REPORT OF CASE STUDY CITY PORTRAITS

APPENDIX - GREEN SURGE study on urban green infrastructure planning and governance in 20 European case studies

Work packages:
2, 5 and 6

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4. **Helsinki, Finland**  

5. **Edinburgh, United Kingdom**

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1 INTRODUCTION

1.1 What is GREEN SURGE
GREEN SURGE is a trans-national research project funded through the European Union’s Seventh Framework Programme. GREEN SURGE is an acronym for “Green Infrastructure and Urban Biodiversity for Sustainable Urban Development and the Green Economy”. The project is identifying, developing and testing ways of connecting 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 well-being.

1.2 Case Studies on Green Space Planning and Governance
A first task of GREEN SURGE is a comparative analysis of European cities and city regions based on 20 case studies across Europe in order to understand the current state of Urban Green Infrastructure (UGI) planning and governance across the continent. A multilevel and multidisciplinary approach has been developed by GREEN SURGE researchers which includes an overview study based on interviews, desk study and analysis of public sector plans and strategies.

Case Studies are an important tool for understanding planning and governance approaches and are a source of valuable information for the scientific analysis being undertaken in GREEN SURGE. This report contains provides summaries of these analyses in the form of portraits. The portraits are used for comparative analysis. As individual products they can be used to discuss findings between policy makers, green space managers, other practitioners and researchers in a particular city.

The portraits are a combined effort of Work Package (WP) 5, “Green infrastructure planning and implementation” and WP6 “Innovative governance of urban green space” and WP2 “Biocultural Diversity”. The WPs are considered as intertwined as planning and governance issues are highly connected, and biocultural diversity as a new and urgent policy theme requires the development of planning and governance approaches for its achievement. For example, governance approaches to involving citizens directly in decision-making may have consequences for the contents of municipal planning approaches as well as have a bearing on the implementation of centrally defined planning concepts such as UGI. It thus seemed a logical choice to coordinate the research between these Work Packages and join efforts in data collection.

1.3 The Case Study Selection
The selection of the 20 case studies is grounded in the idea of providing a representative sample of European cities and city regions – respective of both planning systems and cultures as well as different situations affecting planning and governance realities across Europe (i.e. population dynamics and green space coverage). The objective being to enable the results to be generalized and then applied to other areas of Europe that the research was not able to cover. In spite of this aim, prudence is warranted. The researchers are aware that any selection of such kind has to be
biased in order to be practicable. For example, in this research cities were chosen with more than 100,000 inhabitants and not all dimensions of context could be taken into consideration, so that any generalizing effort needs to again look into local context.

The selection of case studies is based on the Urban Atlas and Urban Audit datasets, as they provide European-wide (EU27), comparable data on land use and socio-demographics development. The cities included have more than 100,000 inhabitants as defined by the Urban Audit. The sum of the core city and its urban hinterland represents the Larger Urban Zone (LUZ).

The methods of selection employed included a relational grouping exercise based on a planning & governance family typology and physical & socio-demographic criteria (Table 1). In total the 20 case study portraits represent 14 European states in five planning families (Figure 1).

1.4 The Data Collection
The main aim of the Tier 1 analysis of 20 cases was to explore the state of urban green space planning and governance in Europe and how planning practice incorporates the concept of UGI. The information was gathered in a three-part approach:

- **Structured interview with municipal officials based on a questionnaire**
- **Desk study by a local research partner**
- **Planning/policy document analysis by a local research partner**

The interview with municipal officials was the core tool for data collection and was designed to provide for the basic information needs of GREEN SURGE Work Packages 2, 5, and 6. Furthermore, a desk study was conducted to verify and supplement results from the questionnaire. The desk study also served to collect information that would go beyond the scope of the questionnaire (e.g., description of governance trends and planning instruments of relevance for urban green space on the city- and city-regional level).

As an additional approach, a document analysis was conducted by the local research partners which focused on up to two plans or policies considered of relevance for UGI. This method provided an insight into how different policy concepts and UGI principles were considered in planning and how such plans were implemented.

Data collected through the different approaches was synthesised in the form of portraits. The GREEN SURGE researchers acknowledge that this approach is limited particularly by the limited number of interviewees and by the narrow selection of documents and desk study material. However, the chosen approach was endorsed for reasons of timing and practicability, and consequently, for the possibilities it provided to work together as a European community of researchers.
Table 1: Socio-demographic and physical classification of the case study cities (based on data from the Urban Atlas and Urban Audit). The five Urban Learning Labs (ULLs) are in bold.

<table>
<thead>
<tr>
<th>Name</th>
<th>Country</th>
<th>Population (core city, 2012 or latest)</th>
<th>Average annual population change rate (core city, 1990-2012)</th>
<th>Public recreational green space per capita (core, city, m² per inhabitants, 2006)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nordic planning family: Comprehensive integrated</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aarhus</td>
<td>Denmark</td>
<td>319,094</td>
<td>0.99&lt;sup&gt;+&lt;/sup&gt;</td>
<td>31.34</td>
</tr>
<tr>
<td>Malmö</td>
<td>Sweden</td>
<td>307,758</td>
<td>1.46</td>
<td>35.01</td>
</tr>
<tr>
<td>Helsinki</td>
<td>Finland</td>
<td>595,384</td>
<td>0.95</td>
<td>25.51</td>
</tr>
<tr>
<td>British planning family: Land use management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edinburgh</td>
<td>UK</td>
<td>482,640</td>
<td>0.48</td>
<td>32.69</td>
</tr>
<tr>
<td>Bristol</td>
<td>UK</td>
<td>432,451</td>
<td>0.49&lt;sup&gt;+&lt;/sup&gt;</td>
<td>27.30</td>
</tr>
<tr>
<td>New member states planning family: Post-socialist</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lodz</td>
<td>Poland</td>
<td>718,960</td>
<td>-0.75&lt;sup&gt;+&lt;/sup&gt;</td>
<td>11.81</td>
</tr>
<tr>
<td>Poznan</td>
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<td>550,742</td>
<td>-0.30&lt;sup&gt;+&lt;/sup&gt;</td>
<td>36.39</td>
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<td>Ljubljana</td>
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<td>0.14&lt;sup&gt;+&lt;/sup&gt;</td>
<td>9.29</td>
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<tr>
<td>Szeged</td>
<td>Hungary</td>
<td>162,183</td>
<td>-0.34</td>
<td>33.38</td>
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<tr>
<td>Oradea</td>
<td>Romania</td>
<td>196,367*</td>
<td>-0.74&lt;sup&gt;+&lt;/sup&gt;</td>
<td>4.46</td>
</tr>
<tr>
<td>Central planning family: Regional economic planning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Berlin</td>
<td>Germany</td>
<td>3,501,872</td>
<td>0.05&lt;sup&gt;++&lt;/sup&gt;</td>
<td>16.82</td>
</tr>
<tr>
<td>Halle (Saale)</td>
<td>Germany</td>
<td>233,705</td>
<td>-1.10&lt;sup&gt;++&lt;/sup&gt;</td>
<td>25.16</td>
</tr>
<tr>
<td>Linz</td>
<td>Austria</td>
<td>191,501**</td>
<td>-0.26&lt;sup&gt;+&lt;/sup&gt;</td>
<td>27.14</td>
</tr>
<tr>
<td>Amsterdam</td>
<td>Netherlands</td>
<td>790,110</td>
<td>0.62</td>
<td>17.62</td>
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<tr>
<td>Utrecht</td>
<td>Netherlands</td>
<td>316,275</td>
<td>1.70</td>
<td>21.04</td>
</tr>
<tr>
<td>Mediterranean planning family: Urbanism</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bari</td>
<td>Italy</td>
<td>313,213</td>
<td>-0.40&lt;sup&gt;+&lt;/sup&gt;</td>
<td>5.57</td>
</tr>
<tr>
<td>Milan</td>
<td>Italy</td>
<td>1,262,101</td>
<td>-0.37&lt;sup&gt;+&lt;/sup&gt;</td>
<td>8.98</td>
</tr>
<tr>
<td>Barcelona</td>
<td>Spain</td>
<td>1,621,537</td>
<td>-0.23</td>
<td>2.96</td>
</tr>
<tr>
<td>Lisbon</td>
<td>Portugal</td>
<td>696,488</td>
<td>0.24&lt;sup&gt;+&lt;/sup&gt;</td>
<td>23.36</td>
</tr>
<tr>
<td>Almada</td>
<td>Portugal</td>
<td>174,030</td>
<td>No data</td>
<td>No data</td>
</tr>
</tbody>
</table>

* = data from 2011; ** = data from 2013; + = data from 1991; ++ = Data from 1992

* Urban Atlas defines urban green space as “public green areas for predominantly recreational use”. Peri-urban natural areas, such as forests and agricultural land, are mapped as green urban areas only in certain cases. In general, peri-urban green areas are not counted. Private green and blue areas are also not included. Further, green spaces with less than 250 m² are not mapped as well. This leads to deviation with per capita green space values used by city officials.
GREEN SURGE Planning Families

**Nordic/Comprehensive integrated**
*Description: Coordination of spatial impacts of public policies by the frame of strategic documents and plans*
*Cities:*
- Aarhus, DK
- Malmö, SW
- Helsinki, FI

**British/Land use management**
*Description: Regulation of functional land use by plans and decisions about the conflicts*
*Cities:*
- Edinburgh, UK
- Bristol, UK

**Mediterranean/Urbanism**
*Description: Structural planning, urban design through rigid building regulations, zoning and codes*
*Cities:*
- Bari, IT
- Milan, IT
- Barcelona, ES
- Lisbon, PT
- Almada, PT

**Central/Regional economic planning**
*Description: Management of regional economy by public interventions into the infrastructure and development*
*Cities:*
- Berlin, DE
- Halle, DE
- Linz, AT
- Amsterdam, NL
- Utrecht, NL

**New member states**
*Description: In the process of change*
*Cities:*
- Lodz, PL
- Poznan, PL
- Ljubljana, SI
- Szeged, HU
- Oradea, RO

*Figure 1: The case study cities and their planning families*
1.5 The Content of the Case Study Portraits

Each case study portrait addresses both planning and governance aspects and is divided into:

- **INTRODUCTION** – which contains location and green structure maps as well as basic information on the city-region (core city and larger urban zone) such as population, biogeographic region and a short characterization of the city-region

- **URBAN AND REGIONAL PLANNING CHARACTERISTICS** – which describes the main characteristics of the planning system including instruments for the protection and enhancement of green space (box 1) and objectives, achievements and challenges in urban green space planning

- **EXPERIENCES WITH INNOVATIVE GOVERNANCE PRACTICES** – which outlines how, in the views of selected actors, ‘traditional’ government-driven steering of green space planning and management on the one hand, and emerging forms of governance with a greater role for non-government actors on the other, play out in different EU cities (box 2).

- **URBAN GREEN INFRASTRUCTURE (UGI) THEMES AND STRATEGIES** – which considers the main themes about planning and how this relates to the concept of UGI (box 2) as well as policy concepts considered in GREEN SURGE (box 4). The plan(s) that have been analysed for GREEN SURGE are briefly presented. Furthermore, implementation and evaluation of planning instruments are discussed

- **URBAN GREEN SPACES: LINKAGES BETWEEN BIODIVERSITY AND CULTURE (box 5)** – which is about the linkages between cultural diversity and biological diversity and how these impact on urban green spaces and urban green structures.

- **CONCLUSION** to wrap up the main findings
Box 1: Urban green space

In GREEN SURGE we use urban green space for all kinds for green (and blue) spaces regardless of their ownership, management, current use, and functionality in city regions. It can also comprise agricultural and forest land, wastelands, cemeteries and private gardens.

Box 2: Governance

Governance has many meanings. One of these meanings refers to a shift away from state-centric government to focus additionally on the role of non-state actors. This is the GREEN SURGE governance focus. Sometimes governments increasingly rely on citizen groups and private businesses and NGOs to make more decisions and implement them with regards to the planning, design and management of urban green space. Moreover, in many cases non-state actors spontaneously initiate urban green space-related activities, some of these recent, others more ‘experienced’. In many cases, we see governments and non-governmental actors working together to fulfil tasks in relation to urban green spaces, but there are also sometimes conflicts between them. There are also significant differences between countries.

Box 3: UGI as a planning approach

GREEN SURGE understands Urban Green Infrastructure (UGI) as a strategic planning approach that aims at developing networks of green and blue spaces in urban areas designed and managed to deliver a wide range of ecosystem services. Interlinked with green infrastructure planning on a landscape scale, UGI planning aims at creating multifunctional networks on different spatial levels, from urban regional to city and neighbourhood planning. Due to its integrative, multifunctional approach, UGI planning is capable of considering and contributing to a broad range of policy objectives related to urban green space such as conservation of biodiversity, enhancing ecosystem services for human health and well-being, adaptation to climate change, and supporting the green economy.

The following three UGI principles have been considered in this study:

1) Integration: UGI planning considers urban green as a kind of infrastructure and seeks the integration and coordination of urban green with other urban infrastructures in terms of physical and functional relations (e.g. built-up structure, transport infrastructure, water management system).

2) Network/connectivity: UGI planning aims for added values derived from interlinking green spaces functionally and physically.

3) Delivery of ecosystem services/multifunctionality: represents the ability of UGI to provide several ecological, socio-cultural, and economic benefits. It means that multiple eco-logical, social and also economic functions, goods and services shall be explicitly considered instead of being a product of chance. UGI planning aims at intertwining or combining different functions to enhance the capacity of urban green space to deliver valuable goods and services.
Box 4: GREEN SURGE policy concepts

<table>
<thead>
<tr>
<th>Concept</th>
<th>Definition /Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodiversity</td>
<td>Biodiversity is the variability among living organisms and their habitats; this includes diversity within species, between species and of ecosystems.</td>
</tr>
<tr>
<td>Ecosystem services</td>
<td>Ecosystem services are the material and non-material benefits that nature provides for humans and can be categorised into the following four categories: Provisioning services, Regulating services, Habitat services and Cultural services.</td>
</tr>
<tr>
<td>Climate change adaptation</td>
<td>Adaptation to climate change means anticipating the adverse effects of climate change and taking appropriate action to prevent or minimise the damage they can cause, or taking advantage of opportunities that may arise.</td>
</tr>
<tr>
<td>Green economy</td>
<td>A green economy is one that aims to improve human well-being and social equity while significantly reducing environmental risks and ecological scarcities. In its simplest expression, a green economy is low-carbon, resource efficient, and socially inclusive.</td>
</tr>
<tr>
<td>Human health</td>
<td>Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.</td>
</tr>
<tr>
<td>Social Cohesion</td>
<td>Social cohesion is understood as the capacity of a society to ensure the welfare of all its members, minimising disparities and avoiding polarisation. People from different backgrounds should have an equal chance to participate in decision-making, should have similar life opportunities and equal access to services, including, access to green spaces.</td>
</tr>
</tbody>
</table>

Box 5: Biocultural diversity

Urban biocultural diversity is a recent concept emphasizing the links between biological diversity and cultural diversity. Research and policy directed at biocultural diversity can focus on the roles of ethnic or other groups, the role of a great range of cultural practices (which may or may not be connected to certain groups), and to physical objects or species bearing a relationship with specific cultural-historical practices. The project GREEN SURGE explores how relationships between biological diversity and cultural diversity become manifest in European cities. Looking at urban green infrastructures (or simply green spaces in cities) through the lens of the interlinkages between biological and cultural diversity can open up new perspectives to finding ways to live sustainably with natures in urban environments and to advance the planning of sustainable cities.
2  AARHUS, DENMARK

1) INTRODUCTION: Facts and Figures

<table>
<thead>
<tr>
<th>Core city</th>
<th>Aarhus</th>
<th>Biogeographic region</th>
<th>Continental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region</td>
<td>East Jutland</td>
<td>Planning family</td>
<td>Nordic/Comprehensive integrated</td>
</tr>
<tr>
<td>Area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Core city</td>
<td>47 034 ha</td>
<td>▪ Core city</td>
<td>319 094</td>
</tr>
<tr>
<td>▪ Larger urban zone</td>
<td>452 271 ha</td>
<td>▪ Larger urban zone</td>
<td>485 672</td>
</tr>
<tr>
<td>Average annual population change rate (1991-2012; Core city)</td>
<td>0.99</td>
<td>Public recreational green space per capita (2006, Core city; m²/inhabitant)</td>
<td>31.34</td>
</tr>
</tbody>
</table>

Location Map

Aarhus is the second largest city in Denmark. Aarhus is known as “the capital” of the Jutland peninsula. The city is one of the oldest in Denmark. During the last 100 years, it has had a continuous population growth. Aarhus is a harbour city, and the seaport together with the port industry have historically been very important. However, during the past decades, seaport and port industry have gradually diminished their influence. At the present Aarhus is mostly considered as a regional trade and research and education centre with a high in-commuting number from large parts of East- and Central Jutland.

In terms of land use, approximately 1/3 of the municipal area is urban, and 2/3 is countryside, forest, nature and other land uses including green/open space.
2) URBAN AND REGIONAL PLANNING CHARACTERISTICS

**General description of the planning system**

The spatial planning system in Denmark is hierarchically divided between the national level, the regional level and the local level, i.e. the state, regions, and municipalities. In 2007 a local government reform radically changed land use planning from being a mainly regional planning approach to a local municipal planning approach. Hence, today, Aarhus Municipality is the main spatial planning authority, and the legally binding Municipal Plan is the central spatial planning instrument. The Municipal Plan is a comprehensive spatial plan covering all sectors. It includes overall objectives for development and land use, and detailed planning regulations and guidelines related to land use management for urban and rural areas (Municipal Plan 2013). Furthermore, the Municipal Plan frames the content of local plans for specific parts of the municipality. The Municipal Plan also targets peri-urban countryside planning and nature management beyond the urban built-up area.

**Instruments for the protection and enhancement of urban green space**

The municipality of Aarhus and the Municipal Plan acts as the most important organisation and planning instrument of green space enhancement. The Municipal Plan is supplemented by various more detailed appendixes covering single sector oriented planning issues. Plans related to green space planning include Nature Quality Plan, Park Development Plan, Forest Development Plan, and Outdoor Recreation Plan. Further, a few cross-sector oriented plans are of relevance to green space planning, e.g. the Climate Adaptation Plan and a visionary plan named Water Vision 2100. Altogether, both the sector oriented and cross-sector oriented plans form an umbrella of regulations, initiatives and guidelines for protection and enhancement of green spaces. The issue of urban forest and afforestation has acted as a main focus area during the last 15-20 years. In 1988 the city council approved a visionary plan named “Aarhus surrounded by forest” with the aim of increasing the forest cover from 5% to 11% (The new Aarhus Forests). Since, afforestation has been carried out based on different partnerships mainly between the municipality, the national governmental Danish Nature Agency, and private land owners (Afforestation Plan 2009-2012). The current afforestation aim is an increase from 8% to 14% of forest cover, i.e. 3200 ha new forest by 2030 (ibid).

**Objectives, achievements and challenges in urban green space planning**

The Aarhus Municipality includes urban-built up area and urban fringe landscapes. According to city officials, the afforestation of the urban fringe is one of the city’s greatest achievements of green space planning in the last 10 years. The latest plan from 2009-2012 had the goal of afforesting 320 ha of new forest in the four years period, which succeeded by the partnerships approach. Another successful example is the ongoing restoration of the Aarhus river. The river was piped during the 1930s for hygienic reasons and to give space for road infrastructure. In 1989, the city decided to resurface the river (The river, 2014). Two meadow lakes (100 ha and 115 ha) have also been established upstream to reduce the leaching of agricultural surplus of nitrogen and phosphors into the Bay of Aarhus. The river acts as a green and blue corridor running through the city centre. The City Council has approved a plan for the recreational vision of the Aarhus River’ (Vision of the Aarhus River, 2007).

Green space planning also faces challenges in Aarhus. When it comes to prioritizing resources, the city official experiences a lack of understanding for the requirement to allocate sufficient funds for maintenance of the green spaces. The answer to this challenge may often be that green spaces are incorporated in a multifunctional approach, e.g. by linking green space development with funds for groundwater protection and climate adaptation.
Furthermore, the urban growth of Aarhus was highlighted. Aarhus Municipality expects 75,000 new inhabitants from 2008-2030. The process in which older areas of the city are being renewed, or where new infrastructure is being established is often related to loss of green spaces such as brownfields and temporary green spaces reserved for urban development.

**Aarhus’ major challenges** (from left to right): The challenges for Aarhus in terms of green space include urban and industrial development. The picture represents a municipal web-GIS service showing detached housing area plots for sale (image: Aarhus Municipality, 2014). -- Climate change is a challenge to green space management, for example, due to flooding. The city of Aarhus is in the process of finishing a new Climate Change Adaptation Plan (image: Climate Adaptation Plan 2014 – frontpage).

**Aarhus’ major achievements** (from left to right): Afforestation of the urban fringe is a key priority in Aarhus municipality. The picture shows volunteers engaged with planting a new urban forest (photo: Aarhus Municipality). -- The restoration of the Aarhus river is another success. The picture from the plan “Vision of the Aarhus River” highlights the recreational development opportunities of the river (image: Vision of the Aarhus River 2007).
3) EXPERIENCES WITH INNOVATIVE GOVERNANCE PRACTICES

Government ideas and practices regarding participation
The participatory governance arrangement in Aarhus Municipality foremost takes its departure in a ‘model’ named the Aarhus Model for Public Participation from 2004. The model was approved by the City Council and its application is mandatory for all strategies, policies, plans and projects. The model is based on eight basic principles focused on issues like communication between the municipal agencies and the public, the rights of the citizens to be consulted, means to ensure a genuine opportunity for citizens to participate. It refers to key words like transparency, compromises, and development of planners’ competences to facilitate, communicate, negotiate and manage conflicts in public participation processes.

The local Community Councils (CCs) are central to participatory governance in Aarhus. The CCs are constituted as umbrella organisations for local areas. The CCs were first formed 10 years ago, and today 28 CCs are involved in all matters of importance to the local area (Community Council – your voice to the municipality, 2014).

Since 2010 Aarhus has financed a yearly funding programme termed “Green Projects” which is of particular relevance to green space governance. Citizens, NGOs and other stakeholders can apply for the funds. Furthermore, the Outdoor Recreation Plan 2013–2017 is in particular based on CC participation and user involvement in decision-making with regard to the need and location of new recreational facilities and related maintenance tasks. In general, much of the green space planning and management in Aarhus is based on partnerships (e.g. the afforestation) with private people, land owners, CCs, NGOs, clubs and other actors.

Local initiatives
Non-governmental initiatives are also a part of green space governance in Aarhus. City officials described a few examples including a case from the Botanical Garden. Due to a cut in the maintenance budget of the Botanical garden, a rose bed was destined to be demolished. Local users protested and the outcome was that the city then handed over the responsibility to a group of citizens which now takes care of the rose bed. According to the city official, another example is from a recent project in Skejby, where local businesses collaborated with the municipality in the process of planning a nearby recreational green space and related running tracks. Each industrial facility is also attached to a smaller green area that belongs to the particular company. This area has been designed as an attractive local green space for the employees and other users of the area. Furthermore, it is being connected to the municipal running tracks; thereby the larger area becomes more easily accessible for daily use by the local employees. Altogether, the cooperation between the companies and the municipality has fostered local recreational experiences and increased the number of daily users.

Supporting and hindering factors in participation as perceived by city officials
Over the past ten years the interest of non-governmental actors to participate in planning and policy-making has increased in Aarhus. In general, Aarhus places a lot of emphasis on active citizenship. A well-established and influential culture of community and local association participation supports supports this development. However, according to city officials, a few prerequisites have to be in place for successful participation of non-governmental actors in the management, planning and design of green spaces. First, it is important that possible actors are able to ‘see a meaning’ in the project and that they have a personal interest. A high level of interest and local engagement is a premise, but in many cases it is challenging to gain interest for municipal projects. For example, it is a challenge to provide a setup where locals are actually engaged and take ownership. It is the city planners’ experience that pre-existing social structures such as a local associations and community groups provide a certain level of organization.
that is needed for successful non-governmental actor involvement. In this process, it is important to setup a (legal) framework for the engagement (as described in the Aarhus Model of Public Participation, i.e. to clarify who is responsible for the work that is to be carried out). Furthermore, the role of the media is highlighted. Until now, the collaboration between municipal planners and the CCs has been based on an agreement on how to inform the media during the processes.

Examples of initiatives coming from local stakeholders

Trail guilds
In Aarhus some CCs have established local recreational trail groups, called “trail guilds” (stilaug). The trail guilds plan, establish and maintain new local recreational pathways with great value for the communities (Catalogue of Ideas - Outdoor Recreation Plan 2013-2017). The trail guilds work locally and identify opportunities for new trails. They make agreements with landowners, apply for funding, and are responsible for the operation of the trails. Typically, the operation includes an annual inspection of the trail, cutting of grass, and pruning of trees and bushes.

World Gardens
Another example of an initiative from local stakeholders is the association called World Gardens, focusing on urban gardening in a social housing area in Aarhus. The project was initiated by a local network for improving the living conditions in the social housing areas of Gellerup and Toveshøj. The project involves both adults and children, and aims at urban gardening and planting of flowers to beautify the area (World Gardens, 2014).


Photo from the project website “Friends of World Gardens” http://www.verdenshaverne.dk/velkommen (photo: Anett Sällsäter Christiansen)
4) URBAN GREEN INFRASTRUCTURE (UGI) THEMES AND STRATEGIES

Main themes related to urban green space
According to the city officials, the most important themes related to urban green space planning are the following three: (1) public access to green spaces, (2) safeguarding ground water by afforestation, and (3) biodiversity management.

In regards to accessibility, Aarhus' official objective is that 90% of all homes to be located within 500 metres from a green space in 2020 (Municipal Plan 2013).”

An important driver for the achieved urban fringe afforestation is the safeguarding of ground water, particularly in relation to the increasing demand of water resources by increasing population numbers (Municipal Plan 2013 and Afforestation Plan 2009-2012; note that no chlorine is added to drinking water in Denmark, and that the ability to drink tap water is highly valued).

Finally, green space planning is increasingly being linked to the national objective and EU objective of ending biodiversity loss. Much of this work is described in detailed Nature Quality Plan, and examples include the planning for a nature network, nature restoration, and reduction in intensity of farming in agricultural areas (Municipal Plan 2013). Iconic species like the Otter (Lutra lutra) play an important role in biodiversity management in Aarhus.

Understanding of UGI and representation of UGI principles
The analysed Municipal Plan does not explicitly refer to the concept of green infrastructure but it is mentioned in an appendix to the Municipal Plan, the Nature Quality Plan. Urban green space in the city is considered as part of a green structure consisting of the Inner Green Ring and the Outer Green Ring that, together with the green routes and the parks, create the main recreational structure of the city. The Municipal Plan mainly aims at connectivity for recreational purposes and mobility: “Preferred activities in the green areas are walking and cycling. Possibilities for use of the areas can be increased by establishing walking and cycling routes between the parks. Parks will then become green recreational hubs and the parks will become connected”. Connectivity is also considered for open land outside built-up area and described as “a connected network of nature areas, framing the ecological connections in the landscape, highly important for plants and animals.”

Urban green space is linked to other urban infrastructures, e.g. in relation to (storm)water management. In regard to multifunctionality, there is focus on the potentials of connecting storm water management and recreational possibilities inside the city. Further the plan considers multiple benefits of urban and peri-urban areas such as for biological and human well-being.

Municipal Plan 2013
Original title: Kommuneplan 2013
Hovedstruktur
Date: 2013
Responsible department(s): Department of Municipal Planning
Spatial scale: Urban region
Legal status: Legally binding

Main themes related to urban green space
- Creation of a nature network
- Outdoor recreation, nature experiences and exercise
- Links to agriculture, afforestation, wetlands, water plans, countryside planning
- Landscape character assessment
- Equal access to parks and green areas

Parallels with GREEN-SURGE policy concepts
- Biodiversity
- Adaptation to climate change
- Health
- Social cohesion
Implementation and evaluation

Objectives in the Municipal Plan are implemented by various detailed programmes and plans. Examples include the Nature Quality Plan, Climate Adaptation Plan, Outdoor Recreation Plan, Forest Action Plan, and Park Development Plan. According to city officials, successful implementation largely depends on communication and networking, e.g. the ability of planners to communicate an idea to a wider network of highly engaged actors and politicians. Finally, planners must be able to allocate funding for implementation. Funding is critical, and a frequently applied approach to ensure sufficient funding is to integrate green spaces in a multifunctional manner whereby, e.g., funds for waste water treatment are used to create flooded meadows and lakes which provide water purification while also providing nature and biodiversity protection and outdoor recreation opportunities. Further, development of new green space is often outcompeted by strong interests of other sectors such as city development, making it hard to successfully implement plans and policies.
5) URBAN GREEN SPACES: LINKAGES BETWEEN BIODIVERSITY AND CULTURE

Views of what biocultural diversity is referring to and how it is addressed in policy

During the interviews the concept of biocultural diversity was not explicitly used. However, the city officials mentioned that changing socio-cultural orientations has resulted in a gradual change in parks from garden-like to more park-like (also less costly to maintain). Furthermore, recent green space management developments, such as increased use of deciduous tree species and focus on peri-urban nature areas (e.g., urban forests and species rich meadows) are perceived as an outcome from a change in views on nature or a change in socio-cultural orientation.

Concern about biodiversity conservation resulted in a Nature Quality Plan in 2013, while cultural issues are mainly considered in respect to planning recreational facilities in green spaces. For example, the Outdoor Recreation Plan 2013-2017 targets new groups of users by dedicating a part of the planning to local people. In addition to the plan, a catalogue of inspiration and ideas for outdoor recreation has been compiled, encouraging people to see new possibilities for, e.g., meeting points and trails (Catalogue of Ideas - Outdoor Recreation Plan 2013-2017). All citizens can contribute to local outdoor recreational planning and some of these ideas then become implemented in the local environments.

However, also more tangible links between biocultural aims are expressed in municipal documents. For example, the Park Development Plan expresses diverse biocultural goals such as increase of biological diversity in parks and the establishment of local rainwater management solutions while ensuring aesthetic and recreational values. Further, agreements with local citizens about the maintenance of specific park features or areas are imbedded in the plan. The following statements address biocultural thinking: “The behaviour and recreational preferences of visitors will be investigated in terms of exercise, accessibility, social gathering, feeling of safety, and human diversity. There will be created quiet spaces for resting in the green surroundings as well as spaces for social gathering, events, music and playing. This offers opportunities for both learning and physical activity. Citizens’ initiatives for maintenance and establishment of defined areas will be organized as associations and can become part of the locally embedded development of the parks.”

The goals are further operationalized in terms of common criteria for what can be considered as biocultural development of the parks. This implies that park development is based on local qualities and on the need to strengthen the green identity for the future. Additionally, maintenance of the parks should be based on general accessibility. Parks should offer unique experiences, invite for active use and community activities, provide good places for staying, meeting and socializing, and provide a strong identity with narrative value (tell a story). Finally the park management should ensure linkages to green routes and green corridors aiming at synergies and connectivity of urban green spaces.

Bioculturally significant places

City officials mentioned two types of biocultural significant places: parks maintained by the municipality and green spaces managed by local initiatives.

Examples of formally administered green spaces within the city include the Botanical Garden, which is centrally placed in the heart of Aarhus. It is one of the oldest parks of the city. This garden is a place for botanical enthusiasts and a quiet sanctuary for the citizens of Aarhus. The already mentioned rose beds enable participatory management.
Another example is the Mølleparken park in the central city which was in the past often used by beer drinking parties and drugs addicts. The municipality recently started an experiment to change the identity of the park. By developing a new recreational infrastructure the city stimulated new forms of park use by new groups of users in respect of age and cultural orientation.

The Mindeparken Memorial Park is a recreational area for everybody, young and old, and popular among different ethnic groups. It is the place where the “Aarhusians” go with family and friends equipped with picnic-baskets and toys. An experiment was carried out by the municipality, lending out barbeque equipment and blankets to the park users. The idea behind the initiative was also to educate people to take care of park equipment as a shared resource, including other park elements. The initiative was regarded as a success because the equipment was returned in good condition.

Picture of a forest track along a cultural historic stone dike in an old urban forest (photo: Aarhus Municipality).

Visitors feeding carrots to what suppose to be “wild” deers in Aarhus Deerpark “Marselisborg Dyrehave” (photo: CC BY-NC 2.0, Flickr.com, Michael Caroe Andersen, 2010).
6) CONCLUSION

The spatial planning system of Aarhus city region is mainly based on the Municipal Plan. The Municipal Plan is a comprehensive spatial plan covering all sectors. It includes overall objectives for development and land use, and detailed planning regulations and guidelines related to land use management for both urban and rural areas. The Municipal Plan is supplemented by various more sector oriented and more detailed plans focusing on different aspects of green space planning. Examples are the Nature Quality Plan, Park Development Plan, Forest Development Plan, and Outdoor Recreation Plan.

In terms of policy making and implementation of the various green space planning objectives participatory governance is of particular importance. Aarhus municipality has a “model for public participation” which acts as a rule-book and guidelines for non-governmental actor participation in policy making. Furthermore, the Aarhus area is subdivided into 28 local Community Council areas each represented by one council taking part in green space governance. All decisions related to local areas shall be discussed and examined in collaboration with the relevant Community Council. Important planning themes like afforestation and improving conditions for outdoor recreation opportunities are both examples which are implemented in a high degree of non-governmental actor involvement. The afforestation program is based on a partnership model, and the outdoor recreation plan is to be refined, concretised and implemented mainly through non-governmental actor involvement.

The term biocultural diversity is not explicitly used in Aarhus’ planning documents; however, biocultural approaches are expressed through different initiatives that mainly link biodiversity with aesthetic and recreational values.
## Links and References

### Websites of municipality and core organizations
- **City of Aarhus**: [http://www.aarhus.dk/da/omkommunen/english.aspx](http://www.aarhus.dk/da/omkommunen/english.aspx)

### References

**For facts in Introduction:**
- **Area core city and larger urban zone**: *Urban Atlas*.
- **Population core city and larger urban zone** (2012 or latest): mainly *Urban Audit*. Note: in a few cases the population numbers have been provided by researchers based on statistical data.
- **Average annual population change rate** (Core city; 1990-2012 or similar): calculated \[((100 \times \text{population number last year} / \text{population number first year}) -100)/(\text{last year} – \text{first year})\] based on *Urban Audit*.
- **Public recreational green space** (Core city; m² per inhabitants; 2006): based on *Urban Audit* and *Urban Atlas*. Urban Atlas defines urban green space as “public green areas for predominantly recreational use”. Peri-urban natural areas, such as forests and agricultural land, are mapped as green urban areas only in certain cases. In general, peri-urban green areas are not counted. Private green and blue areas are also not included. Further, green spaces with less than 250 m² are not mapped as well. This leads to deviation with per capita green space values used by city officials.
- **Map of Larger Urban Zone**: based *Urban Atlas*.


