), citizens of Helsinki. A private company is hired to interpret the collected data and make reports of results.	The citizens of Helsinki are asked to contribute to the update of the local green space management plan (1-4 plans around the city per year). Citizens can give their input online by using a map based survey tool. Surveys are open for 6 weeks. Green space planners actively engage in online discussion during this period.	Kerro kartalla is developed and financed by the City of Helsinki. The budget of development, graphic design etc. was about €65,000. Monthly maintenance costs average at approximately €400.

6.2.1 Actors

In all cases, citizens/users are the main actors or the focus of attention as those who share information, however differences can be noted on who receives and acts upon the shared information. Besides the citizens, important players are the designers of surveys, who formulate the survey questions, and the actors who decide what to do with the collected data. It is important to consider the roles of the actors related to division of power implicit in the way information is gathered, handled and processed. This discussion is elaborated in the ‘rules of the game’ section E.2.3. In the following, the structures of the different tools are outlined:

Byhøst.

An online map is provided in the Byhøst app -> citizens share information to the online map -> from the online map the shared information can be reached by the user community (other citizens).

Maptionnaire.

The initiator (i.e. planner or NGO) formulates questions for a Maptionnaire survey -> Mapita facilitate the survey through their website and expertise -> citizens enter the online, map-based survey and give their comments / ideas -> Mapita analyses the collected data -> Mapita delivers analysed data to the initiator (i.e. planner or NGO) -> the initiator delivers back the input to community via implementation of data in municipal plans and in in-situ projects.

Kerro kartalla.

Municipal planners create online map-based surveys and reach out to citizens by mail (postcards) to notify them about the surveys -> citizens enter the online, map-based survey and give their comments / ideas -> co-citizens (community) and planners comment on each other's ideas -> a private data analysis firm collects and analyses the data -> the data analysis firm deliver the analysed data to planners in reports -> planners publish the results on the official webpage -> planners decide which ideas to implement in the urban green spaces.

6.2.2 Discourse

The 3 tools address civic participation and knowledge sharing for the benefit of urban green areas (Maptionnaire also includes other urban areas). The possibility for direct communication possibilities for gaining and sharing knowledge among citizens with online access is one of the positive features brought forward in interviews about the e-tools. The online tools are perceived as inclusive because they are free to use, open to everyone and because they seem to reach new societal groups (young citizens). Whether it indeed is inclusive of the full diversity of urban residents, including all ages and ethnic groups, is as of yet unclear. of Furthermore, it is perceived by developers and users of the tools, that they are time and cost saving (compared to traditional participation processes) because they indicate resources or lack of resources in a visually easily perceived way (on maps).

The Byhøst initiative addresses behavior change for sustainable consumption patterns whereas the Maptionnaire and Kerro kartalla main focus is surveying citizens' values, experiences and ideas for city planning and development.

The use of e-tools in civic engagement in green space planning has affected the discourse in city planning because it affects the power relation between for example citizens and planners (mentioned in interviews with Mapita as well as in literature i.e. Linders, 2011). The potential to empower citizens through easily accessible web-based tools can influence the level of participation, inclusiveness, knowledge production etc. and this can lead to changes in the roles played by city planners who have to act more on meta levels to steer processes and ensure qualified use of data from the public, and leave the actual planning and decision making to citizens, affect their roles as well.

“Social media’s empowerment of the individual may well force a reinterpretation of the role of government — and with it the responsibilities of the citizen” (O’Reilly in Linders, 2011).

The question is whether citizens and planners understand and take on such new roles. This could depend on the discourses around the matter and the openness towards change and shift in power relations of the involved stakeholders, factors which are also related to resources.

6.2.3 Rules of the game

A basic rule that applies for the 3 tools is that the more input shared by citizens, the more useful the tool seems to become. It is very important though, to consider how the rules of the game are set up.

In the Kerro kartalla case, the green space managers define the survey questions and are also responsible for handling the processed data and translating it into management actions. This could potentially conflict with the idea of the tool being very democratic since the municipal managers could formulate questions of interest to them and leave out questions of relevance for some groups. However, this negative scenario does not seem to be the case of Kerro kartalla thanks to the transparency in the process, which can be followed online. Also, the way the tool is designed (based on a map that can be tagged with comments) leaves vast possibilities of interacting. An alternative could be that citizens could have a more active role in deciding which initiatives are most important to carry through. However, this is also ambiguous as not much information is gathered about the users and therefore it is not possible to say whether this would make decisions better or enhance the democratic structure of the tool.

Design, application and analysis of e-tool lies with municipality

In some cases, Maptionnaire surveys have been used to produce parallel plans by asking different questions about the same problem, e.g. when a group of citizens launched a parallel survey to the public one. The input that is obtained from surveys depends on how the survey questions are formulated.

Maptionnaire survey designs are encouraged to follow a research set-up to target citizens and to ensure the possibility to analyse the data. Data are often analysed by the Mapita staff, but this is not a requirement for using the tool or obtaining results. Anyone can design a survey on the Mapita website.

The Byhøst initiative relies on the basic principle that users share their knowledge through the online map, for the benefit of the forager’s community. If no knowledge is shared, the app becomes useless. It promotes a set of rules for the proper use of urban nature for foraging. For example, foragers should never take more than what can fit in a hat, and always leave plants in a condition that ensure continued growth and survival. These rules are specified on the Byhøst website and reinforced during events and activities related to Byhøst.

We expect that the acceptance of and compliance to these rules will be important for the success, wider application and acceptance of urban foraging activities.

Kerro kartalla used in urban green space management (GSM) is designed by GSM department to update management plans. Local residents receive a postcard by mail inviting them to participate in the map-based online survey. Kerro kartalla surveys are accessible online for 6 weeks. Planners interact daily in during the 6 weeks to add their knowledge and answer questions. Data are analysed by an external company and later published online as well as translated into managerial actions.

It is important that rules of the game, i.e. how to interact, to use the tool, scope, aim and time frame, are clearly communicated and easily understood. This also means that features within the e-tool, i.e. for drawing and commenting in the interface, must be easy to use. If not, information can be misunderstood or impossible to analyse (Interviews Kerro Kartalla and Maptionnaire; UN, 2014)

6.2.4 Resources

Knowledge from citizens is central for all the tools. However, information about the level of education or backgrounds of participants is was not available in any of the cases. The expertise of the professionals who manage the different tools is very high, and most have a higher education.

All 3 tools focus on the urban nature as a resource for food, recreation, health and sustainable cities. Urban nature areas are often municipally owned. Therefore, the municipalities traditionally have the final say in decisions regarding these areas. The e-tools facilitate learning from citizens about their values, use of green space and ideas for desirable development of urban nature, and this information becomes a resource that is helpful for democratic decisions about urban areas.

6.3 Relationship with government, policy and UGI

All 3 cases are related to planning more or less directly.

1. ***Byhøst** is characterized by having been developed bottom-up and by its reliance on users' and developers' input. However, planners from Copenhagen and Aarhus have used Byhøst in participatory city development projects related to urban green spaces. For them, Byhøst has been a gateway to reaching citizens, via their app and during events in urban nature.*
2. ***Maptionnaire** relates directly to planning as the surveys generated always relate to planning and mapping of local perspectives.*
3. ***Kerro Kartalla** feeds into planning as it is used to gather input for green space management decisions, and more broadly by collecting ideas for future development pathways.*

According to Shelton et al. (2015), the significance of data depends on planners'/scientists' capacity to collect, aggregate, map and analyze them. Furthermore, the understanding of digital data is intermingled with offline, material geographies of everyday life (Shelton et al., 2015). This refers to the importance of the understanding of place. The most basic function of the e-tools analyzed is the facilitation of a dialogue about a *place* somewhere in the city. Places with physical characteristics and history, framing daily activities and life. It is important that this place *identity* is well known by planners and the e-tools facilitate this understanding. The place dimension could be further developed in the e-tools described in this chapter, to support place-based governance for enhanced relations between citizens, urban nature and planning/management.

6.4 Perceived effects

This table summarizes the overall green, social, economic and institutional effects related to the use of the e-tools.

6.4.1 Green effects

It is difficult to determine the exact green effects derived from the use of the e-tools described in this chapter. Effects are often indirect, with green outcomes being contingent on perceptions and awareness. We see the following as indicators of eventual green effects. The Byhøst app represents a growing community of users. Whether this group actually contribute to urban green spaces or if their behaviour could mean damage to urban nature by i.e. damaging some species can be questioned. The initiative mainly focuses on wild urban plants such as weeds, berries and fruits and carefully divulgates information about how to use this resource respectfully to not damage urban biodiversity. Byhøst adds to awareness and knowledge about the wild urban nature's resources for the users of the app. Maptionnaire helps people to describe values towards urban nature/green spaces and to translate this for planners to take into consideration when planning and developing cities. Kerro kartalla use civic input to direct efforts in management of the urban green spaces of Helsinki and is considered to be the tool with the most directly visual impact related to green effects.

6.4.2 Social effects

All 3 tools have a level of empowerment to them, but the true empowerment depends on how their input is regarded, mostly for the Maptionnaire and the Kerro kartalla tools. The Byhøst tool does not in itself support democratic structures and processes, on the level of personal use. However, through Byhøst based collaborations with municipal authorities, users have received new opportunities to mobilize initiatives and have a say in city development projects.

Empowerment effects depends on implementation of tool

Byhøst empowers people to react to unsustainable consumerism, to forage for food themselves and to learn about nature. Many social events are connected to the foraging activities by Byhøst, such as joint foraging trips and joint dinners in urban nature. Municipalities in Denmark use Byhøst to reach people with interest in urban diversity.

Maptionnaire aims to empower citizens by giving them an audible and recognized voice. Groups can make their own Maptionnaire surveys and thus react to surveys initiated top-down. Kerro kartalla empowers people by taking their input into consideration for management.

Byhøst is the tool with the strongest focus on social cohesion, primarily through the many social offline activities connected to the tool. Maptionnaire combines the tool with offline workshops. Kerro kartalla does not have social activities linked to the use of the tool. However, when interviewed the head of the green space department mentioned that social activities could be a next step. The citizen initiated group for combatting invasive species in urban green spaces was held forth as a good example, although one not directly related to the use of Kerro kartalla.

TABLE 6.2 OVERVIEW OF PERCEIVED EFFECTS OF THE CASES ON E-TOOLS FOR PARTICIPATORY GOVERNANCE

	Green Effects	Social Effects	Economic Effects	Institutional Effects	Other Effects
Byhøst Copenhagen	Increased awareness and value of nature among users.	Community building. The content of the app is dependent on the individual's contribution. Foraging has become a very popular activity both for groups and individuals.	Saving money in personal households. Pro sustainable consumption	Municipalities see potential in engaging Byhøst as a way to reach to local people with interest in urban edible nature.	Knowledge sharing leading to learning possibilities about urban wild nature. Possible health effects. City harvesters report increased feelings of happiness and health and less stress
Maptionnaire, Helsinki	Possibility to express wishes, need etc. related to urban nature as input to planning and development	Empowerment via influence on planning and development of the city. Visualization and transparency of different viewpoints and democracy. Citizens feel more committed.	A cost-efficient way to organize participation for thousands of people.	Surveys can have strong effects i.e. if many people strongly express their opinions. The surveys are also used as a tool for politicians to take a first check with citizens before making decisions or starting debates.	Shift in power relations; citizen can be in the driving seat of generating ideas and suggesting change.
Kerro Kartalla, Helsinki	Citizen's wishes' and ideas result in some changes in urban green spaces, depending on what green spaces managers decide to include	It is the impression that the e-tools enhance participation by numbers of participants and by including new groups (i.e. young families), however it is hard to subtract exact data about the backgrounds of the users of e-tool	The green space managers can better target their management effort. Citizens start to show will to carry out management task i.e. combat invasive species.	Kerro Kartalla is widely used in different departments of Helsinki City. Not only on city level but also on national level, transparency in planning, open data and civic engagement via social media platforms and modern technology is encouraged.	Knowledge sharing and learning. There are 35 departments in Helsinki municipality, and approximately nine of have used the tool in over 40 surveys. (Eurocities, 2013)

Byhøst is the tool with the most focus on social cohesion because of all the social offline activities related to the tool. Maptionnaire combines the tool with offline workshops. Kerro kartalla does not have social activities linked to the use of the tool; however it was mentioned in the interview with the head of the green space department that social activities could be a next step. For example, it was mentioned as a success that some citizens have formed a group that combats invasive species in urban green spaces; however this was not directly related to the use of Kerro kartalla.

6.4.3 Economic effects

Economy is mentioned in all 3 cases. In Byhøst this was phrased as a way of saving money for private households when foraging, and in Maptionnaire and Kerro kartalla as directing expenditures to the places or initiatives most in need.

6.4.4 Institutional effects

The strongest institutional effects are found in the Helsinki case, where national scale policies support the use of e-tools (i.e. SADE program since 2009, and the HARAVA system for e-participation and for experiential knowledge mapping in land use planning).

In Copenhagen, the use of e-tool related to civic inclusion planning or management of urban green spaces is not yet extensively developed or endorsed, but the most recent municipal green space plan for Copenhagen (2015-2025) addresses several issues that could very easily link to citizen science and use of e-tools, like mapping biodiversity and citizens values ascribed to urban nature.

6.4.5 Other effects

Knowledge and opinion sharing and related learning outcomes are other strong effects. There is a tendency that more and more people from all societal groups are active online. Potentially, and if linked to places/activities, the online communities could to a larger extent form also real-life groups that could interact i.e. in the urban green spaces, and have activities that appeals to common interests – and then perhaps social effects would be more tangible and physical effects would be manifested more in the actual urban green spaces.

6.5 Successes, controversies and tensions

The 3 tools are effective for visualizing information of interest to the users because they work map-based. As they have interfaces where all users can see whatever information that is shared at a given time for a specific place they create open and transparent processes that seem promising for inclusion, dialogue, knowledge sharing, co-creation and empowerment of citizens – assuming that citizens actually participate and *if* their inputs are taken into consideration when decisions are made about the planning and managing urban green spaces. One of the interviewees stressed that it might take some training both for participants and planners to learn how to engage through and benefit the most from integrating e-tools into urban planning (see also Boone, 2015).

Power is an important issue to be aware of when using e-tools. For example, does the designer of the content of a survey have the power to make final decisions, or to decide what inputs will be used later in the process? To exemplify further, Kerro Kartalla is not a voting system. The green space department designs the content of the e-survey, which citizens then can react to-. After consultation the department decides which direction to take, rather than letting this be a part of the survey as well, which could make the democratic process even more participative. The interviews indicate that the ideas that are agreed upon by many users are not always the best ones, and that input from an individual person can be just as important. No real guidelines or criteria exist for this step in the process. However, it

was mentioned both in the interviews and in literature that transparency in the participation process is important for user democracy and motivation to participate (Bertot, 2010).

Interviews from all 3 cases revealed that the online tools help reach and engage more young people (compared to traditional citizen involvement) and still reach elderly people. People with other ethnic backgrounds than Danish or Finnish are apparently not very present among users of the tools. The Mapita team reacted to this by translating the Maptionnaire tool into different languages. This did not, however, markedly improve the situation. On reflection, the general opinion was that the way citizens are contacted and made aware of the e-tools is important for future engagement (interview with Mapita).

It is difficult to say with certainty if new groups are actually figuring, as the e-tools analysed here do not collect exact data on participants' backgrounds. The reason for not collecting this type of data from users has to do with both ethics/privacy online and the limited interest in information on participants background (Byhøst). The designers of the surveys do not want to scare off people by asking them to enter personal data (Kerro kartalla), therefore sharing personal data done on volunteer basis, when asked for at all. Ensuring that some data on participant's background are collected when the e-tools are used could confirm the beliefs voiced in the interviews, e.g. that younger people are more likely to participate when e-tools are used than in traditional participatory processes. It would also add to the possibilities apply scientific analyses on the data generated by e-tool surveys, and help the understanding and management of urban environments (Shelton et al., 2015).

It was mentioned in the interviews that, as technologies develop constantly, there is a need for development and testing of new e-tools, and ways of using e-tools in planning to reach as many citizens as possible. Many interviewees indicated that it would be problematic to consider a completed e-tool as 'finished'. A way to avoid this situation could be to link up to already existing platforms, such as social media platforms (UN, 2014).

The interviews also indicated that the use of the e-tools (Maptionnaire and Kerro kartalla) helps direct funding to the 'right places', and saves money as they are less resource demanding than traditional participatory processes. In the Byhøst case, the perceived value was articulated as both money saved for private households while gaining positive experiences in urban nature, and eventually leading to enhanced appreciation of nature and perceived personal health.

The integration of the online tools with face-to-face and in-situ activities was mentioned in most interviews as important to ensure to reach out broadly to citizens. The potential in combining the online tools with real places and users (in-situ) was also mentioned during the interviews. This dimension is already present in the Byhøst tool, but only to a very limited degree in the other 2 tools (although it was mentioned as a possible 'next step' for the Kerro kartalla tool).

6.6 Lessons to be learned

E-tools can serve as mediators and learning platforms to create awareness, ownership and commitment, e.g. by mapping urban nature and citizens preferences and allowing interaction between users, both on- and offline.

The e-tools analyzed in this chapter are helpful to such processes. The recent municipal green space plan for Copenhagen (2015-2025) states several objectives regarding mediation and learning about nature, e.g. to map urban nature, to improve knowledge of user behavior and citizens recreational needs as well as facilitate communication and sharing of data between citizens. The use of e-tools in these activities seems promising.

E-tools can be platforms to create awareness and commitment

“E-participation expands a government’s toolbox for reaching out to and engaging with its people. It does not replace traditional forms of public participation, whether through face-to-face meetings, paper-based communications, telephone calls, physical bulletin boards, among other offline modalities. Rather, governments should consider how best to reach the various social groups among its population by deploying the optimal mix of online and offline modalities within their jurisdictions.” (UN, 2014).

6.7 Discussion and conclusion

Essential for the e-tools is that they build on sharing and exchange of place-based knowledge and make this knowledge available to planning and management (Maptionnaire and Kerro kartalla) as well as to the greater public (Byhøst). The effects of using e-tools, at least as expressly hoped for by interviewees, include that increased local awareness of- and knowledge about nature will lead to enhanced nature care by communities. The Byhøst case shows some indications that this is indeed happening, as seen in the growing knowledge pool on urban biodiversity in the app as well as growing amount of participants. However, whether users actually learn how to take good care of nature through foraging activities is questionable. One user mentioned that a more direct link between green space managers and urban foragers could create beneficial synergies. For example, harvesting edible invasive species could reduce the burden of maintenance tasks. Adding a management /expert layer to Byhøst map could be interesting and perhaps show mutual benefits for users and urban green space managers. The opposite situation is evident in the Kerro kartalla case where managers express interest in creating more in-situ activities and engaging citizens in management. And according to them, citizens are reciprocating this interest. Stronger links to in-situ activities for citizens is one of the dimensions that could be developed further in the presented e-tools, and something that could be interesting to consider for up-coming e-tool designs. If we can connect values and uses to how urban green spaces are managed, more citizens may come to care about green, healthy, liveable cities as they feel that they have a say, that they are being listened to and be involved. Assuming that the e-tools actually support this.

Related to the design of the e-tools are questions about power: who decides what in the development, usage, analysis and decision making processes? The answer to this question

hinges on the way who is involved in the design of the e-tools, the collection and analysis of the data, as well as in how the results are used in decision making. None of the 3 examples has exact guidelines on a 'best practice' for using user value statements in planning and management. These questions of power need more elaboration and investigation to understand the possible contribution of e-tools to inclusive governance.

We conclude that the e-tools analysed in this chapter may add to transparent participatory planning and to knowledge about urban natural resources and different uses of those. They facilitate communication between users and managers of green spaces, and help planners and managers to understand use patterns values and needs of citizens groups.

Through e-tools citizens can both easily (compared to face-to-face participatory processes) 'get a voice' and learn from each other. The knowledge that e-tools accumulate can be used for further development of urban green (and other public) spaces *if* the knowledge/data is properly gathered, analysed and processed back into the development processes / management.

E-governance brings hope for the future in terms of its potential for inclusiveness and communication possibilities. However, there is a need to make sure we are not facing the same problems with e-tools as with other participatory processes, i.e. is the participation representative? Without more detailed participant information it remains difficult to determine the degree of inclusiveness, and whether the values expressed are representative for the entire group of users.

7 CROSS-CASE ANALYSIS

7.1 Introduction

Together, the eighteen case studies conducted in sixteen of the Green Surge case study cities presented an array of governance arrangements, with numerous actors and aims, discourses, rules of the game and resources. Each accounted for a range of social, environmental, economic and institutional effects. In this chapter, we provide a brief overview of the most important findings that emerged from a synthesis of the case studies in their full breadth.

In section 7.2, we synthesize the eighteen cases based on the policy arrangements approach. Based on this analysis, we develop a typology of the governance arrangements we found in our cases studies and relate them to planning theories as described in chapter 1 (section 7.3). We then describe the effects of all initiatives and relate them to the typologies (section 7.4). Then, we look at the relationships of power in the arrangements we encountered, and inquire how this affects UGI planning (section 7.5). Finally, in section 7.6, we discuss some common lessons from the case studies, taking into account the importance of local context for success and failure of the governance arrangements.

7.2 Actors, rules and resources

7.2.1 Urban green actors and their roles

The initiatives included in our case studies involve a range of actors playing many different and sometimes multiple roles (Table 7.1). Municipalities, being the owners of a significant proportion of the land of almost all cases under study, were usually very important as initiators or supporters of the greenspace and UGI projects and activities. In the cases with municipalities initiating the project, they explicitly aimed at involving citizens. When necessary, municipalities provided expertise. In those cases where citizens were initiators of the projects, enthusiastic citizens provided labour, money, ideas and expertise for the initiative. Businesses were sometimes actors too: their main contribution was often financial, but they also shared their expertise. There were many examples of external NGOs (that existed prior to the initiative) acting as intermediaries and facilitators, providing ecological expertise and organizational knowhow, advice on community consultation, technology development and advocacy, and in one case also becoming involved as owner of the land.

TABLE 7.1 URBAN GREEN ACTORS AND THEIR ROLES

Actor	Role	Number of cases (n=18)
Municipalities	Land owners	16
	(Co-)initiator	12
	Provide expertise	7
	Financial contribution	13
Citizens	Labour*	15
	Initiator	5
	User fees and donations	9
	Expertise	13
Businesses	Labour	2
	Provide Expertise	8
	Financial Contribution	11
NGOs	Organizational Knowhow	4
	Ecological expertise	3
	Intermediary	5
	Land owner	1

*Labour includes work in the field as well as any kind of support for the planning process (e.g. participating in formal planning, proposing projects and joining decision-making).

7.2.2 Urban green actors and their aims

Looking across the range of stakeholder objectives revealed by the case studies, it is possible to identify four broad categories of aims namely: environmental, social, institutional and economic aims (Table 7.2).

Environmental aims were the most prominent category. Actors wanted to realize new green space, improve ecological or recreational quality, and sometimes aimed for the enhancement of the network and cohesive qualities of UGI. Being the main responsible for their owned land, municipalities expressed such aims in about half of the cases. They emphasized the need of UGI for climate change mitigation. They also emphasized the inherent value of nature and biodiversity conservation. Finally, municipalities aimed for raised environmental awareness of citizens.

Although most of the initiatives in the case studies were primarily about green space and UGI, social aims were often as significant as environmental objectives. Empowering urban communities, community inclusion and social cohesion were aims included in about half of the cases. Some of the cases aimed for connecting citizens to nature. The aim to exchange and develop environmental knowledge and skills played an important part in that. Health and wellbeing of society were also important for some, through access to nature, clean air and healthy nourishment. In many cases municipal officials highlighted the aim to meet a local demand, supporting communities in the work they undertake. They also emphasized involvement of participants as an aim in itself, sometimes directed by law.

TABLE 7.2 SYNTHESIS OF THE AIMS

Category	Aim	Number of cases (n=18)
Environmental Aims	Creation of new green space	8
	Improve green space quality for recreation	6
	Enhance intrinsic ecosystem value	7
	Raising awareness	4
	Ecosystem services	3
Social Aims	Community inclusion	7
	Social cohesion	6
	Connecting citizens to nature	6
	Improving public health	5
Economic Aims	Food production	6
	Reducing maintenance costs	5
Institutional aims	Contribute to civil society	10
	Experimental knowledge exchange	5

In some cases, economic aims were important to the municipalities, businesses, and NGOs in the arrangements. To most of these cases the approach to build business value was generally not to earn money, but to save expenses. NGOs and citizens aimed to do this by growing vegetables, usually for own consumption purposes. Businesses and municipalities aimed for saving money on green maintenance and management. One case explicitly aimed for green economy related goals such as creating jobs and earning money through organic food production. Two cases of public-private-partnerships aimed for increased revenue in properties near green space.