**For the rest:**
- **Interview** with Project leader Mr. Ole Skou Rasmussen and Project leader Ms. Hanne Kirstine Øster, City of Aarhus, Department of Environment and Energy, on 13th of August 2014.

### Planning and policy documents


Acknowledgements
For providing information we would like to thank Project leader Mr. Ole Skou Rasmussen and Project leader Ms. Hanne Kirstine Øster, City of Aarhus, Department of Environment and Energy.

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In cooperation with: Ole Skou Rasmussen, Aarhus Municipality
3 MALMÖ, SWEDEN

1) INTRODUCTION: Facts and Figures

<table>
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<th>Core city</th>
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<th>Biogeographic region</th>
<th>Continental</th>
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Location Map

Malmö is located in the South of Sweden, close to the Danish capital Copenhagen. With 300 000 inhabitants it is the 3rd largest city of the country. The population consists of 178 nationalities and one third is born abroad. The city’s industrial era peaked in the beginning of the 1970s. After that, the large wharf and many other industries downsized or closed down. The transition from an industrial society towards a service-oriented society was facilitated by opening the new university in 1998 and the bridge between Malmö and Copenhagen. Between 1970 and 1985, Malmö became a shrinking city, but since then the city has again seen an increase in the urban population. Today it is a functional unit with Copenhagen (Denmark) and Lund (Sweden), integrating also the surrounding Oresund region with about 3.7 million inhabitants. There is a joint labour and housing market. The region is among the main growth regions in Europe.

Malmö is surrounded by agricultural land and the sea. The agricultural land is mainly intensively used and only to a very limited extent accessible for recreation. The urban areas consist of over 50 % green space, including parks and green in residential areas.
2) URBAN AND REGIONAL PLANNING CHARACTERISTICS

General description of the planning system
The entire country is divided into 290 municipalities, which are the main planning unit. The municipalities cover both urban and rural areas. However, the municipal authorities in Sweden have a strong position in the planning system when it comes to urban areas while the planning legislation gives less support for municipal planning of rural areas and regional planning. This means that municipalities have to negotiate with each other and with rural landowners to secure green spaces of regional importance in rural areas.

On a national level, the Swedish planning system is regulated by the Swedish Planning and Building Act. All municipalities are imposed by law to have a Comprehensive Plan (masterplan) covering the entire municipality. The municipal authorities are the legal entities that decide upon spatial planning in urban areas. Within a municipality, there are three planning levels: The policy level (including the comprehensive plan), legal land use planning (detailed planning) and implementation.

In Malmö policies and the Comprehensive Plan are developed in cooperation between several municipal departments. Important policies are the Green Plan, Climate Adaptation Plan, Storm Water Strategy and Nature Conservation Plan. The detailed planning is done by the City Planning Office. The structure of the planning system has not been changed in the last decades and no future changes are planned.

Instruments for the protection and enhancement of urban green space
Urban green spaces on public and private land in Sweden are protected by detailed plans. Changes in land use must be approved by the municipal authorities. In Malmö the Green Plan from 2003 is a guiding tool to protect and secure existing public green spaces and future development. The focus is on securing green space quantitatively. The Green Plan will be updated in 2015/16. The new plan will probably focus on both quantity and quality of public and private green spaces, including securing ecosystem services. Implementation is the responsibility of the Street and Parks Department, which coordinates design, maintenance and renewal of public green spaces.

To secure green spaces on private land from future development, the City Planning Office has until now used the green area ratio (GAR) as a planning tool in several detailed plans. GAR has also been used when the city has sold land for development.

Regional green space planning is achieved by voluntary cooperation between municipalities and by the Skåne Regional Council. The regional council owns and manages recreational areas of regional importance.

Objectives, achievements and challenges in urban green space planning
Achieving a dense urban structure is one main spatial planning goal. Density is a mean to avoid urban sprawl. As a consequence, brownfields as well as green spaces will be converted into housing. Thus, the amount of open space per capita will decrease. The main challenge is to reconcile the limited green space with the demands of a growing population. According to the city gardener it is important to deal with the challenges of infill development. The main objectives and challenges are to secure enough green space and connectivity between spaces. Further, the municipality aims to increase quality (including funding for maintenance) of green space. It also aims to create multifunctional green spaces that will enable multiple uses, be attractive for multiple users and provide multiple benefits.
According to the city gardener, important recent achievements are a park and a residential area—the 100 hectare park Lindängelund (under construction on agricultural land) and the new residential area Gyllins trädgård, which integrates the qualities and natural values of the nursery that was previously located on the site.

There also have been achievements of national importance with ecosystem-based test beds such as open stormwater systems, green roofs, green walls and new forms of urban agriculture. These experiments have particularly taken place in the districts Västra hamnen and Augustenborg. The experiments have to some extent been carried out by the Street and Parks Department, but in many cases other municipal departments, housing companies and businesses have played a role.

Malmö’s major challenges (from left to right): Integrating green spaces in a compact urban structure: Public green space on the rooftop of a shopping mall in the Hyllie city district. -- Targeting social gaps: Renewal of a residential yard in the Rosengården city district. (Both photos: Tim Delshammar)

Malmö’s major achievements (from left to right): Experiments and testbeds for ecosystem services: Augustenborg open stormwater system (Photo: Tim Delshammar). -- The park Lindängelund (still being constructed) is a new large park of more than 100 hectares. It is planned to contain a broad variety of habitats and species (Illustration: Sydväst Arkitektur och Landskap. © Malmö stad).
3) EXPERIENCES WITH INNOVATIVE GOVERNANCE PRACTICES

Government ideas and practices regarding participation

Citizen participation in public service delivery is generally considered as desirable by city officials in Malmö. However, policy documents focus on participation in regard to schools, health care and spatial planning, but not explicitly regarding the design and management of green spaces. During the last decade the debate on sustainable urban development has inspired politicians, officials and citizens to find solutions involving citizens and NGOs. But this is still mainly an exception in municipal practice. The final report from the Commission for Socially Sustainable Malmö points out that participation in everyday issues is a major challenge for the future. In public green space management, many small-scale examples of user participation can be found to-date, but these are decided on an operational level by municipal urban planners.

Urban agriculture on public space (described below) is one example of innovative governance mentioned by the city gardener. It has also gained a lot of interest from other municipal departments and from the media. Another example of innovation that has gained national recognition is the planning of the new square Rosens Röda Matta. The planning process was facilitated by a group of local teenage girls who were commissioned to lead a dialogue with residents in the area.

Local initiatives

Some of the most important local initiatives related to urban green space are urban agriculture initiatives. During the last couple of years an informal network consisting of public officials and NGOs with an interest in urban agriculture has been active. This network has regular meetings to exchange knowledge.

From a city-wide perspective, probably the most thorough participatory practice is carried out by public and private housing companies. Lately, many have started to employ residents in poor areas as caretakers in their own block. The intention of this is to support positive change of employment rates and responsibility among residents.

Supporting and hindering factors in participation as perceived by city officials

According to the city gardener, the main reason for giving citizens influence is that they pay for the parks through taxes. Further, participation can increase user value as well as provide urban planners with relevant knowledge. The hindering factors mentioned were that it can sometimes be hard to reach consensus, that participation can be in conflict with existing detailed plans and that the budget is often limited. City officials do not always have the means to give citizens what they demand.
Examples of initiatives coming from local stakeholders

**Slottsträdgården**

Slottsträdgården was initiated in 1994 by a group of citizens that later became a Friends group. The site was an abandoned nursery in the central city. The idea was to establish an open garden with the main aim to support social sustainability. The Street and Parks Department gave the group access to the site and they began to construct the garden. Gradually the department got more involved and made important investments, for example, the construction of footpaths, a café and a greenhouse.

The department also took over tasks and responsibilities. Still it is a place where the Friends group, schools, and immigrants participate in farming activities. It is also a place visited by many city residents and tourists. However, the original idea that it should be a place completely open to all interested people has never been fulfilled.

**Enskifteshagen**

Enskifteshagen was initiated in 2010 by the urban farmers network Mykorrhiza. The ideas were very similar to Slottsträdgården sixteen years earlier. The main difference is that the site is in an existing park in a residential area. Though the garden was initiated by an already existing group (or network), their capacity for building a lasting organization was weak and there have been problems in establishing continuity in maintenance and in cooperation with the Street and Parks Department.

The garden is still regarded as an experiment and there are many unsolved questions, like how to make all residents feel included and how to manage the garden in the long run. The debate about the garden became a starting point to write a city-wide policy on urban agriculture in public parks.

(Photos: Tim Delshammar)
# 4) URBAN GREEN INFRASTRUCTURE (UGI) THEMES AND STRATEGIES

## Main themes related to urban green space

The Comprehensive Plan (approved by the municipal executive board) sets the goal for Malmö to have a compact and green urban structure in the future. This goal targets both public and private spaces. The Comprehensive Plan states that “ecosystem services shall be assessed, considered and strengthened in spatial planning and maintenance to secure important values and functions.” In 2014 the City Planning Office initiated a project to explore how ecosystem services can be considered in spatial planning and so far it is a goal to include ecosystem services in the next Green Plan.

Another important objective is how green spaces can bridge the gaps between the wealthier (healthier and better educated) and the poorer parts of the city. While Malmö has been in the forefront of ecological sustainable urban development in Sweden for more than a decade, social sustainability has only lately been lifted to the top of the agenda by leading politicians.

### Comprehensive Plan for the City of Malmö

- **Original title:** Översiktsplan för Malmö
- **Date:** 2014
- **Responsible department(s):** The City Planning Office
- **Spatial scale:** City-region
- **Legal status:** Non-binding, but approved by politics

### Main themes related to urban green space

- Development of a compact and green city
- Social sustainability

### Parallels with GREEN-SURGE policy concepts

- Adaptation to climate change
- Ecosystem services
- Health
- Social cohesion

## Understanding of UGI and representation of UGI principles

In the Comprehensive Plan, the term green structure is used for an interconnected network of green spaces that provides multiple benefits for humans and embodies the principles of multifunctionality and connectivity. The plan aims at “a variety of small and large parks, natural areas and squares strategically placed, evenly distributed and interconnected in a network of green corridors.” As mentioned above, the provision of ecosystem services shall be increased and it is stated that “parks, recreational facilities and storm water systems occupy a lot of space and for an efficient use of land there is a need for new solutions to provide a variety of features. The range can be enhanced through multifunctionality.”

Green spaces are considered as integrated with other infrastructure. Green space is treated the same way as housing and transport in the comprehensive plan and is discussed mainly as linked to the residential infrastructure (to give access to green space for residents). In some parts green space is considered as integrated with the storm water management system.

## Implementation and evaluation

While the city is becoming more compact, competition for land is increasing. On one hand, some green spaces (parks and residential yards) have been converted to built up blocks and this will continue to happen in the future. On the other hand, the presence of development projects generally means that funding is available to construct or improve public and private green spaces in the affected area. The Street and Parks Department receives funding for maintenance, renewal and new projects (even if there might be a perceived lack of resources). Also other green space managers have funding for i.e. residential areas, cemeteries and sport grounds.

Each managing organisation does its own monitoring. This includes user surveys, records of complaints and informal contacts. This feedback gives important knowledge of particularities, but not always knowledge about the entire green structure.
5) URBAN GREEN SPACES: LINKAGES BETWEEN BIODIVERSITY AND CULTURE

Views of what biocultural diversity is referring to and how it is addressed in policy
The concept of biocultural diversity is not explicitly used in the municipal green space policy in Malmö, but there is a well-established policy and related practices regarding the conservation of biodiversity in the sense of species richness and abundance of biotopes. Focused attention is given to the maintenance of a diversity of urban green spaces in a variety of parks and garden complexes differing in design and function and containing a wide variety of native and non-native species. Attention is also given to the connectivity between these spaces. In response to the spreading of Dutch Elm disease, efforts are undertaken to diversify tree composition and try out new tree species.

The notion of green spaces as a provider of ecosystem services was introduced in the Comprehensive Plan from 2014. The main focus is on how green spaces can meet the demands of different groups characterised by class, age, gender and outdoor recreational and nature-related hobbies. Parks are generally understood as important places for increasing social cohesion, e.g. by providing playgrounds to attract families with children. However, in practice this topic has not yet been explored in-depth. There is, for instance, no information on how the process of increasing social cohesion works and which groups are to be involved in such a process.

At present ethnicity is not specifically considered even though some districts in Malmö are entirely populated by immigrants. As an example of biocultural diversity, the city gardener mentioned that some immigrant groups prefer open green spaces where they can have picnics or barbecues. The main feature of these places is that they allow for large groups to gather, typically on vast lawns.

Many parks are considered as heritage sites; they often include specific heritage objects such as ancient buildings. However, there are only a few examples of systematically linking the heritage buildings with related biotopes, e.g. by joint conservation of old farm buildings and ancient meadows.

Bioculturally significant places
Considering specific biocultural places, good examples of biocultural diversity are new urban gardening spaces that recently have been constructed in parks or in residential areas. These new garden complexes supplement the traditional allotment gardens that have been established since 1895. The gardens reflect local citizen’s interests in interacting with biodiversity.

Another recent initiative in stimulating urban living with biodiversity is the development of new types of urban biotopes such as wetlands. These act as resources for teaching and learning about the significance of biodiversity and ecological services.

A community garden in the city district Seved (photo: Tim Delshammar).
6) CONCLUSION

In Sweden the municipal authorities have strong legal support to secure urban green spaces in the planning process. Still, as the city of Malmö is growing, conflicts between new housing developments and green spaces rise. There is not a simple solution at hand for this challenge. Existing planning regulations allow the city to claim financial compensation from developers in new development projects for the design and construction of green spaces. But there is a need for public financing for upgrading existing areas. The planning system is considerably weaker when it comes to rural and regional planning.

Due to several experiments and test beds with ecosystem-based solutions, the city has been inspiring change not only within the city, but also in the rest of Sweden and Denmark. The strategy of planning for a compact and green city is firmly established among officials and politicians. Lately, planning with (and for) ecosystem services has been recognized as a desirable strategy. This has been tried out to some extent in single projects, but municipal city planners have not yet planned a city district that is both compact, and green/ecosystem-based.

Several small-scale and project-based examples of user involvement in planning and maintenance can be found. The housing sector, not only social housing but also private property owners, has established approaches to involve residents in planning and maintenance of green space.

With 178 nationalities and about a third of the residents born abroad, Malmö is a culturally diverse city. However, because Sweden has a tradition of being a welfare state, focus has mainly been on needs of groups in terms of ages, gender or disability. Lately, there has been more attention on the gap between the wealthier and more disadvantaged parts of the city. It is now a politically recognized goal to bridge this gap. However, this has not yet been targeted in green space planning and remains a challenge.
Websites of municipality and core organizations
- City of Malmö: http://www.malmo.se/

References
For facts in Introduction:
- **Area core city and larger urban zone**: Urban Atlas.
- **Population core city and larger urban zone** (2012 or latest): mainly Urban Audit. Note: in a few cases the population numbers have been provided by researchers based on statistical data.
- **Average annual population change rate** (Core city; 1990-2012 or similar): calculated \[\frac{((100\times population \text{ number last year / population number first year}) -100)}{\text{last year } - \text{first year}}\] based on Urban Audit.
- **Public recreational green space** (Core city; m² per inhabitants; 2006): based on Urban Audit and Urban Atlas. Urban Atlas defines urban green space as “public green areas for predominantly recreational use”. Peri-urban natural areas, such as forests and agricultural land, are mapped as green urban areas only in certain cases. In general, peri-urban green areas are not counted. Private green and blue areas are also not included. Further, green spaces with less than 250 m² are not mapped as well. This leads to deviation with per capita green space values used by city officials.
- **Map of Larger Urban Zone**: based Urban Atlas.

For the rest:
- **Interview** with City gardener, Head of the unit for City Public Environment Ola Melin, City of Malmö, Street and Parks Department on 18.6.2014.

Planning and policy documents
- **Malmö Green Plan**: Malmö stad (2003). *Grönplan för Malmö 2003*. Available from http://www.malmo.se/download/18.5d8108001222c393c008000101293/1383647019267/Gr%C3%B6nplan+m%C3%B6nplan+f%C3%B6r+-
Acknowledgements
We thank Mr. Ola Melin, City gardener, City of Malmö for being the interview partner, as well as landscape architects Sten Göransson and Juliet Lidgren, City of Malmö for reviewing the portrait.

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Helsinki was established in 1550 and is the capital and economic centre of Finland. It is the country’s biggest city by population. It has spatially expanded several times during the last 40 years by incorporating areas from neighbouring municipalities, the last time in 2008. Compared to other European capitals, its population density at 28 inhabitants/ha is low. Helsinki is a green city, with green space covering 40% of the land surface, much of this forest (4900 ha in 2013). The landscape is a mixture of granite rock hills and valleys covered by thick clay sediments. The municipality owns most of the city’s land area (62.4% in 2013, City of Helsinki Urban Facts 2013) and plans and manages all green areas.

Finland was a part of Sweden (1157-1809) and Russia (1809-1917) which has influenced Helsinki’s architecture and plant species diversity. Helsinki was an international city already in the late 19th century, with distinctive Russian, Swedish and German minorities. Helsinki borders the Baltic Sea and has always been an important international port. Some of the former industrial and port areas have been redeveloped into residential and service areas. Today, there are over 140 nationalities represented in the city with the majority (81.9%) of the population having Finnish as their mother tongue. The population is growing fast and 860,000 citizens in Helsinki city are forecasted for 2050.

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1 Urban forest is the most common and highly valued public recreational areas in Helsinki. There are approximately 80 m² forests per capita. Forests are not generally considered as urban green space in the Urban Atlas classification.
2) URBAN AND REGIONAL PLANNING CHARACTERISTICS

General description of the planning system
Land use planning at the regional and city level is guided by the Land Use and Building Act (1999/132). Comprehensive land-use planning at the regional level is in the responsibility of the Uusimaa Regional Council, while the City Planning Department of Helsinki is responsible at the city level. In Helsinki, the City Planning Committee approves all land-use plans (detailed and master), and the City Council the master plans. The regional and local planning level cooperate through different workshops, through cooperating bodies such as the Helsinki Region Cooperation Assembly and the Helsinki Metropolitan Area Cooperation Assembly, and through bilateral negotiations between authorities and political decision-makers during regional plan development, organized by the Helsinki-Uusimaa Region body. At the regional level, National Land Use Guidelines play a strong institutional role but are not legally binding. At the city level, political objectives (e.g. for land-use and housing) approved by local decision-makers guide city planning.

Instruments for the protection and enhancement of urban green space
The Regional Land Use Plan, developed by the Regional Council, is the most important political and legally binding instrument to protect green spaces at the regional level and also guides planning at the city level. The Centre for Economic Development, Transport and the Environment (ELY-keskus) for Uusimaa is responsible for the regional implementation and development of nature protection areas based on the Nature Conservation Act. The Land Use and Building Act guides land use planning in cities. However, municipalities in Finland have strong autonomy on land-use planning, also of private land. In Helsinki, the master plan approved by the City Council is the most important instrument to increase, maintain or decrease green spaces.

Objectives, achievements and challenges in urban green space planning
Green space planning in Helsinki is based on three main objectives: (1) safeguarding health and sustainability of green areas; (2) maintaining an ecological network; and (3) safeguarding biodiversity. The two latter goals shall be achieved by establishing new conservation areas, taking biodiversity values into consideration in management practices and establishing a forest protection network. The social aim is to offer comfortable, functional, safe and healthy environments for all citizens in Helsinki.

Main achievements of the city are the application of criteria based on biodiversity and recreational values in management of urban forests, creation of new green space in the course of the conversion of former port areas into residential areas, and the restoration of Haltiala old-growth forest and reconstruction of the Vuosaari landfill hill. According to the interviewee, challenges are primarily growth-related. Compaction of the urban fabric threatens green spaces, especially natural habitats like forests with native species. Population growth will increase recreational use, which might threaten the ecological quality of natural and semi-natural habitats like forests, wetlands, and granite rock hills. Another challenges is the shrinking budget for maintenance work in parks and other recreational areas.
Helsinki’s major challenges (from left to right): Projected urban growth based on the draft for the City Plan in Helsinki decreases the amount of forests and other green spaces in Helsinki (photo: Helsinki City Planning Department). -- Increased trampling pressure in (semi-)natural green space can reduce recreational values, ecological quality and diminish ecosystem functions. Ground layer vegetation is heavily damaged in the urban forest of Meri-Rastila (photo: Kati Vierikko).

Helsinki’s major achievements (from left to right): The development of a forest network and management of urban forests with respect to both ecological and recreational values. -- During the past decade the Vuosaari landfill hill has been transformed into a natural area where domestic plants grow in meadows and rocky conditions. The area is used for recreational, educational and scientific purposes (both photos: Kati Vierikko).
3) EXPERIENCES WITH INNOVATIVE GOVERNANCE PRACTICES

**Government ideas and practices regarding participation**

Non-governmental actors are increasingly involved in the planning, design and management of Helsinki’s green spaces. Nowadays involvement of local citizens in land use and nature management planning is much more considered than 20 years ago. This includes development of internet-based surveys and use of the soft-GIS method as a key participatory tool to integrate local knowledge of the urban environment into GIS for planning. In addition, public events and pre-invited workshops for participatory planning are used to collect feedback and comments from the public, both individual citizens and non-governmental organizations (NGOs). The interviewee considered the involvement of companies that use green spaces in their activities, e.g. nature tourism businesses, as very important in order to control which areas sustain increasing recreational use by tourists.

An example of collaborative planning is the Nature Management Working Group that was established in order to involve nature conservation organizations in decision-making regarding management of Helsinki’s natural green spaces. The group consist of experts in nature conservation such as natural scientists and NGOs.

User participation in green space maintenance is organised by the “Become a Park Pal” campaign, engaging up to 470 volunteers around the city. Their tasks involve cleaning up trash, weeding, raking, and tending of summer flowers, roses and shrubs in their neighbourhood park. The “Become a Park Pal” campaign and the “Good things grow in Helsinki” movement (see below) have increased participation of local residents and private companies. However, city authorities control the volunteer work and green space management is organized by the Public Works Department together with key stakeholders.

**Local initiatives**

The city official mentioned few bottom-up initiatives, and felt that they do not necessarily support the city’s official policies. The examples mainly describe initiatives of local NGOs. Urban food production has lately been taken up by residents. The environmental NGO Dodo started a campaign for urban food production in 2009. Since then, they have established several local food production points around the city and developed “The harvest map”, an interactive internet map of Helsinki’s publicly accessible edible trees and shrubs. Following the same idea, three NGOs together with the Helsinki Zoo Korkeasaari and the local school Kulosaaren Yhteiskoulu initiated the creation of an open edible garden that supports multicultural use and welcomes all citizens to try out food production. The open edible garden will be accessible for the public in 2015.

In regard to restoration of urban creeks, the local NGO Virtavesiyhdistys has organized several restoration events to improve the ecological condition of urban creeks in order to reintroduce trout. The project has been very successful and is well-known among local citizens. Campaigns have raised local ecological knowledge and awareness for intrinsic and recreational values of urban creeks (www.virtavesi.com/).

In addition, through the “Become a Park Pal” and “Good things grow in Helsinki” initiatives citizens take care of their local green spaces. The idea of the latter is to maintain ecological and aesthetic values of green spaces while increasing the environmental awareness of residents and their responsibility towards nature.

**Supporting and hindering factors in participation as perceived by city officials**

The interviewee stated that an important determinant for public participation is the active and continuous collection of citizen opinions by authorities through modern, internet-based methods of data collection such as online ques-
tionnaires. An increase in the environmental awareness and interests of different hobby groups in green spaces also contribute to successful participation. Another explanation is that citizens generally are more interested now in green areas and looking for more information on them.

A challenge for participation processes is to manage conflicting and competing interests of different user groups or organizations. The bureaucratic structure and scattered decision-making competencies within several departments involved in planning and management are also a hindering factor. Interested non-governmental actors might have difficulties to enter these processes or to identify the responsible department to contact.

**Examples of initiatives coming from local stakeholders**

**The cherry orchard in Roihuvuori**

The “Good things grow in Helsinki” movement of the Publics Work Department has inspired several sponsorships by individuals and companies. One example is the creation of a cherry orchard in a local park in the Roihuvuori district. In 2006 the department received a proposal from a local resident, Norio Tomida, saying that the local Japanese community wished to donate cherry trees to the city as a sign of gratitude towards Helsinki for being a good place to live. Japanese residents throughout Finland joined to donate trees.

The “Good things grow in Helsinki” movement found a number of corporate sponsors who covered the costs of establishing and maintaining the cherry orchard. The trees were planted between 2007 and 2009. At the same time the park’s lighting, paths and furniture were renewed. The orchard has become a popular attraction for Japanese tourists, local residents and other Finns.

**Your Neighbourhood Path**

Your Neighbourhood Path, Kotikaupunkipolut, is a project organized by local citizen organizations. The key idea is to support new residents and immigrants in becoming more attached to the area. Along the path you can learn about local culture and nature. There are already 26 paths established around the city of Helsinki. The paths are drawn in maps and serve as an introduction to a neighbourhood’s history and its present, to its nature and culture, public art, architecture as well as prominent people. The neighbourhood paths are also used by school students. Planning and development of the paths is organized by a planning team of local citizens, local authorities and experts.

Roihuvuori Japanese cherry park blooming in spring time (photo: Kasper Henriksson and Petra Hanski).

Slåtmossen bog is part of the Jakomäki-Alppikylä neighborhood path in the north of Helsinki (photo: Kati Vierikko).
## 4) URBAN GREEN INFRASTRUCTURE (UGI) THEMES AND STRATEGIES

### Main themes related to urban green space

The most important themes in the Green Area Plan relate to the multi-functionality, sustainability and biological richness of green spaces. Green spaces should provide health benefits and wellbeing for residents, as well as being comfortable and safe to use. The main themes in the Biodiversity Action Plan are the maintenance of biodiversity, ecological processes and healthy ecosystems on the one hand, and the transfer of health benefits to citizens on the other. A challenging theme is maintaining natural habitats and forests as well as the recreational use of green spaces while meeting the demand for new urban residential areas.

### Understanding of UGI and representation of UGI principles

Both analysed plans from Helsinki do not explicitly refer to the concept of UGI. The Green Area Plan describes an ecological network of urban green space. It aims at identifying ecological core areas such as protected areas and areas with high conservation values, supporting areas that are important to local biodiversity protection, and ecological corridors that link core areas. While the Green Area Plan highlights a functional network from a species and biodiversity perspective, the Biodiversity Action Plan considers a green network connected by recreational and ecological corridors.

Next to connectivity, the principle of multifunctionality is embedded in Helsinki’s green space planning. The planning documents aim at maintaining ecosystem services and consider social, aesthetic, ecological and economic values of green areas.

Links between the ecological network to other urban infrastructures can only be found with regard to using green for blocking noise and air pollution caused by traffic.

### Green Area Plan

- **Original title:** Helsingin kaupungin luonnnonhoidon linjaus
- **Date:** 2011
- **Responsible department(s):** Public Works Department
- **Spatial scale:** City (plus areas owned by the city of Helsinki in other municipalities)
- **Legal status:** Non-binding, but approved by politics

### Main themes related to urban green space

- Provision of comfortable, functional, safe and healthy environments for all citizens
- Biodiversity protection
- Sustainability of green areas
- Conservation of landscape aesthetics and cultural heritage
- Participation of citizens

### Parallels with GREEN-SURGE policy concepts

- Biodiversity
- Adaptation to climate change
- Health
## Implementation and evaluation

The Green Area Plan’s implementation is based on a two stage process. In the first stage, ideas and opinions from key stakeholders and local citizens are collected to guide management objectives for the 10-year regional plan for city districts. In the second stage, opinions gathered from the previous stage are used to guide the 10-year detailed nature management plan. This is a detailed, techno-ecological plan to implement management practices in the field.

The Biodiversity Action Plan is implemented by city departments. Every department is responsible for implementing targets, though these are not legally binding. Monitoring is completed every 5th year using indicators. The first monitoring results were presented in the summer of 2014. Each department must evaluate how successfully they achieved their targets and adopted management/planning recommendations.

<table>
<thead>
<tr>
<th>Biodiversity Action Plan for 2008-2017 in the City of Helsinki</th>
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<tbody>
<tr>
<td><strong>Original title:</strong> Helsingin luonnon monimuotoisuuden turvaamisen toimintaohjelma 2008-2017</td>
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<tr>
<td><strong>Date:</strong> 2010</td>
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<tr>
<td><strong>Responsible department(s):</strong> Helsinki Environment Centre</td>
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<td><strong>Spatial scale:</strong> City</td>
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<td><strong>Legal status:</strong> Non-binding, but approved by politics</td>
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**Main themes**
- Maintenance of biodiversity, ecological processes and health of urban ecosystems
- Health of citizens

**Parallels with GREEN-SURGE policy concepts**
- Biodiversity
- Adaptation to climate change
- Ecosystem services
- Health
5) URBAN GREEN SPACES: LINKAGES BETWEEN BIODIVERSITY AND CULTURE

Views of what Biocultural Diversity is referring to and how it is addressed in policy

According to the Helsinki City Vision 2050 for urban planning, the goal for the city’s recreational areas is to provide ecological, social and economic sustainability. A comprehensive and connected green structure, including cultural environments, conservation areas and forest networks, promotes the preservation of biodiversity. However, the concept of Biocultural Diversity is not specifically considered, neither in urban planning nor in green space policies. Biological and cultural diversity are considered separately and targets to maintain them are not considered complimentary, sometimes even competing. For example, intensive recreational use of urban green space is partly considered as a threat for biodiversity.

In urban planning, culturally important areas are foremost related to cultural heritage and cultural landscapes. In planning and maintenance of historical green space such as estuaries or high-quality parks like Esplanade park in the city centre much attention is given to the maintenance of historically cultivated species. Regarding biodiversity, emphasis is placed on the development of ecological networks, establishment of the preservation network for forests, and on the conservation of native species and natural ecosystem functions, including control of invasive alien species. With regard to urban forests, focus in management is now mostly on recreational and biodiversity values. For constructed parks, adaption capacity to climate change is one criterion for plant selection.

The role of public spaces for a vital urban culture and for promoting community activities is highlighted in the Helsinki City Vision 2050, while in green space planning cultural diversity is considered by the values and interests of different user groups. Attention is given to the need to accommodate a variety of users such as bikers, dog walkers, and frisbee players.

Bioculturally significant places

In general, forests are highly valued by citizens in Helsinki, and they are also the most common green space. However, there are other green spaces with many traditional cultural values or multicultural significance, four of which are presented below.

Alppipuisto Public Park is not only a park but also a greenway for bikers and pedestrians. Water ponds are popular places to relax. In the summertime, public open-air events are often organized. There are experimental fields for cultivated species and a dog park. Though highly popular, an incident in 2014, in which a group of aggressive young people attacked other adolescents and children, has recently cast a negative light on the park.

Kansalaistori Square is a new square and lawn area near the central railway station. Large lawns offer space for a range of activities and flower beds provide aesthetic beauty. The area has plenty of benches on which to sit.

Seurasaari Island (photo: Kati Vierikko)
The area also serves as a venue for events. In the summer, it is heavily occupied, and is especially popular in the evenings as a meeting place for young people from different ethnic groups.

Suomenlinna Fortress is a UNESCO World Heritage Site and a place where a diverse and long cultural history has increased its biological diversity. 400 people live permanently on the island. The area includes monuments and buildings representing the cultural history, a museum, art galleries, restaurants and cafes, a swimming beach and summer theatre. The island is a famous tourist and visiting place, especially in the summertime.

Seurasaari Island is another popular recreational green area. The island combines nature and culture. There are natural forest sites, nature conservation areas, natural sea shores, many bird species and squirrels which people like to feed, an open-air museum about traditional Finnish ways of life, a restaurant, cafeteria, barbeque area, lawns and benches to relax, and two swimming beaches.
Planning at the regional and city level in Finland is guided by the Land Use and Building Act (1999/132). Regional Councils are responsible for comprehensive land-use planning at the regional scale, while municipalities have authority for city planning. The regional and local level cooperate through different workshops and cooperation bodies. In Helsinki, urban growth and the current master plan determine the urban green structure. According to Helsinki’s master plan Vision 2050, the city will feature a green and diverse network in which different ‘high-quality’ green spaces, the sea and recreational services are easily accessible for all residents. The Vision 2050 places much emphasis on the maintenance of ecological, social and economic sustainability of green areas and thereby also on supporting human well-being and health.

Non-governmental actors are increasingly involved in the planning, design and management of Helsinki’s green spaces. Internet based surveys, public events and pre-invited workshops for participatory planning are used to collect feedback and comments from the public, both individual citizens and NGO members. Typical bottom-up initiatives in Helsinki come from NGOs, one example being the urban food production campaign. One governance challenge is to manage conflicting and competing interests of different user groups or organizations. The bureaucratic and scattered nature of the city’s decision-making, with several departments involved in planning and management, is also a hindering factor for participation.

The concept of biocultural diversity is neither specifically considered in urban planning nor in green space policies. Biological and cultural diversity are considered separately and targets to maintain them are not considered complimentary. For example, the city is cognizant of threats to biodiversity due to high recreational use of green space. In green space policies, cultural diversity is considered by recognizing the values and interests of different user groups of green areas.
Websites of municipality and core organizations

- The Public Works Department (Rakennusvirasto Helsinki kaupunki): www.hel.fi/www/hkr/fi
- Helsinki Environment Centre (Helsingin kaupungin ympäristökeskus): www.hel.fi/www/ymk/fi/

References

For facts in Introduction:
- Area core city and larger urban zone: Urban Atlas.
- Population core city and larger urban zone (2012 or latest): mainly Urban Audit. Note: in a few cases the population numbers have been provided by researchers based on statistical data
- Average annual population change rate (Core city; 1990-2012 or similar): calculated \[\frac{\{(100\times\text{population number last year} / \text{population number first year}) -100\}}{\text{last year} - \text{first year}}\] based on Urban Audit.
- Public recreational green space (Core city; m² per inhabitants; 2006): based on Urban Audit and Urban Atlas. Urban Atlas defines urban green space as “public green areas for predominantly recreational use”. Peri-urban natural areas, such as forests and agricultural land, are mapped as green urban areas only in certain cases. In general, peri-urban green areas are not counted. Private green and blue areas are also not included. Further, green spaces with less than 250 m² are not mapped as well. This leads to deviation with per capita green space values used by city officials


For the Rest

- Interview with Raimo K. Saarinen, City of Helsinki, Public Works Department on 11th June 2014. Interviewed by PhD Kati Vierikko, UH.


**Planning and policy documents**


**Acknowledgements**

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1) INTRODUCTION: Facts and Figures

<table>
<thead>
<tr>
<th>Core city</th>
<th>Edinburgh</th>
<th>Biogeographic region</th>
<th>Atlantic</th>
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<td>Planning family</td>
<td>British/Land use management</td>
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<td>Area</td>
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<td>Population (2012)</td>
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<tr>
<td></td>
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<td>♦ Core city</td>
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<td>Larger urban zone</td>
<td>♦ Larger urban zone</td>
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<td>Average annual population change (1990-2012; Core city)</td>
<td>0.48</td>
<td>Public recreational green space per capita (2006, Core city; m² per inhabitants)</td>
<td>32.69</td>
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Location Map

Edinburgh is the Scottish capital and home to the Scottish government. In terms of population size, it is the second city of Scotland and the seventh in the United Kingdom. It is situated on the east coast of Scotland between the Firth of Forth estuary, an internationally recognized special site of conservation, and the Pentland Hills Regional Park. The city has traditionally been a centre for insurance, banking and commerce and is a key driver of the Scottish economy.

The city attracts large numbers of tourists given its unique, historic built environment. The medieval Old Town and the 18th century New Town are both listed as UNESCO World Heritage Sites. The city has ca. 5,000 listed buildings, the highest number of any city within the United Kingdom. As well as its history, heritage and architecture, Edinburgh has a number of prominent open hills and wooded waterways within the city boundaries. It also has the highest number of nationally designated high quality urban parks, all of which contributes towards a unique and much appraised townscape.

In addition to its role as an important financial and tourist centre, Edinburgh also boasts world-class universities as well as institutes for life sciences and higher education. It is also a cultural hotspot, being home to the largest international arts festival in the world, and has a range of reputable arts and sporting venues.
2) URBAN AND REGIONAL PLANNING CHARACTERISTICS

General description of the planning system

Under the Planning (etc.) Scotland Act 2006, each local authority in the country has the duty to prepare a Local Development Plan (LDP) that adheres to the National Planning Framework (NPF) 3 (2014). The NPF 3 is the spatial expression of the Government Economic Strategy, setting the context for development planning in Scotland and providing a framework for the spatial development of Scotland as a whole. The LDP provides a medium-term vision and land allocation for spatial planning over a 10 year period, taking into account the whole gamut of planning policy, and in particular policies for climate change and economic growth. It is accompanied by an Action Programme which identifies how we expect it to be implemented, by whom, and when.

In contrast with neighbouring England, Scotland makes use of regional planning authorities, introduced under the Planning (etc.) Scotland Act 2006. They produce 20-year strategic development plans (SDPs) to set the strategic planning context and provide coordination in spatial planning between local authorities within a region. All LDPs are required to be prepared in agreement with the SDP for that area.

Under the Local Government in Scotland Act (2003) each local authority also has a duty to initiate, maintain and facilitate community planning partnerships (CPPs), involving representatives from the public bodies and the third sector. The CPPs are required to develop a single outcome agreement (SOA) outlining priorities for the participating bodies towards meeting the 16 key national outcomes outlined in the NPF 3 e.g., “We realise our full economic potential with more and better employment opportunities for our people”. Neighbourhood Partnerships (NPs) translate these strategic city-wide SOA outcomes/aims into local priorities, which in turn are translated into specific actions for improved services, within the Local Community Plans. They also have an influence on how budgets on local improvements are spent through the Neighbourhood Environmental Programme as well as the administration of the Community Grants Fund. NPs include Community Councils, which engage with local authorities to promote community interests, representatives of public bodies and the voluntary sector.

Instruments for the protection and enhancement of urban green space

The two most influential instruments in regard to urban green space are the LDP and the Open Space Strategy (OSS). As stated above, the LDP provides guidance on what kind of development should take place within local authority areas and how it might be realised. The LDP also identifies areas for conservation. It includes: (1) a spatial strategy, (2) policies and (3) site specific proposals (for development). The SDP produced by SESplan (South East Scotland Strategic Development Plan) has some influence on the contents of the LDP – mainly in relation to the allocation of land to new developments. Each local authority is advised to prepare an OSS under guidance provided in Planning Advice Note 65. A key role of the OSS is to advance green space planning beyond the traditional approach that was previously focused first and foremost on quantity indicators. To this end, quality and accessibility indicators were introduced, thereby acknowledging the importance of the human dimension of the enjoyment of urban nature. The Edinburgh OSS includes a quality audit and standards for different types of open space. Neighbourhood Action Plans describe concrete site-specific actions to be taken towards meeting these standards.

The development of a green network in the Central Belt region of Scotland is one of the 14 National Developments identified in the NPF. The Central Scotland Green Network Trust (CSGNT), a partnership between governmental agencies, local authorities and environmental NGOs, is tasked with delivery of the CSGN through strategic funding and lobbying.
Objectives, achievements and challenges in urban green space planning

The main objectives of urban green space planning in Edinburgh are to improve the standard of existing green space (i.e., quality & accessibility), minimize the loss of green space to new development and provide adequate open space provision in new development. According to our research, the loss of green space can sometimes be acceptable if the developer contributes compensatory funds that can be used to improve the standard of green space elsewhere within the local area, perhaps in locations where there is greater need.

Given the above stated objectives, the development of the OSS and the reform of green space planning by providing quality-based standards and assessments are important achievements of the city of Edinburgh. In consequence, green space provision can no longer be reserved for left-over spaces within new developments. The city also prides itself on having 26 parks with a Green Flag Award, the national benchmark of high quality parks. An additional major achievement are plans to develop the south east green wedge into an area of parkland and to avoid major development in this area at a time when the demand for new development land in the city is high.

The biggest challenge to green space planning in Edinburgh is to maintain a continuous Green Belt given the strategic need to build 29,500 new homes before 2024. An alternative approach might be to replace this objective with a green network with green wedges/fingers interspersed with existing urban areas and planned urban extensions. Other challenges identified in our research and associated interviews include meeting the actions arising from the OSS to provide temporary green space provision on agricultural and brownfield sites and the problem of the level of demand for allotment gardens, which exceeds existing capacity.


Edinburgh’s major achievements (from left to right): Keeping the south east green wedge largely free of development (image: City of Edinburgh Council, 2013). -- The highest number of Green Flag parks of any city within the UK (photo: David Doig, 2012).
3) EXPERIENCES WITH INNOVATIVE GOVERNANCE PRACTICES

Government ideas and practices regarding participation
The local authority aims to involve local people in planning, developing, managing and maintaining urban green spaces. There is almost always some community engagement around urban green space decision-making by the local authority. This extends beyond formal consultation on plans to active surveying and supporting community groups. For example, the council has prepared a start-up information pack for Friends of Parks groups with guidelines on topics varying from preparing a constitution to promoting the group and its projects. The local authority also spends considerable resources on providing advice, organizing network events, organizing training as well as communicating about funding and relevant projects to Friends of Parks groups. This approach is successful; there are currently about 40 Friends of Parks groups in Edinburgh, playing an important role in advancing the park improvement plans.

Although all types of non-governmental actors are included in green space planning, the interviewee expressed that increased involvement of NGOs, business/developers and neighbourhood partnerships would be desirable. This mainly concerned providing input on strategic documents.

The level of non-governmental actor involvement, especially that of community groups, extends beyond what is expected by central government. Nonetheless, a clear shift towards more devolved planning is also being encouraged by the Scottish government. The CPPs and NPs, described previously, are a direct consequence of this trend. NPs have powers to financially support local (green space) initiatives using the Community Grants Fund and influence how local green space budgets are spent.

Local initiatives
Non-government stakeholder involvement as described above is the result of an interaction between the local authority and local people. In addition to allotment and Friends of Parks groups, the local government is also prepared to facilitate grassroots initiatives (e.g., temporary greening on brownfield sites, urban agriculture projects or community woodland groups). Local initiatives are further supported by advice, resources and/or grants provided by public bodies or environmental NGOs, most notably Central Scotland Green Network Trust (CSGNT), Forestry Commission Scotland (FCS), and Edinburgh & Lothians Greenspace Trust (ELGT).

While the majority of local initiatives involves community groups in one way or another, other non-governmental actors such as NGOs, scientists and the business community also play an active role in developing new projects. Edinburgh, for example, has a number of NGOs focusing on improving accessibility of its built and green spaces to cyclists and pedestrians, whilst others focus on improving the environmental quality. Some of the city’s major parks are in private ownership and businesses are increasingly becoming aware of the value of green spaces in developing a strong and resilient corporate strategy. Edinburgh is also home to the OPENspace research centre, an interdisciplinary research institute undertaking research on open space accessibility solutions, and the city council has an active engagement with local universities.

Supporting and hindering factors in participation as perceived by city officials
According to the views of the city official interviewed for this study, the main factor contributing to the involvement of non-governmental actors is the desire to “do things with them rather than to them”. This ambition has been woven into the council’s ethos in order to make decision-making as democratic as possible. To illustrate the value placed on this, the decision to consult non-governmental actors on the draft OSS was provided as an example. This
exercise, although not required under government legislation, led to hundreds of changes to the green space mapping within the report. Consequently, there was better alignment of actions with the needs of local people.

Despite the high number of local initiatives, limited funding and council resources to engage with non-governmental stakeholders was identified as one factor hindering their involvement. This especially affects engagement with “difficult to reach” groups such as ethnic minorities. Related to this is the challenge of motivating the large segment of local people that tend to be reactive, as opposed to proactive, to get actively involved in their community.

Examples of initiatives coming from local stakeholders

St Andrew Square Garden
Between 1768 and 2008, St Andrew Square, in the heart of Edinburgh’s financial district, was a private garden in shared ownership of a small number of neighbouring key holders. To improve the area’s attractiveness for visitors, Essential Edinburgh, acting on behalf of enterprises in the Local Business District, took the lead into organizing consultations aimed at opening up the park to the public. These involved the key holders, but also the City of Edinburgh Council and Scottish Enterprise. Successful negotiations resulted in the implementation of a £2.6 million programme of improvement works, funded by the City of Edinburgh Council and Scottish Enterprise. Since opening up to the public, a large number of exhibitions and events have been held in the Square’s gardens. It also has a café, which funds the maintenance of the green space.

Duddingston Field Group
After a 2.5 ha field used for horse grazing fell vacant in 2011, a number of local residents organised themselves as Duddingston Field Group in order to discuss the potential of a community lease with the community and, later on, the City of Edinburgh Council. This was motivated by a desire to engage in ecological habitat restoration and to provide a high amenity recreational space for the community. The Council was receptive to the plans of the field group given the compatibility of the group’s activities and objectives with its strategic approach to green space management. Therefore, it offered Duddingston Field Group to lease the field on a peppercorn (symbolic) rent basis. Since signing the lease agreement in autumn 2011, the group has planted over 2,000 trees, a community apple orchard, a willow coppice and created walkways to improve access.

(photo: CC BY-NC-SA 2.0, Flickr.com, Graeme Pow, 2014)

(photo: Freda O’Byrne, 2014)
## 4) URBAN GREEN INFRASTRUCTURE (UGI) THEMES AND STRATEGIES

### Main themes related to urban green space

The local authority in Edinburgh has put quality of life at the forefront of urban green space planning and therefore human health and well-being is one of the key themes in this regard. This is most strongly reflected in the OSS, which highlights why green spaces matter to people and includes steps to be taken to achieve high quality, accessible green spaces satisfying a variety of recreational needs. Given the central role of green spaces in shaping the character of the city as one of the most popular tourist attractions within north west Europe, a second important theme is “townscape”. Other important themes in urban green space planning are “mitigating and adapting to climate change” and “green networks”.

### Understanding of UGI and representation of UGI principles

The term "green infrastructure" is used in the LDP but the term “green network”, which is defined similar to UGI as “linking together of natural, semi-natural and man-made open spaces to create an interconnected network that provides recreational opportunities, improves accessibility within the urban area and to the surrounding countryside and enhances biodiversity and the character of the landscape and townscape, including the setting of new development” (LDP, p. 15), is found more often in Edinburgh’s planning documents. Connectivity of urban green space is considered as crucial, mainly for recreation purposes and biodiversity protection. Links to other urban infrastructures are considered in the LDP, for example in regard to managing surface water drainage, treatment and flood risk through sustainable urban drainage such as green roofs, swales and ponds.

Different functions and benefits of urban green space are mainly considered in regard to social and economic values and biodiversity. Increasing the connectivity of the green network is considered as important, while the plans are specifically not aimed at increasing multifunctionality.

### First Proposed Edinburgh Local Development Plan (LDP)

- **Date:** 2013
- **Responsible department(s):** Services for Communities
- **Spatial scale:** City
- **Legal status:** Non-binding, but approved by politics

### Main themes related to urban green space

- Increasing health and quality of life
- Conserving the townscape
- Conserving and enhancing the Green Network

### Parallels with GREEN-SURGE policy concepts

- Adaptation to climate change
- Health
Implementation and evaluation

Implementation of the LDP and OSS is done through separate (neighbourhood) action plans. Where available, information on (possible) funding sources is provided. These action plans were described by the interviewee as “giving meaning and teeth to the standards” of the OSS.

Factors contributing to implementation of plans are political interest by councillors, having a clear agenda and providing insight into the key priorities. The level of coordination and “joined-up thinking” between different departments and sections within departments also plays an important role. Identified as limiting factors were budget squeezes in combination with “short term thinking”, which sometimes leads to disproportionately large allocation of scarce funds to temporary greening projects, coming at the expense of management of permanent green features that have a longer-lasting pay off in terms of ecosystem services. A final limiting factor is the scale of some proposed actions; the Council struggles to deliver on these given its limited budget.

The council puts a strong emphasis on monitoring and evaluation. Quality audits on all urban parks are carried out on an annual basis using Green Flag criteria. Quality of open spaces is audited every five years as part of the reviewing and updating process of the OSS.
5) URBAN GREEN SPACES: LINKAGES BETWEEN BIODIVERSITY AND CULTURE

Views of what biocultural diversity is referring to and how it is addressed in policy

The concept of biocultural diversity is not specifically used in Edinburgh. There is a strong focus on conservation of existing green spaces to preserve the highly regarded townscape of the city. A partnership between the local authority and relevant environmental NGOs has prepared a Biodiversity Action Plan to improve the urban biodiversity. As a result of this, and to save on maintenance costs, some areas of formal green space are turned into natural green spaces. Established green spaces contain a diverse mix of native and non-native species. Removal of non-native species is considered as negatively impacting on the character of these spaces, but invasive non-native species are actively removed.

Edinburgh has a Green Belt and awareness of the need to improve green infrastructure has grown through efforts promoting the concept of “green network” by CSGNT and ELGT. Importantly, green networks are not just seen as wildlife corridors but also as opportunities to increase accessibility to green space and other parts of town for cyclists and pedestrians.

Minority (cultural) groups have the opportunity to influence green space planning through consultation on formal plans, engagement with Friends of Parks groups and other local initiatives, and through Neighbourhood Partnerships. Although the City Council would like to take into account the needs of specific groups in society as much as possible, funding is inadequate to actively target these groups. Through active engagement with the local authority, some user groups have been very successful in influencing planning of their local green spaces. Examples of this are campaigns by groups lobbying on behalf of cyclists, such as Spokes and Sustrans, and local community groups like the Duddingston Field Group. The OPENspace research institute based in Edinburgh undertakes research on green space (access) preferences of older people and ethnical minorities, providing a potential alternative route into inclusive green spaces provision.

The City of Edinburgh Council is interested in exploring innovative solutions to improve the cultural ecosystem services of green spaces. For example, it has experimented with wildflower meadows in parks and has policies in place to improve sustainable urban drainage measures such as green roofs. A new partnership called Edinburgh Living Landscapes has shown key interest in taking the concept of biocultural diversity further by facilitating projects fostering inclusive green spaces and providing a wide range of cultural ecosystem services.

Bioculturally significant places

As illustrated by the Green Belt policy, the concept of connectivity is interpreted in Edinburgh as not only referring to an ecological infrastructure, but also to the linking between biodiversity and people. These socio-ecological connections are reflected in the maintenance of a diverse assemblage of both natural and ‘urban’ biodiversity as an important component of the townscape.

The interviewee suggested Saughton Skate Park as a good example where a local user group has influenced the design of a new green space in accordance with their present-day recreational demands. The design of this place has been done together with skaters and now is an attractive meeting place for young people from south west Edinburgh. The Union Canal is another example where a waterway formally used for carrying coal and passengers between Edinburgh and Glasgow was given a new purpose as a green corridor for wildlife and recreation following a £83.5 million investment involving a range of partners. As a result, former wasteland next to the canal has been turned into a very popular route for cyclists and pedestrians linking the city centre with the Green Belt. Work on improving connectivity and accessibility of the Union Canal is on-going.
The Union Canal (photo: CC BY-NC-SA 2.0, Flickr.com, MontanNito, 2011)

Saughton Skate Park (photo: CC BY-NC-ND 2.0, Flickr.com, Chris Hill, 2014)
6) CONCLUSION

Edinburgh is subject to the Scottish planning system which puts a duty on local authorities to produce local development plans guiding development and conservation. This document needs to be drafted in agreement with the strategic priorities of the National Planning Framework prepared by the Scottish government and the Strategic Development Plan prepared by the Strategic Development Planning Authority operating at the regional level.

Improving the Central Scotland Green Network is one of the national developments in the National Planning Framework. This has led to a strong awareness of urban green infrastructure at the city level and a commitment to improve connectivity for the benefits of people and wildlife. The publication of the Open Space Strategy in 2010 has led to a shift in urban green space planning from quantity to quality and accessibility indicators. At the neighbourhood level, specific actions are identified to improve the standard of green space and this is systematically monitored. Using this approach, Edinburgh now has the highest number of Green Flag parks, the national standard of a high quality park, of any city within the UK.

Health and well-being is one of the most important themes in relation to urban green space planning. The council therefore supports and facilitates community involvement in urban green space decision-making, varying from consultation to management, where possible. Communities also have an influence on local services and on how budget for local improvements is spent through Neighbourhood Partnerships. In addition, a number of local green space initiatives have been initiated by NGOs, businesses and research institutes.

The term biocultural diversity is not used in any of the relevant green space documents prepared by the City of Edinburgh Council. The city has made progress on conserving sites with high biodiversity value, improving the green network and increasing the biodiversity of formal parks. The needs of different cultural groups in relation to green space are generally not taken into account, although they can have some influence through innovative governance arrangements such as Neighbourhood Partnerships. Increasing awareness of interactions between culture and biodiversity could help its delivery of inclusive open spaces, especially in areas of social deprivation.
### LINKS AND REFERENCES

**Websites of municipality and core organizations**
- The City of Edinburgh Council: [www.edinburgh.gov.uk](http://www.edinburgh.gov.uk)
- SESplan: [www.sesplan.gov.uk](http://www.sesplan.gov.uk)
- Central Scotland Green Network Trust: [www.csgnt.org.uk](http://www.csgnt.org.uk)
- Edinburgh & Lothians Greenspace Trust: [www.elgt.org.uk](http://www.elgt.org.uk)

**References**

**For facts in Introduction:**
- **Area core city and larger urban zone:** *Urban Atlas*.
- **Population core city and larger urban zone** (2012 or latest): mainly *Urban Audit*. Note: in a few cases the population numbers have been provided by researchers based on statistical data.
- **Average annual population change rate** (Core city; 1990-2012 or similar): calculated \[\left(\frac{100\times\text{population number last year}}{\text{population number first year}} - 100\right)/(\text{last year} - \text{first year})\] based on *Urban Audit*.
- **Public recreational green space** (Core city; m² per inhabitants; 2006): based on *Urban Audit* and *Urban Atlas*. Urban Atlas defines urban green space as “public green areas for predominantly recreational use”. Peri-urban natural areas, such as forests and agricultural land, are mapped as green urban areas only in certain cases. In general, peri-urban green areas are not counted. Private green and blue areas are also not included. Further, green spaces with less than 250 m² are not mapped as well. This leads to deviation with per capita green space values used by city officials.
- **Map of Larger Urban Zone:** based *Urban Atlas*.

**For the rest:**
- **Interview** with Ben Wilson, City of Edinburgh, Services for Communities Department on 18th August 2014.
- **Duddingston Field Group:** [www.duddingstonfield.org.uk](http://www.duddingstonfield.org.uk).
- **Essential Edinburgh:** [www.essentialedinburgh.co.uk](http://www.essentialedinburgh.co.uk).
- **Scottish Government** (2014). *Community Planning in Scotland*. Available:
www.scotland.gov.uk/Topics/Government/PublicServiceReform/CP; accessed 02/10/2014.


Planning and policy documents


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We thank Ben Wilson for participating in the interview and Glenn McGill for providing feedback on the planning section.

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In cooperation with: Ben Wilson, City of Edinburgh Council
1) INTRODUCTION: Facts and Figures

<table>
<thead>
<tr>
<th>Core city</th>
<th>Bristol</th>
<th>Biogeographic region</th>
<th>Atlantic</th>
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<tr>
<td>Region</td>
<td>West of England</td>
<td>Planning family</td>
<td>British/Land use Management</td>
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<tr>
<td>Area</td>
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<tr>
<td>Core city</td>
<td>11 153 ha</td>
<td>Population (2012)</td>
<td></td>
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<tr>
<td>Larger urban zone</td>
<td>133 652 ha</td>
<td>Core city</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Larger urban zone</td>
<td>893 567</td>
</tr>
<tr>
<td>Average annual population change rate (1991-2012; Core city)</td>
<td>0.49</td>
<td>Public recreational green space per capita (2006, Core city; m² per inhabitants)</td>
<td>27.3</td>
</tr>
</tbody>
</table>

Bristol is situated within the West of England sub-region and is the largest city within the wider South West region. It is a popular area to live as evidenced by a population increase of 9.7% between 2001 and 2011, which is above the regional and national average. Bristol developed into a regional centre during the pre-industrial and early industrial era because of its city centre harbour built on the tidal river Avon that was cleverly “locked” against the tides to keep ships afloat. Although trading declined in the 19th century, the city developed into a financial service centre given its mercantile tradition. In recent history, economic development has centred on the establishment of creative industries and the re-development of the docks from the 1970s, attracting new investment from banks.

Bristol has the ambition to become the leading European city for “innovative industry, enterprise, culture, environmental quality, lifestyle and urban design” (Bristol City Council, 2011, p. 16). It is also committed to improving quality of life by regenerating neighbourhoods, improving the public transport network, reducing dependency on car use, developing a green economy, maintaining open spaces and linking green spaces, and developing diverse and innovative new housing meeting the needs of a wide range of people. This has significantly contributed to the city winning the European Green Capital 2015 award.
Map of Larger Urban Zone

Legend:
- Built-up area
- Green urban areas
- Sports and leisure facilities
- Agricultural areas, semi-natural areas and wetlands
- Forests
- Water
- City border

Data: Urban Atlas (EEA)
Author: Anna Bach
Date: 29.10.2014

Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors and the OWS user community
2) URBAN AND REGIONAL PLANNING CHARACTERISTICS

General description of the planning system

In England, central government imposes a statutory duty on local authorities to address spatial planning as a means of managing and allocating sites for new development and other use of land. Each local authority is now required to produce a Local Plan which sets out a policy framework for spatial planning at the local level. The key documents within this are the Core Strategy, which sets out the strategic goals, direction and objectives of spatial planning, and the Site Allocations and Development Management Policies DPD, which defines more detailed planning policies, development sites, land uses and the setting for development. The Plan must conform to national government advice in the National Planning Policy Framework (2012) and associated statutory instruments. The legislation requires that procedures must be strictly followed in the preparation of a local plan, including the need to make an objective assessment of the key issues within the local authority and to involve a range of non-governmental actors.

In May 2010 the new government abolished the Regional Spatial Strategies. These documents were considered to be bureaucratic and undemocratic as representatives of regional agencies presided over their production and they were not elected by the general public. As such, regional planning authorities have been replaced with Local Enterprise Partnerships (LEPs) including local authority officials and business representatives, which prepare a regional Strategic Economic Plan to help achieve targets around economic growth and employment.

The Localism Act 2011 heralded a change in focus for central government policy, with a reduced level of central government regulations being imposed upon local authorities and with a greater focus upon the ability of local government to respond to local needs and requirements. It also introduced a number of new instruments to empower communities, including their direct participation in spatial planning. In this regard, the Localism Act introduced the concept of neighbourhood planning, which allows communities to prepare Neighbourhood Development Plans.

Instruments for the protection and enhancement of urban green space

The Bristol Local Plan outlines the development strategy for the city and includes policies on the protection and enhancement of green space for the plan period (2011-2026). The Core Strategy policy on green infrastructure highlights the commitment of Bristol City Council to maintain, protect and enhance the strategic green infrastructure network and maps this network of open spaces, waterways and other green spaces for the first time. The Site Allocations and Development Management Policies DPD includes criteria and guidance for the provision of different types of green space in new developments, including green infrastructure policies.

The Bristol Parks and Green Space Strategy is part of the evidence base for the Development Plan Documents which make up the plan and which serve to improve the provision of accessible green spaces of sufficient quality and variety to make it available to all inhabitants of the city over a 20-year period. To this end, the strategy includes standards to evaluate existing types of green spaces as well as policy recommendations to improve the green space provision, in the shape of a delivery plan.

The Bristol Biodiversity Partnership draws up 5-year Biodiversity Action Plans to identify priority habitats, indicators and action plans for the conservation of specific species and habitats within the city. To be designated as a Site of Nature Conservation Interest, an area needs to meet specific criteria that are agreed together with a number of environmental organisations. Protected sites and designations, to which more stringent protection policies apply, are referenced in the Local Plan. Given the continuous decline of biodiversity, the UK Government has recently
introduced the Biodiversity 2020 Strategy, which outlines actions at the scale of ecosystems as opposed to individual sites or species. This has reduced emphasis on the detailed targets in the Local Biodiversity Action Plans. The West of England Nature Partnership has been set up to improve strategic co-operation between local authorities and other relevant stakeholders at the regional level around management of green spaces and promoting a green economy. This partnership will assist with the legal duty to co-operate between Bristol City Council and neighbouring authorities in preparation of the Local Plan.

Objectives, achievements and challenges in urban green space planning

The key objective of green space planning in Bristol is to provide different types of accessible green space, e.g. informal, formal, natural and active green space, to all local people. To better understand the requirements of local people, the Council embraces local initiatives as well as community involvement in green space planning and management. It also strives to ensure the process is as inclusive as possible to promote equity in provision, wherever practicably possible.

The Bristol Parks and Green Space Strategy plays an important role in highlighting these ambitions. It also attempts to provide the standards and policies to improve the current situation based upon an evaluation of the strengths and weaknesses in current provision. The Strategy incorporates a variety of programmes and initiatives to involve other actors in green space planning. Bristol's ambitious plans to improve the standard of green spaces and to shape and deliver sustainable communities have helped Bristol to earn the European Green Capital 2015 award.

The need to build sufficient new houses to accommodate a predicted 26% increase in population in the city between 2000 and 2026, presents the challenge of delivering associated high quality green space in parallel. Increasing pressure upon the public purse will likely push the Council to focus upon its key challenges and core services, which may be to the detriment of investment in green infrastructure and associated community action. New mechanisms therefore need to be found to deliver new and improved green spaces and also to maintain them as well as ways to secure associated community involvement.

Bristol’s major challenges (from left to right): Protecting and enhancing green space when there is a need to build 30,600 new homes till 2026 (photo: CC BY-NC-SA 2.0, Flickr.com, Joe Dunckley, 2006). -- Involving a representative sample of the community in planning decisions (photo: Paul Bradburn, 2012).
Bristol’s major achievements (from left to right): Bristol wins the European Green Capital 2015 award (photo: image courtesy of europeangreencapital.eu). -- Urban green solution by City Design Group involving non-governmental actors (photo: City Design Group).
3) EXPERIENCES WITH INNOVATIVE GOVERNANCE PRACTICES

Government ideas and practices regarding participation

As a UK local authority, Bristol has a duty to consult with non-governmental stakeholders in the preparation of strategies and plans. Opportunities for consultation are offered at various stages of plan development. The Council uses a variety of instruments to gain insights into the views of local people: stakeholder events, public meetings, questionnaires and Neighbourhood Forums.

It is current central government policy to increase influence of local people on planning decisions. The Neighbourhood Planning approach allows local people to draw up Neighbourhood Plans and accept planning applications in line with their views of what the community should look like. Bristol currently has five formal Neighbourhood Planning Areas. Other policies associated with this act include a duty placed upon developers to consult with the community before submitting planning applications for certain developments and the local authority being invested with the power to impose a community infrastructure levy on new developments.

This national trend towards increasing spatial planning decision-making powers of communities fits in with existing local government practice to take into account the views of non-governmental actors in designing the urban landscape. This is done to gain ideas on how best to provide multifunctional green space that caters the needs of a variety of user groups. Although some powers have been granted to non-governmental actors, they are unable to engage in completely independent decision-making. In order for development to be in line with central government policies, the local authority retains a moderating influence.

Local initiatives

There are a large number of local initiatives involving all types of non-governmental actors in green space planning, governance and maintenance. The highest level of involvement is probably through Friends of Parks and allotment groups, allowing local people to contribute to green space decision-making and maintenance. In addition to this, the local authority also facilitates educational nature-based programmes targeting particular groups of people who are likely to benefit from such an experience. The Tree Pips project, for example, involves school children planting a total of 36,000 trees across Bristol, which is combined with an educational package to increase awareness of tree benefits.

In addition to this, there are a number of projects involving environmental NGOs, research institutes and businesses. Partnerships between such non-governmental actors fulfil a variety of purposes ranging from promoting ideas on creating a more sustainable city and educating the public about the natural world to protecting biodiversity within the city. There are several particularly active NGOs, such as Avon Wildlife Trust, Woodland Trust, Forest of Avon, CPRE Avonside, which participate in a wide range of partnerships and also provide advice to the local authority on management of green spaces. They are therefore likely to have some influence over green space planning and maintenance in Bristol.

Supporting and hindering factors in participation as perceived by city officials

The participation of non-governmental actors is facilitated by Bristol Council’s strategic approach to involve local people in green space governance and planning. This builds upon a longer tradition of community action in Bristol. According to the interviewed city official, some funding and resources are made available for community engage-
It also conceived that the recent decision by the UK government to relax regulations imposed on local authorities, as well as to introduce new instruments for community participation (e.g., neighbourhood planning), has led some community groups to become more actively involved. Despite increased powers granted to local authorities to respond flexibly to local initiatives, restrictions to the level of influence non-governmental actors can exert over local authority decision-making still apply. That is, the local authority has a duty to ensure spatial planning is in agreement with national policies. Another factor that could hinder some initiatives is the high time pressure on local authority officials, which slows down responding and/or decision-making in some cases. A final, and most significant, challenge around community participation is underrepresentation of certain groups within society in local initiatives for reasons such as busy lifestyles and family commitments. This poses a threat to democratic decision-making and therefore almost inevitably limits the degree of influence non-government actors can exert.

### Examples of initiatives coming from local stakeholders

#### Meadow Bristol project

The aim of the Meadow Bristol project is to sow wildflower meadows in existing green spaces making them more attractive for pollinators and people alike. New meadows are partly funded by private donations; businesses are actively approached for sponsorships. One of the partners of Meadow Bristol is the Urban Pollinators Project.

This £1.3 million project has been commissioned by the University of Bristol and research partners to study pollinators in urban meadows. Bristol City Council endorses this project as the research will enable it to engage in more informed decision-making around choice of plant species for green borders, mainly in parks and next to roads.

(photograph: Katherine Baldock, Urban Pollinators Project)

#### The Bristol Natural History Consortium

The Bristol Natural History Consortium (BNHC) is both a charitable organisation with members and a staff team, and a consortium of stakeholders from a variety of environmental NGOs and businesses. BNHC has the aim to improve local people’s understanding of, and engagement with, the natural world. They organize BioBlitz events to generate data on biodiversity and to promote citizen science.

Amongst their activities is also the organisation of an annual Bristol Festival of Nature with exhibitions, workshops and events to increase understanding of, and engagement with, the natural environment. Although their activities do not target one single green space, they lead to improved wildlife monitoring and environmental awareness of the local population.