Some of the initiatives had more institutionally oriented aims. For the municipalities, the most important institutional aim was to involve citizens in the decision making processes and to facilitate public-community partnerships. Some initiatives had a strong drive to establish forms of community organization and aiming to stimulate place keeping among citizens. Finally, initiatives aimed to experiment with new types of knowledge exchange and joint learning.

7.2.3 Rules of the game

The *rules of the game* first of all depend on the legal structure of the initiatives and places. Most of the land in our initiatives is public land, usually owned by municipalities. Although the land often is co-managed and co-governed, ultimately government based rules remain relevant. In between public and private land, we need to distinguish a third version, the *urban green commons* (Colding and Bartel, 2013). Especially in the urban agriculture initiatives we find examples of urban green commons, and sometimes public (waste) land is turned into common land. Urban green commons are green spaces of diverse ownership that depend on collective organization and management. One of its characteristics is that participants hold “a rich set of bundles of rights, including rights to craft their own institu-

tions and to decide whom they want to include in management schemes” (Colding, 2013, 1041).

The rules and regulations ranged from formal national legislation and standardized procedures in relation to participant selection, to rules concerning green space maintenance responsibilities and codes of conduct for communities. While our focus was primarily on the formal rules, we have also discerned some prominent informal rules (see Table 7.3).

TABLE 7.3 SYNTHESIS OF IMPORTANT RULES OF THE GAME

Type of rule	Aim of the rule	Number of cases (n=18)
External formal procedures and legislation		
Formal national legislation	Steer policy making	3
Municipal rules or guidelines	Steer a case	5
Rules and guidelines	Involve new participants	9
Selection procedures	Select quality projects	8
Lease agreements	Formalize land use	5
Internally established regulations		
Member lists	Bind participants to agreements	4
Waiting list	Limit usership	2
User fee	Cover expenses	5
Designated responsibilities	Formalize place keeping	9
(Informal) agreements	Guide conduct	9
Formal restrictions	Restrict undesirable behaviour	7

Top-down rules were clearly useful and necessary in some cases when large change was the ambition, but could also be perceived as constraining or too vague. National legislation, for example, was a very effective director of projects and initiatives, especially when (re)allocation of large amounts of resources was necessary, or large scale restrictions had to be implemented. This could encompass legal incentives to stimulate cooperation and legal punishments in case of noncompliance.

In about half of the cases in which citizens take up place keeping related responsibilities, such as maintenance, responsibilities were formally agreed upon with the municipality. Designated responsibilities could encompass volunteer coordination, technical or green space maintenance tasks. Such responsibilities are sometimes supported by a written policy, management or work plan, or, in the case of business deals, defined in compensation mechanisms.

Especially in the urban green commons examples, several initiatives also felt the need to provide clear rules in order to keep the process running. About half of the cases made mention of internal rules of conduct, mostly informal but collectively agreed upon. Some of them mentioned fixed times for collective maintenance work to keep volunteers commit-

ted. Communities also placed numerous restrictions, such as restrictions on commercial use of grown vegetables and restrictions on pesticide use.

7.2.4 Resources

A diverse array of resources were contributed and used by the different actors in the initiatives. These resources included: funding; knowledge, skills and expertise; stakeholder time and energy; access to important social and professional networks and physical resources such as land and tools.

In terms of funding, some initiatives relied on national government funds. About half of the initiatives explained that they received substantial municipality funding, which in a few cases came from multiple municipal programs. Others either did not need funding, or gathered it from different sources. About half of the projects mentioned single grants, sponsors or subsidies from nation-wide or regional governmental or non-governmental trusts. Private businesses contributed essential funds to some initiatives. NGOs were seen as important financial contributors in a few cases (See table 7.1). Citizens also brought in money for the initiative, through user fees, volunteer donations or through collective income with sales. A few cases also made use of fundraising festivals and sales of vegetables for the funding of their initiative.

Knowledge and expertise was seen as a vital resource in most of the initiatives. Many initiators and volunteers bring with them extensive knowledge, expertise and networks, either from their professional life, or from social networks. This includes environmental and organizational know-how and understanding of administrative thinking. In about half of the cases, it was provided for by professional consultants and mentors, coming from municipalities, businesses and NGO's. Specific emphasis was given to the contribution of nature oriented knowledge of (organic) farming and breeding and ecology. Technical knowledge was also emphasized, including knowledge of machinery, IT, branding and landscape architecture.

Volunteer workforce was seen as an important resource in most of the cases, in a few cases provided by businesses. Municipalities also provided substantial labour, particularly in the cases where they mobilized citizens or interacted with them. The same was true for NGOs and businesses, the latter of which were sometimes paid for their efforts by municipalities. Several initiatives explicitly focus on social groups with much spare time. These could include retired people, students or people who are unable to find paid work. Framing the initiative as a step towards return to society helped for some initiatives. In Amsterdam, for example, many of the volunteers were (old) psychiatric patients.

7.3 Typology of governance arrangements

Our studies showcased a number of governance arrangements, which we categorized into six types: 1) *municipalities mobilising social capital* 2) *grassroots initiatives*, 3) *green hubs*, 4) *co-governance*, 5) *organisation initiated grassroots* and 6) *green barter*s. This typology was developed based on three key features, namely: the aims of the arrangement; the most important actors in the arrangement; and the functions these actors fulfilled. After describing these typologies in this section, we position them in Van Der Steen's (2015) diagram on

changing governance relationships (see section 1.2.3), to understand them in a broader societal context (Figure 7.1).

Municipalities mobilising social capital



The first category consisted of city-wide efforts from municipalities to either invite grassroots projects for financing or other support, or to invite citizen participation in spatial planning (see also Wittmayer et al. 2015). These efforts are part of the formal planning process, yet allowing for a certain degree of flexibility towards grassroots initiatives. This flexibility ranged from only a voting procedure in Lisbon to a very high level of flexibility and openness in Utrecht. However, these arrangements show a trade-off between flexibility and coordination of initiatives and embedding them in larger planning concepts, such as UGI (see also section 8.3.2).

These arrangements all stood out especially in terms of their scale and efforts to some kind of coordination of different initiatives. All cases were part of a program where every citizen of the city was entitled and often explicitly invited to contribute. Their key innovative feature is the commitment of municipalities to get people to engage in their neighbourhoods, which also was an important success. The intended results were local projects, spread over the city. Bristol was somewhat of an exception, because there, the emphasis was on the creation of strategic spatial documents, depicting how to develop certain neighbourhoods.

Digital communication systems were important tools in Lisbon and Helsinki that informed municipal spatial planners in aiming to broadly use citizen knowledge to identify opportunities for urban green space. Through telecommunication systems such as SMS or internet, citizens could submit ideas and proposals for greenspace projects all over town. In the case of Lisbon, citizens could additionally vote for their preferred projects. Then, after assessment by municipal officers, plans were further developed and implemented. This approach had as an advantage that a vast amount of citizens could be heard with relatively little effort, and much potentially valuable information could be acquired. The disadvantage of this approach was that far from every opinion could truly be integrated and some contributors were excluded, as has been noted before (Faehnle et al. 2014, Muñoz-Erickson, 2014).

The second main way of citizen mobilisation, through personal interaction and group meetings, was more labour intensive. However, this way of engaging with citizens resulted in higher engagement in the implementation phase and in building community and engagement that eventually may contribute to place keeping through engagement of residents in maintenance. It should be noted, however that increased place keeping was so far not observed in all examples, meaning this costly approach is not a guarantee for success.

Grassroots Initiatives



The second category, *grassroots initiatives*, encompasses the two cases in Edinburgh, the Amsterdam case and the Berlin case. They are self-empowering, relatively small scale communities, occupying no more than 13 hectares in our cases. They are started and maintained autonomously by residents from the neighbourhood, on municipality owned land. Even though three of these initiatives by-passed municipal regulations by starting their work on municipal

land without consent, all rapidly gained municipal goodwill, and sometimes receive some municipal funding. This was also observed by Rosol (2010), who noted a larger trend of public acceptance of grassroots initiatives in Berlin, which, as our evidence suggests, applies to other Western European regions as well.

Grassroots initiatives' most powerful and innovative asset is that they have the autonomy to decide how to shape the initiative, often based on their interpretation of the common good. These cases all had capable initiating volunteers with expertise in gardening, networking or public relations. They mainly gathered necessary resources at the moment they were required. As a consequence of this relatively autonomous position, grassroots actors and the municipality spend

little time and resources in formal organising and networks. Meanwhile, both parties may benefit from this of collaboration. Municipalities might save costs when citizens maintain the land, while citizens can work on the land in a way that fit their purpose and preferences. However, autonomy and safeguarding against external threats does not sit well together. Exactly because of this wish for autonomy, many have weak ties with formal bodies and their existence usually never becomes formally protected, not even after 40 years of existence. All emphasized biodiversity to some degree and had remarkable local results. However, given their small territory, their impact on UGI was generally limited.

Autonomy of grassroots comes with a price

Grassroots initiatives in our studies include two long-term successes that have managed to endure despite significant threats to their existence (Amsterdam and Berlin, see section 7.7.4). In both cases, we saw that they became more formalised over time.

Green hubs



The third, more experimental and category was the green hubs in Ljubljana and Malmö, centred on experimenting with green knowledge, interdisciplinary inspiration, and green economy. These are young, innovative and creative coalitions or social enterprises working in specific green space patches and acting as bridges between various social networks, similar to the hubs Connolly et al. (2014) found in New York and

to the experimental 'Gardens of Art' approach in Poland (Karadimitriou and Mironowicz 2012). Hubs often engage stakeholders from various professional sectors and social groups with different cultural backgrounds. They focus on experimenting with new ways of social and professional interaction while striving for sustainable land use and neighbourhood inte-

grated learning. Thus, they aim to establish more sustainable, independent forms of participatory urban life

As our cases are relatively young, little can be said about their long-term success. By their interdisciplinary membership with representatives of more than one organization, they may be more resilient than single organization initiated grassroots. It remains to be seen, however, if the initial enthusiasm will persist over the years.

Green hubs experiment with interdisciplinary knowledge exchange

Co-governance



Examples of *co-governance* in our cases, Stockholm and Milan, are defined by a strong partnership between municipality and the responsible organization of a specific green space, and as such resemble cases of *co-governance* (e.g. Arnouts et al. 2012). While the initiatives in other types were initiated by either governments, citizens or non-governmental organisations, these cases were initiated as a coalition between the municipality and an NGO representing citizens. The internal and external networks of the NGOs in such arrangements are very strong and they are supported by an array of funding resources operating on regional and national level. Use and maintenance contracts with the municipality are formalised, and land use agreements get renewed regularly. New policies are jointly established and monitored by the municipality.

Co-governance examples are strong and resilient in the sense that they encompass multiple layers of actors acting as buffers between the informal domain of citizens and the formal world of municipalities. Meanwhile, they mobilize citizens and provide them low-threshold opportunities to not only contribute to but also learn about the management of the site. Therefore, this type of arrangement scores high on many aspects, ranging from effectively transforming the land to effectively keeping participants and users engaged. Besides, both examples of *co-governance* among our cases, Milan and Stockholm, have successfully lasted for over thirty years. In the case of Milan, long-term successful citizen engagement and increased institutionalization have ultimately built enough municipal trust for it to hand over some of the decision and maintenance power to the NGO.

Organization initiated grassroots



Organization-initiated grassroots differ from *co-governance* arrangements and *grassroots initiatives* in the sense that they are further away from being public-community partnerships and more autonomously led by a single business or NGO. These included the cases of Szeged and Copenhagen. Similar arrangements were identified earlier in Berlin (Rosol, 2010). They are well-organized projects, maintaining strong ties with the municipality, but without being dependent on it. Both have received a substantial financial support from the municipality.

As a result of the nature of these initiatives, organizational and technical expertise is in place from the start. This facilitates the process of citizen involvement and co-management of the initiative. Given their small scale start, the ambitions of these initiatives are not enormous (but innovative in their context). Nonetheless, their humble goal of encouraging citizens to be active in urban nature was met in our examples.

Green barters



Finally, the category of *Green barters* emerged from the public private partnership cluster study, containing Lodz and Oradea. In these cases, a kind of bartering is developed between municipalities and businesses in which businesses are allowed to profit in a certain way of the services delivered by urban green and in return, these businesses invest in the enhancement of maintenance of specific urban green space. These services especially relate to cultural services, such as aesthetics, *Green barters* varied from a short-term business deal to longer lasting and more complex partnerships. These arrangements were always very basic, but innovative in the fact that they resulted in new services.