(photograph: Sophie Cook, 2014)
4) URBAN GREEN INFRASTRUCTURE (UGI) THEMES AND STRATEGIES

<table>
<thead>
<tr>
<th>Main themes related to urban green space</th>
<th>Bristol Local Plan: Core Strategy</th>
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<tbody>
<tr>
<td>Bristol City Council underscores the important role green spaces play in promoting healthy lifestyles and social inclusion. The Parks and Green Space Strategy outlines the approach that is taken to provide diverse, accessible green spaces, supporting a wide range of recreational activities, to all local people. Related to this theme is the ambition to deliver integrated, well-connected green spaces, which is covered by the Local Plan.</td>
<td>Date: 2011</td>
</tr>
<tr>
<td>Green space is also on the local agenda because of its role in climate change adaptation and mitigation. The Council has the ambition to plant more trees (e.g., Tree Pips project) and promote the use of sustainable drainage systems such as green roofs.</td>
<td>Responsible department(s): Planning, Transport and Sustainable Development</td>
</tr>
<tr>
<td>Bristol is home to research institutes, businesses and consultants that are at the forefront of developing innovative ideas on green space provision and sustainable living. Where possible, the council aims to make use of those ideas in new developments. Green economy thinking is also apparent in a number of local authority initiatives: it generates its own energy from biomass and wind turbines.</td>
<td>Spatial scale: City</td>
</tr>
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<thead>
<tr>
<th>Understanding of UGI and representation of UGI principles</th>
<th>Legal status: Non-binding, but approved by politics</th>
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<tr>
<td>Both analysed plans from Bristol acknowledge the concept of UGI. The Core Strategy describes green infrastructure as: “the network of green assets that can work together to support sustainability and quality of life within and around Bristol. These networks bring many social, economic and environmental benefits.” Aiming at connectivity the green infrastructure shall include walking and cycle routes, public rights of way, accessible river corridors and green and create an urban environment that encourages physical activity as part of everyday life. Furthermore, connectivity for wildlife is considered.</td>
<td>Main themes related to urban green space</td>
</tr>
<tr>
<td>The green infrastructure will provide linkages across the city and connections to the wider regional green space network. Green infrastructure is seen as integrated with the water system and as being central for reducing water run-off and providing flood storage capacity.</td>
<td>▪ Creating a high quality natural environment that conserves and enhances valued open spaces and biodiversity and maintains a green infrastructure network</td>
</tr>
<tr>
<td>Multifunctionality is embedded in the consideration of the green infrastructure but not pursed as a separate objective in Bristol’s planning documents. Green infrastructure is considered as providing several social, economic and environmental benefits, and by enhancing the network provision of these benefits shall be increased.</td>
<td>▪ Improving of accessibility and connectivity</td>
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<thead>
<tr>
<th>Parallels with GREEN-SURGE policy concepts</th>
<th>▪ Biodiversity</th>
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<td></td>
<td>▪ Adaptation to climate change</td>
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<td>▪ Health</td>
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<td></td>
<td>▪ Social cohesion</td>
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Implementation and evaluation

Both the Local Plan and Parks and the Green Space Strategy have been published along with an action plan including site-specific proposals. These are described in the Site Allocations & Development Policies Document and Area Green Space Plans (at neighbourhood level), respectively.

According to the views of interviewed city officials, the availability of funding plays a crucial role in the degree to which these action plans are successfully implemented. Maintenance (especially that of sites of conservation interest that require intensive management) and monitoring are particularly sensitive to any budget squeezes. As a result of a nation-wide trend for less direct local Government management of green spaces, the role of community involvement in green space maintenance and monitoring is likely to become more significant.

Monitoring of social, environmental and economic issues and implementation of policies, culminating in an Annual Monitoring Report, is done on a yearly basis for the Local Plan. Both the Local Plan and the Parks and Green Space Strategy are comprehensively reviewed and updated every five years.

Bristol Parks and Green Space Strategy

Date: 2008
Responsible department(s): Environment and Leisure Department
Spatial scale: City
Legal status: Non-binding, but approved by politics

Main themes related to urban green space
- Improvement of quantity and quality
- Accessibility

Parallels with GREEN-SURGE policy concepts
- Health
- Social cohesion
5) URBAN GREEN SPACES: LINKAGES BETWEEN BIODIVERSITY AND CULTURE

Views of what biocultural diversity is referring to and how it is addressed in policy

The recently developed concept of biocultural diversity is currently not widely used by Bristol City Council, but awareness of the role urban green space plays in shaping cultural identity, and vice versa, is reflected in the Parks and Green Space Strategy. This document acknowledges the role of green space in community functioning and introduces policies to provide accessible green spaces of different types to all citizens. It is recognized that different people have different needs and the Council strives to offer a range of green spaces in response. Further, the Council applies distance standards, reflecting local citizen’s willingness to walk to a green space of a particular type, to guide decision-making on where particular types of green spaces might need to be developed. This reflects an understanding of the importance of creating inclusive outdoor spaces that appeal to a wide range of users.

Biodiversity is an important theme in urban green space planning, as evidenced by policies in the Local Plan and a variety of biodiversity-themed partnership initiatives. The role of ecological corridors and urban biotopes such as parks and gardens in maintaining specific assemblages of biodiversity are recognised. According to the interviewed city official, there should be an emphasis on predominantly native species in sites of nature conservation, but the aesthetic benefits of non-native species growing in urban parks and gardens are also recognised.

In respect to cultural diversity, the neighbourhood planning approach, and other governance arrangements allowing communities to influence green space decision-making, provide opportunities for accommodating the green space uses, needs and values of specific cultural and user groups. Examples of local involvement include Friends of Parks groups and initiatives such as the Wild City project that focused on working together with users to improve parks.

Maintaining and enhancing the diversity of the cultural built heritage and landscapes of different areas in the city is integral to the Council’s approach to urban design and planning, which is reflected in the Legible City concept applied to city planning by the Council’s City Design Group. This implies that spatial planning focuses on improving the cultural identity of the city, taking into account the cultural heritage, as a centre of trading and industrial activity (see below).

Bristol aims to improve its position as an innovative hub for the development of new ideas and technology in the area of sustainable living. It could therefore be conceived as a trendsetter of cultural practices related to urban green spaces. This is reflected into policies to promote innovative approaches towards sustainable housing featuring green roofs, walls and urban draining systems. The Council also employs a team of (landscape) architects, the City Design group, who comment on and deliver (bespoke) spatial planning projects (including design of landscapes and green features). The group designs in agreement with local people’s needs and desires to create neighbourhoods that provide a sense of place and reflect dynamic cultural values in living with biodiversity.

Bioculturally significant places

The multifaceted approach towards conservation and management of biodiversity is reflected in the designations of not only Bristol Local Nature Reserves, the Meadow Bristol project and the Wild City project, but also in the provision of allotments.

Much attention is also given towards maintaining and increasing the cultural identity of the city. Remnants of historical times are visible in the modern make-up of the city. This includes not only historic parks, but also new forms of biocultural diversity. The floating harbour, traditionally the port of Bristol, now acts as the cultural centre of the city,
and one illustrative example for biocultural diversity is the Floating Ballast Seed Garden. This garden, positioned on a disused grain vessel, displays an array of non-native plant species of which the seeds have been germinated from samples of earth dug up in areas where ship ballasts used to be dumped. This ballast was used to compensate for the lack of cargo on ships returning from trading expeditions, and therefore contained plant seeds from all over the world. The plants on this vessel can be found at various places along the river where the ballast was offloaded. This project is the result of a partnership between the University of Bristol, Bristol City Council, Arnolfini and local schools.

Floating Ballast Seed Garden (photo: Alexander van der Jagt, 2014)
Bristol is a rapidly growing city that is an important national and European hub for innovative ideas and solutions about sustainable living. Bristol has a variety of green spaces that are actively used by local residents for recreational purposes. The city has the ambition to improve distribution of green spaces across the city such that all residents have access to high quality green space that serves their needs. The commitment of the local authority and various local stakeholders to making Bristol a healthier, sustainable city with attractive, well-distributed and user-friendly green spaces has earned it the European Green Capital 2015 award.

Bristol has a long tradition of community involvement in green space maintenance and decision-making. This is evidenced by a large number of Friends of Parks groups, council-owned allotment gardens and initiatives such as Tree Pips focusing on community tree planting and education. There are also a range of networks with NGOs, businesses and researchers that aim to educate and engage the population with the natural environment through a variety of activities. Community involvement has intensified since introduction of the Localism Act 2011, which reduced regulations imposed on local government and introduced instruments enabling local people to have a stronger influence on decisions influencing their neighbourhoods. Furthermore, regional planning authorities have been abolished, providing a less top-down, more transparent, approach to spatial planning.

The Bristol Local Plan and the Parks and Green Space Strategy currently represent the two key documents driving decision-making around green spaces. These highlight the need to: (1) address health inequalities through providing accessible, varied green spaces and (2) improving the green network, and adaptation to climate change through tree planting and flood prevention measures. Another key area of interest is the development of a green economy. To this end, the local authority aims to lead by example and supports innovative ideas and practices of non-governmental actors through partnership working.

The concept and relevance of biocultural diversity is implicitly acknowledged within the strategic approach to green space planning. Local people contributed to identifying the issues and setting the standards and policies within the key green space planning documents and are provided with opportunities to influence green space planning and decision-making (e.g., selection of plant species) at the neighbourhood level. The existing planning system provides scope for specific user and cultural groups to become actively involved in spatial planning on their own accord through instruments such as Neighbourhood Planning.
## LINKS AND REFERENCES

### Websites of municipality and core organizations
- **Bristol City Council**: www.bristol.gov.uk/
- **Bristol European Green Capital 2015**: bristolgreencapital.org/ and www.bristol2015.co.uk/
- **Bristol Natural History Consortium**: www.bnhc.org.uk/
- **Bristol Parks Forum**: www.bristolparksforum.org.uk/
- **West of England Nature Partnership**: www.wenp.org.uk/

### References

**For facts in Introduction:**
- **Area core city and larger urban zone**: Urban Atlas.
- **Population core city and larger urban zone** (2012 or latest): mainly Urban Audit. Note: in a few cases the population numbers have been provided by researchers based on statistical data
- **Average annual population change rate** (Core city; 1990-2012 or similar): calculated \[
\frac{(100\times \text{population number last year} \div \text{population number first year}) - 100}{\text{last year} - \text{first year}}
\] based on Urban Audit.
- **Public recreational green space** (Core city; m² per inhabitants; 2006): based on Urban Audit and Urban Atlas. Urban Atlas defines urban green space as “public green areas for predominantly recreational use”. Peri-urban natural areas, such as forests and agricultural land, are mapped as green urban areas only in certain cases. In general, peri-urban green areas are not counted. Private green and blue areas are also not included. Further, green spaces with less than 250 m² are not mapped as well. This leads to deviation with per capita green space values used by city officials
- **Map of Larger Urban Zone**: based Urban Atlas.


**For the rest:**
- **Interview** with Nick Michael, City of Bristol, Environment & Leisure on 10th September 2014
- **Interview** with Richard Ennion, City of Bristol, Environment & Leisure on 16th September 2014
- **Bristol City Council** (2014). *Neighbourhood Planning in Bristol*. Available from: www.bristol.gov.uk/page/-
Planning and policy documents


**Acknowledgements**

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**Authors and contributors**

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GREEN SURGE Partner(s) involved: FCRA

Researcher(s): Alexander van der Jagt

In cooperation with: Nick Michael and Richard Ennion, Bristol City Council
1) INTRODUCTION: Facts and Figures

<table>
<thead>
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<th>Core city</th>
<th>Lodz</th>
<th>Biogeographic region</th>
<th>Continental</th>
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<tbody>
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<td>Region</td>
<td>Lodz Region</td>
<td>Planning family</td>
<td>New Member States</td>
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<td>Area</td>
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<td>Population (2012)</td>
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<td>Larger urban zone</td>
<td>285 834 ha</td>
<td>Core city</td>
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<td></td>
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<td>Larger urban zone</td>
<td>935 124</td>
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<td>Average annual population change (1991–2012; Core city)</td>
<td>-0.75</td>
<td>Public recreational green space per capita (2006, Core city; m² per inhabitants)</td>
<td>11.81</td>
</tr>
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Location Map

Lodz (Łódź in Polish) is the third largest city in Poland. It is the capital of the region, and is located approximately 135 kilometres southwest of Warsaw. It lies on the border between the catchment areas of the Vistula and Odra rivers. There are also some smaller rivers and brooks that are usually hidden underground. Lodz has got a diversity of parks and woods in its vicinity.

Having obtained city rights in the 15th century, its greatest development and later boom occurred in the 19th century, when Lodz became a centre of the textile industry. Since then, the city has struggled with many difficulties and contradictions. In the last 20 years the city has faced constant population decline (with 816 000 inhabitants registered in 1995).

Today, Lodz is a good example of an ongoing revitalization process, with large-scale infrastructure development programmes and new initiatives undertaken to renovate central areas in the city. These activities and broader strategies also aim at reurbanization, making the city more attractive and liveable. The traditionally important sectors of design, fashion, film and other audiovisual arts maintain their importance and enhance the image of Lodz as a creative city. Post-industrial areas are turned into spaces for new festival centres, ateliers, boutiques, studios and clubs. Lodz is also an important educational and cultural centre in Poland.
2) URBAN AND REGIONAL PLANNING CHARACTERISTICS

General description of the planning system
In principle, spatial planning in Poland is organized hierarchically; at the national level general guidelines are introduced, which are then passed on to the regional and local municipal level. At the regional level there are spatial planning offices, such as the Spatial Planning Office of Lodz Region. The municipal administration has to comply with overarching regional level decisions, but to some extent it is autonomous in its spatial planning policies, and it can devise many solutions on its own. At the city level, the Lodz City Office’s Bureau for Spatial Planning is the administrative body in charge. Representatives at the local municipal level take active part in discussions on regional plans.

The most important instrument that guides land use at the regional level is the Spatial Management Plan for the Lodz Region. Another relevant document that is still being drafted is the Spatial Management Plan of the Lodz Metropolitan Region. At the city level, the Masterplan – called the “Study of determinants and directions of spatial development” – is the most comprehensive document which covers the whole city and all aspects of spatial planning. Formally it is not legally binding, although it is often treated as such. The last version of the Masterplan was adopted in 2010 and a new version is being developed. For specific areas, quarters or districts, the city prepares local spatial management plans. However, only about 5% of the city’s territory is covered by such plans and a vast majority of new developments are evaluated on an ad-hoc basis, using only the rule of good neighbourhood (fitting new structures into what is in the neighbourhood, which is sometimes roughly interpreted).

Instruments for the protection and enhancement of urban green space
The most important documents that focus on environment at regional level are the Environmental Protection Programme and Spatial Management Plan for the Lodz Region. Although both of these documents are not legally binding, they set the most important objectives in the area of environmental protection and spatial planning, including green space. The regional level state administration (Voivodship Authority) is responsible for the former document and focuses on meeting important national environmental objectives at the regional level. Regional level autonomous authorities are responsible for the latter through the Spatial Planning Office of the Lodz Region. Both documents highlight the importance of a consistent network of green areas in the region.

The Regional Directorate for Environmental Protection is the most important institution that oversees environmental issues and the protection of green spaces in the region. It represents national authorities at regional level. With regard to green spaces, it concentrates on Natura 2000 sites and other protected areas; these include landscape parks, which are collectively managed by the Group of Landscape Parks of the Lodz Region.

At city level two departments within the Lodz City Office are responsible for urban green space management (Urban Greenery Maintenance Authority) and another for environmental protection (Department for Environmental Protection and Agriculture). Instruments used at local level are the Environmental Protection and Municipal Management Policy 2020+, one of the sectoral policies accompanying the Integrated Development Strategy of Lodz 2020+. This strategy is not binding, but it guides all other documents and decisions made in the city. Another instrument is the Environmental Protection Programme for the city of Lodz, which indicates how the most important environmental issues defined by national authorities are dealt with at city level.
Objectives, achievements and challenges in urban green space planning

According to city officials, objectives are restoration, conservation and creation of green space and natural areas. The most important achievements named are: (1) the creation of new parks; (2) rehabilitation of the Sokolowka river valley; and (3) the practice of planting new trees as part of infrastructural investments. Additionally, the authors consider the creation of the concept of the Blue-Green Network an important achievement that was developed in a participatory process including the European Regional Centre for Ecohydrology under the auspices of UNESCO, the University of Lodz, Lodz City Office, and a number of other stakeholders. This network is a system connecting existing and proposed green and blue spaces in the city. The rehabilitation of the Sokolowka river valley is a pilot project carried out to implement the Blue-Green Network.

The most important challenges in urban green space planning identified by city authorities include: (1) preparing local spatial management plans to determine the acceptable land use types for the whole city; (2) creating a quantitative and qualitative inventory of green spaces, including potential tree planting sites; and (3) increasing funds for maintenance according to the increase of funds for investments in green space.

Besides funding, additional challenges for green space planning and management have been identified in a workshop organized by the Sendzimir Foundation and Lodz City Office in 2013. A group of 26 government and non-governmental actors suggested the following key challenges: (1) improving the quality of existing green spaces; (2) introducing strategic and integrated approaches to green space management, i.e. overcoming the problem of poor integration of such activities which are currently scattered among many different actors; and (3) improving public awareness of the importance of urban green space, e.g. educational activities, supporting public participation, preventing vandalism (Sendzimir Foundation 2013).

Lodz’s major challenges (from left to right): Improving and securing the quality of urban green spaces remains a challenge. For example, many street trees have been cut. It is difficult to replace them and ensure their survival (photo: Lodz City Office, Urban Greenery Maintenance Authority). -- Introducing strategic and integrated practices requires overcoming sectoral “silo” approaches. An interdisciplinary group of stakeholders collected ideas for improving green space planning and management in Lodz in September 2013 (photo: Jerzy Dauksza).
**Lodz’s major achievements** (from left to right): Several new parks have been created in recent years and others have been restored such as the newest park on Lososiowa street in Lodz, established in 2014 in an old industrial area (photo: Lodz City Office, Urban Greenery Maintenance Authority). -- The concept of Blue-Green Network has become a major idea guiding integrated planning and management of green and blue areas in Lodz (illustration: European Regional Centre for Ecohydrology).
### 3) EXPERIENCES WITH INNOVATIVE GOVERNANCE PRACTICES

#### Government ideas and practices regarding participation

City officials in Lodz understand planning as a well-designed, well-organized and conscious process. Local groups and individual inhabitants take part in planning, but in a spontaneous manner on an ad-hoc basis, and are only starting to do so in a well-organized manner. This new organized form of participation results from increasing professionalism of citizens organizing themselves, especially as coalitions of NGOs.

The influence of non-governmental actors on planning, design and management of green space has increased significantly, because the city started from a state of non-existing public involvement. Now Lodz has the biggest participatory budget in Poland, which provides the largest funds for green space in the history of the city covering investment, improvement, and restoration. Furthermore, several NGOs assist the city office, trying to get officials acquainted with new concepts and best practices. Some private property owners and developers understand that urban green space gives added value to their property and therefore take care of surrounding green spaces more often and more carefully than before. However, city officials emphasize that final decisions regarding green space planning should be made by professionals, although other stakeholders may influence these decisions.

Non-governmental actors usually initiate and organize their own involvement. The only example of initiation led by government actors is the participatory budget. The participatory budget is perceived as the most visible and most important example of sharing responsibilities between government and non-governmental actors (for details see below). Public consultations required by the Polish law might provide another example of participation organized by governments. However, so far this form of participation has been carried out only at the final stages of plan or policy development or decision-making processes.

#### Local initiatives

The city officials mentioned three local stakeholder initiatives. The first is the Nowy Romanów investment. The developer of a new residential estate transformed a nearby forest into a forest park, which was meant to serve as a recreational space for the estate’s inhabitants while remaining freely accessible to the general public. The second concerns the Sokolowka river valley restoration (see below). The third regards the participatory budget that makes it possible for inhabitants to directly influence how public funds are spent.

In addition, the authors consider the international SWITCH project (within which Lodz served as a case study city) as a particularly important initiative. Although the project had a global reach, with the University of Lodz as one of 33 project partners, the city agreed to cooperate with the university and served as one of the learning labs. Many stakeholders were involved in an extensive participatory process and the concept of the Blue-Green Network was one of the project’s outputs. The project’s focus was on sustainable water management.

#### Supporting and hindering factors in participation as perceived by city officials

According to the city officials, one major factor contributing to participation of non-governmental actors in green space management, planning and design is the opportunity to use the participatory budget through suggestions for projects and voting for the most preferred projects. Participation is also supported by an increased awareness that economic success depends on the quality of the environment, including the quality of green space and changing lifestyles towards outdoor sports and social activities such as jogging or physical exercise.
The most important factor that hinders public participation is the lack of legal personalities in some active social movements that do not allow them to sign contracts and hence to become formal partners of the city office. Furthermore, poor computerization of the city office and its various departments mean lack of access to comprehensive information about space and spatial planning. Consequently, people do not have easy access to information about what is planned in different areas and, as a result, are less likely to get involved. The city also lacks a tradition of participation on the governmental and civic side. The society has to be willing to get involved and cooperate, but a change in attitude takes time. In addition, experience of the researchers shows that the public administration should be more open-minded towards new ideas and suggestions.

Examples of initiatives coming from local stakeholders

**Sokolowka River Valley**
The Sokolowka River Valley project was a multifaceted pilot project based on the Blue-Green Network. The goal of the project was the restoration of the river to support stormwater management and increase water retention capacity and biodiversity for improved quality of life in the whole catchment area.

For one section of the river, the city administration cooperated with a private developer that owned a housing estate in the area. The role of the developer was to create plans for this specific section and to implement them, while the local authority defined the main objectives and constraints for the area and arranged all the official procedures, such as obtaining consents from the relevant departments. The city was in charge of obtaining financial and legal approval and of monitoring the project.

![New stormwater retention ponds on Sokolowka river, which are part of a larger river rehabilitation plan](photo: Lodz City Office, Urban Greenery Maintenance Authority)

**Participatory budgeting**
The participatory budget allows inhabitants to directly influence how public funds are spent. Each year, since 2013, a percentage of the city budget is assigned to this programme. In 2014 approximately 1% of the planned expenses of the city were used for participatory budgeting. Anyone can submit project proposals and take part in the selection of proposals and social monitoring. Participants include local NGOs, informal social movements and individual inhabitants.

If project proposals are approved by the Lodz City Office, they are included in the list of projects from which citizens (aged 16+) can choose up to ten (five in their district and five at the city level).

This new approach to direct democracy is initiated and led by municipality and city officials as they prepare the websites, regulations, meetings, and voting. To some extent non-governmental stakeholders are also involved and some tasks are commissioned outside of the City Office, such as information and promotion.

![Potted trees in Piotrkowska Street, the main commercial street of Lodz, financed by the 2013 participatory budget](photo: Jakub Kronenberg)
4) URBAN GREEN INFRASTRUCTURE (UGI) THEMES AND STRATEGIES

Main themes related to urban green space
Due to the very low rate of area covered by detailed spatial plans, business actors can create great pressure for property development and against conservation of urban green space. As a result, protecting green space has become the most important theme. Both documents, the Municipal Management and Environmental Protection Policy of the City of Lodz 2020+ and the Masterplan, focus on preserving the natural system of the city. The Municipal Management and Environmental Protection Policy of the City of Lodz 2020+ suggests that “to protect biodiversity, the city preserves relics of natural ecosystems and prevents further urbanization in areas which provide important ecological functions”. These relics and areas have been indicated in the Masterplan as well as in the concept of the Blue-Green Network. Identifying an area or an object as a relic translates into its formal protection.

The main focus of the Blue-Green Network is on green and blue areas as a key factor influencing quality of life in the city, e.g. by improving the microclimate and providing public space for recreation. However, this concept is only loosely integrated into urban planning.

The Masterplan also refers to the Green Circle of Tradition and Culture (GCTC), which consists in green spaces being shaped by cultural processes such as palace gardens, rivers used in a specific way, or cemeteries that are considered as a kind of cultural heritage to be protected.

A main theme is also connected to water and sewage management to retain stormwater and restore water courses.

Understanding of UGI and representation of UGI principles
The concept of UGI is not explicitly mentioned in planning documents from Lodz. However, the Masterplan refers to a coherent "natural" or "ecological system" which is a guiding concept for environmental protection. The plan aims at the creation of a properly functioning natural system to improve the quality of the environment, especially with regard to air, water and landscape.

The natural system is considered as a network that also links to natural areas outside the city. The Blue-Green Network mentioned in both analysed documents also aims at connectivity. The Blue-Green Network is understood as a socio-ecological system of urban green areas enhancing self-regulating ecological processes and connecting parks and forests through ecological corridors running along the river valleys of Lodz. Furthermore, another concept developed in Lodz, the Green Circle of Tradition and Culture (GCTC), is intended as a network of (mainly) culturally significant places.

Different functions of the natural system are addressed separately as pro-

The Study of Determinants and Directions of Spatial Development of Lodz (Masterplan)
Original title: Studium uwarunkowań i kierunków zagospodarowania przestrzennego miasta Lodz
Date: 2010
Responsible department(s): President of the City
Spatial scale: City
Legal status: Non-binding, but approved by politics

Main themes
- Protection of the connectivity and the different components of an urban ecological system
- Conservation of historical and cultural heritage areas and valuable nature areas (Blue-Green Network, Green Circle of Tradition and Culture)

Parallels with GREEN SURGE policy concepts
- None

Municipal Management and Environmental Protection Policy of the City of Lodz 2020+
Original title: Polityka komunalna i ochrony środowiska Miasta Lodz 2020+
Date: 2013
Responsible department(s): Lodz City Office, Bureau for City strategy
Spatial scale: City
Legal status: Non-binding, but approved by politics

Main themes related to urban green space
- Securing environmental quality for the people
- Accessibility of green space
vided by a biological system, a hydrological system, and a climatic system. Urban green space is also valued for its socio-cultural functions. The Masterplan aims at appropriate management in order to secure relevant functions, but does not explicitly consider increasing the multifunctionality of the natural system as a separate objective.

Links between urban green space and other infrastructures are mentioned in regard to roads, which are seen as complementary to the natural system due to ventilation functions. The Masterplan aims at greening selected roads in order to improve the ventilation function. Other references to connecting grey and green infrastructures are made with regard to the sewage system and especially stormwater management.

### Implementation and evaluation

The city of Lodz could improve all areas of implementation. For example, the Municipal Management and Environmental Protection Policy of the city sets many specific objectives and targets, but lacks proper monitoring mechanisms and must face the consequences of not meeting the targets.

The most important factors mentioned by city officials that support implementation are pressure from inhabitants, funding for investments in urban green spaces, and obligations of the city defined in the sectoral policies accompanying the Integrated Development Strategy Lodz 2020+.

Factors considered to hinder implementation include special interests of individuals or groups, especially those who want to use land to build. Furthermore, the allocation of funds is problematic because too little money is available for current maintenance, especially in comparison to the amounts available for investments. Also, poor cooperation among different units/departments within the municipality can hinder implementation.
5) URBAN GREEN SPACES: LINKAGES BETWEEN BIODIVERSITY AND CULTURE

Views of what biocultural diversity is referring to and how it is addressed in policy

The term biocultural diversity has never been explicitly used in Lodz. During the interview, representatives of the City Office indicated that green spaces are designed in a way to accommodate the needs of all users. In their opinion, this does not require any specific effort as the users are relatively homogenous, at least with regard to their cultural background. The only differences among the users of green spaces result from their age and interests, e.g. the young vs. the elderly, skaters vs. walkers. To take this diversity into account, facilities that accommodate the needs of different user groups are considered when designing green spaces. For this purpose, parks are often designed in different zones for relaxation or active recreation. An additional spontaneous interpretation of biocultural diversity is connecting nature and culture by organizing concerts, movie screenings, etc., in green areas.

In planning, cultural aspects of green spaces are highlighted within the concept of the Green Circle of Tradition and Culture (GCTC). The areas within the ring around the centre of Lodz include palaces and 19th century industrial factories, which are surrounded by green space and often located next to rivers, cemeteries and parks. Some parks still have remnants of the old forest that grew from pre-industrial times. These areas remind the inhabitants and visitors of interactions between nature and culture – being a product of cultural and natural processes of the past.

However, apart from the concept of GCTC, biodiversity and cultural diversity are usually discussed separately. Biodiversity conservation focuses mostly on the need to create nature reserves and protect native species; non-native species are often considered to be related to environmental degradation. As described above, in park management the needs of different user groups are primarily taken into account rather than biodiversity conservation concerns. In regard to species selection exotic trees, such as fast-growing poplars, are not planted in parks anymore, since native trees are better adapted to local urban conditions.

Bioculturally significant places

The city officials suggested that multifunctional green spaces, especially parks, are the best examples of biocultural diversity because they are used by different groups of people.

Within the GCTC, the most important sites are historical palaces and factories with remnants of historical parks and rivers. One particularly important site is Księży Młyn (Priest’s Mill), with a well-preserved factory, palace, workers’ residences, river and a lake, and a historical park on its borders. These sites represent a green cultural heritage reflecting historical land-use.

Another example is the Park na Zdrowiu, which has various attractions such as a zoological garden, an amusement park, and an outdoor concert venue.

Most other parks also have areas dedicated to sporting activities, such as football pitches, tennis courts, open-air fitness equipment, roller-skating tracks, playgrounds and/or educational trails.

Cover of the guide of Green Circle of Tradition and Culture, published by the City Office (photo: City Office of Lodz, 2011)
The Grohman-Scheibler factory at Księży Młyn is historically one of the most important industrial monuments in Lodz. It was built on one of the city’s 18 rivers (photo: CC BY-SA 3.0, wikipedia.org, Polimerek, 2005).

Map of Green Circle of Tradition and Culture from the guide published by the City Office – the circle surrounds the very centre of Lodz (photo: City Office of Lodz, 2011)
6) CONCLUSION

Lodz, a former textile industry centre in Poland, is today a good example of a revitalization process. The process of urban redevelopment is still under way. In principle, spatial planning is organized hierarchically and at the national level general guidelines are introduced, which are then passed on to the regional and municipal levels. The regional administration is responsible for ensuring that different parts of the region develop in a balanced and coherent way. The administration pays attention to the interconnected natural environment within the region, and even within the Lodz agglomeration, although compared to other sectors green space planning is not very high on the list of priorities. The local municipal level is autonomous in its spatial planning policies; however, even though the city has a masterplan, only 5% of the urban area is covered by detailed local spatial plans, which makes it difficult to protect green spaces against developmental pressures. For this reason the main theme of green space planning in Lodz is “preservation and protection”.

The city places emphasis on protecting native plant species not only because of their heritage values but also for their tolerance to local conditions. Two concepts for green space networks highlight their cultural, ecological and quality of life aspects. However, these concepts are mostly used as guiding ideas and relatively few projects, such as Sokolowka river rehabilitation, have been carried out to implement them in practice. This project is perceived by the city administration as one of the main achievements.

Lodz has plans and policies that take urban green space into account, such as the Municipal Management and Environmental Protection Policy of the City of Lodz 2020+. However, scarcity of funds for maintenance and the low level of cooperation among different actors make implementation difficult.

The level of public participation is constantly growing as a result of increasing awareness of environmental values. The activity of different science centres in this field supports the municipality, e.g. in regard to development of the Blue-Green Network, which is the result of an extensive participatory planning process. Another example of results from public participation is participatory budgeting for investments in urban green space. Non-governmental actors campaigning for green spaces are becoming more commonplace. This is increasingly important, in spite of the still rather poor social capital in Poland and poor social empowerment resulting from the fact that society is still in the process of learning about public participation.

Biocultural diversity in urban green space planning in Lodz is best reflected in the concept of the Green Circle of Tradition and Culture, which emphasizes that modern green areas result from historical cultural and land use practices. Thus, the way in which land was managed by different social groups and for different purposes in the past is reflected in the green areas the city has today.
Websites of municipality and core organizations

- Spatial Planning Office of the Lodz Region in Lodz: http://bppwl.lodzkie.pl
- Lodz City Office’s Bureau for Spatial Planning: http://www.mpu.lodz.pl
- Department of Agriculture and Environmental Protection of Lodz Region Marshall Office: http://www.bip.lodzkie.pl/departament-rolnictwa-i-ochrony-srodowiska
- Regional Directorate for Environmental Protection in Lodz: http://bip.lodz.rdos.gov.pl
- Group of Landscape Parks of Lodz Region: http://www.parkilodzkie.pl
- Urban Greenery Maintenance Authority: http://www.zzm.lodz.pl

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For facts in Introduction:

- Area core city and larger urban zone: Urban Atlas.
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- Average annual population change rate (Core city; 1990-2012 or similar): calculated \[\frac{(100 \times \text{population number last year} - \text{population number first year}) - 100}{\text{last year} - \text{first year}}\] based on Urban Audit.
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**Planning and policy documents**


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POZNAN, POLAND

1) INTRODUCTION: Facts and Figures

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<td>Poznan</td>
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<td>Region</td>
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<td>Area</td>
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<td>Larger urban zone</td>
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<td>Average annual population change rate (1991-2012; Core city)</td>
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Poznan (Poznań in Polish) is a city located in the mid-west of Poland on the Warta river, 180 km from the German border, halfway between Berlin and Warsaw. It is one of the oldest and largest Polish cities. It is the administrative capital of the Greater Poland Voivodeship (Wielkopolska Region). Poznan is the fifth most populated city in Poland and seventh in terms of area.

Poznan is today one of the largest Polish centres of trade, industry, sports, education, technology, tourism and culture. It is particularly important as an academic centre with about 130,000 students and is home to the third biggest Polish university. Poznan is one of Poland’s greenest cities. Green recreational areas, forests, parks, lawns and gardens cover nearly 30% of the city area. A green ring of forests surrounds the city, which in Poland is quite unusual for such a large urban centre.
Map of Larger Urban Zone
2) URBAN AND REGIONAL PLANNING CHARACTERISTICS

General description of the planning system

In Poland regional and local authorities are responsible for spatial and land use planning. At the regional level there are regional spatial planning offices, such as the Spatial Planning Office of the Wielkopolska Region in Poznan (within the Marshall Office which is the regional government). Spatial planning is organized hierarchically. The national level introduces general guidelines, which are then passed on to the regional and local level. Eventually the municipal local level is responsible and autonomous in its spatial planning policies. Local-level representatives take active part in the discussion of regional plans. At city level, Poznan City Office’s Bureau for Spatial Planning is the administrative body in charge.

The most important instrument that guides land use at the regional level is the Spatial Management Plan for the Wielkopolska Region. At city level, the Masterplan – called the “Study of determinants and directions of spatial development” – is the most comprehensive document. Formally it is not legally binding, although it is often treated as such. The last version of the Masterplan was adopted in 2008 and a new one is about to be adopted.

For specific areas, quarters or districts, the city prepares legally binding local spatial management plans. 41 % of the city is covered by the local spatial plans and 28 % of the area by additional plans which are being developed. With these numbers Poznan is one of the most advanced Polish cities concerning the coverage of detailed spatial plans.

Instruments for the protection and enhancement of urban green space

At the regional level two institutions deal directly with green areas: the Department of Environment of Wielkopolska Region Marshall Office and the Regional Directorate for Environmental Protection. With regard to green space, the activities of these two organizations mostly focus on protected areas. Regarding partnerships, the Group of Landscape Parks of Wielkopolska Region can be mentioned, which is an authority that manages all landscape parks in the region. Regional plans provide guidance on the existing green space or what is missing in terms of their connectivity.

At the municipal level, the City Office of Poznan is responsible for urban greenery. The Department of Environmental Protection of the City Office of Poznan generally oversees environmental issues, including permissions for felling of trees and shrubs, also those growing along streets. The Municipal Roads Maintenance Authority Street is responsible for street side greenery. The Board of Urban Greenery is engaged in the design and construction of parks and other green areas, as well as their maintenance. Both institutions belong to the City Office of Poznan.

The most important planning instruments at regional level are the Environmental Protection Programme of Wielkopolska Region and the Spatial Management Plan for Wielkopolska Region. At municipal level The Environmental Protection Programme and the Masterplan are the most relevant instruments. Although all of these documents are more general and cover many other issues, they also specify the main objectives and measures for green space planning. One of the particularly important issues highlighted in municipal documents is the preservation of a system of green wedges and ring in the city. The wedge-ring system represents a guiding policy towards green space.
Objectives, achievements and challenges in urban green space planning

About 10 years ago there was a period when extensive creation of new parks took place. Currently the emphasis is rather on preservation of existing green spaces, as there is no more space available for new parks. One of the greatest achievements mentioned by city officials is reassessment of street side greenery and parks. Whenever a new street is built or an old one renovated, green spaces are taken into account and managed with due care. There has been a significant and positive change in attitudes towards green space among professionals responsible for planning and building urban infrastructure. These decisions are guided by the “Street trees protection guidelines”, a key document adopted in 2007 by the Department of Roads, listing procedures that have to be applied to protect street trees during construction projects. Thanks to these achievements, especially related to comprehensive and innovative care for street side greenery, Poznan is considered a model for the management of urban greenery in Poland. Another achievement mentioned is that the number of new trees planted in the city is significantly larger than the number of trees removed.

The lack of coverage by local spatial management plans is less severe in Poznan than in many other cities but still poses the most significant challenge. A challenge continuously raised in this regard in Poznan is the preservation of the existing green space system – the green wedges and green ring. In this densely built city, another challenge is insufficient space for new plantings and the preservation of existing green areas, especially in the case of street side greenery. In addition, in September 2013 the Sendzimir Foundation and Poznan City Office organised an interdisciplinary workshop in which 24 governmental and non-governmental experts discussed challenges and solutions for urban green space management in Poznan. This group identified the following important challenges: (1) relatively low political priority of green areas in Poznan, reflected in insufficient funding, the lack of an integrated management system, and problems with communication; (2) insufficient awareness of the importance of nature in the city among its inhabitants; (3) unused potential of the river; and (4) not enough attention paid to the protection of biodiversity (Sendzimir Foundation 2013).

Poznan’s major challenges (from left to right): Preservation of the existing wedge-ring system is a major challenge. Here the old town with a big park and the river in the background (CC BY-SA 2.5, pl.wikipedia.org, Monika Mężyńska, 2006) – Maintenance of streetside greenery also poses a significant challenge. Here a unique Marcinkowski Avenue in the city centre (photo: City Office of Poznan).
Poznan’s major achievements (from left to right): Chopin Park illustrates ongoing improvement of parks in Poznan (photo: City Office of Poznan). -- Reassessment of streetside greenery constitutes another important success – here new plantings along Solidarity Avenue are combined with the remnants of an old airship factory (photo: pl.wikipedia.org, Rzuwig, 2009; see also section on biocultural diversity).
3) EXPERIENCES WITH INNOVATIVE GOVERNANCE PRACTICES

**Government ideas and practices regarding participation**

Actors, other than representatives of departments associated with green space planning, in Poznan are mainly city employees from other departments, non-governmental organizations, neighbourhood associations, community groups and individual members of the public. Ten years ago the non-governmental actors were not particularly interested in green spaces, but now their activity in this area has increased significantly. However, local officials pointed out that individual inhabitants take part in planning mostly in a spontaneous, ad hoc way rather than on a well-organized basis. They rather contact the city when they have individual interests. City officials are convinced that even if the voice of non-governmental groups and individuals should be heard, decisions about the planning, design and management of green space should be left to professionals.

The involvement of non-government actors is usually initiated and led by the non-government actors themselves. However, there are innovative examples of initiation by local government actors: participatory budgeting and Commissions for Social Dialogue (CSD). Participatory budgeting concerns the right of non-governmental groups and inhabitants to suggest and decide on the use of a portion of the city’s budget. One of the CSD is dealing with environmental issues and aims at facilitating a public dialogue based on these. This partnership of different actors, representing the local government and NGOs, is managed by the Department for Environmental Protection of the City Office. It serves as a platform for discussing how to improve environmental protection in the city, with a strong focus on urban green space planning and management. The participatory budget and CSD were both implemented in other Polish cities, too.

In addition, public consultation regarding important decisions affecting the city (including urban planning) is required by Polish law. However, so far consultations have been mostly carried out at the final stages of planning or the decision-making processes. Meanwhile, Poznan is well known for its civic movements (e.g., My Poznaniacy group) that protests against unfavourable decisions and promotes more sustainable solutions.

**Local initiatives**

The interest of non-governmental actors to participate in planning and policy-making has increased recently, mainly because new tools have become available that facilitate participation, such as local district councils (the lowest level of self-governance with some authority over local issues). Additionally, new means of communication and information such as facebook or twitter facilitate social organization and sharing of information. Support from the governmental side are new means of information used by the city (websites, consultations), obligatory public consultations, and legal requirements to consider different opinions.

The district councils are an innovative approach in Poznan and are mentioned by city officials as one of three examples of local initiatives. The City Office provides funds for tasks carried out by district councils. The councils have to submit formal project proposals, but the procedure is relatively easy. The second example is the CSD within which non-governmental actors participate in a particularly active way proposing new approaches to green space planning. The third example is the “Change Your Backyard” programme (see below).

There are also numerous initiatives undertaken by non-governmental groups that critically monitor the activity of city authorities and lobby or protest for the protection of existing green spaces. Many of these focus on green wedges, such as an association set up to protect the western wedge (Stowarzyszenie na Rzecz Ochrony Zachodniego Klin Zieleni w Poznaniu), while others refer to general issues regarding green space or specific green areas. Some of them resort to guerrilla gardening and others to public discussion on the importance of green areas in the city.
Supporting and hindering factors in participation as perceived by city officials

The new tools mentioned above all facilitate participation, together with the legal requirements for public consultations in investment/development projects. However, the level of participation of different stakeholders is affected by at least the three following issues, according to city officials. First, the distance from the place where a given person lives – the bigger the distance of a certain project from one’s home the lower the interest is. Second, the time to elections – candidates for local council members and others become more active closer to elections. Third, the sense of threat coming from the risk of losing green spaces due to new investments. Furthermore, the city officials saw the following problems as the most important factors that hinder participation: poor competence and knowledge of non-governmental stakeholders in the area of green space management; the understanding of scarcity of land for new green investments, and scarcity of funds for improvement; and specific interests of individual inhabitants (which are often conflicting, e.g., in the case of parking lots). Particular interests even lead to polarization of different stakeholders, which is considered a problem at the city level.

Examples of initiatives coming from local stakeholders

**Green Backyards**

The objective of the Green Backyards initiative is to make backyards of tenement houses more attractive. The programme (formally "Odmień swoje podwórko" – "Change your backyard") was initiated by the City Office in 2010 in the district of Jeżyce. Later it expanded to other districts, with most activities still concentrated in Jeżyce. The inhabitants were actively involved and designed and created small green spaces in their backyards. Soil, plants and expert advice were provided by the city. Apart from greening backyards, the project also aims at improving social integration and encouraging the inhabitants to work for the common good. Involved stakeholders include local citizen groups, the NGO TASAK, the local District Council and homeowner associations. The activities were coordinated by the local citizen group in cooperation with the City Office.

**Commission for Social Dialogue on environmental issues**

The objective of the Commission for Social Dialogue is to have more intensive debate between the City Office (Department for Environmental Protection) and the different non-governmental stakeholders interested in environmental protection. This commission was set up in 2011 and initially 20 NGOs were represented. The activities mostly involve discussions, resulting in statements and opinions that should be taken into consideration by the City Office. These discussions concern, for example, spatial planning with environmental consequences, green non-motorized transport corridors, protected areas, protection of bird habitats during thermic modernization of buildings, mapping of green areas or cooperation with other institutions.

*Inhabitants could plan and effectively green their backyards within the "Change Your Backyard" programme. In 2012 the programme was coordinated by APAK Landscape Architects (photo: Ewelina Gutowska & Magda Urbańska)*

*Wartostrada, a non-motorized transport corridor along the river Warta is one topic frequently discussed by the Commission for Social Dialogue (photo: City Office of Poznan)*
4) URBAN GREEN INFRASTRUCTURE (UGI) THEMES AND STRATEGIES

Main themes related to urban green space
Preservation of urban green space is the most important theme in green space planning in Poznan. This is reflected in both the Masterplan and the Environmental Protection Programme. The green space system in Poznan is a historical green wedge-ring system that was designed during the interwar period. The main aim of the city is to preserve this structure, which is reflected in all planning documents. The wedges include the hydrographical setting of the Warta river and its tributaries, and the rings comprise green areas which are largely the remnants of old fortifications.

Individual administrative procedures deal with two other important themes highlighted by city officials: maintaining the quantity of trees and maintaining the quality standard of urban green.

Understanding of UGI and representation of UGI principles
The concept of UGI is not explicitly mentioned in the analysed planning documents from Poznan. However, as said above the green wedge-ring system is implemented in urban planning and shares the idea of a city-wide network of urban green space which is focused on protecting natural resources and values.

With regard to different functions or services urban green space can deliver, the Environmental Protection Programme is focussed on biodiversity conservation and recreation. The Masterplan mentions different functions of green spaces in passing such as performing the functions of aesthetics, recreation, protecting health or shielding/isolating some objects or protecting water resources and soils in the case of forests. Increasing the delivery of multiple functions is not an explicit objective. Furthermore, the integration of green and other kinds of urban infrastructure is not considered.

Implementation and evaluation
The plans of Poznan city are based on a long-term spatial vision. There are several references to Poznan’s green areas constituting part of a larger network of green space. This is especially the case for the river Warta and the relevant national and European documents regarding important ecological corridors (including ECONET PL and NATURA 2000). All of these are planned with a long-term perspective in mind to ensure that these green areas will also serve future needs (as well as the needs of other species).

In the view of the city officials, monitoring and evaluation are done quite well, which is reflected in the fact that the strategic plans are updated on a regular basis. The Environmental Protection Programme is updated every
four years and the monitoring results are presented in biannual reports by the President of the city. The 2014 revision of the Masterplan was necessary because of changes in the relevant legal documents and because of a number of suggestions raised by different stakeholders to change the previous documents.

According to the interviewees, the quality of plan implementation depends mainly on three factors: (1) whether financial resources are available; (2) whether there is land available for increasing green space; and (3) whether impacts of particular individual interests can be avoided or overcome for the common good.

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<th>Parallels with GREEN-SURGE policy concepts</th>
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Views of what biocultural diversity is referring to and how it is addressed in policy

When prompted to talk about biocultural diversity city officials indicated that they design multifunctional green spaces that meet the needs of different user groups. They mentioned allotment gardens and cemeteries as green spaces shaped as a result of different cultural practices. The diversity of urban species has gradually increased due to the presence of local nurseries that cultivate an increasing number of plants adapted to the specific urban demands; these regard gardening fashions, aesthetic appeals and urban health concerns, as well as specific urban environmental conditions such as resistance to air pollution and urban extremes with respect to water availability.

However, more broadly, the idea of biocultural diversity is reflected in the current structure of green spaces in the city. The green wedge-ring system of the city consists of a cultural heritage zone that reflects historical urban developments and land use. The internal green ring is dominated by the medieval city walls; this ring is not fully connected as it is cut by the densely built-up area of the old city. The second green ring, so-called Stübben Ring, consists of an historic ring with German (Prussian) fortifications from the 19th century and their surroundings. The third is an additional ring of old fortifications located on the outskirts of the city. The combined maintenance of the historic identity and ecological connectivity within this green wedge-ring system is a major challenge faced by the city authorities nowadays with regard to urban green space planning and management. The management of the different areas is primarily decided on the basis of generic historic and present cultural interests rather than on the demands of specific groups of users.

Bioculturally significant places

The main biocultural significant places are part of the green wedge-ring system. An example of this biocultural assemblage is the Citadel Park (Cytadela) on the northern edge of the Old Town covering about 100 ha. It consists of a complex of 19th century fortifications and military cemeteries (WWI and II) as well as an open-air sculpture gallery. It is a favourite recreational site for the inhabitants of Poznan.

Another large park not far from the city centre, attracting people with more active and less contemplative interests is Malta Park. It is often used for cultural events such as concerts, festivals, but also for sports and active recreation.

Fortifications in Cytadela Park (photo: pl.wikipedia.org Rzuwig, 2007)
Cytadela Park is also an important site for promoting culture such as the open air gallery of Magdalena Abakanowicz’s sculptures (photo: City Office of Poznan).

Map of the green wedge-ring system of Poznan (illustration: City Office of Poznan)
6) CONCLUSION

The planning system of Poznan is very similar to those of other Polish cities. The city authorities have the greatest power over spatial planning. The Masterplan regulates all planning issues at city-wide level. On the local level spatial management plans refer to specific areas based on planning guidelines stemming from the Masterplan. Poznan has the highest rate of coverage by these detailed plans in Poland.

The most comprehensive plan of action for the environment is the Environmental Protection Programme, which every Polish city is required to provide. This plan presents the environmental conditions in the city and the main objectives that it is striving to achieve. Regarding green areas most attention is paid to sustaining the historic and more recently established green ring that represents a recreational and biodiversity network. Furthermore, Poznan emphasizes the management of street side greenery and urban trees. The city has well-established policies and procedures in these areas and can be considered as exemplary nationwide.

The Environmental Protection Programme for the city of Poznan lists public participation as one of the principles that should guide its implementation. One of the most visible and important examples of sharing responsibilities between government and non-governmental actors is the participatory budget. It has proved to be a great success when it was first introduced in Poznan in 2012. In addition, the role of civil movements is quite substantial in Poznan, because recently non-governmental actors have become powerful in opposing certain development decisions and projects. In order to facilitate public debate, the city operates (as many other Polish cities) a Commission for Social Dialogue on environmental issues.

The green wedge-ring system of Poznan provides a very good example of how biocultural diversity can be understood as the diversity of urban green space resulting from historical cultural patterns of land use. Here, the current system results from historical settlement patterns along the river and military fortifications. Although this green wedge-ring system structure is already well established, it is under continuous pressure from other development priorities. The preservation of this green space system remains the most important challenge for green space management in Poznan.
Links and References

Websites of municipality and core organizations
- Spatial Planning Office of the Wielkopolska Region in Poznan: www.wbpp.poznan.pl
- Poznan City Office’s Bureau for Spatial Planning: www.mpu.pl
- Department of Environment of Wielkopolska Region Marshall Office:
  http://www.bip.umww.pl/portal?id=62949
- Regional Directorate for Environmental Protection in Poznan: http://poznan.rdos.gov.pl
- Poznan City Office Department for Green Space Management: http://zzmpoznan.pl
- Poznan City Office Department for Environmental Protection: http://www.poznan.pl/mim/wos

References

For facts in Introduction:
- Area core city and larger urban zone: Urban Atlas.
- Population core city and larger urban zone (2012 or latest): mainly Urban Audit. Note: in a few cases the population numbers have been provided by researchers based on statistical data
- Average annual population change rate (Core city; 1990-2012 or similar): calculated \[\frac{100 \times \text{population number last year} - \text{population number first year}}{\text{last year} - \text{first year}}\] based on Urban Audit.
- Public recreational green space (Core city; m² per inhabitants; 2006): based on Urban Audit and Urban Atlas. Urban Atlas defines urban green space as “public green areas for predominantly recreational use”. Peri-urban natural areas, such as forests and agricultural land, are mapped as green urban areas only in certain cases. In general, peri-urban green areas are not counted. Private green and blue areas are also not included. Further, green spaces with less than 250 m² are not mapped as well. This leads to deviation with per capita green space values used by city officials


For the rest:
- Interview with Leszek Kurek (City Office of Poznan, Department of Environmental Protection), Agnieszka Szulc (City Office of Poznan, Municipal Roads Maintenance Authority – Division of green spaces), and Tomasz Lisiecki (City Office of Poznan, Board of Urban Greenery), 23 June 2014.
- Piwowarczyk, J., Kronenberg, J. & Dereniowska, M., 2013. Marine ecosystem services in urban areas: do the strategic documents of Polish coastal municipalities reflect their importance? Landscape and Urban Planning,
Planning and policy documents


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Ms. Maja Niezborała (City Office of Poznan, Department of Environmental Protection) kindly reviewed this document and provided useful comments.

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<td>Public recreational green space per capita (2006, Core city; m² per inhabitants)</td>
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Ljubljana is the capital and with 280,000 inhabitants the largest city of Slovenia. It is situated between the Alps and the Karst in the central area of the country. Ljubljana is Slovenia’s centre of economic, educational and cultural activities. The city has many watercourses; the rivers Ljubljanica, Sava, Gradaščica, the Mali Graben, the Iška and the Iščica all flow through the city. Ljubljana is also one of the wettest capitals in Europe with high yearly precipitation. Throughout the city’s history, floods have frequently struck the city and its inhabitants.

The main aims of spatial policy are to maintain the well-structured green network and to redevelop brownfields. Ljubljana has a few large parks in the centre and four landscape parks around the centre. These parks generally combine recreational functions and high biodiversity levels. The city will be the European Green Capital in 2016.

² This measure for per capita green space in Ljubljana deviates from data used by the city administration (approx. 560 m² of green area per inhabitant or 542 m² of public green space; in the compact city 106 m² of green area per inhabitant or 66 m² of public green space). This deviation can be explained by different data bases. The Urban Atlas defines urban green space as “public green areas for predominantly recreational use” Peri-urban natural areas, e.g. forests, are mapped as green urban areas only in certain cases. In general, peri-urban agricultural land and forest are not counted. Private green and blue areas are also not included. Further, green spaces with less than 250 m² are not mapped. According to the European Commission (2014: 3) almost 75 % of urban green space in the city centre of Ljubljana covers less than 200 m². These small green spaces are therefore not considered in our calculation.
2) URBAN AND REGIONAL PLANNING CHARACTERISTICS

General description of the planning system

In Slovenia the region’s municipalities and the Ministry of Spatial Planning are responsible for regional land use planning, as there is no regional-level administrative body for this purpose. The municipalities are also responsible for the implementation of plans, both at the regional and municipal level. Regional organizations such as the Regional Development Agency only assist with strategic non-binding guidelines and with the coordination of projects that go beyond the city level. Municipalities have to incorporate all national-level requirements in their planning documents and into the regional spatial plans, which are developed by municipalities in the region. Both of these plans are of a rather strategic nature and define objectives and strategies but do not contain detail in terms of implementation.

In the case of the Ljubljana city region the Regional Development Agency of the Ljubljana Urban Region, the Council of the Region, and the Association of Municipalities are responsible for plans and policies at the regional level. The most important instrument at this level is the Regional Development Program for Urban Region of Ljubljana 2014-2020, which is a non-binding strategic document.

At the city level comprehensive land use planning is the responsibility of the Urban Planning Department of the City Hall. The most important documents are the binding Municipal Spatial Plan and the non-binding Strategic Spatial Plan of Ljubljana. These documents are supplemented by thematic programmes, like the Environmental Protection Programme 2014-2020, and the Sustainable Energy Action Plan to 2020. The most important change affecting the planning process in Ljubljana was the revision of the Municipal Spatial Plan in 2010, which replaced a more than two decades old plan, closely following the document Vision2025, a long-term vision for urban development.

Instruments for the protection and enhancement of urban green space

In line with land use planning, there is no administrative body responsible for the protection or enhancement of urban green spaces at the regional level. Therefore, in case of projects beyond municipal borders several municipalities cooperate together for planning and implementation. Important parts of protected areas are administered by national level organizations, like the Institute for Natural Conservation and the Slovenian Forest Service.

At the city-level several departments are included in green space planning: (1) the Urban Planning Department sets the spatial rules, and (2) the Department for Environmental Protection deals with environmental issues at a strategic level, while (3) the Department for Commercial Activities and Traffic together with the Office for Development Projects are responsible for implementation. The most important planning instrument regarding green spaces is the Municipal Spatial Plan for the City of Ljubljana which determines, maintains and develops the green structure of the city. Urban green spaces are considered as multifunctional and are planned also to mitigate other urban pressures.

The Environment Protection Programme 2014-2020 is another important instrument which protects and enhances the natural environment in the city. There are some special regulatory documents which aim to protect specific green areas like the Regulation for the Ljubljana Moor Regional Park and regulations for other sites of natural heritage. On a project-level, there are also several partnerships at the city-level regarding protection and enhancement of green spaces between the municipality and local NGOs (see section on local participation).

Objectives, achievements and challenges in urban green space planning

The main focus of green space policy in Ljubljana is on restoring and conserving the already existing network of urban green spaces and natural areas. Creation of new green areas is one of the major aims. Urban development is directed mainly at regeneration and renewal of existing developed areas and rehabilitation of degraded areas to
achieve the aim of sustaining compactness of the city. Accordingly, the main achievements named by the city officials are green space restoration projects, such as restoring the degraded banks of River Sava, the rehabilitation of a degraded open urban space at Šmartinska cesta, and the creation of a Ljubljana Marsh Nature Park which obtained the status of a protected natural environment.

The main challenges in urban green space planning in Ljubljana are connected to the management of public-private partnerships - like the management of the Šmartinska partnership. This is the first large, long-term, public-private project with several partners and with ambitious plans for renovation of the entire quarter of degraded industrial activity into a vital business quarter with public green spaces. Additional problems occur by balancing between the natural conservation aims and the interests of the public concerning recreation. Green space is considered as a significant financial burden for the municipality’s budget both concerning the maintenance of green spaces and implementing investments in it. Green areas in the city centre are quite fragmented and in this way more vulnerable for interventions that put the green space under pressure. A further challenge is seen in the unequal representation of different categories of green areas in all city districts. Rehabilitation of brownfield sites, derelict and/or contaminated lands into a kind of urban green space or urban redevelopment are also considered challenging.
3) EXPERIENCES WITH INNOVATIVE GOVERNANCE PRACTICES

Government ideas and practices regarding participation
In Ljubljana several different actors are usually involved in green space planning with different intensity such as city employees from different departments, non-governmental organizations (NGOs), business community representatives, scientists, neighbourhood associations, community groups and individual members of the public. For important plans such as the Municipal Spatial Plan and the Environment Protection Programme all the previously mentioned stakeholders were involved at different levels. The process of creating these documents included several workshops, roundtables and coordination with various sectors and also consideration of comments by the public.

Currently the most important NGOs with regard to urban green space are from the cultural sector, who initiate alternative programmes for public green spaces such as reorganization, new urban equipment for new activities and cultural events such as ProstoRož, ZavodBOB. Other important stakeholders are private research organizations (e.g., IPOP with organizing Jane’s walk) and other NGOs such as associations of allotment gardeners, who initiate events promoting use of green space or its improvement.

The City Hall supports NGO or community initiatives for regeneration, renovation of neighbourhoods and other green spaces. However, the interviewee emphasized issues of accountability and representation with regard to the involvement of NGOs. First, the municipality cannot take responsibility or be accountable for failures if NGOs carry out green space related tasks. Second, the NGOs do not always adequately represent all the relevant stakeholders in an area, giving rise to questions regarding their legitimacy.

There are also public-private partnerships and formal organizations, companies established in order to increase the quality and quantity of green spaces (e.g., Partnership Šmartinska). Owners are involved in these partnerships because they are considered key actors and co-responsible for the implementation of green space interventions.

The NGOs’ interest to participate in planning and policy-making has remained the same over the last decade in the terms of proactive cooperation with the city planners. However, when there is an increase in development interventions, the number of the opposing civil initiatives increases proportionally.

Local initiatives
On a project-level, Ljubljana’s NGOs collaborate on the initiation and coordination of green space plans and their implementation. Who is involved and to what extent is decided by the initiator of the project. For example, if the initiative concerns land that is owned by the municipality in a specific neighbourhood, then the municipality works together with the residents to reach an agreement about the area’s development. If several public and private owners are involved, then a public-private partnership is realized like in the case of the park by Šmartinska cesta. Here, a company (LtD) was created which implements the urban, economic, environmental and social regeneration process of the area. The initiatives mentioned by the city officials are rather bottom-up, meaning that the NGO initiates projects such as the redevelopment of an urban area or the conversion of a brownfield.

Supporting and hindering factors in participation as perceived by city officials
According to the interviewee, there are some major factors that support NGO participation in the management, planning and design of green spaces, such as that initiatives are well considered. NGO involvement is considered especially helpful for initiatives that simultaneously satisfy public and private interests.
Before the recession in 2008, private business investors were the main initiators of building developments or land acquisition. During that time, it was sometimes difficult to distinguish involvement for speculative reasons from other types of involvement. As the city became the main actor and public motives became more important after 2008, hidden speculative motives became fewer.

According to the interviewee, the most important factors considered as hindering participation of non-governmental actors are reckless planning, enforced solutions and cheap arrangements which typify the first years after independence, as well as neo-liberal financial schemes, which were common until 2007. For these problems consensual arrangement for green spaces could mean a solution. Unsettled ownership situations can also be challenging. If it is not exactly known who the landowner is, then it is also not known who manages the land. This problem sometimes occurs in neighbourhoods with semi-public land around residential blocks. In the event of an unsuccessful project usually the city administration gets the blame, even though the owner might be responsible.

**Examples of initiatives coming from local stakeholders**

**Revitalization of the Tabor district**

The project for the revitalization of the Tabor district aims at empowering local communities and individuals in the redevelopment of urban public space. Towards this goal, the wishes of children and adolescents (in cooperation with a local kindergarten and secondary school) were considered during the revitalization of Čufarjeva ulica (Čufar street). Further, a summer programme and a festival called The Neighbour’s Day were organized, and Saturday fairs have been revived. All these activities are open for the public.

The initiative is mainly organized by the NGO Prostorož. Different governmental and non-governmental organizations and other supporters of the project are also involved. The revitalization of the Tabor district is part of the ECLECTIS project (European Citizens’ Laboratory for Empowerment: Cities Shared), supported by the EU.

**Beyond a Construction Site**

In collaboration with residents of the neighbourhood and other interested people, locals have been transforming an area near Resljeva Street into a community space for urban gardening, socializing, education, and culture. The project shows the potential of degraded urban areas and the possibility of creating new value through temporary use and community-based interventions. The project enhances and promotes possibilities for urban gardening as well as more active inclusion of inhabitants in decision-making about planning, development, and management of urban spaces.

The plot owner is the Municipality of Ljubljana and it allows free usage of the land. The Obrat Culture and Art Association and Bunker are the leading and coordinating NGOs in the project. The European Regional Development Fund, The Municipality of Ljubljana and the Ministry of Culture are the main supporters of the project.

![Revitalization of the TABOR district (Prostorož, 2012)](image)

![A community-based garden intervention on a degraded urban space (Obrat Culture and Art Association, 2011)](image)
### 4) URBAN GREEN INFRASTRUCTURE (UGI) THEMES AND STRATEGIES

#### Main themes related to urban green space

According to the interviewee and the Spatial Plan of the Municipality of Ljubljana the most important theme that impacts urban green space development is creation of an integrated network of high quality open public spaces throughout Ljubljana which will be equally accessible to all, secure, recognized, well maintained, and respectful to cultural heritage, natural resources and the environment.

- Maintainance of natural areas with several functions such as recreation, flood defence, biodiversity, and social functions is one of the strategic goals in the Spatial Plan.
- The Environmental Protection Programme aims at long-term protection of water sources, natural environment, increasing areas for food production and food self-sufficiency and enhancing sustainable living and working in the city.
- Furthermore, a focus in urban planning policies is brownfield regeneration and sustainability, primarily to replace unsustainable forms of land use by more efficient and more sustainable types of land use.

#### Understanding of UGI and representation of UGI principles

In the analysed planning documents of Ljubljana the term UGI is not present. However, linking to the concept of connectivity, the city aims at creating a network of urban green space. This network is also addressed in the Spatial Plan as a “green system” and shall be accessible to all citizens. The system of public open spaces consists of corridors from the centre to the hinterland and circular connections between them. It is considered as multifunctional and shall provide socio-cultural and ecological functions. Examples for socio-cultural functions are social, educational, touristic, recreational, or aesthetic. Some green spaces are explicitly considered as multifunctional such as water bodies with green banks, retention areas for flood defence, urban forests and corridors for air flow. Especially urban forests are declared as multifunctional spaces that provide, in addition to production functions, social and ecological functions. An integrated perspective on the green network and other infrastructure systems could not be detected.

<table>
<thead>
<tr>
<th>Spatial Plan of the Municipality of Ljubljana</th>
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<tbody>
<tr>
<td><strong>Original title:</strong> Občinski prostorski načrt Mestne občine Ljubljana</td>
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<tr>
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<th>Environmental Protection Programme for the Municipality of Ljubljana 2014–2020</th>
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<td><strong>Legal status:</strong> Non-binding, but approved by city authorities</td>
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</table>
**Implementation and evaluation**

According to the interviewee, the implementation and evaluation of plans which are integrated in the city’s budget is successful. Beside long-term spatial plans there are additional detailed action plans which are in accordance with the general plans. The most important supporting factor for implementation is budgetary commitment. Clearly articulated programmes including clear time frames and detailed plans are also considered helpful factors. The implementation of administrative procedures in time is also a supporting factor, such as arrangement of land ownership and different permits.

As major hindering factors legal vagueness such as unclear ownership rights and obligations, delayed implementation of administrative procedures, and limited, uncertain funding schemes were mentioned.

Monitoring of the implementation of plans is rather project-based and concentrates on output indicators. A more in-depth qualitative evaluation of the results seems to be absent.

<table>
<thead>
<tr>
<th>Main themes</th>
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<tbody>
<tr>
<td>• Protection of water resources</td>
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<td>• Protection of the natural environment</td>
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<tr>
<td>• Increasing food production and local self-sufficiency</td>
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<tr>
<td>• Sustainable development</td>
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<tr>
<th>Parallels with GREEN-SURGE policy concepts</th>
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<tr>
<td>• Green economy</td>
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Views of what Biocultural Diversity is referring to and how it is addressed in policy

The term biocultural diversity was not recognized during interviews nor in the planning documents. City officials stated that there are no expressed needs or initiatives to enhance the biocultural diversity of Ljubljana’s urban green spaces. Nonetheless, several aspects related to biocultural diversity are incorporated in planning documents. The City Spatial Plan aims to maintain and complete a well-structured network of evenly distributed green spaces across the entire city in order to not only create ecological connectivity, but also to ensure good and even accessibility for all residents. The green network is recognized as an essential element of the city’s identity and respects cultural heritage, natural resources and the environment. Consideration of cultural diversity is also reflected in the attention that is given in the planning and realization of urban green areas for different age groups and users with different interests. However, use of green spaces by specific user groups is primarily related to its functionality and the proximity of groups to a specific area. For instance, old people use the green space near elderly homes and ill people use green spaces in the vicinity of hospitals.

The concept of biocultural diversity can be connected to the objective of the city’s spatial policy to maintain the multifunctionality of larger green areas with respect to providing both cultural and ecological functions. A good example of this multifunctional approach are the four Landscape Parks which surround the most populated areas of the city; they are supposed to preserve both the historic cultural landscape and rich biodiversity.

Regarding biodiversity conservation, the historic cultural landscapes consist of specific assemblages of urban biodiversity, often including exotic species and cultivars. For new green areas priority is given to the use of native plant species. The municipality also undertakes actions to suppress invasive alien species (e.g., Ambrosia artemisiifolia, Fallopia japonica) that threaten native biodiversity.

Bioculturally significant places

In Ljubljana mainly two types of biocultural significant places can be distinguished: formal parks and corridors maintained by the city administration, and smaller parks and gardens established by local initiatives.

The Landscape Park Tivoli, Rožnik and Šišenski hrib is located close to the city centre and includes the oldest urban park and forest. Due to its various recreational facilities it is visited by more than 1.7 million visitors each year. It also is a natural reserve with numerous threatened species, some of which are on the Red List of endangered species.

The Path of Memories and Comradeship (photo: Municipality of Ljubljana, Alenka Rebec, 2013)

The Path of Memories and Comradeship is essentially a monument commemorating WW2. This 34 kilometer long tree-lined avenue runs around the city, following the trajectory of a former barbed wire barrier erected by the occupation forces. This path is not only an historic monument, but also forms the major connector of the green system in Ljubljana. Its biocultural significance is represented by 7,000 trees, numerous memorials, and recreational rest points.
The development of the Rakova Jelša Park started as an NGO initiative. It is located near the city’s landfill and most degraded residential area of former immigrants’ settlements. In the past, the area was characterized by high crime rates. The area is also characterized by its location near the city road ring and the entrance to Ljubljana moor Landscape park. The objectives for developing the park were rehabilitation of the degraded area and to revitalize the city district.

Another example is the already mentioned initiative Beyond a Construction Site which created a community garden with facilities for socializing, education, and culture.
In Slovenia, land use planning and green space policies are the responsibility of the municipalities. At the city-level, comprehensive land use planning is the domain of the City Hall and is shared among several departments. The basis of green space planning is represented by the Spatial Plan for Ljubljana, the Strategic Spatial Plan of the city and the Environmental Protection Programme 2014-2020.

The planning instruments are mostly strategic spatial plans which contain the well-defined green network of the city. According to the Spatial Plan of the Municipality of Ljubljana, the most important theme is maintaining the green network. Brownfield regeneration and sustainability are also main issues. Additionally, restoration of urban green spaces and natural areas is a major theme in Ljubljana, and accordingly, some of the city’s main achievements are green space restoration projects. The most challenging factors for planning and implementing green space policies are the scarcity of available funds, sometimes unclear ownership structures and problems with administrative procedures. The municipality does not evaluate the effect of green space policies qualitatively but it does monitor the processes by output indicators (e.g. budget realization) or availability of per capita green space and budget.