7.3.1 Typologies and concepts of governance

While in Deliverable 6.1 a typology was developed for all kinds of citizen arrangements (Van der Jagt et al. in press), here we further develop this typology focusing not on participation in planning processes, but on participation in green space development and management. For this, we use the governance rationales theory as developed by Van der Steen et al. (2015). Governance rationales are the underlying intentions of an arrangement. They define whether the focus of the case is on *political choice* or on *public performance*, (or: improved implementation) of the policies (See section 1.2.3). To highlight these differences and understand them from this perspective, we have positioned the arrangements in the diagram (Figure 7.1).

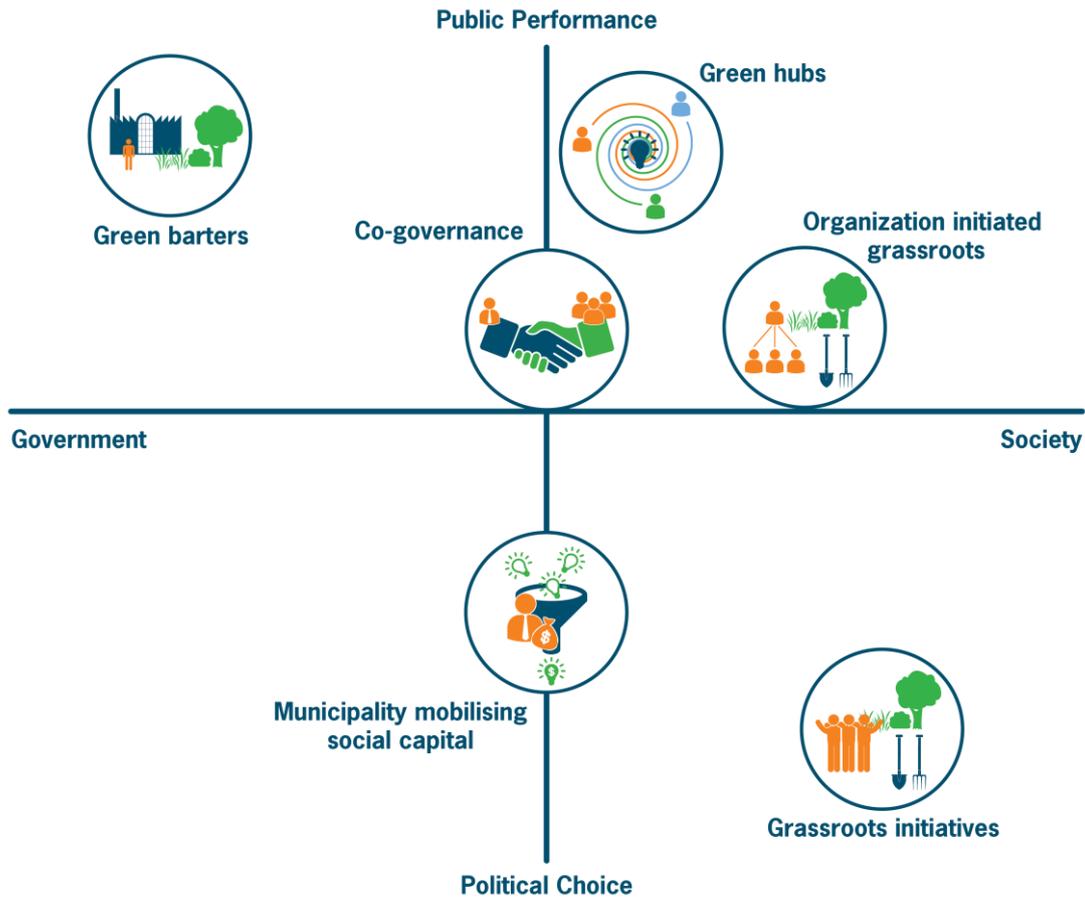


Figure 7.1: Typology of governance arrangements based on 18 examples across Europe.

We have placed the *grassroots initiatives* in the bottom right quadrant, representing active citizenship. However, it needs to be acknowledged that these grassroots sometimes move upwards in the diagram and start forming alliances with other groups or with associations. In Berlin, for example, an association was formed during such a time to strengthen the bargaining position with the municipality, while being a formal entity was not originally a primary goal.

Green hubs can be placed in the upper right quadrant of the diagram, in the field of alliances and partnerships. The focus here is far more on experimentation, execution and implementation. Governments have not so much power here, which is why this arrangement is found in the right half of the diagram.

In the same quadrant, but slightly more towards the political choice side, we find the *organization initiated grassroots*. These focus on implementation, but with the goal to have substantial citizen input in the development of new (small) projects. They form a similar alliance, not dominated by governments.

Municipalities mobilising social capital fits in both bottom quadrants, on the side political choice side of the diagram. They are examples where municipalities develop the structure

for citizen involvement, but citizens are in charge in defining goals and activities. In some examples, municipalities hope that they ultimately shift right, to the active citizenship quadrant, where citizens keep places independently, and decide on the course of the site. Land may then be given in lease to the grassroots or NGO's involved.

Co-governance also are examples of the sharing of power between municipality and citizens, but more on the execution of already present municipal plans, such as the enhancement of green space and UGI.

Finally, cases of *Green Barter*, where governments find partners to execute their plans, are positioned in the upper left quadrant of the diagram. These are cases where defining the goals have little emphasis, but governments are aided by private actors to find ways smoothly implement their maintenance activities.

It is interesting to note that the most autonomous cases of citizen participation, particularly the independent grassroots' initiatives, were found in the British, Central and Mediterranean planning family regions (Davies et al., 2015) in the Western parts of Europe. Cases in the New member states were more dominated by municipalities and established organizations, such as in the two cases of green bartering and the organization-led grassroots. Furthermore, also the active attempts of municipalities to mobilize citizen capital were all located in the Western part of the continent. These data hint to the fact that there are important differences in power structures between these different planning families, but given our small sample size, no solid conclusions can be drawn.

7.4 Effects of the initiatives

In the analysis of the effects of the initiatives, we had to draw on how our respondents perceived these effects. As with many other evaluations (Fors et al. 2015), in the context of this research we weren't able to actually measure the environmental, social, economic or institutional effects. As such, we much acknowledge that most respondents showed a tendency to focus on the positive effects rather than on any possible negative or ambivalent effects (see table 7.4).

Perceived green effects included increased quality and quantity of green spaces. Increased biodiversity was explicitly mentioned in about half of the cases, most of which had a very strong community representation. For example, participants of the four cases in the grassroots typology emphasized this effect. This finding is interesting, as the enhancement of biodiversity potentially provides a legitimization for their existence, for example if protected species occur on the site, as evident in a long lasting grassroots case. Regarding UGI specifically, there were some comments about positive effects on connectivity, some mentioning of increased multi-functionality, and a few references to the positive impacts on other multi-scale aspects of the initiative. Here too, *grassroots initiatives* were well represented. Education and public awareness of sustainability issues were important effects in about half of the cases. Informants did not have the capacity to assess the mitigating effects of the initiatives on climate change risks.

Most participants of the case studies also emphasized social effects of the cases. Social cohesion was mentioned in about half of the cases, and was also an aim throughout the typology (except in *Green barbers*). Leisure was mentioned as an effect in about half of the cases, expressed for example in working in green space, having a barbecue or meeting the neighbours. Furthermore, the inclusion of more or new groups in the initiative was mentioned in about half of the cases, also representing all arrangement typologies except *Green barbers*. This was a particularly prominent aim of *municipalities mobilising social capital*. They were very successful in these cases, particularly when they made use of e-tools and telecommunication. About half of the cases mentioned increased health as a perceived effect. A few cases, particularly the *grassroots initiatives* mentioned citizen engagement, citizen empowerment and reduced vandalism in the areas. As grassroots often were formed around social issues, this was an important success for these initiatives.

TABLE 7.4 SYNTHESIS OF IMPORTANT PERCEIVED EFFECTS

Type of Effect	Perceived Effect	Number of cases
Green Effects	Improved green space	11
	Increased green space	6
	Increased biodiversity	9
	Increased connectivity	6
	Increased multi-functionality	6
	Education on sustainability issues	10
Social Effects	Social cohesion	10
	Inclusion of new groups	9
	Leisure	7
	Citizen engagement	2
	Citizen empowerment	2
	Increased health and wellbeing	8
	Reduced vandalism	2
	Reduced maintenance costs	8
	Governments answering citizens' demands	2
Economic Effects	Food production, associated reduced costs or income for citizens	7
	Increased real estate value	5
	Increased neighbouring trade	3
Institutional effects	New forms of self-organization	13
	New jobs	2
	Increased openness to similar projects	7
	Increased partnerships	7
	High media attention	4

Looking at economic effects, about half of the cases mentioned a reduction of costs for the municipality, who was initially responsible for maintenance actions in the public space. For individual citizens, cost reduction was only incidentally relevant and on a very small scale,

predominantly by autonomous food production. In a few cases, modest incomes or new jobs were generated. This was a positive side effect, as the growth of the initiative in the case gave rise to the need for professional management, originally not aimed for. Increased house pricing on the land patches adjacent to the green initiative and increased income for the surrounding businesses was also mentioned in some cases. In the two cases of *Green barters*, businesses successfully aimed for this.

A notable institutional effect, perceived in some cases, was the increased municipal openness to similar projects. Some more mentioned the effect of inspiring others for example through the high attention from public and media generated by some examples, which is an interesting side-effect for actors promoting an idea or a lifestyle. About half of the cases mentioned the strengthening of the network between different municipalities, or with business or community partners. Finally, researchers often observed new forms of self-organization. Interestingly, this was also observed in the arrangements where governments invited citizen participation, where it had been an explicit aim. Their citizen-empowering strategies seemed to have worked there, at least for the short term.

7.5 Power relations between municipalities and civil society

Municipalities in these cases engaged in several types of relationships with multiple actors to reach their goals. While keeping a powerful position, some power relationships were complex, and we witnessed genuine efforts to re-establish power relations with citizens, NGOs and business partners. The way municipalities and civil actors engaged with each other had important implications for the power relations and the outcomes of the initiatives. Resource intensive types of relationships such as joint project groups had the potential to empower citizens, and help them reach their goals. Relationships that required fewer resources had the advantage of allowing broad citizen involvement, with the disadvantage that not every citizen's goal could be reached. Interestingly, when municipalities did not take the lead in developing a strategic approach to UGI planning, sometimes citizens urged them to do so, prioritizing values such as biodiversity and ecosystem connectivity.

The power shift that occurred in the initial stages of the project in Milan represent a remarkable and very innovative development. When the Boscoincitta park was successfully established and volunteer workforce was considered sufficient, the municipality agreed to pass park management over to the NGO. Relying on the skills of volunteers, the local NGO now has the lead, only asking for municipal support in case they intend to annex new land. This practically means that NGOs no longer had to write proposals for e.g. grants, a task usually not preferred by volunteers.

Digital media was a prominent pathway of communication in the *municipalities mobilising social capital* arrangements. It provided the hopes of city-wide participation of many socio-economic groups and more transparent municipal decision-making. In practice, however, to truly assess the citizen's input required time and attention, and the critiques that were expressed in some cases suggest that decision making was not always transparent. In the case of Utrecht, for example, 'feasibility' was an important assessment criterion, but municipalities did not always clarify what they meant by it. There was relatively low emphasis on transparent implementation of the data in Helsinki, Lisbon and Utrecht. And as participation

remained limited to certain social groups, groups who were not strong with e-tools remained underpowered in some cases.

Project based meetings with citizens or citizen representatives were an active municipal attempt to empower citizens. Regular meetings were organized, where representatives of municipalities and communities discussed and negotiated proceedings in the planning of a neighbourhood. Municipalities which engaged in such relationships remained in power by providing restrictions and directed the meetings. This sometimes disillusioned citizens, who then abandoned the process. Within this provided framework, however, citizens had much freedom to decide. Furthermore, the entrance of municipality actors in their personal networks can be seen as an empowerment for participants.

Grassroots initiatives had a similar freedom to decide and to build, and had decisive power over the land they managed. The fact that they operate on municipal land, however, means that the municipality remained the full authority, keeping the option to interfere. *Grassroots initiatives* can protect themselves from potential municipal vagaries to a degree by emphasizing the social and the natural value of their initiative, seeking legitimacy of their work in its value for the public good.

The strategy of *co-governance* by definition gave NGOs some authority over the area. By serving as a bridge between institutionalized and informal worlds, NGOs somewhat balanced the naturally uneven power relationship between citizens and municipality, resulting in a stronger partnership. As representatives of citizens and managers of urban green, the NGOs had strong legitimacy, making it harder for political changes to damage the partnership. This legitimacy does, nonetheless, depend on the value municipalities ascribe to community work and urban green, and partners do not have an equal position. Given current success of our *co-governance* cases, however, it seems very unlikely that a damaging enforcement of municipal power would take place.

NGO's function as bridge between institutionalized and informal worlds

The case of Aarhus was exemplary for a public-private partnership where municipality strengthened its own position by serving the public good. Here, national legislation against pesticide use legitimized the position of municipalities in their negotiations with business actors, further strengthening their power position. Significant effort was put in the negotiation procedure with local businesses, in order to explore options such as compensation and land swapping so as to reach a satisfactory solution for all actors involved. The option of fines existed in case of non-compliance. As a result, farmers who disagreed with the municipalities' strategy felt forced to cooperate.

In the cases of *green barters*, the municipality has full control, giving benefits only in return for something else. In the case of Oradea, increasing demand of business partners over time further increased the municipal bargaining power, resulting in increasing demands on business partners.

Most government strategies related to collaboration with grassroots did not focus on the principles of UGI, such as connectivity and multi-scale planning. We see however some interesting examples. The allotment garden network in Lisbon is an example where governmental actors do actively emphasize the value of UGI, promoting the linkage between urban allotment gardens across the city. They provide rules and educate gardeners on the value of their patch for urban ecosystem services in the UGI context.

Interestingly, in several cases, citizen participants have identified shortcomings of UGI focus among municipalities. In the case of Utrecht, for example, a city-wide project had potential to substantially contribute to the UGI on multiple scales. This was never the intention of the municipality who chose a decentralized approach to give citizens the opportunity to present their wish list for green space. Many involved actors have criticized this missed opportunity in hindsight. In only one of the ten districts, UGI related values such as connectivity got well represented in the plan because of the input of citizens.

7.6 Lessons to be learned

How and why cases were considered successful depends on a variety of factors such as societal trends, neighbourhood contexts and strategies the cases applied. Other municipalities and other initiatives may learn from these experiences. However, it remains important to consider that they were all tailored approaches to local situations. Using the lessons learned from this cross case analysis therefore requires sensitivity to several factors. In this section, we have identified the factors that stood out, and take a first step in translating them into lessons that could be applied and further developed in Tier 3, the Urban Learning Labs.

7.6.1 Influential trends in urban green planning

Building on, and moving beyond the trends identified in Tier 1, we have identified a number of influential trends in these cases with an important positive or negative influence on the cases we studied.

First of all, scarcity of accessible green space and its related benefits in the urbanizing areas around the initiatives led to high local demand for something which green initiatives could provide. Accessible green space often was scarce, especially in areas with high rise constructions and a limited amount of parks and gardens. By converting land into green space for the residents, these initiatives satisfied a local need. The subsequent enthusiasm of the neighbouring residents was an important driving force for the initiatives. In the case of Berlin, for example, the scarce access to green space kept many volunteers engaged to the park. After the fall of the Berlin wall, increasing the access to green space, a steady decline of volunteers took place. Similarly, public-private partnerships could only work because they enhanced the business value of green space by answering to local demands with ecosystem services such as clean water and space for publicity. This trend comes together with the recognition that due to many ecosystem services, presence of green in a city increases its overall value (Andersson et al., 2015). These findings suggest that these cases should in part be understood as a counter movement to pollution, climate change and urbanization.

Despite this increasing recognition for the value of UGI, many of the cases and their actors,

including municipalities, cope with the decline of financial resources as a result of the recent financial crises. This trend of decline in funding can be discouraging as well as stimulating. Some of the arrangements are facing declines in income, causing problems in the long run. Others are not affected by it, as they rely solely on volunteer labour and free land use. In some cases the decline forces municipalities to open up to new actors and as such, engage in more innovative solutions for UGI related problems.

Aesthetic and recreational qualities of green space are ecosystem services that also increase the economic value of an area. This is a major driver for our Green barter arrangements and related businesses. Interestingly, Corporate Social Responsibility (CSR) approaches didn't play a major role for the companies involved in our cases. CSR may offer additional incentives for businesses to relate to urban green space management.

Finally, the general trend towards devolution of governance may encourage municipalities to open up for locally oriented initiatives. Meanwhile, this trend may also result in losing sight on integrated UGI planning as showcased in the Utrecht example. Utrecht differentiated in the planning strategy between parks and other substantial green areas and small patches of green. For the latter, and no efforts were made to stimulate the integration of grassroots initiatives in the overall green structure.

7.6.2 Relevance of the local contexts

Next to new societal trends, we identified a number of local, contextual circumstances which are of influence for the initiatives we studied. These local circumstances may limit the transferability of our examples. The presence of a well-defined and supportive policy framework was very important. When large, top-down projects were implemented, such as in the cases where municipalities mobilize citizen capital, formalised structures are important. Presence of such a framework provided clarity to participants and managed their expectations. Ambiguities in the frameworks, on the other hand, caused feelings of injustice, for example when citizens questioned the legitimacy of selection procedures, which happened in Utrecht and Lisbon. Some freedom of interpretation of the policy frameworks was nevertheless beneficial for grassroots' initiatives with municipal goodwill.

A decline in financial opportunities can work discouraging as well as stimulating

The socio-demographic contexts, the backgrounds of people that live in a neighbourhood, have an important influence on willingness and capacity of neighbours to volunteer. The cases of Berlin and Amsterdam suggest that cultural backgrounds of people in the neighbourhood influence the mobilisation of (new) volunteers. Several more cases reminded us on the difficulties to attract certain socio-economic groups to the planning process. Capacities to volunteer also vary. Elderly, retired people are usually easier to engage, simply because they have more spare time than working people. The same holds for people with a distance to the labour market, for example because of mental disabilities.

The legal contexts determine to a large extent what power different actors have, including municipalities, businesses, NGOs and citizens. They also define how different actors will be taken into account during planning procedures of green space. Meanwhile, legal frameworks can be changed, as was demonstrated in Aarhus. Such change results in a cascade of impacts towards ground level, altering the policy and planning contexts in different ways.

Finally, also the economic context of a neighbourhood is important to consider, because it determines in part how much funding is available for green space planning, has an effect on the types and the capacities of the actors that are present in an area and also has influence on the price of the land. The economic context should be considered on a national and city level, but also on district or neighbourhood local level. At the same time, the context seems to become more enabling for citizen community initiatives when land prices are lower and when there is more freedom to experiment.

7.6.3 Strategies to adapt to trends and local context

To face the challenges and use the opportunities arising from the identified trends and local contexts, initiatives tailored some specific strategies. In this section, we briefly discuss these strategies, and draw some further lessons from the results of the case studies.

Perhaps the strongest reoccurring innovation that these initiatives demonstrated was the openness to negotiate and collaborate with new kinds of actors. Whether it was with new neighbours, with public or private partners, universities or NGOs, actors in all of the cases had somehow broken out of a personal or institutional routine by involving new kinds of actors in their plans. Our cases have shown that working with new actors requires overcoming new barriers, but studies have shown that the benefits of joint learning can make it worthwhile (Cheng and Mattor, 2010). By applying a strategy of openness to other actors, our cases promoted multi-functionality and network governance (Van der Steen et al. 2015).

To open up to unknown partners, some barriers need to be overcome. First, there is the initial mistrust that can exist towards powerful actors such as private players and businesses, as was the case in the public private partnership cases and the Lisbon participatory budgeting. Sometimes, small players have to learn to rely on the big players, but the case of Milan has shown that it can also go in the opposite direction: the municipality has had to gradually learn to trust a community. Second, actors have to learn to understand and respect each-others' needs and intentions, as was shown clearly in the case of Bristol but also in Ljubljana, where it took a while before neighbours responded to the initiative. Capacity problems were a third important barrier, limiting the actors in their ability to allocate resources to overcome the other barriers.

Taking the appropriate preparatory time was seen as an important strategy for success in various cases throughout the clusters, particularly if the stakes of the project were high and multiple stakeholders were involved. In Aarhus, for example, it took years to establish a new law, inform local farmers and facilitate land swap negotiations before the effects could be seen. The importance of taking time to prepare was also strong in the *municipalities mobilising cultural capital* arrangement, where governments initiated large-scale projects

together with varieties of other stakeholders. In smaller, grassroots organizations, however, quicker and more impulsive action could have motivating power for neighbours.

Meanwhile, it is also a threat when municipalities take a long preparatory time for certain things. Participants may become disappointed in the planning process, which in some instances in our cases has caused participants to step out of the process. Avoiding such deception can be done in several ways. First, it likely helps to be crystal clear about not only the goals of the projects, but also about the timing. It might help to put some extra effort in expectation management, in such cases, and to highlight the uncertainties.

Another challenge is how to engage participants from all socio-economic groups. This was an outcome of the Tier 1 studies, and also emerged in several of the current cases. Efforts and success differed significantly between actors and cases. In general, one cannot conclude that either municipalities or NGO's, or grassroots were most inclined to focus on the inclusiveness of the project. This differed from place to place, related to legal obligations, dominant discourses and personal motivations.

A final contemporary strategy that is worth mentioning, is the use of e-tools. In Copenhagen, the ByHøst app functioned as a catalyst for a city-wide movement of knowledge exchange on edible plants, followed by a number of festivals and activities bringing young enthusiasts together. Furthermore, social media played vital roles in all cases where governments mobilize citizen capital, by upscaling the outreach of the project, and providing platforms that sparked the first interactions with citizens. They have likely also increased visitor rates of smaller initiatives, all of which have a Facebook page as promotion.

The strategies we discussed above were vital enablers of the initiatives, but were never attempted in isolation. While some factors stood out for some cases, success was found in a fortunate combination of different factors, and their societal context. Together, these drove the initiative forward, giving its actors the will and the trust to persist and ultimately harvest the fruits of their work.

7.6.4 Factors contributing to the continuity of the cases

As lasting interest of participants for maintenance has been identified as one of the major challenges in UGI planning in Europe (Buizer et al., 2015), we conclude this chapter with a synthesis of the most successful strategies to ensure the continuity of the initiatives. The four most long-lasting cases of our study; Amsterdam, Berlin, Stockholm and Milan, were all well-organized initiatives. All arrangements have undergone periods of growth, and most have also endured decline. In periods of decline, strong internal management and external networks have helped to overcome these periods. All initiatives have established membership lists, and strong boards responsible for maintenance, administrative tasks and recruitment of new volunteers. They also have formal responsibilities, agreed upon with the municipality. Furthermore, they are all well embedded in the network of neighbouring and regional organizations. Three out of four have at least one paid employee on their board and ask for membership fees to support their activities.

The *grassroots initiatives* in Amsterdam and Berlin demonstrated that being built on volunteers and being largely independent on external funding can be beneficial for continuity. Both cases have received irregular funding and have built some financial reserves to cover required expenses. The Stockholm initiative, in contrast, was built on a more solid economic model with high rent expenses, where users paid a fee for the right to use their lots. However, during a period of low user interest in the 1980's, the initiative was forced to cede some of the land.

One crucial factor for all initiatives is the numbers of volunteers. The number of volunteers to contribute to maintenance and other activities is becoming a critical factor for the continuity of the project in Amsterdam and especially Berlin. Volunteers that have been active for years or even decades are becoming old and they are unable to attract new groups. In Berlin, this was due in part to changing demographics as a consequence of the breaking of the Berlin wall, causing the entrance of lower socioeconomic classes. In Stockholm, however, changing demographics in the neighbourhood merely resulted in more multicultural presence in the gardens. Being flexible is thus a crucial aspect of being successful. While Stockholm managed to adapt to the changing socio-cultural context, Berlin did not.

To ensure volunteer labour, several ground level initiatives, including the grassroots, have kept participants involved in maintenance by providing clear and regular times for collective maintenance. Most also gave reprimands to or punished those who stayed away. This way, participants knew what was expected of them. Meanwhile, it gave organizers the opportunity to plan the bigger, necessary maintenance actions. Such minimal degree of responsibility of participants has proved very useful in these cases, and would most likely also work elsewhere.