The municipality aims to enhance public-private partnerships for participative planning and maintenance, and examples of organizations including land owners and other stakeholders already exist for neighbourhood regeneration projects such as the Project Office Partnership Šmartinska Ltd. Furthermore, the City Hall supports NGO or community initiatives for regeneration and renovation of neighbourhoods and green spaces, for example, through the realization of community gardens.

Poorly considered planning and enforced, quick solutions indicating poor understanding of spatial qualities in the first years after independence, and neo-liberal financial schemes until 2007, as well as poor articulation of initiatives were found as the most problematic factors regarding participation of non-governmental actors in green space-related planning and decision-making.

Biocultural diversity is reflected mainly in the multifunctional planning of urban green spaces, which provide both ecological and cultural ecosystem services. Several projects recently have been carried out including regeneration of degraded green spaces which have received a new socio-cultural functions such as Rakova Ješa Park and Beyond a Construction Site initiative.
Websites of municipality and core organizations

- Municipal Spatial Plan for the City of Ljubljana: https://urbanizem.ljubljana.si/index3/

References

For facts in Introduction:

- **Area core city and larger urban zone**: Urban Atlas.
- **Population core city and larger urban zone** (2012 or latest): mainly Urban Audit. Note: in a few cases the population numbers have been provided by researchers based on statistical data.
- **Average annual population change rate** (Core city; 1990-2012 or similar): calculated \[((100*population number last year / population number first year) -100)/(last year – first year)\] based on Urban Audit.
- **Public recreational green space** (Core city; m² per inhabitants; 2006): based on Urban Audit and Urban Atlas. Urban Atlas defines urban green space as “public green areas for predominantly recreational use”. Peri-urban natural areas, such as forests and agricultural land, are mapped as green urban areas only in certain cases. In general, peri-urban green areas are not counted. Private green and blue areas are also not included. Further, green spaces with less than 250 m² are not mapped as well. This leads to deviation with per capita green space values used by city officials.
- **Map of Larger Urban Zone**: based Urban Atlas.


For the rest:

- **Interview** with Ivan Stanič, City of Ljubljana, Head of Section for administrative tasks and general affairs

Planning and policy documents


Acknowledgements

We thank Ivan Stanič for participating in the interview and Helena Regina for her contribution in the further process of drafting this portrait.

Authors and contributors

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**GREEN SURGE Partner(s) involved:** UL

**Researcher(s):** Mojca Nastran

**In cooperation with:** Ivan Stanič, City Hall of Ljubljana
1) INTRODUCTION: Facts and Figures

<table>
<thead>
<tr>
<th>Core city</th>
<th>Szeged</th>
<th>Biogeographic region</th>
<th>Pannonian</th>
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<tr>
<td>Region</td>
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<tr>
<td></td>
<td>Southern Great Plain Region (statistical region)</td>
<td>Planning family</td>
<td>New Member States</td>
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<td>Area</td>
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<tr>
<td></td>
<td>Core city</td>
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<td></td>
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<td>Population (2012)</td>
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<td></td>
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<tr>
<td></td>
<td>Larger urban zone</td>
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<tr>
<td>Average annual population change rate (1990-2012; Core city)</td>
<td>-0.34</td>
<td>Public recreational green space per capita (2006, Core city; m² per inhabitants)</td>
<td>33.38</td>
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</table>

Location Map

Szeged is located near the southern border of Hungary where the Tisza and Maros rivers meet. Although it is the third most populated city in Hungary, its population registers a slight continuous decline. Szeged is the warmest city in the country and is characterised by frequent extreme weather events. Annual solar radiation is high; therefore, it is often called the “sunshine city”.

Since the New Stone Age and throughout the different historic periods, Szeged has been an important city in Hungary, especially after the Treaty of Trianon when the country lost most of its mid-sized cities. During the Socialist period it was one of Hungary’s important light and food industry centres and it is still important for its food processing industry. The city has a rich cultural life, and the University of Szeged is considered one of the best universities in the country.

Compared to other cities in Hungary, Szeged has a relatively low forestation rate. However, there are ecological corridors located even in the heart of the city alongside the rivers and streams. Several public parks are distributed quite evenly across the neighbourhoods of Szeged, and there are Natura 2000 spaces in the suburban areas.

Funds from the European Union are very important for the current development of Szeged, and this situation is not expected to change.
2) URBAN AND REGIONAL PLANNING CHARACTERISTICS

General description of the planning system
Spatial planning in Hungary is based on national regulations. However, aside from these spatial plans at city level must meet county level plans. The higher-level spatial plans focus on large-scale development objects, while the local plans determine the spatial development of a given city.

At city level, the local government is responsible for the spatial plans, which consist of a masterplan and detailed spatial plans for neighbourhoods. These plans are developed by the Chief Architect’s Office in the City Hall and are accepted by the Local Council after a long consultation process with several de-concentrated authorities. The city also cooperates with other settlements in the county by advising on every settlement development plan. This advice is not legally binding for the neighbouring municipalities.

The recent strategic documents of Szeged are the Urban Development Concept of Szeged and the Integrated Urban Development Strategy (ITS). The latter covers the 2014-2020 time period, adjusting to the EU planning period. The purpose of the ITS is to integrate all of Szeged’s mid-term strategic plans, which are mostly based on EU funding. This document roughly determines the objectives and implementation plans for urban districts and the city as a whole. However, it contains little guidance for the future of green areas. In contrast, the Development Concept contains a strong statement about the need to create a green space strategy for the city.

Instruments for the protection and enhancement of urban green space
Besides the above-mentioned plans for urban development, for urban green space the most important instruments are National Law 1996. LIII. for the protection of nature and its complementary regulations, as well as the Local Decree on the Management of Szeged City Naturally Protected Areas. These are legally binding instruments.

The plans regarding urban green spaces are developed by the Chief Architect’s Office. It is the most important organisation in terms of green space decision-making besides the local government’s Council or different committees of this Council, which make the final decisions about which plans should be implemented.

Kiskunsági National Park is an organisation that plays an important role for certain areas. It deals with regionally and locally protected areas and gives expert advice on relevant matters. Moreover, the organisation has regulative rights and control over the protected areas and thus can protect them by means of legal instruments.

Despite the existence of strategic planning instruments many crucial decisions, especially regarding urban green space, are made just prior to an area’s development.

Objectives, achievements and challenges in urban green space planning
City officials concentrate on increasing the quality of green areas both for recreational purposes and wildlife habitats. They have fewer opportunities for increasing the quantity of green space mostly because of financial limitations (there are EU funds for improvements but no funds for maintenance) and lack of space in the inner parts of the city.

The Development Concept of the city also mentions some flagship projects that are to be completed in future decades. These projects deal mostly with restoration of natural habitats in some parts of the ecological corridors.

City officials see the city as a complex system where one alteration induces various other changes in the urban fabric. Therefore, considering the city as a complex whole of interrelated parts is a key challenge. For city officials the main challenge is dealing with conflicts that emerge from various interests (e.g., different interests of inhabitants, professional groups, car and bicycle users). For example, a common complaint about renovated areas is that they
are covered by concrete rather than greenery, while car owners usually complain about the restricted number of parking places. City planners also consider it a challenge that political aspects may dominate over professional decisions.

During the last 10 years there have been many renovations in urban green spaces, such as the complete reconstruction of Szent István Square for which the city received an award of excellence. In the long run, the city aims to reduce car traffic in the city centre by limiting access spatially and/or temporally. To help achieve this goal, the tram system was renewed. Instead of using concrete upon which to set the tram tracks, grass seed was sown and in many areas trees were planted along the tram rails.

It is expected that climatic changes will cause problems and increase the importance of green spaces while also increasing the cost of their maintenance. Due to its location close to two rivers, the city has also been repeatedly affected by floods.

**Szeged’s major challenges** (from left to right): It is difficult to adjust the needs of the built environment to that of urban nature. Grey infrastructure, pavements, and roads may all endanger the life of trees. (photos: Chief Architect’s office)

**Szeged’s major achievements** (from left to right): The renewed Szent István Square. – A grassed tram-line. (photos: Chief Architect’s office)
3) EXPERIENCES WITH INNOVATIVE GOVERNANCE PRACTICES

Government ideas and practices regarding participation

Concerning green space policy the involved non-governmental actors in Szeged are non-governmental organisations (NGOs), community groups, neighbourhood associations, scientists and experts, and individual members of the public. The NGOs include branches of national environmental organisations in the city, and local ones. These actors are to a certain extent part of the planning process concerning complex projects affecting urban green spaces in Szeged. NGOs and local citizens can participate in planning processes mainly during local public hearings or they can submit their suggestions directly to the City Hall. Sometimes their participation is manifested by strong objections, such as demonstrations.

Local non-governmental actors can introduce many new aspects and interests which may seriously affect the final plans regarding the renewal or alteration of urban areas. Further, city planners consider the opinions and suggestions of non-governmental actors during decision-making processes. However, they cannot always take these into account when creating or implementing a plan. In general, participation of non-governmental actors is not the most influential factor in terms of how green space is governed in this city. Other factors, like political decision-making mechanisms, the financial means and views of the public non-profit company that maintains green spaces, and the professional objectives and opinions of the City Hall, are more influential. In the end, plans and implementation processes belong to and are operated by the municipality and are managed by the non-profit Environmental Management Company of the city.

NGOs’ interest in participating in planning and policy-making has increased over the last 10 years, mostly because of the institutionalisation and strengthening of non-governmental actors. Furthermore, EU financing is often influenced by the implementation of a type of participatory planning process. Partly as a result of this obligation, according to the interviewees the role of non-state actors in urban green space planning will become increasingly important.

Local initiatives

With the exception of business actors and the Environmental Management Company, non-governmental actors mainly express their opinions on a specific matter or protest against a plan. Maintenance of green space by non-governmental actors is often not a priority, except for small gardens in front of multi-family or family buildings that are maintained by the inhabitants. In Szeged local dwellers prefer to join NGOs, neighbourhood associations and community groups instead of expressing their interests individually. To an increasing extent, individual politicians represent the interests of non-governmental actors.

The interviewees mentioned some local initiatives where non-governmental participants gave their opinions and ideas about a plan and took part in its implementation (see below). Also, the participation of NGOs in the planning and implementation process is perceived as useful and generally supported.

Supporting and hindering factors in participation as perceived by city officials

According to the interviewees, NGOs can be especially helpful by providing their expertise. The fact that laws and regulations are making it compulsory to engage in more transparent decision-making processes helps NGOs to carry out their roles.

Factors hindering participation of NGOs in green space-related planning and decision-making have got to do with politics. According to the municipal officials, some civil organisations are somewhat influenced by political interests.
They are of the opinion that civic and political affairs should be dealt with more separately. Politicians use civilians, but NGOs also use politics to achieve their goals, which can make situations more difficult. In addition, problems can arise because there are different views even inside the non-profit sector concerning certain aspects of green space development; this can lead to competition among NGOs or, in some cases, with volunteer citizen groups. Another hindering factor that was mentioned in regard to initiatives geared toward implementing the City Hall’s objectives is accountability -- civil society, NGOs and local people cannot be held accountable for implementation. Experience has shown that the City Hall must “overwrite” suggestions of non-governmental actors many times due to its responsibility towards the inhabitants concerning the promised results. Without suitable accountability, it is a matter of debate whether or not NGOs can be actively involved in maintaining urban green spaces.

Examples of initiatives coming from local stakeholders

Kálvária Square

During the reconstruction of Kálvária Square two NGOs supported the work of the municipality. The goal of this initiative was to create a partly green urban area that satisfied as many local needs as possible. The renewal plans were developed by the authority, and local stakeholders were consulted. The opinions that the municipality considered useful were integrated into the plans.

One of the most important NGOs was the Association for a Lively Szeged (Elhető Szegedért Egyesület), which was particularly active in the regeneration programme. The association helped the municipality to include local inhabitants in the planning process, for example, by organising several public forums.

The other important civic stakeholder was the Industrial and Service Vocational School of Szeged (Szegedi Ipari és Szolgáltató Szakképző Iskola). Some of the school’s students planned and created a resting place for bikers in the square. In this case the school also maintains this area.

Community garden in the Tarján housing estate

With the help of the MASZK Association (civil association for the Tarján housing estate) the local residents created the city’s first community garden in the Tarján housing estate. The project was financed by EU structural funds.

The area for the community garden was borrowed from the municipal non-profit Environmental Management Company, which is responsible for the establishment and maintenance of urban green areas in Szeged. Together with 12 local families the MASZK Association created the community garden. They also take responsibility for the maintenance of the garden.

Construction of the resting place for bikers by students (photo: Sándor Gémes, 2012).

Community garden in Szeged (photo: Chief architect’s office).
4) URBAN GREEN INFRASTRUCTURE (UGI) THEMES AND STRATEGIES

Main themes related to urban green space
According to the Integrated Urban Development Strategy of Szeged and the Urban Development Concept, the most important themes related to urban green space planning are adaptation to climate change, biodiversity and social cohesion.

Because written documents do not render a full account, it is important to note here that the key word in everyday practice is “sustainability”, both by ecological and economic means. Sustainability is reflected in the choice of species for planting and in the ways green space development is planned and implemented.

Understanding of UGI and representation of UGI principles
The Integrated Urban Development Strategy of Szeged and Urban Development Concept of Szeged refer to the concept of “green infrastructure” when citing EU policies, but the concept is not applied literally in the analysed documents. Urban green space is not described as a kind of network, but rather as a “natural urban environment”. Associations between green space and other infrastructures are also not explicitly mentioned. However, the documents contain complex integrated approaches for planning urban infrastructures.

In regard to multifunctionality, several functions or services of urban green space are mentioned such as increasing the quality of life, sustainability, air quality, the quality of climatic environment, reduction of negative effects of climate change and opportunities for recreation in the city.

In the document Local Decree on the Management of Szeged City Naturally Protected Areas the role of green areas in research, education and culture is mentioned. Increasing multifunctionality or the delivery of benefits and services is not an explicit goal of the Decree, while the Concept and Strategy documents emphasize the reconstruction and creation of new green areas with multiple functions.

**Integrated Urban Development Strategy of Szeged and Urban Development Concept of Szeged (ITS)**
- **Original title:** Szeged Megyei Jogú Város Integrált Településfejlesztési Stratégiája és Szeged Megyei Jogú Város Településfejlesztési Koncepciója (ITS)
- **Date:** 2014
- **Responsible department(s):** All departments of the City Hall of Szeged
- **Spatial scale:** City
- **Legal status:** Non-binding, but approved by the City Council

**Main themes related to urban green space**
- Economic, social and environmental development

**Parallels with GREEN-SURGE policy concepts**
- Social cohesion
Implementation and evaluation
The Concept and Strategy documents do not have a spatial vision concerning green spaces in particular, but do so only when considering the development of the built environment of the city in general. More detailed action plans for implementation at the local level are required.

According to the interviewees, implementation-oriented action agendas and programmes are developed as soon as a project is articulated. They argue that funding should be improved, as there is no adequate budget for maintaining green areas. Development of green areas also depends almost entirely on EU funds. In addition, conflicts regarding different interests often arise when particular areas are being developed, causing problems for planning and implementation.

Evaluation and monitoring are tied to specific (EU-financed) projects. The evaluations focus on output-types of indicators, providing information on the concrete results of projects rather than on their broader effects.

Local Decree on the Management of Szeged City Naturally Protected Areas
Original title: Helyi rendelet Szeged város helyi jelentőségű természeti területeinek és emlékeinek védelméről
Date: 2009
Responsible department(s): Chief architect's office
Spatial scale: City
Legal status: Legally binding

Main themes
- Conservation of urban green space
- Green space as cultural heritage
- Green space for tourism

Parallels with GREEN-SURGE policy concepts
- None
5) URBAN GREEN SPACES: LINKAGES BETWEEN BIODIVERSITY AND CULTURE

Views of what biocultural diversity is referring to and how it is addressed in policy

During the interviews the concept of biocultural diversity was interpreted as referring to the sum of biodiversity and cultural diversity. Regarding biodiversity, the concept is familiar to city officials and biodiversity conservation is incorporated in urban green space planning. However, the concept of sustainability is also adopted as a starting point for creating urban green spaces that are resistant to critical urban environmental conditions, such as susceptibility to plant diseases.

With respect to biodiversity, attention is given to both maintenance of spontaneous vegetation and designed urban green spaces with adapted biodiversity. Consequently, both native and non-native species are taken into consideration. Combining biodiversity and cultural diversity in the same green area can be quite challenging, because the maintenance of spontaneous biodiversity in urban green areas may give the impression of a disordered and unsafe place for local residents. Furthermore, cultural services such as recreation are threatened because of limited use or diminished public safety. In several cases, the selection of adequate species (e.g., for road-side trees) is undertaken with the help of local inhabitants. This selection depends on whether the species are planted in a designed urban green space or a natural vegetated area inside the city. In the first case, planted species should be chosen based on their ability to survive in an urban environment; in the second case, native species should be selected based on their adaptability to site conditions. However, it is difficult to plant native species in Szeged because the region’s original vegetation is steppe; therefore, there would be fewer trees.

Regarding cultural diversity, the focus is on the different uses of green spaces by different groups of people (e.g., with respect to age, or the disabled). The needs of these groups result in the planning of specific green spaces to meet their requirements; for instance, playgrounds for small children and resting places for the elderly. The upgrading of green spaces aims at creating recreational spaces for as many groups of people as possible at the same time but not at the same place in order to avoid disturbing effects.

Bioculturally significant places

The most important place reflecting biocultural diversity in Szeged is the Tisza river bank. Many areas along the river are protected and the management of these areas is the joint responsibility of the Municipality and the National Park. In managing river banks attention is not only given to biodiversity conservation but also to the maintenance of their cultural and recreational values for local people. Many people visit the river banks regularly to engage in sports activities, to walk their dogs, etc. The river also provides many different recreational opportunities, such as swimming or waterskiing. There are several cultural events organised along the river bank. The river itself possesses a very specific biocultural value - every year, when the new generation of mayflies (Palingenia longicauda) skims the surface of the river for a short period of time, many people come to Szeged to watch this “blooming of Tisza”.

Other examples of biocultural significant places are several park-like squares, such as the Árpád and Dugonics squares, where different groups of people enjoy coming together.
Plan by Imre Csüllög for the development of the Tisza river bank (image: Imre Csüllög, 2011)
6) CONCLUSION

In Szeged the local government is the main actor responsible for local development and for accepting spatial plans at the city level. However, these plans must incorporate national and county level regulations. Furthermore, the city has spatial regulations and a Development Concept and Strategy. These documents report limited content concerning urban green infrastructure. In regard to the preservation of environmentally sensible parts of the ecological corridors some actions are suggested for implementation in the Development Concept. Nevertheless, a Green Space Strategy is emphasized in the Concept document as an important future undertaking. Due to climate change the green space policy will be crucial as Szeged is the warmest city in Hungary and needs to adapt to climatic conditions.

Currently many crucial decisions, especially those regarding green spaces, are made immediately before an area’s development. For Szeged the complexity of the planning system is mainly shown in practice, during implementation. City officials aim to consider all relevant aspects when altering an urban area, because they see the city as a complex system where an alteration could induce other changes in the urban fabric. Therefore, implementing urban development projects is considered as challenging. During the planning and implementation process city planners consider different interests and try to make compromises when possible.

The non-governmental actors in Szeged state their opinions on specific matters or protest against a plan. However, they are rarely involved in maintenance of green areas. According to the city officials, without suitable accountability non-governmental actors cannot take much part in maintaining urban green spaces even if they would like to. There are very few initiatives which can be labelled as bottom-up; most are managed by the local government, for example, when dealing with public participation in urban renovation or urban gardening on municipal sites.

Factors such as EU funding, laws and regulations support the integration of urban green space in development planning. EU-funded development projects must also include public participation and be transparent. Furthermore, laws and regulations have an impact on development projects, for example, regulations requiring compensation measures when grey infrastructure projects impact urban green space. The lack of funds for maintenance, conflicts of political and professional views, and the low level of evaluation and monitoring activities are considered as important barriers to effective implementation.

The concept of biodiversity is familiar to the city officials, but in urban green planning the concept of sustainability takes precedence. Regarding cultural diversity, attention is given to different uses of green spaces by different categories of people, such as different age-groups.
References

**For facts in Introduction:**

- **Area core city and larger urban zone**: *Urban Atlas*.
- **Population core city and larger urban zone** (2012 or latest): mainly *Urban Audit*. Note: in a few cases the population numbers have been provided by researchers based on statistical data
- **Average annual population change rate** (Core city; 1990-2012 or similar): calculated \[\frac{100 \times \text{population number last year} - \text{population number first year}}{\text{last year} - \text{first year}}\] based on *Urban Audit*.
- **Public recreational green space** (Core city; m² per inhabitants; 2006): based on *Urban Audit* and *Urban Atlas*. *Urban Atlas* defines urban green space as “public green areas for predominantly recreational use”. Peri-urban natural areas, such as forests and agricultural land, are mapped as green urban areas only in certain cases. In general, peri-urban green areas are not counted. Private green and blue areas are also not included. Further, green spaces with less than 250 m² are not mapped as well. This leads to deviation with per capita green space values used by city officials
- **Map of Larger Urban Zone**: based *Urban Atlas*.


**For the rest:**

- **Interview** with Éva Sz. Fehér chief architect and Ágnes Dénes horticultural rapporteur, City of Szeged, Development Office on 24 June 2014.
Településfejlesztési Koncepciójának és Integrált Városfejlesztési Stratégiájának megalapozó vizsgálata.


Planning and policy documents

- Local Decree on the Management of Szeged City Naturally Protected Areas: City Hall, Chief architect’s office (2009). Helyi rendelet Szeged város helyi jelentőségű természeti területeinek és emlékeinek védelméről Available from http://rendeletek.szegedvaros.hu/

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In cooperation with: Éva Sz. Fehér and Ágnes Dénes, City Hall of Szeged
1) INTRODUCTION: Facts and Figures

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<td>Planning family</td>
<td>New Member States</td>
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<td>Average annual population change rate (1991-2012; Core city)</td>
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<td>Public recreational green space per capita (2006, Core city; m² per inhabitants)</td>
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Oradea is located on the banks of the Crișul Repede River near the eastern Hungarian border in the northwestern part of Romania. This region is also called Northern Transylvania. Until World War I Oradea was part of the Austro-Hungarian Empire. Approximately one-fourth of the inhabitants are still Hungarian.

Oradea had an important industrial role in its region from the end of the 19th to the beginning of the 20th century. Currently light industry and commerce have the highest importance in the city’s economic life. The city today is an important centre of economic, social and cultural life in the western part of Romania and it is also the core city of its region. Nevertheless, the number of inhabitants has slightly decreased in recent years and currently stands at around 200,000.

The per capita green space is 25 m² (2012) in the city which is somewhat lower than the EU average, but far more than the Romanian average, that is why the city won the title of “Green Capital of Romania” in 2011.
2) URBAN AND REGIONAL PLANNING CHARACTERISTICS

General description of the planning system

In Romania there are four levels of administration with urban spatial planning competencies: national, county, metropolitan and city level. The national level provides the legislative background. At the next level, the Chief Architect and the Spatial Planning and Urban Committee of the county have a right to give advice on land use planning of the cities based on the Spatial Plan of the County. This level also provides guidelines for spatial planning in general.

The metropolitan level, called Zona Metropolitană Oradea (ZMO) consists of the city of Oradea and a voluntary group of 11 settlements in its region. The ZMO was established in 2005 for promoting its development potential by integrating the various local approaches in a broader planning process. At present, cooperation in water supply and purification and waste management are two key areas of interest. The organizational form of this cooperation is an inter-community development association, a quasi-public body with multiple competences.

In the end, the settlements are the most important administrative units for both land use planning and green space planning. In Oradea, the Chief Architect’s Office is responsible for local spatial planning and implementation.

The most important instruments guiding land use at the city-level are the following three: General Urban Plans, Zonal Urban Plans and Detailed Urban Plans. The first is the most general one and covers the entire city. The second type of plan is more detailed and applies to neighborhoods or larger plots of land and the third is a special regulation for specific parcels of land.

Instruments for the protection and enhancement of urban green space

On the Oradea regional level there is no formal body of administration nor any special instruments for urban green space protection and enhancement. The Spatial Plan of the County contains mainly large scale infrastructure such as roads relevant to this level. Similarly, the regional level does not have a role regarding green infrastructure development yet.

On the city level green space issues are among the responsibilities of the Department of Public Service and Green Spaces at the City Hall of Oradea. The most important instruments that define green space protection and enhancement are legally binding documents such as the three land use planning instruments mentioned above, 429/2009 Local Decree on Organization, Development and Maintenance of Green Spaces and the Green Cadastre of Oradea, the latter of which lists and categorizes the different green spaces of the city.

Objectives, achievements and challenges in urban green space planning

In Oradea the quantity of green spaces accessible to the public increased significantly in the last ten years, just like their quality for recreation and as a wildlife habitat. The political leaders of the city aim to provide qualitative green space for all inhabitants within a five-minute walking distance from their residence.

Accordingly, the biggest achievements are mainly related to the creation of new green space. For example, Parcul Linişti and Parcul Seleuş are parks built on former cemeteries. Another important achievement was creating the Green Cadastre of Oradea, which contains information about the 663 hectares of green spaces inside the city.

The major challenges are rooted in administrative problems. Most of the tasks regarding green space construction and maintenance are contracted out to different companies for three year terms. However, it is reportedly very difficult to select an offer based on quality criteria so the main criteria used is the lowest offered price – quality becoming a secondary issue. It is also challenging that there is a lack of personnel to officially monitor, evaluate and
control the work of these entrepreneurs. There are only three employees in the City Hall of Oradea working on green spaces.

Additionally, according to green space officials in the municipal government, there is a lack of data and information providing a basis for the development of good strategies, and there is a lack of cooperation with urban development officials. They consider that this cooperation is important for finding a good balance between building developments and green spaces.

Oradea's major achievements: Parcul Linişti (left) and Parcul Seleuş (right) are cemeteries transformed into parks (photos: City Hall of Oradea).
3) EXPERIENCES WITH INNOVATIVE GOVERNANCE PRACTICES

Government ideas and practices regarding participation

The most important stakeholders regarding green space planning in Oradea are currently the municipality and, to some extent, business actors. In addition, homeowners’ associations, schools and civic organizations play an increasing role in forming urban green areas. Resulting from a shortage of financial resources and/or due to democratic considerations to involve different actors in city development and management, the city has developed a kind of institutionalized solution, a local decree for regulating processes, which can be used to empower different actors (businesses, inhabitants, institutions) to take the responsibility for maintaining certain pieces of green spaces.

Business actors are involved in the process in two ways: (1) private businesses “adopts” pieces of public area for planning, implementing and maintaining green space interventions and they can promote their companies in these spaces in return; or (2) other private businesses implement the municipal green space policy based on public procurement processes. Further, the City helps homeowners’ associations to implement green space plans and supervises housing associations to maintain a specific area around the housing blocks (also see below).

Local initiatives

There are only one or two civic organizations that are active in the field of environmental protection and green spaces and there are no notable changes in this respect. The cooperation with the University discontinued completely. The city officials emphasize that they would welcome a higher degree of civic activities support these engagement, even if this would bring in more and different opinions.

With regard to business actors, there are several parks and several roundabouts in Oradea which are managed by different companies. Some of them were created, others were refurbished by these entrepreneurs. For 3 years, the maintenance of these parks and roundabouts is the responsibility of the contracted companies.

The City Hall of Oradea has established 800 partnership contracts with homeowners’ associations, basically including all multi-family buildings within the city. The associations can request a change or major transformation regarding their immediately surrounding green areas, or they can ask the municipality to create new green areas if there are none available in the surroundings. The City creates these new areas and pays for the establishment, but the associations have the responsibility to maintain them. These types of contracts with homeowners’ associations can also be found in some other cities of Romania.

There is a major project which includes many schools in Oradea that affects green spaces in the city: several schools planted about 10,000 trees in the last 3-4 years.

The city also implements a type of public programme for maintaining some green areas as well. The prison of Oradea and dozens of people not able to enter the primary job market are involved in this programme.

According to the interviewees, there are very few projects that are initiated by civic organizations (see examples below).

Supporting and hindering factors in participation as perceived by city officials

The most intense cooperation in the non-governmental field is with business actors with regard to the creation and maintenance of green spaces, as already described. Both, the businesses and the municipality, consider this activity as a kind of “business card” for the companies; hence the marketing aspect is expected to strengthen the cooperation.
The maintenance of the surrounding areas of housing associations is based on a local legal obligation—if a homeowners’ association requests that the municipality improve the green space provision in the surrounding area, then the homeowners’ association is obliged to take care of it. This is a kind of “enforced” cooperation.

Today, the number of truly non-governmental organizations and their influence is limited, and very few proposals are formulated by them even though political actors would consider their proposals. There is also a lack of civic interest which seems to be a general phenomenon in Oradea. This missing civic involvement is a cultural challenge which may need decades to improve.

Examples of initiatives coming from local stakeholders

Contracting-out green space management

Several companies created 20 green roundabouts and 10 other green spaces, and since then they have been taking care of their maintenance as well. The business actors’ role was for the planning and implementation, and City Hall approved the plans before implementation.

Life Youth Foundation Stream Project

The civic organization Life Youth Foundation initiated a project to increase biodiversity on the bank of the stream Pece. Life’s co-workers planted flowers, trees and other plants as well as created habitats for birds. The civic organization created the proposal for the renewal of this area and the project was authorized by City Hall. For implementation, the City provided the tools.

Roundabout created by business actors (photo: City Hall of Oradea; http://ursut.ro/11/16/oradea-capitala-verde-a-romaniei.html)

Planting trees by the bank of Pece (photo: City Hall of Oradea)
4) URBAN GREEN INFRASTRUCTURE (UGI) THEMES AND STRATEGIES

Main themes related to urban green space
Oradea does not have any long term or short term strategic type of plan concerning green spaces. It rather has a political vision about the developments and practical technical plans for daily operations with regard to the maintenance of green spaces.

Taking into account the political considerations behind green space management, one might discover (and this was emphasized by the city officials) two main themes that guide the day-to-day practice: (1) developing green areas which are resistant to the challenges of the urban environment, and in this way the city intends to create economically sustainable areas; (2) availability and accessibility for inhabitants. According to a political declaration, each inhabitant should be able to reach a green space for recreation within a five-minute walking distance from home.

Understanding of UGI and representation of UGI principles
Green space planning is based rather on strategic and operational decisions than on strategic planning documents. Current practice places a large emphasis on the development and enlargement of green areas providing recreational and ecological services that are accessible to all. However, integration of green space with other developments (like grey infrastructure) and the cooperation of different development actors for this purpose is more problematic.

The day-to-day management issues are in the forefront of green space policy, which involves many stakeholders (e.g., businesses, homeowners’ associations). Management is regulated by local decrees and management contracts.

Implementation and evaluation
City officials mentioned that funding sources are sufficient to fulfill their plans concerning green space. This is likely due to there being political support for the expansion of green areas, which might help with allocation of required funding. Also, contracting-out to companies on the lowest bid basis for implementation and maintenance work may mean that financial resources are sufficient to cover quantitative goals.

Sometimes problematic is land speculation when the city wants to purchase a piece of property for the purpose of converting it into public green space. In this case, legal problems may arise.

Evaluation and monitoring mechanisms are in place to an extent. However, they are mostly executed by the responsible companies, and therefore the quality and frequency of monitoring largely depends on them.
5) URBAN GREEN SPACES: LINKAGES BETWEEN BIODIVERSITY AND CULTURE

Views of what biocultural diversity is referring to and how it is addressed in policy

During the interviews it appeared that although the concept of biocultural diversity was not unfamiliar, it was not specifically applied in planning urban green spaces. Rather, the main concept used in urban green space planning is the concept of sustainability. It is specifically applied with respect to the need of species in urban green spaces to be adapted to the city’s environmental conditions and resistant to critical urban environmental conditions.

The city officials acknowledge the importance of biodiversity and the maintenance of an ecological network. This is reflected by the network of large-scale green areas situated mainly along the rivers and streams that characterize the city. However, in terms of biodiversity, native species are not preferred over non-native, resistant species.

Regarding cultural diversity, attention is given to the recreational demands of different community groups, especially in respect of age, in the planning and management of urban green spaces. Such cultural differentiation focuses mostly on the planning of urban spaces for the specific needs of the long-standing inhabitants; little attention is given towards developing new, multicultural-oriented green spaces. The main theme concerning green spaces is accessibility and usability for as many people as possible) rather than planning areas for different cultural groups.

Biocultural significant places

The most significant place regarding biocultural diversity is the river Crișul Repede that crosses the city, providing both recreational areas and natural habitats. The river is mainly framed by city parks, while some river stretches run between dams. The parks and river banks can only be used by pedestrians; cars are not allowed.

Besides the river banks, several parks are designed with statues or are used for cultural events. For example, in the December Park is a statue commemorating a Romanian soldier, and sometimes religious groups gather in the park to sing together.

River Crișul Repede (photo: CC BY-SA 3.0, en.wikipedia.org, Marcin Szala, 2009)
6) CONCLUSION

Oradea is a middle-sized city in the northwest of Romania. The spatial planning system of the city is organized by four levels of competencies: the national level provides the legislative background; the county level has a right to provide opinion on land use planning of the city based on the Spatial Plan of the County and also provides guidelines for spatial planning in general. The metropolitan level does not have authority concerning spatial planning, it rather provides a loose framework for economic development and large scale infrastructure development. Regarding green space planning and implementation, the City Hall of Oradea has the most decision-making power.

Oradea has developed its green space extensively in the last decades mainly by converting brownfields into new public parks. In Oradea, political commitment is more important than written documents for developments regarding the green structure. For example there is commitment to achieve the target of having recreational green space within a five-minute walking distance from the home of every inhabitant which has influenced green space development in the city.

Most of the tasks regarding green space construction and maintenance, and sometimes even the planning process, are contracted out to different companies, and the criteria for selection is the lowest price offered. Therefore, the municipality has decision-making power, but implementation and maintenance is conducted by mostly local companies. The municipality has a strategy – supported by a local decree – to let businesses and other institutional actors “adopt” green spaces, thus to implement improvements and maintain these green areas. Beside these entrepreneurs, homeowners’ associations, schools and civic organizations increasingly play a role in creating or improving urban green space. For instance, homeowners’ associations can be responsible for the immediately surrounding areas of their multi-family buildings, and schools are participating in a local tree-planting project. However, overall, there are very few initiatives by civic organizations.

The city aims to create green areas which are resistant to the challenges of the urban environment and which are also available and accessible for all of the city’s inhabitants. These are the main themes characterizing green space policy in Oradea. These themes are also reflected in of the city’s handling of biocultural diversity: native species are not favoured over non-native, resistant species, and cultural diversity is overwritten by the importance of accessibility for all inhabitants.
Websites of municipality and core organizations

- City Hall of Oradea: http://www.oradea.ro/
- Homepage of Bihor County, list of decisions made by the Commission 2 in charge for urban development http://www.cjbihor.ro/cj.php

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- Population core city and larger urban zone (2012 or latest): mainly Urban Audit. Note: in a few cases the population numbers have been provided by researchers based on statistical data
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For the rest:

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- **Simai, Dan. 2013. Ce facem cu Oradea?** Article about the public debate of the Oradea Urban Plan (11.04.2013)
- **Size of green space in Oradea**: [http://www.oradea.ro/pagina/oradea-capitala-verde-a-romaniei](http://www.oradea.ro/pagina/oradea-capitala-verde-a-romaniei)

Planning and policy documents

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In cooperation with: Mircea Stejeran, City of Oradea and Ciprian Barna, Oradea
Metropolitan Area
12 BERLIN, GERMANY

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<td>Public recreational green space per capita (2006; Core city; m² per inhabitants)</td>
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Location Map

Berlin is Germany’s largest city and centre of the Berlin-Brandenburg Metropolitan Region. Located in north-eastern Germany, Berlin is the capital and also one of the 16 States of Germany. Berlin lies in the lowlands of northern Germany, in a landscape characterized by river valleys and plateaus shaped by the last Ice Age. Berlin encompasses large green and blue areas. Parks, forests and water bodies sum up to nearly 40% of the total city area.

Unlike other parts of former Eastern Germany, whose population declined after the reunification, the number of inhabitants in Berlin’s metropolitan area has remained relatively stable. Nevertheless, the metropolitan area has experienced uneven growth, resulting specifically from a population increase within the city and suburbanisation around the city of Berlin, while other parts of the Metropolitan Region have been steadily shrinking. These disparities in development are expected to increase (SenStadt UD and MIR 2009).

Berlin is considered to be a hub for creativity and culture and a popular international tourist destination.
Map of Larger Urban Zone
2) URBAN AND REGIONAL PLANNING CHARACTERISTICS

General description of the planning system
Berlin conducts regional planning in cooperation with the surrounding State of Brandenburg (Joint Spatial Planning Berlin-Brandenburg). The joint department of the two federal States operates on the basis of a State treaty. The State Development Programme for the Berlin-Brandenburg Region (LEPro 2007) is the overall planning strategy for the region, including the development of open space. The State Development Plan Berlin-Brandenburg (LEP 2009) is a specification of the LEPro and provides the framework for regional spatial development. It defines the spatial structure and contains objectives for the development of open space and built areas. Both instruments are legally binding and eventually be a point of departure for decision-making on behalf of the municipal authorities in the Berlin-Brandenburg area.

Due to Berlin’s status as a German State the Senate Department for Urban Development and the Environment also represents a regional planning body. Therefore, some of the planning instruments differ from other German cities as they combine the regional (state) and city level. The Land Use Plan (FNP 1994 with several adjustments) is a strategic urban planning instrument and is binding for public authorities. The Urban Development Plan 2030, however, is an informal planning process that formulates the main topics for the long-term development of Berlin.

The German planning system is characterised by formal plans and regulative instruments. Interestingly, to tackle Berlin’s evolving challenges, a number of non-statutory plans have been recently agreed upon, namely the Urban Development Plan Climate, the Biodiversity Strategy and the Urban Landscape Strategy.

Berlin’s districts have their own departments for urban development.

Instruments for the protection and enhancement of urban green space
At the regional level, the LEP defines objectives for the development of cultural landscapes and open spaces. Additionally, in 1998 a “chain” of eight regional parks was established to protect the peri-urban landscape surrounding Berlin against sprawl and to conserve landscape areas for recreational purposes.

The public authority responsible for green space planning at city level as well as for the execution of nature protection laws is the Department for Urban Planning and Open Space Planning, which is part of the Senate Department for Urban Development and the Environment. The Landscape Programme/Species Protection Programme (LaPro 1994/2004) is the strategic landscape planning instrument that is coordinated with the FNP and contains environmental protection requirements and measures. An update of the LaPro is in progress and a draft will be published in 2015.

While the LaPro ensures the long-term environmental quality of the city, the non-statutory plans mentioned above focus on particular green space-related issues, such as further development of urban green space based on evolving societal needs, the protection of biodiversity, or adaptation to climate change.

At district level, the departments for urban development are responsible for the planning and management of urban green space and elaborate the LaPro for their areas in the form of district landscape plans. These landscape plans are ordinances.

Objectives, achievements and challenges in urban green space planning
During the last decade, Berlin has successfully protected and transformed vacant lands such as railway areas or airports into public parks, with the former Tempelhofer Feld airport (300 ha) as the most prominent example. To improve the green space network in terms of recreation and to preserve biodiversity, the impact mitigation and com-
pensation regulation under the Federal nature protection law is particularly valued by city officials. Though not as strictly binding in urban areas as for the countryside, this instrument ensures that loss of open space through development is partly compensated and allows the city administration to engage developers to raise funds to improve the habitat and recreation network.

Following the improvement of connectivity, the city’s focus is on securing the existing qualities and maintenance of Berlin’s urban green. Due to restricted financial resources conserving the status quo is perceived as a major challenge.

The need to further adjust Berlin’s green arises from the diversification of society in terms of lifestyles and demands as well as the expected effect of climate change. In social terms, city officials aim at the promotion of cultural diversity and a variety of lifestyles through urban green space but are aware of the challenge to accommodate multiple demands and interests in a limited space. Both social and environmental challenges are also addressed in Berlin’s planning strategies, such as the Urban Landscape Strategy.

**Berlin’s major challenges** (from left to right): The general tight budget of the city combined with a highly intense use of green spaces represents a challenge for the maintenance of parks, such as Tilla-Durieux-Park (photo: Senatsverwaltung für Stadtentwicklung und Umwelt). – To tackle the upcoming challenges of climate change the city has developed a strategy for adaptation and mitigation focussing on the role of urban green space (image: Senatsverwaltung für Stadtentwicklung und Umwelt).

**Berlin’s major achievements** (from left to right): The impact mitigation and compensation regulation enables the city to strategically plan for and implement projects to further develop the green space network consisting of two rings and two axes (image: Senatsverwaltung für Stadtentwicklung und Umwelt). – Through the conversion of vacant lots Berlin’s citizens and visitors can enjoy new parks, such as Tempelhofer Feld (photo: Tempelhof Projekt GmbH, www.tempelhoferfreiheit.de).
3) EXPERIENCES WITH INNOVATIVE GOVERNANCE PRACTICES

Government ideas and practices regarding participation

Participation in city-wide planning processes in Berlin is partly characterised by formal participation based on legal requirements. For example, the development of the Landscape Programme included information and the participation of citizens and stakeholder consultation involving NGOs, while final decisions were made by the city’s government and parliament. The Urban Landscape Strategy was mainly developed by bodies of experts, with the consultation of selected stakeholders and two public discussions. For park projects, such as Gleisdreck and Tempelhofer Feld, the city pursued higher levels of participation (see below).

Additionally, Berlin has a City Forum (Stadtforum Berlin), lead by an expert panel, that regularly holds events where the city’s main planning strategies and projects are discussed publicly. This includes the discussion of the relatively new non-statutory strategies, such as the Urban Landscape Strategy. The City Forum also maintains a digital pinboard where everybody can comment on Forum themes, suggest new ones, and add to the completed discussion events (Senatsverwaltung für Stadtentwicklung und Umwelt 2014a).

In regard to green space implementation and maintenance, the city aims at high levels of participation and shared responsibilities. Financial restrictions as well as a strong desire of Berlin’s inhabitants to influence urban development have been mentioned as reasons for this shift. The concept of “productive landscape” in the Urban Landscape Strategy includes the involvement of non-governmental and private initiatives such as allotment gardens, subsistence farming and (commercial) urban agriculture, interim-uses, and the creation of social learning areas. The city encourages semi-private and temporary uses of public green spaces, named “urban pioneers”. Another example of increased participation is the campaign “Urban trees for Berlin”, an initiative to raise funds for 10,000 additional trees in the city. If requested, donors can give money for a specific location, e.g. in their neighbourhood.

For the future, city officials see the potential to increase interdepartmental cooperation and participation of business communities and individual citizens.

Local initiatives

Berlin is known not only for pioneer uses on vacant lots, like the nomadic community garden Prinzessinnengarten (see also Senatsverwaltung für Stadtentwicklung 2007), but also for protests and resistance against development plans, with some non-governmental groups being active for decades (Lachmund 2013). Organised protest groups have been successful in conserving vacant inner-city areas, such as Schöneberger Südgelände or Gleisdreieck. Tempelhofer Feld became known as the most recent example of anti-development protests. A housing development was planned on the edges of the former airport, but a strong civil opposition arose and requested a public referendum in which the citizens decided against any development within the area.

The project “20 green main paths” followed a collaborative approach from the beginning. It was founded in 2004 by two associations, one for nature conservation and one for walking, together with the Senate Department for Urban Development and the Environment. More than 100 volunteers contributed to a plan to improve the path network.

Supporting and hindering factors in participation as perceived by city officials

According to city officials, Berlin’s administration has put a lot of effort into establishing efficient and professional participation processes. Participation is seen as supporting planning and design processes and as an opportunity to improve results. It is also considered as promoting acceptance of new projects and as allowing the city authority to
better adjust green space to the demands of citizens.

Openness of planners and politicians, professional process management as well as a good culture of discussion are considered as crucial factors of success. However, in Berlin participation processes are partly affected by strong opposition and polarisation of non-governmental actors that hinder compromises.

Personal and financial resources are perceived as a general factor determining successful or inefficient participation processes. For large projects, such as Tempelhofer Feld, considerable funding is available and the project team aims to overcome the mistrust of citizens by testing new inclusive approaches such as the participatory development of a management plan, including an online dialogue (Senatsverwaltung für Stadtentwicklung und Umwelt 2014b).

Examples of initiatives coming from local stakeholders

Schöneberger Südgelände
The former railway area Schöneberger Südgelände is an internationally known example of conservation of an inner-city wasteland as an urban wilderness. It is considered to be unconventional, because it is one of the first parks that integrated spontaneously grown vegetation instead of replanting the area with traditional park vegetation.

The area had been closed for decades and was supposed to be redeveloped. However, a citizen group advocated for conservation and had organized protests since 1980. When they succeeded after several years, artists designed the park with careful interventions to keep the appeal of an urban wilderness. Financial support was provided by a German environmental foundation. Since 1999, Schöneberger Südgelände is a public park and also a venue for art events.

Park am Gleisdreieck
Park am Gleisdreieck was also built on a former railway land in a central district. A citizen group protested for decades against traffic and housing developments, and the public pressure they created contributed significantly to the decision for conservation as a green space.

The eventual planning of the park was lead by the city administration. Citizens participated, for example, through surveys, discussions and in a work group. However, transformation into a public park for highly intense use was not welcomed by all activists. Some would have preferred to conserve the wasteland in its original state with less conventional park elements and facilities.

Since its opening in 2011, Gleisdreieck has become a popular park for sports activities and recreation.
## 4) URBAN GREEN INFRASTRUCTURE (UGI) THEMES AND STRATEGIES

### Main themes related to urban green space

Important themes in Berlin’s green space planning are the protection of biodiversity and the creation of habitat networks (LaPro and Biodiversity Strategy), as well as adaptation to climate change (Urban Development Plan Climate). Attention is also paid to the social relevance of urban green space and new strategies for increasing the quality and robustness of urban green space (e.g., Urban Landscape Strategy, Programme for Mixed Forests).

The Landscape Programme (LaPro), which is binding for public authorities, is a strategic landscape plan based on thematic programme plans: (1) Ecosystem and Environmental Protection, (2) The Protection of Biotopes and Species, (3) Landscape Scenery, and (4) Recreation and the Use of Open Space. Since 2004 it also contains the General Urban Mitigation Plan which defines priority areas for compensation measures.

The non-statutory Urban Landscape Strategy aims at improving urban green in Berlin in a socially and environmentally conscious way. It communicates the value of urban green and provides visions for three themes: (1) Beautiful City, (2) Productive Landscape, and (3) Urban Nature.

New themes on the rise are park restoration and water management. Especially in regard to climate change themes such as infiltration, storage and use of precipitation water gain importance.

### Understanding of UGI and representation of UGI principles

The concept of UGI is mentioned in the Urban Landscape Strategy and in other recent planning documents but is not discussed in detail. However, urban green space is considered as a network. In the LaPro urban green space is described as an “open space system” that consists of two “park rings” and two "green axes" in the form of a cross. The city’s Biodiversity Strategy shall help to build a habitat network.

Related to the concept of multifunctionality the provision of several biotic, abiotic, and cultural functions and benefits is also described. For example, the LaPro highlights functions such as climate regulation, drinking water provision, habitat, and recreation opportunities. The Urban Landscape Strategy aims at promoting awareness of the multiple benefits that urban green space provides and at improving the quality and usability of urban green space.

The Urban Landscape Strategy also embraces an integrated approach. It emphasizes the importance of linking transport planning, mobility and traffic management, and urban and open space planning. The concept of “multi-coding” of green space is defined in the Strategy as "[…] the overlay of inter-

### Landscape Programme/Species Protection Programme; General Urban Mitigation Plan and Species Protection Programme

- **Original title:** Landschaftsprogramm/Artenschutzprogramm; Ergänzung Gesamtstädtische Ausgleichskonzeption und Artenschutzprogramm
- **Date:** 1994; Addition 2004
- **Responsible department(s):** Senate Department for Urban Development and the Environment (current name)
- **Spatial scale:** City
- **Legal status:** Legally binding for public authorities

### Main themes related to urban green space

- Protection of natural resources
- Habitat and species protection
- Protection of landscape scenery
- Securing space for recreation and improvement of green space distribution in inner city areas

### Parallels with GREEN-SURGE policy concepts

- Biodiversity
ests and functions; instead of a mono-functional juxtaposition it creates space that is usable in different dimensions. This definition is similar to the concept of multifunctionality.

**Implementation and evaluation**

Concerning implementation of green space plans the city officials highlighted the lack of funding as a major concern. Political support was mentioned among the factors promoting implementation. Furthermore, the city obtained positive outcomes after testing new creative approaches that were able to convince, encourage and engage actors as well as to change their perspectives. The Urban Landscape Strategy lists and describes a number of implemented and planned projects within the city that could be inspiring and instructive for others.

In regard to funding the Urban Landscape Strategy is an exception; its municipal budget was used for a tree planting campaign and for forest conversion and beacon projects. Additionally, the city aims at sponsoring for implementation (tree planting campaign) and EU funding.

Due to linkages with the Land Use Plan, the LaPro is mainly implemented through planning and regulation instruments on subordinate planning levels, such as local development plans, which need to consider the objectives and measures suggested in the landscape programme. The “General Urban Mitigation Plan” is implemented and financed through the impact mitigation and compensation regulation.

A challenge for implementation of city-wide planning is the adoption of strategies on a local scale. Oftentimes, the districts are responsible for implementation. To ensure this, the themes and objectives need to be communicated well and understood and accepted in the district administrations.

According to city officials monitoring and evaluation could be increased. However, lack of funding affects not only implementation measures but also the monitoring and evaluation as well as maintenance of existing green space.

<table>
<thead>
<tr>
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<td>- Social Cohesion</td>
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5) URBAN GREEN SPACES: LINKAGES BETWEEN BIODIVERSITY AND CULTURE

Views of what Biocultural Diversity is referring to and how it is addressed in policy

Cultural diversity and biological diversity are both important issues for the city of Berlin. However, in green space plans and strategies the linkages between both concepts have been limited so far. The Urban Landscape Strategy considers urban green space strongly from a social perspective and aims at promoting cultural diversity by maintaining green spaces, for example, as semi-private areas that are designed and managed by non-governmental initiatives. For biodiversity the city has a separate Biodiversity Strategy that places biodiversity protection under the responsibility of society as a whole; it does not further specify how the ecological services offered by biodiversity are valued and used by different user groups in culturally specific ways. Both strategies put emphasis on accessibility of urban nature and the creation of facilities for nature experiences for all people. In doing so, care must be taken to accommodate new forms of nature experiences and recreational demands. For instance, at present there is a need for new barbecue areas that serve as meeting places for larger groups of people who often do not own their own gardens. Some parks include gathering spaces for ethnic minorities; for instance, in Preußenpark there is a food market for Thai people.

At the local level there are several examples of the promotion of culturally specific approaches towards maintaining biodiversity and offers for nature experiences, such as stimulation of temporary vegetation on derelict sites, maintenance of community gardens and specific intercultural gardens.

The need to consider cultural diversity in green space planning is well recognized by city officials, but it is acknowledged that not every urban green space can accommodate all the diversity in its use and the related facilities. Parks, such as Gleisdreieck, attract different social groups because they offer sports facilities, dog runs, places for contemplation, nature experiences, and allotment gardens, while some parks are less usable for certain social groups. For example, Tempelhofer Feld lacks facilities for children and the elderly. For this particular park, a visitor survey revealed that the largest group of users are young and middle-aged adult males practicing sports.

Recently, new types of urban green spaces in the form of urban wilderness parks and landscape parks have been developed. Both include innovative approaches towards combining biodiversity conservation and cultural heritage conservation. The urban wilderness parks have been developed on former railway areas. In these parks the conservation of industrial heritage objects is combined with new forms of ecological development of these typical urban biotopes. They may include non-native new species; provided that these species are not harmful they may enrich biodiversity. Several of these species are tolerant to the specific conditions (e.g., heat and drought) of these urban biotopes and may therefore be adaptable to climate change effects.

Bioculturally significant places

Examples of biocultural significant places include urban wilderness parks, allotment gardens, landscape parks and recreational farms.

The urban wilderness parks, such as Schöneberger Südgelände, Park am Nordbahnhof or Park am Gleisdreieck, are examples of conversion of former railway areas into public parks that integrate remnants of former use and spontaneously grown urban nature. Schöneberger Südgelände is a nature conservation area inhabited by rare species. The park is accessible through the design of elevated paths, but sensitive areas are forbidden.
Landschaftspark Herzberge is an example of a landscape park that combines extensive urban agriculture with biodiversity protection and improved habitat quality. The farmland that formerly belonged to a hospital is now managed by sheep grazing.

Lichterfelde-Süd farm is an example of an urban farm that integrates biodiversity conservation with historically developed forms of agrobiodiversity. The farm is located in a former military area characterised by high biodiversity. It is currently used for horse keeping and provides horse riding facilities for people who cannot afford to own horses.

Intercultural garden in Park am Gleisdreieck (photo: Rieke Hansen, 2011)

Park am Nordbahnhof combines urban wilderness and recreational use (photo: Rieke Hansen, 2011)

The former military area of Lichterfelde-Süd (photo: Anne Loba)
6) CONCLUSION

Green space planning in Berlin is characterised by a combination of statutory and non-statutory planning instruments. While the statutory planning aims at securing the city’s environmental quality, the non-binding strategies aim at innovative solutions for upcoming challenges such as social diversification, climate change or biodiversity loss. These non-binding strategies include integrated approaches to strengthen cooperation between different sectors of administration, to enhance cooperation with non-governmental actors and enable multiple uses of urban green space.

The city aims at improving the green space network and applies legal impact mitigation and compensation regulation for gradually completing the networks for recreational uses and habitat. While vacant lands have been transformed successfully into urban parks, the focus is now on maintaining quality and responding to social demands. Due to a tight city budget combined with highly intense use and the presence of multiple and relatively large urban green and blue spaces within the city, keeping quality standards represents a major concern.

Restricted financial resources also pose an argument in favour of sharing responsibilities with non-governmental actors. In terms of governance and participation, the city promotes green space design and management such as interim-uses and community gardens through non-governmental actors. Citizens also often have a prominent role in protecting vacant lands, such as Schöneberger Südgelände or Tempelhofer Feld, from redevelopment and have successfully lobbied for their conversion into public parks. In city-wide statutory planning, participation is mainly based on legal requirements. Non-statutory green space plans have mainly been developed in cooperation with expert groups and selected stakeholders and also included public discussions in the City Forum. On the project-level, the city tests new approaches for participatory planning such as for the management plan for the Tempelhofer Feld, including online-participation.

Cultural diversity and biodiversity are important themes in Berlin’s green space planning. However, in city-wide planning explicit linkages between both are rare, while at project level several examples (e.g., intercultural gardens) can be found that combine cultural diversity and biodiversity.
LINKS AND REFERENCES

Websites of municipality and core organizations

- Joint Spatial Planning Berlin-Brandenburg: www.berlin-brandenburg.de
- Umbrella Association for the Regional Parks of Brandenburg and Berlin: www.regionalparks-brandenburg-berlin.de/
- Senate Department for Urban Development and the Environment Berlin: www.stadtentwicklung.berlin.de

References

For facts in Introduction:

- Area core city and larger urban zone: Urban Atlas.
- Population core city and larger urban zone (2012 or latest): mainly Urban Audit. Note: in a few cases the population numbers have been provided by researchers based on statistical data.
- Average annual population change rate (Core city; 1990-2012 or similar): calculated \[\frac{(100 \times \text{population number last year} / \text{population number first year} - 100)}{(\text{last year} - \text{first year})}\] based on Urban Audit.
- Public recreational green space (Core city; m² per inhabitants; 2006): based on Urban Audit and Urban Atlas. Urban Atlas defines urban green space as “public green areas for predominantly recreational use”. Peri-urban natural areas, such as forests and agricultural land, are mapped as green urban areas only in certain cases. In general, peri-urban green areas are not counted. Private green and blue areas are also not included. Further, green spaces with less than 250 m² are not mapped as well. This leads to deviation with per capita green space values used by city officials.


For the rest:

- Interview with Holle Thierfelder, Senate Department for Urban Development and the Environment of Berlin; Department of Urban and Open Space Planning; Leader Programme for Ecosystem and Environmental Protection, on 4th June 2014.

http://www.stadtentwicklung.berlin.de/planen/stadtforum/index.shtml; accessed 07/01/2015

Planning and policy documents

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We thank Holle Thierfelder for sharing her opinions and experiences, and for commenting on the portrait and providing additional material. We also like to say thank you to Karin Ruddeck from the Senate Department for Urban Development and the Environment of Berlin who gave additional valuable insights into green space planning and governance in Berlin. Further, we thank Maximilian Bünse contributing to data collection and translation of material.

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Researcher(s): Rieke Hansen
In cooperation with: Holle Thierfelder, Senate Department for Urban Development and the Environment of Berlin
13  HALLE (SAALE), GERMANY

1) INTRODUCTION: Facts and Figures

<table>
<thead>
<tr>
<th>Core city</th>
<th>Halle (Saale)</th>
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Halle (Saale) is a city located in the State of Saxony-Anhalt, Germany, about 150 km southwest of Berlin and the State’s largest city in terms of residents. Halle is considered the cultural capital of the region (Stadt Halle 2014).

During the time of the German Democratic Republic, the Halle area was an important centre for the chemical industry. After the reunification the closure of the industry lead to high unemployment rates and migration to other regions. The city lost about 78,000 of its inhabitants, resulting in large areas of vacant apartment blocks (FNP 1998; Wallace 2004). With the creation of new industry and several research centres, as well as investment from the German Government, the city has evolved considerably in the past years. The population is now stable, but for 2025 a decline and demographic change towards a more elderly population are predicted.

More than half of the city area is covered by green and blue space, including parks and semi-natural green space, forests, water bodies, agricultural land and brownfields.
### 2) URBAN AND REGIONAL PLANNING CHARACTERISTICS

**General description of the planning system**

After the German reunification, the new states joining the Federal Republic of Germany adopted German regional, landscape and urban planning legislation and instruments. At the regional level, land-use planning (and monitoring) is the responsibility of the Regional Planning Association Halle that has been in place since 2000. The Regional Development Plan for the Halle Region (REP) was introduced in 2010 and is the most important legally binding framework for regional development.

The regional and city-wide land-use goals and requirements need to be coordinated with each other based on Federal Law. The Land Use Plan (FNP) is the legally binding instrument for land-use planning at the municipal level. The FNP defines which land uses are designated for which areas.

To cope with the city’s challenges after the German reunification, Halle made use of funding for urban redevelopment (Stadtumbau Ost), including demolition of vacant housing areas. The urban redevelopment and modernisation process is based on cooperation among the city administration, city council and non-governmental stakeholders, especially from the housing sector. Building on the Integrated Urban Development Strategy (ISEK) from 2007, the redevelopment process is ongoing and adjusted according to current issues with plans and strategies such as the Integrated Strategy Paper from 2012 in which the city defines priorities for further development.

**Instruments for the protection and enhancement of urban green space**

The Regional Planning Association Halle is the responsible authority for green space and urban planning at the regional level. The most important instrument is the REP which establishes the planning principles, goals, and designates areas for environmental protection and nature conservation.

At the city level enhancement and protection of urban green space is ensured by the City Hall, specifically the Planning Department, Section for Urban Development and Open Space Planning as well as the Local Nature Conservation Authority. One of the most important plans is the FNP, which includes a chapter on environmental protection and landscape planning, and determines for example green and blue areas with specific purposes. Another relevant plan is the “Spatial Vision Halle 2025 plus”, part of the ISEK; it is non-statutory and includes strategies and priorities for green space development.

Additionally, legally required impact mitigation and compensation is an important instrument in regard to green space on the project level. This means that loss of green spaces and their functionality, such as providing habitat or regulation, must be avoided or, if not possible, compensated.

**Objectives, achievements and challenges in urban green space planning**

After the German reunification, transformation of vacant areas was a major challenge for Halle but it was also an opportunity to create new green spaces. The conversion of the former military base Heide-Süd into a new city district including a new park with a mixed area for living, working and recreation is one example of successful transformation.

The main objective now is to maintain and improve the existing urban green space. The Spatial Vision Halle 2025 aims, for example, at the conservation of inner-city green spaces and recreational areas. Water is seen as an important feature of the city, and “city at the river” Saale is the leading theme in green space development (e.g., improving access and the quality of recreation).
However, maintenance is challenging because the city budget is low. The planting of urban forests is considered as a viable approach to create an extensively managed and low-cost form of green space in redevelopment areas. The urban forest of Halle-Silberhöhe was the first example of this green space approach within a housing area.

Flooding is already an issue and according to city officials, climate change is expected to lead to additional challenges for the planning and management of urban green space. Awareness of this is only now evolving and to date the focus is on mitigation strategies (Stadt Halle 2006; Integrated Municipal Climate Protection Plan 2013).

**Halle’s major challenges** (from left to right): Demolition of prefabricated housing lots in Halle Silberhöhe (photo: Stadt Halle). - -- Flooding of the Saale river (photo: CC BY-NC-SA 2.0, Flickr.com, gynti_46, 2013).

**Halle’s major achievements** (from left to right): Conversion of the former military base Heide-Süd into a new city district including the new park Grünes Dreieck (photo: Stadt Halle, 2014). -- A young urban forest in the redeveloped area of Waldstadt Halle-Silberhöhe (photo: Stadt Halle, 2006).
3) EXPERIENCES WITH INNOVATIVE GOVERNANCE PRACTICES

Government ideas and practices regarding participation
 Within the city an increased interest in citizen participation can be noted, especially due to their high environmental awareness and knowledge. City officials consider the level of public participation to be already high and exceeding the legal requirements. As part of the ISEK process, the city maintains an online participation platform (www.gestalte-mit-halle.de) where citizens can make suggestions for different districts that will be considered by the authorities. Additionally, participation is tailored for specific social groups such as children and teenagers (e.g., idea competition for junior urban developers 2025 called “NASE 2025”) or local university students (under the name “Digitale Steinschleuder” – digital slingshot). Related to the ISEK and particularly focussed on urban green space, in 2014 the “Stadt am Fluss” citizen panel was established. Together, city representatives and citizens discussed challenges, objectives and measures for green and blue space. Within these participatory processes city representatives mainly act as moderators and communicate decisions.

Due to their expertise in particular fields, non-governmental actors such as environmental conservation groups, have designated parts in planning processes where they provide support and expert opinions. Consultation processes are a mandatory feature of statutory planning and also established in non-statutory planning in Germany. Halle’s mayor and the city administration still play the most important role in terms of how green space is governed.

Local initiatives
 The contributions of non-governmental actors to urban green space governance are mainly based on municipality-led processes such as the development of the Allotment Garden Strategy 2013. The Umbrella Association of Halle’s Allotment Gardeners was closely involved in the drafting of the strategy, and all of the city’s Allotment Garden Associations were invited to express concerns which were considered in the final report. As another example, the ISEK process is managed by a group including city representatives and housing companies and associations (ISEK 2008).

Additionally, non-governmental actors specifically focus on nature conservation as well as environmental education play a role in initiating and suggesting projects to authorities in the region of Halle, such as the past grazing project with goats at the Saale river banks in the Franzigmark area (http://www.ziegen-im-saletal.de/). When public funding is acquired, the final decision on such projects is made by authorities while non-governmental associations are in charge of their implementation.

One example of a private business initiative for improving public space is Halle’s central market place. The newly designed market place was considered by citizens as not very inviting, therefore a private company offered to provide planters and plants to create a more pleasant appearance.

Supporting and hindering factors in participation as perceived by city officials
 According to the experience of city officials, Halle’s non-governmental actors are keen to participate already in the early stages of the planning process. Likewise, on the project level early participation is often challenging, since the city administration needs clarity about options and constraints to be able to react on the suggestions offered by the public. However, emphasising limitations in the early stages can lead to mistrust if the administration is really willing to consider the public’s ideas and demands. Despite this challenge, early participation in city-wide planning processes has worked quite well so far from the perspective of city officials, especially when participation processes have been moderated by an external professional or an accepted and competent person belonging to the city administration or local NGOs.
For a transparent planning and decision-making process, city officials think it is important to give feedback to non-governmental actors on decisions that have been made. However, in some cases lack of acceptance of practical constraints and compromises hinders productive participation processes if individuals or groups are not willing to give up their positions even if there are, in the view of the city administration, good reasons to decide against them. Officials suggest that one way to avoid this is to improve transparency and be able to deal with conflicting opinions. For successful participation city officials perceive it as helpful if non-governmental actors are organised in a way that ensures reliability and long-term commitment, and expresses clear and consistent preferences and needs.

**Examples of initiatives coming from local stakeholders**

**Skatepark Halle-Neustadt**

The realisation of a skate park in Halle-Neustadt was based on cooperation between the city administration and a local association for skaters. The project resulted in a skate park with excellent design and usability that is suitable for competitions and other events. The skate association is responsible for managing these events.

During the planning process the skate association acted as consultant for the design of the park and supported public outreach. Communication with the media and local public was important to gain acceptance for the project.

The cooperation with the association is ongoing in order to develop good skating facilities.

**Light rail remodelling project Steintor**

To restructure the light rail system a square and public green space were redesigned. In the participation process two large public meetings took place allowing the general public to comment on the project and share their opinions, for example on tree cutting. A surprisingly high number of citizens participated in this process and the administration reached capacity limits in dealing with the large number of contributions.

This participation process was perceived as a positive example of Halle’s citizen’s high interest to shape the future design of the city. Citizens’ comments also influenced the design of the project.

*The Halle-Neustadt Skatepark (photo: Stadt Halle, 2014)*
Main themes related to urban green space

Urban green space is considered as one of the most important factors for creating a positive image of the city. For the development of urban green space, “city at the river” is the leading theme with the aim of enhancing the connection between the city and the river and promoting recreational and touristic activities. Other relevant themes are the establishment of a green spaces network and the enhancement of green space quality. A detailed plan for the “city at the river” theme is being developed. The main objectives are included in the plan Spatial Vision Halle 2025 plus from 2012, which belongs to the Integrated Urban Development Process (see right).

Understanding of UGI and representation of UGI principles

In the Spatial Vision urban green spaces are referred to as a network with priority areas, such as the river Saale, or areas for recreation at the city borders. Connections between green spaces through paths and corridors for recreation as well as a habitat network are mentioned. Furthermore, the Vision addresses social, recreational, climatic and touristic functions of urban green space, which can be loosely related to the concept of multifunctionality.

Implementation and evaluation

Important factors for successful implementation of green space-related plans and policies as perceived by Halle’s city officials are access to funding and an adequate budget. Although the requirements for obtaining EU/state-funding are well known, the municipality experienced difficulty in meeting such requirements, especially in terms of providing matching capital. In addition, implementation is often dependent on support and the willingness to participate by third parties. For example, the strategies for urban restructuring (development in the inner parts of the cities and demolition in the outer parts) can only be realised in cooperation with housing companies that hold large housing areas. To gain support, city officials consider the communication of clear goals and visions as being important. In general, it is recognised that funding, maintenance, monitoring and evaluation of green spaces could be improved.

The example of the Spatial Vision does not contain specific measures for implementation, since the main theme for urban green space “city on the river” is progressed in a separate plan. The Spatial Vision is part of an ongoing process for integrated urban development. It is continuously adjusted with upcoming challenges, e.g. by creating new strategies or sub-plans.

Spatial Vision Halle 2025 plus

Original title: Räumliches Leitbild Halle 2025 plus
Date: 2012
Responsible department(s): Department for Planning and Building, City Planning Office in cooperation with two consultants
Spatial scale: City
Legal status: Non-binding, but approved by politics

Main themes in regard to urban green space

- "City at the river": reconnecting the city and river and improving usability for recreation and tourism
- Conservation of inner-city green spaces
- Improvement of recreation areas
- Urban forests as low-maintenance green space type
- Connection of rural landscape areas (as habitat network and for cultural identity)

Parallels with GREEN-SURGE policy concepts

- none
Views of what Biocultural Diversity is referring to and how it is addressed in policy

From the interview with city officials it appeared that the concept of biocultural diversity is not specifically considered in green space policies. The concept is interpreted as referring to the sum of biodiversity and cultural diversity. In terms of biodiversity the focus is on the need to conserve native species. One of the most important tasks is the improvement of the green space network. The city area is inhabited by some non-native species that cause either a reduction of native biodiversity or damage (e.g., invasive tree species in the floodplain forests as well as mammals like the raccoon). However, reduction of invasive species through tree cuttings sometimes leads to public protest because people dislike tree cuttings in general.