Also the weak formal status for the two self-organized arrangements in Berlin and Amsterdam is a serious and constant threat. Being neither the owner, nor having a formal protected status for the area, both endured numerous significant external threats to their existence as green space. For example, both have faced moments where the land owner intended to use the land for urban development such as roads or real estate. Both cases have protested and lobbied to prevent this. In the case of Berlin, this resulted in the municipality buying the land and leasing it to the initiative. Milan and Stockholm have never experienced such threats. This highlights that even if grassroots initiatives can be successful, they remain vulnerable without formal protection. In these cases, continuation of success remains dependent on the willingness of the municipality, a willingness that partly depends on wider economic and political developments.

8 DISCUSSION AND CONCLUSIONS

8.1 From providing services to citizens to creating value with citizens

We have investigated 18 examples of innovative governance arrangements that have contributed to the delivery of urban green space in 16 European cities. These examples showcase the multiple creation of values by local communities or businesses, often in addition to more established municipal or national planning structures. The array of values spans from an increase in amount of quality of green space, higher biodiversity or use value of urban green, to empowering and social inclusion of underprivileged communities.

Innovations are manifold and continue to develop. In the participatory budgeting project of Lisbon, we find innovative ways of participatory decision-making. In Milan a complex, predominantly citizen and NGO-based governance system has been managing an area of 120 hectares for more than 40 years. In several urban agriculture project as well as the Bristol case grassroots proved very successful in reaching out to ethnic minority groups and developing new ways of collaboration. Finally, e-tools were developed to facilitate citizen participation in government as well as to share knowledge and raise awareness about urban green foraging.

In this concluding chapter, we will focus on answering the research questions (RQ's) stated in chapter one. Section 8.2 focuses on how innovative governance arrangements look like in terms of aims, actors, structure, contexts, and dynamics (RQ1). Section 8.3 focuses on the role of power and strategic planning (RQ3). Section 8.4 considers the effects of the initiatives in our case studies, such as biodiversity, ecosystems services, social and democratic value and the green economy (RQ2), and section 8.5 describes the most important lessons learned (RQ3). The remaining sections deal with limitations and recommendations of the study.

8.2 Innovative governance arrangements

The innovative governance arrangements showcase how planning styles across Europe are changing towards more flexible and networked governance arrangements and self-governance (Sørensen & Triantafillou, 2009). Indeed, we see examples of an evolving role of municipalities from being providers of green services to citizens, to creating value together with citizens (Bourgon, 2011). Based on the relative power distribution between municipalities and citizens on goal setting and implementation (Van der Steen et al., 2013), we have identified six dominant types of governance arrangements (see also figure 7.1). These arrangements are derived from our case studies and thus not exhaustive. For example, in our Tier 1 study we also identified *unauthorized management* and strategic and informal *involvement in policy making* as relevant arrangements (Van der Jagt et al., 2016).

TABLE 8.1: TYPOLOGY OF GOVERNANCE ARRANGEMENTS

	<p>Municipalities mobilising social capital</p>	<p>Strategic planning instruments to invite grassroots and individual citizens to participate in place making, place keeping or spatial planning, usually encompassing the whole city.</p>
	<p>Green hubs</p>	<p>Experimental, young and creative coalitions or social enterprises connecting various networks and knowledges to develop novel, community based solutions.</p>
	<p>Grassroots initiatives</p>	<p>Relatively small scale initiatives located on public land, started and maintained quite autonomously by local residents.</p>
	<p>Co-governance</p>	<p>Partnerships between municipality and citizens or grassroots with power being between across actors. Often highly institutionalised and resilient through engagement of multiple actors.</p>
	<p>Organization initiated grassroots</p>	<p>Social enterprises or NGO mobilising community action, in focus and power located between <i>co-governance</i> and <i>grassroots initiatives</i>.</p>
	<p>Green barter</p>	<p>A well-defined maintenance or development obligation for businesses in exchange for a from municipality formalised right to use ecological, social or economical values of that space for business profits.</p>

In line with results in Deliverable 6.1, these arrangements showcase the ‘dual focus’ on governance arrangements, distinguishing between formalised, ‘top-down’-initiated stakeholder involvement, ‘bottom-up’ initiatives such as *grassroots initiatives* taken largely by non-governmental actors, and *co-governance* in between (Buizer et al., 2015). Based on our cases, we suggest to add another variant in which municipalities develop strategic planning mechanisms to explicitly invite and stimulate citizens to initiate their own projects. This especially was showcased in the *municipalities mobilising social capital*.

Even if planning style changes towards more governance-like cultures, we see many illustrations of the *sedimentation* of different planning styles (Van der Steen et al., 2013): while municipalities reach out to, enable or even stimulate grassroots initiatives, traditional steering mechanisms such as rules and regulation, ownership and existing subsidy schemes remain important. Indeed, several *green barter* and *co-governance* examples show that regu-

lations and a planning framework may help to lure non-governmental partners to become involved and contribute to municipal goals.

8.3 Shifting roles and power dynamics

8.3.1 Power, planning and politics

In understanding governance arrangements in urban green management, it may be useful to use a broad interpretation of the concepts of power and politics. As is generally acknowledged, power not only lies in formal structures, but also in discursive actions, the formation of actor coalitions and in physical activities on the ground (Hajer, 1995). In general, such questions of power seem to be somewhat overlooked by most actors.

Power relationships are complex, especially in the *co-governance* arrangements. However, we witness genuine efforts to re-establish power relations with citizens, NGOs and business partners. Meanwhile, although grassroots often have control over management decisions, much of the power remains with the state (cf. Swyngedouw, 2005): in most types of governance arrangements, the financial regime is set by the municipality, the municipality almost always owns the land, and the municipality or higher level government organs decide on the formal status of protection for the area. Even in the Amsterdam case with over 30 years of successful civic management, the protection of the areas still is not formalised. Also the use of e-tools raises questions about power. While e-tools are seen as a way to empower citizens, municipalities developing e-tools remain in power. They decide on what topics, when and how participation is requested as well as how data are analysed, interpreted and communicated. As experiences with e.g. citizen science learn, true empowerment comes from participation in all phases of the deliberation, from the co-designing the tool to joint interpretation of the results (Lawrence, 2006).

Questions of power overlooked by most actors

Grassroots may exercise power by claiming the right of use of public land and develop it for recreation, biodiversity or food production. This way, grassroots empower such places and thus also act in a political manner. Our examples show that indeed grassroots often emerge in contested places. In this respect, Malmö provides a very interesting governance innovation, where the NGO, in collaboration with the municipality institutionalises the temporary character of urban agriculture plots. In this way, before landscapes in transition become contested, their temporal character is put to use in a formalised manner: a kind of anti-squatting option for temporary use.

Environmental justice

Democratic challenges exist between grassroots as form of participatory democracy and the formal representative democratic institutions and responsibilities. This also relates to environmental justice. In traditional planning, governments are responsible for an equal (re)distribution of values such as accessible and attractive green space.

Innovative governance and the re-distribution of power inevitably involves the explicit or implicit introduction of new distributive mechanisms. In traditional top-down management it is the municipality who is responsible for the distribution of resources to establish an even and just distribution of urban green space. Collaboration in this with new actors, be it citizens, NGOs or businesses, introduces new distributive mechanisms based on e.g. economic or cultural capital. For example, involving businesses is a smart way of generating additional cash flows for green space, but also results in an economic rationality becoming an important mechanism in the distribution of green space. It is no coincidence that the contribution to green space maintenance of a local real estate company in Lodz is situated in a well-off residential area. As such, changing the distributive mechanisms also has a political meaning. The same holds for redistribution of powers to local citizens or NGO's. These groups might not represent all relevant stakeholders within a certain community.

Probably the most important challenge is the unequal availability of social capital. As discussed above and well established in scientific literature (e.g. Uitermark, 2015), the availability of cultural resources such as knowledge and access to networks is crucial but unequally distributed. Disadvantaged social groups are usually less able to organise and connect to formal institutions. Indeed, a focus on grassroots sometimes may result in less quality green in deprived areas of a city. In line with previous studies (Tonkens & Verhoeven, 2011), also the Utrecht case suggests that in socially deprived neighbourhoods less grassroots are focusing on greening their neighbourhood.

Innovative governance may result in new distributive mechanisms based on economic or cultural capital

8.3.2 Strategic UGI planning and grassroots

Urban Green Infrastructure (UGI) planning is based on four planning principles: connectivity, multi-functionality, integration and multi-scale (Davies, 2015; Pauleit, et al. 2011). The *Connectivity* and *multi-scale* principles are without doubt a big challenge in most of our governance arrangements. In many cases both municipalities as well as citizens and grassroots put little emphasis on the connectivity of green spaces. However, we also found some interesting examples where citizens explicitly stressed the need for integration in the UGI. As such, one cannot speak of a general mismatch between grassroots and UGI planning at municipal level. We rather see a lack of attention from both sides, and thus an option for improvement. Utrecht did show a promising multi-scale approach, in which a distinction was made between the city wide ecological network, the big green areas such as parks and individual green dots for recreational purposes, on which the neighbourhood green planning was focused. However, the relation between the green dots and the other scales did not receive much attention.

In sharp contrast, the UGI principle of *multi-functionality* was a core element of most governance arrangements. This is a natural result of the diversity of stakeholders, cultures and opinions typical for most grassroots (Gupta, 2010). Some citizens are interested in green playgrounds, others in improving nesting opportunities for birds or in aesthetic quality of

the area. As they need to combine these aims in one, usually rather small spot, multifunctional solutions need to be developed. Collaborating with grassroots may thus help municipalities to work in a very organic way to increase multi-functionality that fits well within local communities.

Next to these planning principles, we also looked at characteristics of UGI planning processes (Davies, 2015; Pauleit, et al. 2011). First of all UGI planning is *strategic*, based on long-term spatial visions supplemented by actions and means for implementation, but remains flexible over time. Some arrangements, most notably the *municipalities mobilising social capital* and *co-governance* examples showed a clear strategic input, developing long term instruments and collaboration. However, as also mentioned above, these instruments were not always embedded in long-term spatial visions. Also the means for implementation differed and in our examples tended to decrease. Changing political context in Utrecht resulted in the abolishment of the project after four years. As discussed above, decentralised governance arrangements may contribute to adaptive management and thus to the flexibility of UGI planning.

Our cases also demonstrate a strong trade-off between citizen objectives and strategic planning, demonstrated by e.g. a comparison between the neighbourhood planning in Bristol and Utrecht. While in Utrecht only a limited number of rules were in place, Bristol enforced its focus on developing strategic plans. This enabled the Utrecht citizens to propose and implement numerous initiatives, while the Bristol community was somewhat disappointed about the lack of opportunities for project implementation. Meanwhile, the Utrecht planning was criticised by several citizens on their observation that the connection to strategic UGI planning was lacking. As a result projects did not contribute much to the connectivity of urban green spaces.

UGI planning also aims for collaborative, *socially inclusive* processes. As described in sections about environmental justice and biocultural diversity, except for the *green barter* type, all governance arrangements contribute to these values and sometimes this is an explicit aim, especially in the *grassroots initiatives* arrangements. Finally, also the *inter- and transdisciplinary* aspects of UGI planning are included in a very natural manner. Most cases show an openness to negotiate and collaborate with new kinds of actors throughout the project. Especially the combination of expert knowledge and local expertise in e.g. urban agriculture, *green hubs* and *co-governance* show clear signs of transdisciplinarity.



Figure 8.1: Governance arrangements contributing to UGI planning (orange dots represent opportunity not fully realised)

Overall, we conclude that most examples in our analysis are rather small and not very well integrated in UGI planning. Such integration may not be an easy project. Options and opportunities may differ significantly. In general, it will be a balancing act, both in balancing the aims of municipalities and stakeholders, as well as in balancing the expectations regarding the relationship between local government and its formal structure and methods and citizens and grassroots that may foster their autonomy and informal methods (Van Dam et al., 2014).

8.4 Perceived effects of the initiatives

The perceived effects of the initiatives in our study are manifold. (see also figure 8.2). Based on the leading themes in the GREEN SURGE project, we describe effects related to availability of urban green, the interrelationship between biological and cultural diversity (work package 2), ecosystem services related to different types of urban green (work package 3) and the Green Economy (work package 4). The relationship between innovative governance and UGI planning (work package 5) has already been discussed in section 8.3.

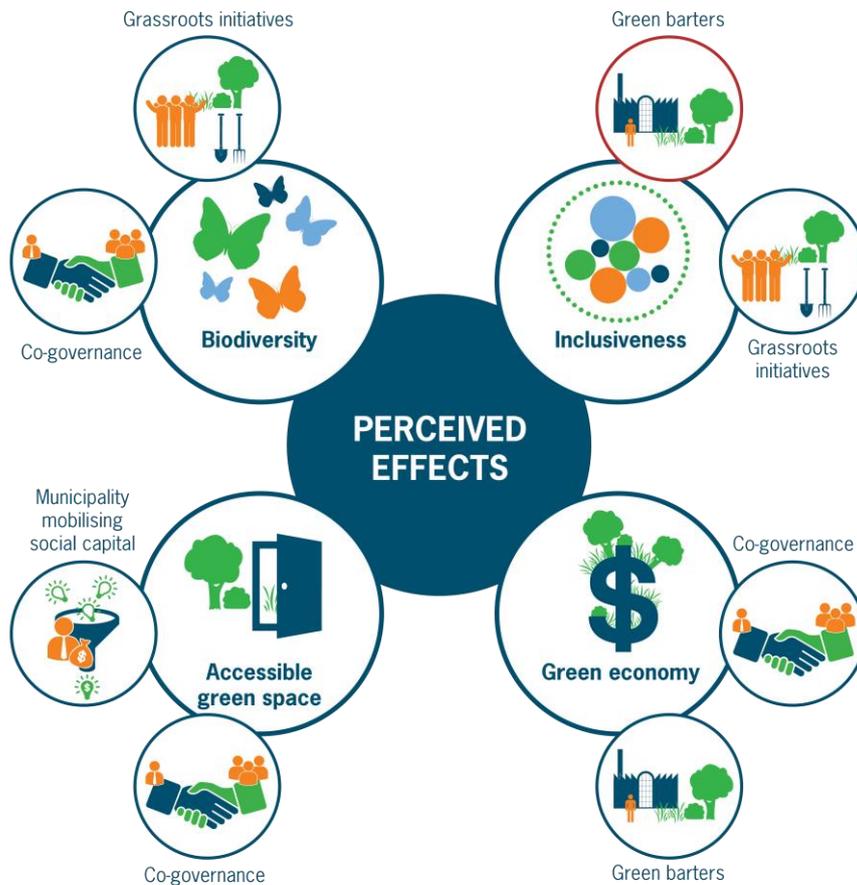


Figure 8.2: Most important perceived effects of governance arrangements (red is a negative outcome)

The interrelationship between biological and cultural diversity

The studied governance arrangements are not so much services being provided to the citizens, but services being developed *by* citizens or *together with* citizens. This “developing by” is better expressed through the notion of *living with* biodiversity (Turnhout et al., 2013) and the relationship between cultural diversity and biological diversity (biocultural diversity; Posey, 1999). People utilize biodiversity in many ways, and especially value those components of biodiversity that they consider most useful. In many cases biodiversity was considered to increase due to farming practices such as organic farming, choosing diverse cultivated or traditional plants, controlling invasive species or unwanted “weeds”. Our examples show that indeed in many arrangements biodiversity is “produced”, but always is in close relationship with other values, such as scenic value, leisure, or food production.

Next to ecological values, many other values are created, especially in the social domain. This social domain is culturally diverse and can be assessed in different ways. First of all through group diversity or social inclusion, expressing the magnitude of participation of different cultural groups into decision-making and management of urban green spaces. In ten out of eighteen cases we see clear contributions to social cohesion and inclusion, as well as an empowerment of ethnic and socially derived social groups. Urban agriculture stands

out with important effects on food, social cohesion and the inclusion of minority groups in a very natural manner, based on people's joint interests in growing cheap and/or sustainable food.

Secondly, initiatives may be contributing to the strengthening of civil society in general, by empowering actors, strengthening networks and building of trust between actors. Although at a first glance these may seem secondary effects, the importance of such networks, cultural capital, and trust for the success of grassroots contributions indicates its importance in the long run. Except for the *green barbers* type, all governance arrangements contribute to these values.

Thirdly, cultural diversity might be expressed through the level of exchange of knowledge, values and traditions, which can be considered as place-making practices. Collective place making is an important aspect in many arrangements, but especially for all four community-led management cases and five urban farming cases, that belong almost all to the governance arrangements *co-construction*, *green hubs* and *grassroots initiatives*. However, group diversity and exchange among groups varied. Despite the fact that place-making might increase social bonding among participants (Stokowski, 2002), it depends on the group diversity to what extent the community accepts different groups. If the group diversity is low, but in-group identity is high, there is a potential risk that a community become protective of the place and the social inclusion of the initiative decreases (Raymond et al., 2010).

Cultural diversity can be expressed in place-making practices

Finally, cultural diversity in relation to green spaces can be interpreted as creating emotional bonding with nature, i.e. people being aware that they are part of nature and they should respect biodiversity. Two urban farming and three community-led management cases expressed a strong bonding with nature.

“Living with biodiversity” especially relates to the balancing act of combining environmental, social, and economic outcomes. Looking at the aims and perceived effects, we see many interesting examples of integration of the ecological and social relevance of green spaces in many of our arrangements. In terms of biocultural diversity, we can see that there are two cases with a high BCD orientation: community-led management in Amsterdam and urban farming case in Edinburgh. On the other hand there are also only two cases with a low BCD orientation: the places involved were constructed with little attention for biodiversity or involvement of different cultural groups (if any). All the other cases are somewhere in between.

For most types of governance arrangements, we do not see a clear relationship between the type of arrangement and biocultural diversity orientation. There are two clear exceptions. First of all, all *grassroots initiatives* have a high BCD orientation. As social values are often at least as important as ecological values, they are able to realise ecological outcomes, in terms of biodiversity, as well as cultural outcomes, in terms of e.g. social cohe-

sion, inclusiveness, place-making and bonding with nature. Secondly, our two *green barter* arrangements seem not very much driven by concerns for either biodiversity or cultural diversity. Typical for the examples that score highest on both biological and cultural diversity are the engagement of a variety of civic and institutional actors with strong personal and institutional motivations to acknowledge both cultural and biological diversity.

8.4.1 Ecosystem services and types of green space elements

Additional to biocultural diversity, all governance arrangements identified in this research contributed to the creation and maintenance of urban green. Based on the *inventory of urban green space elements* by Cvejić et al. (2015), we conclude that the arrangements tend to focus on the medium sized elements. We have found several examples in our case studies of citizens, NGO's and businesses focusing on *large urban parks, neighbourhood green spaces, allotments, community gardens, pocket parks, abandoned, ruderal and derelict areas, and green playgrounds*. Next to these types, also *(urban) forests, arable lands, and grasslands* were found in our case studies, especially on the outskirts of cities. Small sized elements, such as balcony green or green walls weren't found in our case studies. This however will also be related to our explicit focus on public green space or urban green commons in the selection of our cases. Private lands were usually not included, also related to the governance focus of this work package. Most of the larger scale green space elements, such as land dunes, rivers and deltas weren't included in the cases, probably because such elements usually aren't found within cities.

Related to the types of green space, we find examples of all types of ecosystem services in our cases. Urban agriculture provides provisioning services through food production, and when ethnic communities were involved, also medicinal resources. Regulating services such as pollination are provided through the enhancement in acreage or biodiversity of green spaces. The greening of urban areas also contributes to local air quality and climate change adaptation. However, we must conclude that these regulating services, including climate change adaptation, usually were an unintended side-effect, not a direct aim, of the projects. As such, climate change adaptation does not seem to be in the hearts and minds of many grassroots and citizens in our case studies.

Through their contributions to urban green space, almost all examples produce supporting and cultural ecosystem services. Cultural services are central to almost all initiatives. Recreational and aesthetic qualities are drivers behind many initiatives. These services also produce economic values that attract businesses to invest in local green infrastructure. Several initia-

tives explicitly focused on habitats for species or maintenance of soil fertility habitat services. However, other examples suggest that when actors are not intrinsically driven by biodiversity or sustainability, increased biodiversity is not the natural outcome when grassroots or businesses become involved. Focus may then be primarily on aesthetics or usability of green, sometimes even endangering the ecological value of an area. In addition to economic incentives, personal engagement and connectedness to a place or to nature are needed to co-produce ecological value in urban green areas.

Supporting and cultural ecosystem services

Several *grassroots initiatives* emerged in an effort to halt threats to existing green areas. Through organising local community, these initiatives expressed and communicated the value the area. Even if they didn't really enhance that value, only by stopping developments towards housing or infrastructure their contribution to green space and biodiversity protection can be considerable.

8.4.2 Green Economy, investments and cost savings

Many of the examples in our case studies contribute to the Green Economy, although the size of the effects probably will be small. The most important contribution is in cost saving for place keeping of urban green space. The costs of labour for the management of public green space may be avoided when maintenance is outsourced to the local community. In half of the cases this cost reduction is explicitly mentioned by our interviewees, predominantly through savings on maintenance and a presumed decreased vandalism. This is a perceived outcome in many arrangements, although sometimes municipality officers argue that the savings may not outweigh the time they have to spend to manage the relationship with e.g. grassroots. We haven't been able to actually measure neither costs nor savings in such cases. Interestingly, cost savings seems at its top in the two extremes of the governance arrangements. Both *grassroots organisations* and *green barter* arrangements contribute to UGI for very little costs. Based on size of land and number of volunteers, *co-governance* arrangements may have the biggest contributions to cost savings. Based on the number of grassroots initiatives in some of our cities (although not included in our analysis), grassroots also contribute to cost savings, although process costs for municipalities may be higher due to the fragmented nature of the initiatives. On the other hand, *municipalities mobilising social capital* require substantial financial inputs, although Utrecht hopes this is compensated for by community contributions to place-keeping.

In addition to cost savings, the *green barter* arrangements provide additional investments in developing and especially maintaining green space. The examples in our study however only generate small amounts of investments. As investigated in work package 4 of GREEN SURGE, urban green may also enhance economic competitiveness, business opportunities and economic efficiency. Through contributing to quantity and quality of urban green, our examples may have contributed to these aspects of the Green Economy as well. In five cases, the aesthetic and use value of urban green was considered to increase real estate value. In a few cases modest incomes or new jobs were created and urban agriculture slightly reduced food costs for its participants.

8.5 Lessons learned –Driving forces and factors for success

8.5.1 Driving forces

Many of our arrangements thrive on the enthusiasm of people. Making the distinction between intrinsic, normative, social, and material motivations (Alford, 2009), we find that especially normative motivations are very important. These range from enhancing biodiversity to enhancing social cohesion. Next to this, people may be motivated by the social rewards of collaborating with others in an informal setting or the intrinsic reward of developing one's skills, network and expertise. Except for food production, possible material and financial rewards were hardly reported as important drivers to contribute. While our litera-

ture review on e.g. ‘urban green commons’ (Colding et al., 2013) suggests that inspiration may also come from political motivations related to e.g. criticism on the current late-modern, neo-liberal or individualistic society, we have found little such emerging forms of political resistance. This may however also be related to our focus on more institutionalised forms of grassroots, implicitly excluding small scale examples such as guerrilla gardening. Nevertheless, some of our older initiatives did emerge from political protests against the development of green space into housing or infrastructure. In time, they developed towards groups constructively collaborating with local authorities.

For municipalities, saving costs on ‘place making’, but especially on the maintenance costs of ‘place keeping’ (Dempsey & Burton, 2012) is an important pragmatic driver to reach out to local communities. This also relates to reduced costs of vandalism as a result of increased social control due to the involvement of community in place keeping. The city of Utrecht used an interesting strategy to invite citizens and grassroots in place making activities in order to transform green *space* into a green *place*. Increased sense of place boosts the connectivity with “their” green plots, which was then used to invite the community for the place keeping or maintenance of the place. The Municipality even developed a formal maintenance agreement for this, although the application of such a formal contract may sit difficult with the informal culture of grassroots. In addition to cost reduction efforts, the economic crisis has also been an important driver for collaboration with businesses, especially in some of the New Member States.

Grassroots transform green space into a green place

Next to these economic drivers, many officials refer to the democratic need to develop participatory and inclusive ways of decision-making. To our surprise, the often suggested increase in quality of decision-making through participatory governance (Rauschmayer et al., 2009) was hardly mentioned by municipal respondents.

8.5.2 Success of collaboration

To understand success and failure of the innovative governance arrangements, we return to the elements of our governance arrangements approach: resources and power, actors and networks, rules of the game, and discourses.

Resources and power

Probably the most important factor for success is the availability of resources. Time investments from members are one of the most crucial resources of grassroots, both for doing the hard labour, as well as for organising the process, such as project management and networking. E-tools and social media provide interesting opportunities for grassroots to organise and expand an initiative. In Copenhagen, the ByHøst app functioned as a catalyst for a city wide movement on edible plants, followed by a number of festivals bringing young enthusiasts together. Additional workforce is sometimes organised through the involvement of socially deprived people, such as unemployed people or (former) psychiatric patients. Money is also crucial for many grassroots. About half of the initiatives received substantial funding from municipality. In addition, single grants, sponsors and businesses some-

times provided financial support. Meanwhile, the lack of money sometimes stimulates municipalities to look for unconventional options, and we see evidence that this stimulated some municipalities to open up to new actors, such as local businesses.

Probably the most important resource is the mobilisation of cultural capital: people and communities need to be *capable* of organising themselves. Indeed, many examples show that such cultural capital of being able to organise oneself is abundantly present in the local communities. The expertise and knowledgeability of individuals is a strong asset of many grassroots. Our cases show many examples of citizens and NGO's that are highly knowledgeable on e.g. biodiversity management, urban agriculture, landscape architecture, project management, political processes and public relations. Being embedded in green societal networks and projects in the region also was an important key to success for some cases. The importance of cultural capital also suggests that places and communities that lack such immaterial resources need to be capacitated to become involved. Some municipalities as well as grassroots explicitly invest in this, for example through providing facilitators or by making inclusiveness an explicit precondition for e.g. subsidy schemes.

Cultural capital is an essential resource

Mutual trust also is an important resource. Especially when planning styles are changing, mistrust may exist on all sides. Over time, municipalities and experts learn about the capability and knowledge of local citizens, while citizens and businesses learn to appreciate the ambitions and capabilities of the municipality. Municipalities need to build up trust in the capabilities of the local community, for example in being responsible and knowledgeable land managers. Examples of grassroots being successful managers of public land for decades may contribute to municipal trust that grassroots can be reliable and enduring partners. Meanwhile, citizens need to develop trust in municipalities. Trust that indeed power is being redistributed across actors, and that their voice and actions are appreciated and accepted by the municipality and its officers. Transparency as well as a properly defined process seen to be administered fairly, can be helpful to enhance trust.

Rules of the game

The dominant planning style of municipalities is an important context for grassroots. Having a strong focus on the co-production of green space, the *municipalities mobilising social capital* arrangements are an example of municipalities deliberately inviting citizens to get organised. These municipalities take up responsibilities in financing, facilitating and ensuring inclusiveness. In contrast, a planning style focussing on top-down planning is inclined to focus more on public participation than on an enabling and facilitating role vis-à-vis grassroots. Meanwhile, also (upcoming) legislation, when enforced in a flexible and inclusive manner, may stimulate especially business actors to include sustainability and green space in their decisions.

Flexibility in rules, both formal and informal ones, is essential for successful collaboration. The diversity of objectives among actors, established ways of working and knowledge and expertise imply the need for a certain openness and willingness to negotiate. In this, time

also is an important factor. Time to get to know each other, to build trust and to negotiate common ground in goal setting is needed. Strict time-schedules, e.g. through external deadlines related to legislation or subsidy regulations do not sit well with this need for re-negotiating the rules of the game.

Actor and networks

Except for only a few of our *grassroots Initiatives* and *green hub* examples, a good relationship with the municipality and other government organisations remain essential in the majority of our cases. They are crucial as owners of the land, in providing financial support, additional knowledge and expertise, getting public and media attention and securing political support. The strength of network ties with preferably all sections of the local community also is an important resource. Finally, ‘horizontal’ networks with NGO’s working in the same field can be helpful in developing expertise and skill or contribute to ecological monitoring.

Discourse

Finally, the discursive context also relates to success and failures. Dominant discourses about planning and citizen involvement, about the importance of green space and inclusiveness as well as about success and failure of different forms of green space management define the context for collaboration and trust. Furthermore, stakeholders bring in diverging visions and aims, and thus need to find common ground to establish communication. Meanwhile, on a smaller scale, grassroots often need to mainstream their rhetoric to align with the dominant language used in formal rules and regulations. Again, flexibility and adapting to changes in the dominant discourse are crucial in this. For example, while the Ruige Hof can be seen as an excellent example of “participation society”, as of yet they failed to reformulate their aims in the terminology of this emerging discourse in the Netherlands.

8.5.3 Success in term of continuity

Especially our *co-management* and *grassroots initiatives* cases show that communities are able to manage green space for long periods of time, even decades. This long-term management is far from self-evident and requires constant investment of time and resources from citizens. Key to the success in long-term community management of a green space is flexibility in the governance arrangement to adapt to the dynamics of local planning and politics as well as the ability to adapt to changing demographics and society at large. In addition, creativity in finding funding, the ability to relate to both local communities and to municipal officers, and last but not least environmental knowledge and expertise are essential resources. Especially in difficult times, strong leadership and a well-established organisation structure seems to be important. As such, internal institutionalisation of rules and resources is probably as important as the embeddedness in external structures.

8.6 Limitations of the study

Work package 6 focuses on innovative governance arrangements. But what counts as innovation is very context dependent. The participatory budgeting in Lisbon was at its start in 2008 highly innovative in a European context. However, the concept had been developed and applied in Brazil since 1989. Furthermore, Europe is covered by innumerable examples of urban agriculture. Meanwhile, our case study in Szeged covers the first urban agriculture

project in that city, established in 2014. As we focused on successful examples, we did not incorporate examples that failed. Explicit focus on these failures would certainly be instructive as well.

An obvious limitation of our study is its limited width. We only included 18 examples, often with a very local focus. Although exceptions exist, as is illustrated in the Milan case, such a local focus is quite typical for grassroots. Nevertheless, the value goes beyond this local focus. First of all, many cities in especially North Western Europe are rife with examples of grassroots initiatives. For example, the Utrecht case involves a patchwork of many individual small cases that together contribute significantly to the availability of green space for the city as a whole. If more focus would have been put on the connectivity between the initiatives, its contributions to the ecological network could have been significant. Furthermore, each individual example builds social capital in neighbourhoods and adds values to its local community, such as social cohesion and connectedness to nature. Connecting to this local level is a big challenge for municipalities and the intermediary roles of grassroots are appreciated in this, as is e.g. showcased in the Bristol example. Due to its diversity across scales and between neighbourhoods, UGI planning with grassroots may ask for what could be called *mosaic planning*: planning that is geared to and adaptable to environmental, social and temporal changes in the government of urban green.

UGI planning with grassroots asks for *mosaic governance*, adaptive to temporal, environmental and social change and diversity

We have no doubts that many of our examples produce ecosystem and other societal relevant services. However, our analysis is based on *perceived* effects. The actual size of the effects on quantity, quality of green space and the environmental and social effects are far from clear. Especially because we predominantly used interviews as research methods and many interviewees focused on the successes of their initiatives. Difficulties and failures were often trivialised. This lack of substantiated evidence on the ecological and social output of green space policies is a general deficit of many studies into public participation, which tend to focus on processes rather than effects (Fors et al., 2015). The same holds for the question of the cost-efficiency of grassroots from a government perspective. Some of our municipal informants suggested that relying on grassroots is a net cost because of the time needed for the municipalities to facilitate or just relate these initiatives. Although cost reduction or income generation is not the most dominant driver for municipalities, it is an important one. As such, it would be useful to get a better feel for not only the economic benefits of grassroots initiatives but especially the direct and indirect costs.

Finally, all examples have developed in relation to their local context. This relevance of context puts limits on the transferability of results and lessons learned. Moreover, in the selection of the cases, we deliberately focused on cases that were seen by local researchers as successful and innovative cases. It would be interesting to also investigate cases that are considered to have failed, as these cases are at least as instructive as successful cases.

8.7 Recommendations and Tier 3

As the local context is crucial for understanding success and failure of the governance arrangements, we will not end this chapter with concrete recommendations. Within each social, cultural, environmental, political and planning context, driving forces and other factors for success and failure need to be translated to the local context. This translation will be the start of the Tier 3 research in Work Package 6. Based on the layered approach outlined in the introduction, Tier 3 takes an explicit transdisciplinary approach and will be a close collaboration between local stakeholders in the five ULL's and FLA's and GREEN SURGE researchers to initiate a mutual learning process.

Although we do not include concrete recommendations, we share some general remarks about opportunities for municipalities to facilitate citizen initiatives that may inspire the next phase of our work. First, most arrangements are developed in close relationship with municipalities. Although some grassroots may only require regulatory space and the free use of abandoned space, for most initiatives support in financing, networking, and expertise will be beneficial to the outcomes and sustainability of the initiatives.

Connecting with institutionalised actors and developing a strong organisation is essential, but certainly not easy for all grassroots. As such, municipalities may offer support for organising the process of self-organisation. However, although most grassroots seek connections with municipalities, some cherish their autonomy, sometimes for socio-political reasons, sometimes for practical reasons, because becoming dependent on municipalities may become detrimental when municipal policies or politics change.

The enabling role of municipalities not only relates to financial or organisational support. Formal and informal recognition of grassroots and innovative arrangements is a cheap instrument that is often overlooked. Recognition is important for grassroots, also as it increases their status. It may for example be helpful in unleashing funding from non-government actors or ease the way to media coverage for the initiative.

Formal recognition from municipalities is helpful in fundraising and media coverage

In current network societies, social media play a vital role when governments try to mobilize citizen capital, for the upscaling and the outreach of the project, and for providing platforms that sparked the first interactions with citizens. Municipalities may seek inspiration from effective examples of the use of social media in connecting to local communities or grassroots initiatives, such as illustrated by several of our examples.

Finally, scaling issues are important to enhance the connectivity between individual initiatives. While the strength of each initiative usually lies in its local embeddedness, strategic planning mechanisms may be developed to increase the connectivity between the individual initiatives and green places. Our *municipalities mobilising social capital* arrangements may be inspirational in this. Furthermore, many grassroots are also interested in connectivity and multi-functionality. Provided some flexibility is allowed, municipality can try to make use of these environmental motivations among citizens.

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Appendix 1: INVOLVED GREENSURGE PROJECT PARTNERS

No.	Participant name (and short name)	Country	Organisation type
1	University of Copenhagen (UCPH)	Denmark	Research Organisation
2	University of Helsinki (UH)	Finland	Research Organisation
3	Humboldt University of Berlin (UBER)	Germany	Research Organisation
4	Technical University of Munich (TUM)	Germany	Research Organisation
5	University of Wageningen (WU)	Netherlands	Research Organisation
6	University of Stockholm (SRC)	Sweden	Research Organisation
7	Forestry Commission Research Agency (FCRA)	United Kingdom	Public body
9	Metropolitan Research Institute Ltd. (MRI)	Hungary	SME
10	University of Bari Aldo Moro (UNIBA)	Italy	Research Organisation
12	University of Lodz (ULOD)	Poland	Research Organisation
13	Swedish University of Agricultural Sciences (SLU)	Sweden	Research Organisation
14	University of Lisbon (FFCUL)	Portugal	Research Organisation
15	University of Ljubljana (UL)	Slovenia	Research Organisation
16	Technical University of Berlin (TUB)	Germany	Research Organisation

APPENDIX 2: ACRONYMS AND ABBREVIATIONS

BCD	Biocultural diversity
BD	Biodiversity
DoW	Description of Work
ESS	Ecosystem services
GREEN SURGE	Green Infrastructure and Urban Biodiversity for Sustainable Urban Development and the Green Economy
LA	Learning Alliance
NGO	Non-governmental organisation
UGI	Urban Green Infrastructure
ULL	Urban Learning Lab
WP	Work Package

APPENDIX 3: GREEN SURGE DOCUMENTS CITED IN THIS DELIVERABLE

Deliverable 2.1	Biocultural diversity – Concept and assessment
Deliverable 3.1	A typology of urban green spaces, eco-system provisioning services and demands
Deliverable 4.1	Integrating green infrastructure ecosystem services into real economies
Deliverable 5.1	Green Infrastructure Planning and Implementation
Deliverable 6.1	The governance of urban green spaces in selected EU cities
Deliverable 7.2	Iterative place-based knowledge gathering in urban learning labs
Milestone 20	Assessment framework for urban green space governance arrangements. Description of the framework used to analyse the cases in D6.2
Milestone 30	Nature as a firm
Milestone 38	Analytical framework: A layered approach to innovations in governance
Milestone 40	Assessment framework for urban green space governance arrangements. Description of the framework used to analyse the cases in D6.2