Regarding the role of cultural diversity the focus is on the need for equal access and facilities for different user and interest groups, for example offers for different age-groups. There are no specific city-wide policies for cultural diversity, but on the local level a special interest in the use of green spaces (e.g., by elderly people or specific sport groups such as skaters) is considered in cooperation with non-governmental actors. The accommodation of different groups of users requires the establishment of recreational facilities; these should conform with the variety of requests of the different user groups. This diversity of interests and demands is perceived by city officials as a challenge in designing urban green spaces. The city aims to have at least one barrier-free playground per district, because the demands of people with disabilities are complex and cannot be realised for all urban green spaces. Another example of attention to the needs of different user groups is the distinction between playgrounds for youngsters and playgrounds for all ages (“Generationenspiel”). In several parks “multifunctional” lawn areas have been designated where large groups of people (the young; extended families/groups with roots in Mediterranean countries) can gather.

Urban green space as cultural heritage was not explicitly mentioned during the interviews. However, with the “City at the river” concept the river Saale is highlighted as an important natural feature for quality of life in Halle.

Bioculturally significant places

The city aims at a diversity of sports and playgrounds to accommodate the interests and demands of different urban groups. This is manifest in the designation of specific recreational facilities. Examples are the “multifunctional” areas capable of supporting high densities of people. They are located in noise-tolerant areas so that large groups can have barbeques or open-air parties and stay out late without disturbing neighbours.

An example of recreational facilities that conform to cultural dynamics is the artificial rocks at Thüringer Bahnhof Park. These rocks are accessible to both members of a rock climbing club and the general public.

Artificial rock for climbing at Thüringer Bahnhof Park (photo: CC BY-NC-SA 2.0, Flickr.com, gynti_46, 2009)
Ziegelwiese (photo: Stadt Halle)

Ziegelwiese (photo: Stadt Halle)
6) CONCLUSION

Halle has struggled with the social and economic consequences of the German reunification. After a restructuring and urban redevelopment process the urban population is now relatively stable. Despite financial issues, the overall environmental and quality of life within the city has increased, mainly due to the shutdown of hazardous industries and the conversion of vacant areas into new green spaces.

The process of urban redevelopment is ongoing and urban green spaces are considered an important element for creating a positive image of the city. Special attention is given to the river Saale, with “city at the river” as the leading theme in green space development; this fosters the connection between the city and the river and promotes recreational and touristic activities. Besides informal strategies such as the Spatial Vision for setting development priorities, the planning system relies on formal planning instruments, with the Land Use Plan as the legally binding instrument at the municipal level.

The city aims at a level of participation in green space planning that goes beyond legal requirements. These processes are usually initiated and led by government actors and based on the consultation with non-governmental actors. The city looks to promote participation in the early stages of the planning processes and notes a high interest on the part of citizens to influence decisions, including challenges to reach consensus between individual interests and practical constraints.

Perspectives on biodiversity and cultural diversity are manifested in the objective to enable multiple uses of urban green space. Cultural diversity is considered in terms of equal access and provision of facilities to user groups with different needs, interests and ages. However, the diversity of interests and demands is considered as a challenge in the design of urban green spaces. In regard to biodiversity, the focus is on the conservation of native species.
**LINKS AND REFERENCES**

**Websites of municipality and core organizations**
- Regional Planning Association Halle (Regionale Planungsgemeinschaft Halle): http://www.planungsregion-halle.de
- City of Halle (Saale) – Urban development: http://www.halle.de/de/Rathaus-Stadtrat/Stadtentwicklung/

**References**

*For facts in Introduction:*
- **Area core city and larger urban zone**: Urban Atlas.
- **Population core city and larger urban zone** (2012 or latest): mainly Urban Audit. Note: in a few cases the population numbers have been provided by researchers based on statistical data.
- **Average annual population change rate** (Core city; 1990-2012 or similar): calculated \[\frac{[(100*\text{population number last year} / \text{population number first year}) -100]}{\text{last year} - \text{first year}}\] based on Urban Audit.
- **Public recreational green space** (Core city; m² per inhabitants; 2006): based on Urban Audit and Urban Atlas. Urban Atlas defines urban green space as “public green areas for predominantly recreational use”. Peri-urban natural areas, such as forests and agricultural land, are mapped as green urban areas only in certain cases. In general, peri-urban green areas are not counted. Private green and blue areas are also not included. Further, green spaces with less than 250 m² are not mapped as well. This leads to deviation with per capita green space values used by city officials.
- **Map of Larger Urban Zone**: based Urban Atlas.


*For the rest:*
- **Interview** with Simone Trettin, City of Halle (Saale), Planning Department, Section for Urban Development and Open Space Planning on 5th June 2014.


19/01/2015.

Planning and policy documents


- **Integrated Urban Development Strategy (ISEK)** and related documents


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1) INTRODUCTION: Facts and Figures

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Location Map

Linz is the third largest city of Austria and capital of the State of Oberösterreich (Upper Austria). It is located close to the Czech border and lies on both sides of the Danube river. Approximately half of the city area is covered by green space including agricultural land, forests and water bodies.

In the past the city of Linz was characterised by heavy industry. Since the end of the 1980s the city has developed a diversified economic sector. Former industrial areas have been or are developed into housing areas and public parks and the environmental quality has increased. With high quality of life and an active cultural scene the city aims to appeal to families and the elderly (Stadtforschung Linz 2013).

Linz was nominated the European Capital of Culture in 2009 and is known internationally for its cultural events and institutions with a focus on music and electronic art.

³ Green space in Linz also includes agricultural land and forests. These types of green space are not generally included in the per capita value based on the Urban Atlas.
2) URBAN AND REGIONAL PLANNING CHARACTERISTICS

General description of the planning system
The Office of State Government of Oberösterreich, Directorate Spatial Planning, Economic and Rural Development is responsible for spatial planning in the region of Linz with the Regional Planning Programme for the Linz region as its main instrument. The programme is legally binding and defines general goals and measures for the region.

In addition to this top-down approach to spatial planning, the State of Oberösterreich promotes bottom-up regional development in the form of initiatives and projects coming from regional forums. Members of the Regional Forum Linz/Linz-Land are 21 rural communities, the City of Linz, the Linz-Land county administration and, as consultants, professional associations such as the Chamber of Commerce. These initiatives and projects are supported by the State Agency Regional Management Oberösterreich GmbH.

City-level spatial planning integrates areas that have been designated by regional/State planning as areas of regional importance. Furthermore, the State Government of Oberösterreich approves city-wide spatial plans. Additionally, the regional and local levels cooperate through the Regional Forum Linz/Linz-Land that initiates regional projects.

City-wide planning is based on Local Development Plan No. 2 (ÖEK) and Zoning Plan No. 4; both plans are developed in concert and binding. ÖEK contains long-term objectives and requirements and is designed for a period of 10 years. It consists of a comprehensive plan and three special plans for housing, green space and traffic. Zoning Plan No. 4 is the technical foundation for urban development and designates land use. The Business group Urban Development, Department for Urban Development is responsible for drafting these plans while the mayor has the right to initiate revision processes of existing plans.

Instruments for the protection and enhancement of urban green space
On the regional level the Regional Planning Programme for the Linz region determines green space areas of regional importance. The State Government of Oberösterreich furthermore compiled Principles for Nature and Landscape, for example, for the “Linzer Feld” in the Linz region. These principles define the character of nature and the landscape as well as development goals for the different spatial units, such as the conservation and development of regional green corridors. Their status is informative and non-binding.

The Regional Forum Linz/Linz-Land supports regional development but is not particularly focussed on green space. However, some of their projects and strategies include future development of the agricultural sector or creation of a recreational path network (Linz Land n.d.; Regionalmanagement Linz/Linz-Land 2005).

For green space planning at city level, ÖEK includes a Special Plan for Green Space which defines general principles and specific topics, targets and actions for the city’s districts. The comprehensive map of ÖEK includes designated green space areas as well as priority areas for development in terms of ecology, scenery, water protection, or of ventilation corridors. The Green Space Plan is a non-mandatory extension of ÖEK and deals with distribution of green space within the city districts. The plan is recently being updated and the new version will be based on fine-grained assessments of urban tree cover and green space based on remote sensing data.

Objectives, achievements and challenges in urban green space planning
The transition to a post-industrial city enabled the creation of new parks and housing developments in former industrial areas. Landschaftspark Bindermichl-Spallerhof, a landscape park on top of a covered inner city highway section, is considered a major achievement. Furthermore, within the city the overall quality for recreation has increased since playgrounds and sports facilities have been renovated and new parks have been created. Habitat quality has
also increased, for example, through renaturation of small water bodies. The new quarter, solarCity Linz, represents an achievement in terms of increasing recreation opportunities combined with habitat quality; it includes a landscape park, and a lake and river that underwent enhancement and renaturation, respectively.

Growth of the built-up area has led to a decrease of agricultural land in Linz. This process is ongoing but will only have a moderate effect, as the focus is on inner city development (ÖEK). However, city officials perceive the conservation of green space in Linz as a growing city as a major challenge.

Linz’s major challenges (from left to right): Industrial decline has led to vacant areas in the city. Most of the conversion projects are close to finalisation, such as “Grüne Mitte” on a former railway area (photo: Urban Planning Department Linz, H. Pertlwieser). -- In the densely built-up areas within the city conserving urban green space is a challenge. To ensure adequate green space the city implements the Green Space Plan which requires, for example, green roofs on new buildings (photo: Urban Planning Department Linz, E. Maurer).

Linz’s major achievements (from left to right): Major park projects are the landscape parks Bindermichl-Spallerhof and solarCity. While the first was built on a highway lid, the second was designed close to the new quarter solarCity to avoid pressure through recreation on adjacent sensitive habitats (both photos: Urban Planning Department Linz, H. Pertlwieser).
3) EXPERIENCES WITH INNOVATIVE GOVERNANCE PRACTICES

Government ideas and practices regarding participation

The city of Linz undertakes traditional participation processes in urban development planning including green planning. Regularly participating actors are business community representatives and individual citizens. Employees of other government departments are also involved in these processes. Depending on the individual planning case, the influence of non-governmental groups can be high, or absent.

In statutory planning processes the draft plan is displayed openly for everybody to comment on. If planning decisions would directly impact land use rights, affected citizens are informed and invited to comment. They receive a letter and can express their concerns in written and oral form. As green space plans do not usually influence citizens negatively and the land use plan only accommodates moderate growth, potential for conflict is perceived as quite low. The citizens of each district are interviewed periodically; in the last citizen survey they broadly expressed being content in regard to green space (Stadtforschung Linz, 2012).

Lately, a slightly increased interest on the part of non-governmental actors to participate could be noted. City officials value participation in the planning process as very important to obtain acceptance of the planning decisions. The existing participation procedures are considered as well-established and accepted. The city government is open to discuss ideas coming from non-governmental actors and provides support (see examples below). Still, important decisions (e.g., if public funding is required) are made by the City Council.

Aside from the traditional forms of participation in urban planning, the city promotes e-governance (called “Open Government”) and the use of social media. A web application maintained by the city administration is “Look at Linz” (Schaut auf Linz). This platform allows citizens to announce problems and opportunities for improvement in public spaces by tagging them on a map. The city administration comments every post and explains how they will act on the announcement.

Local initiatives

In the city several community gardens have been initiated by non-governmental actors. The city administration partly supported their realization and some community gardens have been created on public land such as parks.

One initiative led by citizen groups and associations for nature conservation and urban greening argues for more transparency and public involvement in the management of green space in Linz. The initiative drafted the Linz Tree Protection Charter. These groups criticize the unnecessary tree felling that has occurred in recent years and demand access to data such as the health of trees, maintenance measures and upcoming felling of trees on the website of the City of Linz. They are also promoting the development of a Tree Protection Ordinance for Linz to regulate tree cropping.

Supporting and hindering factors in participation as perceived by city officials

For successful participation city officials consider transparency and communication of planning goals to be important. For the final revision of the Local Development Plan, ÖEK, technical support was seen as fostering participation because everybody could view the plan draft on the internet. In general, city officials perceive the participation process as well established and as requiring little need for changes.
Examples of initiatives coming from local stakeholders

“Linz braucht einen Strand” (Linz needs a beach)

“Linz needs a beach” is an initiative started by a social media community. The idea to create an urban beach in Linz has existed for several years. However, no major steps for its realization have been taken until a group of students started a facebook group and surprisingly gathered thousands of supporters.

The students were invited to discuss the idea with city officials and politicians. Event management and catering companies offered concepts for a beach bar. The University of Arts and Industrial Design Linz developed design concepts. Realization is planned for 2015.

“Linz pflückt!” (Linz picks!) and “Freiraum Linz” (Open Space Linz)

Two web applications related to urban green space have been developed by students of Johannes Kepler Universität. “Linz picks!” (http://linz.pflueckt.at/) shows more than 2000 public fruit trees on an interactive map. Basic data sets have been provided by the Stadtgärten (department that manages urban green space) and contain information including type, species, and tree height, supplemented by information such as ripening time and fruit category. Users can comment and add information. The aim is to inform citizens on where they can get free fruit.

“Open Space Linz” (http://www.freiraum-linz.at/) connects people willing to create their own “open spaces”, including community gardens. The community can suggest potential places within the city.
4) URBAN GREEN INFRASTRUCTURE (UGI) THEMES AND STRATEGIES

Main themes related to urban green space

For the city of Linz the main objective in regard to green space is its conservation in terms of quality and quantity under urban growth. The Local Development Plan (ÖEK) is the strategic and statutory basis for land use planning and includes a Special Plan for Green Space, defining general principles and specific topics, targets and actions for the city’s districts. The plan is based on principles for five themes such as nature conservation and urban ecology or landscape structure. As an additional specification of the ÖEK, the Green Space Plan assesses the share of greening (i.e., good, sufficient, deficient) of each city-district. To maintain a certain percentage of greening, for every square of new buildings measures such as green roofs or number of trees must be taken up in the mandatory building plans.

Understanding of UGI and representation of UGI principles

The Special Plan for Green Space refers to a “green system” on different spatial scales. While the concept of UGI is not explicitly mentioned, the plan does incorporate the principle of connectivity. The city’s green system includes regional/city-wide landscape priority areas, city-district-wide green space elements such as green belts, corridors and buffers, and small-scale green elements (mainly local corridors). In addition, corridors for ventilation and areas for maintenance or improvement of the habitat network are mentioned in the plan.

Furthermore, urban green space is considered as an important structuring element of the city. Different functions of urban green space, such as water provision, climate regulation or habitat provision, are addressed. However, multifunctionality is not explicitly referred to. The ÖEK is more about defining priority areas for scenery, water protection, or recreation for the city than emphasising multifunctionality.

Implementation and evaluation

Regarding implementation of green space planning, city officials perceive political will and support as decisive factors. Furthermore, the planning instruments should be complemented by implementation instruments. The Green Space Plan is such an instrument and contains specific requirements for certain areas that are binding for local development plans. For agricultural areas the plan refers to a subsidy programme for urban farmers.

Conflicting interests (e.g., when more green space means less areas for building developments reducing profit for investors) constitute the major challenge for implementing green space planning. Binding regulations are considered to be very supportive in defending planning goals despite conflicting interests.

In regard to the evaluation and monitoring of green space planning, the city’s efforts are assessed as sufficient. The ÖEK is designed for a period of 10 years. Every update is supported by an evaluation.

Special Plan for Green Space

(part of Local Strategic Development Plan Linz #2)

Original title: Fachbeitrag Grünlandkonzept (Teil des Örtlichen Entwicklungs konzepts Linz Nr. 2)

Date: 2013

Responsible department(s): Business group Urban Development, Department for Urban Planning

Spatial scale: city

Legal status: legally binding

Main themes related to urban green space

- Habitat and species protection
- Agriculture and forestry
- Water management
- Landscape structure, green space and recreation areas, sports and play grounds, allotment gardens
- Green Space Plan

Parallels with GREEN-SURGE policy concepts

- Biodiversity
5) URBAN GREEN SPACES: LINKAGES BETWEEN BIODIVERSITY AND CULTURE

Views of what Biocultural Diversity is referring to and how it is addressed in policy

The concept of biocultural diversity has not been used so far in Linz. Strategic green space planning for the whole city is undertaken by the Department for Urban Development. Stadtgärten Linz (similar to park department) plan, manage, and maintain individual urban green spaces such as parks and forests. A Biological Station belonging to the Stadtgärten is responsible for habitat and species conservation and consults the Department for Urban Development on biodiversity issues.

The Stadtgärten officials value maintenance of plant diversity in green spaces and focus on creating a green space network and diversity of species. The management of extensive plant diversity within the city is a tradition; this tradition focuses on both native and exotic species and on wild and cultivated species. For selection, the aesthetic quality of an ensemble is decisive. Species variety is also preferred in regard to resilience, for example, against pests; some disease-prone trees, such as Ash and Chestnut, are no longer used. City officials believe it is important that urban green space be mainly designed for human use even if this might sometimes impact biodiversity. In such cases, maintenance should be intensified to repair plant damage.

Urban green spaces are considered by city officials as being available to all social groups. To ensure that green space is well distributed within the city and that all citizens have equal access, the Green Space Map is implemented in urban planning. Cultural diversity is not addressed as a separate issue in green space planning. No specific attention is given to the management of green space in regard to the needs of specific groups of people. Some of the steeper slopes in the parks are not accessible to disadvantaged people with reduced mobility.

Bioculturally significant places

The city in general has an urban nature that is rich in both natural and cultivated species for people to enjoy. The Stadtgärten, for example, maintains many perennial flower beds and some wild flower meadows. Both plant and animal diversity are considered; for instance, wild flower meadows are important for insects and parks provide habitats for birds.

The Botanical Garden is especially diverse and a popular and frequently visited green space. It includes an Austrian cottage garden displaying traditional vegetables. The Garden of Habitats presents examples of micro-habitats in private gardens.

*Flower bed at the Central Market (photo: Rieke Hansen, 2014)*
Austrian cottage garden (photo: Archiv Botanischer Garten Linz)

The Garden of Habitats (photo: Archiv Botanischer Garten Linz)
6) CONCLUSION

Green space planning in Linz is strongly based on statutory instruments, while on the regional level more informal planning is pursued in the form of regional forums. However, the latter have had limited impact so far on green space planning in the Linz region. The Local Development Plan includes a Special Plan for Green Space and is further elaborated through a Green Space Plan which contains binding measures for local development planning.

The transition from an industrial city to a more diversified one enabled large park projects and increased quality of life. The moderate growth represents a challenge for green space conservation, but through inner-city development loss of agricultural land can be limited. The statutory plans help to establish urban green space in redeveloped areas, for example, through green roofs. The city’s “green system” is a network of urban green spaces on different spatial scales, from regional to local.

Participation in strategic planning follows a traditional approach of commenting on plan drafts by the general public and governmental representatives from other departments. Additionally, the city offers e-governance web applications and promotes the use of social media. Linz has several examples of web-based applications such as an interactive fruit tree map. Non-governmental actors initiate community gardens or demand transparency of green space management decisions. A local beach project gained prominence through a social media platform and its realization is pursued by governmental and non-governmental actors.

The concept of biocultural diversity is not applied in Linz. In regard to cultural diversity, the Green Space Plan aims at an equitable distribution of accessible urban green space within the city. To integrate biodiversity urban and green space planners refer to a Biological Station. Stadtgärten Linz manages urban green space and aims at high plant diversity for aesthetic reasons and human pleasure but also as habitat for birds or insects. The Botanical Garden is a popular place for combining recreation and concerns for biodiversity.
## LINKS AND REFERENCES

### Websites of municipality and core organizations
- **Regionalmanagement Oberösterreich GmbH**: www.rmooe.at
- **Regionalforum Linz Land**: http://www.linz-land.at/
- **Urban planning of Linz**: http://www.linz.at/leben/stadtplanung.asp

### References

#### For facts in Introduction:
- **Area core city and larger urban zone**: *Urban Atlas*.
- **Population core city and larger urban zone** (2012 or latest): mainly *Urban Audit*. Note: in a few cases the population numbers have been provided by researchers based on statistical data.
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- **Map of Larger Urban Zone**: based *Urban Atlas*.

#### For the rest:
- **Interview** with Gunther Kolouch and Edmund Maurer, Municipality of Linz, Business group Urban Development, Department for Urban Planning on 07/08/2014.
- **Interview** (telephone) with Barbara Veitl; Municipality of Linz, Stadtgärten Linz on 14/08/2014.
- **“Linz braucht einen Strand” initiative**: Available from https://de-de.facebook.com/LinzBrauchtEinenStrand; accessed 04/11/2014


Planning and policy documents


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Location Map

Amsterdam, the capital and largest city of the Netherlands, lies embedded in one of the Dutch river deltas. Historically, trade by boats has been the most important driver behind the development of the city in this location. Today, Amsterdam is known for its creative and service-oriented industries and its popularity with tourists.

A significant part of the city’s cultural and natural heritage lies below sea level. The vegetation in the region is therefore reliant on water, harbouring many bird species including duck and geese. Several measures have been taken in the region to avoid water-related hazards. Generally, confidence in the Dutch water defence system is high.
2) URBAN AND REGIONAL PLANNING CHARACTERISTICS

**General description of the planning system**

“Centralized what has to be, decentralized what can be” is the main guideline for planning in the Province of North-Holland. The levels of government most relevant for (peri-)urban planning in Amsterdam from the highest to the lowest are: the Province, the Metropole Region Amsterdam (a collaboration between municipalities in the Amsterdam Region), the municipality of Amsterdam and seven city districts which are each divided into neighbourhoods. There are numerous forms of horizontal and vertical collaboration among the different levels. For the Metropole Region level, three advisory committees support the integration of green space development projects in the area. For the municipal level, the Department of Physical Planning is the most important body.

As in other cities in the Netherlands, the main binding planning instrument at the municipal level is the land use plan (bestemmingsplan). The land use plans are based on structure visions that each city in the Netherlands is mandated to formulate according to law. Amsterdam’s Structure Vision from 2011 “Amsterdam 2040: economically strong and sustainable” provides a fairly detailed picture of the development plans for the 30 years ahead.

As in Utrecht, the main (ongoing) change in the planning system of the Netherlands is summarized as a shift from restrictive planning towards development planning, meaning that the focus on restrictions and legality has moved towards development and facilitation, involving less quantitative norms and more qualitative guidelines. This also implies a shift from an evaluating, testing role afterwards, towards a co-generating, cooperative role in the early stages of decision-making. According to the municipal official, urban and regional planning in Amsterdam are likely to be significantly impacted by a decrease of (central) government funding and the elimination of the level of city districts, which will theoretically bring powers back to the municipal level.

**Instruments for the protection and enhancement of urban green space**

One key element of the Structure Vision is the idea of ‘green wedges’ going into the city, enhancing quality of life and accessibility of green spaces and allowing densification in the city centre. Because green spaces and biodiversity are considered to play an important role in how people experience their quality of life, urban planners in Amsterdam prioritise its improvement as a key element for economic development. Attracting skilled people is an important motivation for this prioritisation. So the current Structure Vision explicitly considers green structure as an economic factor. In addition to the Structure Vision, the Ecological Vision is the main guideline for enhancement of the green network at the municipal level. By motion of the municipal council, the Ecological Vision elaborates the Ecological Structure that complements the Provincial Ecological Main Structure and represents the ‘biodiversity dimension’ of the Structure Vision. The Department of Physical Planning of the Municipality is the responsible department for the Ecological Vision.

On the regional level, the most important bodies for green space protection and enhancement are the Province’s Commission Space and Environment and the deputy council members with responsibility for either spatial planning and environment, flora and fauna, or specific protected areas. The Provincial Structure Vision is the most important planning document. Municipal partnerships of the Metropole Region Amsterdam govern major elements of green space including the Bufferzone Haarlem-Amsterdam and the Amstelscheg.

Every proposed development plan is evaluated for environmental impact by the ‘Advisory Committee Spatial Development’ of the Province of North-Holland that was installed in 2010.
Challenges, objectives and achievements in urban green space planning

As expressed in the title of the Structure Vision “Amsterdam 2040: economically strong and sustainable”, the main political goal of the municipal council is to enhance the urban environment to make it attractive for its range of different inhabitants and businesses. According to the municipal official, two recent achievements are the expansion of the island of IJburg, where housing development and nature development are integrated, and the “Gardens of West” project which integrates recreation with wildlife corridors and city farming. Recently, the general recreational value of parks has increased. The protection and enhancement of biodiversity is also considered as an important objective of green space planning, yet the implementation of this objective is less well articulated in the Structure Vision.

Appreciation for Amsterdam’s city parks is generally lower at the urban fringes, where less well-educated people from lower socio-economic backgrounds live. Moreover, these parks are less often visited, and the municipality actively tries to find out why this is the case.

The most important future challenge, according to the municipal official, is the decrease of funding for all municipalities by the Dutch state. This will continue to decrease the municipalities’ capacity for active nature protection, and require a transition towards a greater involvement of citizens from all levels of society in the management and maintenance of green spaces.

Amsterdam’s major challenges (from left to right): A challenge for Amsterdam is the presence of many bottlenecks preventing connectivity of the green structure (the red crosses in the left figure; photo: Koos van Zanen). -- The canal next to a road illustrates a challenge in combining transport infrastructure with ecological requirements (photo: Koos van Zanen).

Amsterdam’s major achievements: Cooking in a neighbourhood park in Amsterdam Oost is an example of using green space as a meeting place for diverse cultural groups (photo: Frans Boom).
3) EXPERIENCES WITH GOVERNANCE PRACTICES

Government ideas and practices regarding participation
The municipality of Amsterdam encourages the involvement of a wide range of stakeholders. During the drafting phase of the Structure Vision, there have been meetings and conversations with numerous stakeholder groups. This way they could be involved from an early stage of the decision-making process and share important local expertise. When the first draft of the Structure Vision was completed, citizens had the opportunity to comment on it, including an internet-based opportunity to respond. This procedure is more or less in line with Amsterdam’s general consultation procedure. However, public engagement is not aimed for at all times and for every task. According to the municipal official, strategic decision-making at city-level, for example, is ultimately done by the aldermen who act as guardians of public interest and the quality of the decision-making process. On a local scale, for example, citizens are given the opportunity to participate in decision-making about the types of plants to be rooted in particular green spaces. They are also asked to assist in the maintenance of some parks.

The interviewee points out that full participation encompassing all societal layers is difficult to achieve for various reasons. First of all, some citizens know how to find their way in local politics much better than others. Secondly, there are no approved protocols for how to achieve broad engagement, since much depends on the will and capacity of the government officials. In some policy documents government officials are called upon to work in a more participatory manner. At the local level, government officials called “neighbourhood networkers” are employed to engage with citizens and with representatives of housing corporations to solve local problems. Some neighbourhood networkers encourage people to take initiatives to improve their local green areas.

Local initiatives
The interviewee mentioned examples of initiatives that are supportive of municipal policies as well as initiatives that are more resistant to such policies. Local initiatives concentrate on the maintenance of green areas, green roofing, and on turning abandoned patches into high-quality nature. Generally, four main types of participation can be found in Amsterdam. First, there are the self-started citizen initiatives where a small group initiates a project for which they subsequently acquire funding. Some of them develop into the second type: businesses, foundations or NGOs. Third, there are other citizen initiatives serving to protect a certain park or green space against profit-driven development. If well organized, these can sometimes interfere with government plans. Fourthly, there are entrepreneurs trying to generate income from a green space-related business, for example bars in parks. By doing so, they are attracting more visitors to the park. An important initiative that was finally mentioned by the interviewee is the development of platforms where experts come together with artists and entrepreneurs and present their visions to each other. Through dialogues and workshops they find innovative answers to diverse problems, and sometimes develop into vital movements.

Supporting and hindering factors in participation as perceived by city officials
The interviewee in Amsterdam is of the opinion that there no longer is a real top-down attitude of the government towards citizens, which is expressed, for example, in the open planning process. He argues that a first beneficial factor that stimulates public engagement is such an open attitude of the municipality and the government. In relation to this, the government provides digital information that should invite people from all societal layers to find answers to their questions. Finally, it is expected that the innovative entrepreneurial platforms mentioned above encourage frontrunners to inspire others to pioneer in setting up innovative projects.
In spite of the current emphasis on ‘opening up planning processes’, the following aspects are mentioned as challenging for increased participation. First, rules and regulations continue to have a strong influence on planning in Amsterdam and these are not a topic for deliberation, at least not in the short run. Second, in spite of a trend towards more openness, not all officials as yet have translated that ambition into their own practices and some may be sceptical of a stronger position for citizens. Third, at the civil society end of the participation issue, not everyone is equally able or tempted to be engaged by which some social groups may be excluded from these processes. The younger and middle-aged, highly educated, well-off people living around the city centre are better represented than older people, those with less education, and citizens with a lower economic status. This expresses the importance of the governments’ role as guardian of the public interest and the process.

**Examples of initiatives coming from local stakeholders**

**Pocket Parks (Postzegelparken)**

“Stamp parks” (postzegelparken) is a foundation that establishes tiny parks on abandoned sites, which are to be maintained by surrounding inhabitants and organisations. The park initiators claim that the main benefits of such parks are the increased social cohesion and well-being resulting from building these parks in collaboration. They design the tiny parks, raise funds for their establishment and advise during the process of establishment. From the start, they facilitate the involvement of surrounding inhabitants. Their funding comes from different governments and from the involved entrepreneurs. Citizens help in the maintenance and design of the stamp parks.

Pocket parks each have their own identity. One may contain a squash field, another a trading point, and yet another a little pond. Present plant species are never the same. It all depends on the preferences of the involved people, and on what is possible to grow or build in the available space. The first pocket park is located in the “Indische buurt”. Inhabitants asked for a foldable terrace, mini-gardens for children, a chessboard, a kiosk, and house equipment for public workshops.

**1 Hectare “Roof nature”**

Inspired by the Austrian architect Hundertwasser, the Dakdokters (the Roof Doctors) have so far turned over 500 Amsterdam rooftops into green spaces for leisure and gardening. This has caught the attention of the municipality, and with other local stakeholders the Roof Doctors have initiated the project 1 Hectare Daknatuur (“1 Hectare of Roof Nature”). Together they lobby, look for subsidies and use social media to upscale green roofing to a new green space type in the form of 100 green rooftops of 500 m². Their main case for this activity is the creation of social value, biodiversity and a healthy environment.
4) URBAN GREEN INFRASTRUCTURE (UGI) THEMES AND STRATEGIES

Main themes related to urban green space
The centrally conveyed issue is the character of Amsterdam as a metropolitan landscape, where every patch of land is used in as many ways as possible. This increases the attractiveness of the city as a whole. Recreation, urban farming and biodiversity are central themes, with upcoming themes being water retention and air pollution. The “green network” character of the city is an important planning theme. The Ecological Vision describes biodiversity values of the green network and presents how these values can be protected. It contains a detailed map of the Ecological Structure showing the connections between green spaces and, importantly, bottlenecks.

Understanding of UGI and representation of UGI principles
The concept of UGI does not explicitly occur in the analysed documents from Amsterdam, but it can be attained by fusing the concepts of ‘Ecological Main Structure’ (EMS), and ‘Metropolitan Landscape’, both present in the Structure Vision. The EMS concept is widely used in the Netherlands and is planned as a nation-wide network of large green spaces interconnected by green corridors. Connected green spaces are considered as promoting biodiversity. The concept of EMS relates to the UGI principle of connectivity.

The Structure Vision also acknowledges several landscape functions. Ecosystem functions, such as cleaning local water, supporting agriculture, providing medicine and experiencing value, are mentioned in the Ecological Vision. Increasing multifunctionality is not explicitly pursued in either document; however, the Ecological Vision places emphasis on the benefit of the structural network for biodiversity, while the Structure Vision aims at increasing the quality of green space, in general.

The Structure Vision contains some links between green space and other infrastructures mainly in regard to roads or rivers. A green space network is considered to reduce the pressure of bike traffic on roads and high water pressure on rivers during extreme rainfall. The Ecological Vision considers traffic routes on one hand as potential hindrances, but on the other hand also as potential corridors between ecosystems if designed accordingly.

Structure Vision Amsterdam 2040: Economically Strong and Sustainable
Original title: Structuurvisie Amsterdam 2040. Economisch Sterk en Duurzaam
Date: 2011
Responsible department(s): Department of Physical Planning
Spatial scale: City region
Legal status: Non-binding, but approved by politics

Main themes related to urban green space
- Creation of high quality green space accessibility

Parallels with GREEN-SURGE policy concepts
- Adaptation to climate change
- Health
- Social cohesion
Implementation and evaluation

Management, maintenance, monitoring and evaluation are considered the weaker elements of plan implementation. Supporting factors for plan implementation mentioned by city officials are the increase of the city’s economic value, improvement of the ‘experience quality’ and quality of life in the city, and the contribution of plan implementation to social cohesion in the city.

Hindrances to plan implementation are the resistance of conservation-oriented activists against a plan, dogmatic party politics and attempts to appropriate certain successes when greater support is required, and lack of money for scientific evaluation and monitoring of projects.

It is for the last two reasons that the municipality actively seeks collaboration with the business community and non-governmental branches to elaborate on the earlier initiatives and intensify and broaden collaboration to include other green spaces.

Ecological Vision: Ecology, biodiversity and green connections in Amsterdam

Original title: Ecologische Visie. Ecologie, biodiversiteit en groene verbindingen in Amsterdam

Date: 2012

Responsible department(s): Department of Physical Planning

Spatial scale: City region

Legal status: Non-binding, but approved by politics

Main themes
- Improvement of the ecological network

Parallels with GREEN-SURGE policy concepts
- Biodiversity
5) URBAN GREEN SPACES: LINKAGES BETWEEN BIODIVERSITY AND CULTURE

**Views of what Biocultural Diversity is referring to and how it is addressed in policy**

The planning of biocultural diversity in Amsterdam is based on a dual approach of strategic planning for an overall green structure linking the city to its surrounding environment and location-specific urban green spaces. The strategic structure comprises both natural elements and a cultural heritage belt of historic fortifications. The location-specific urban green spaces range from ancient parks to recently integrated assemblages of biodiversity as well as local green initiatives developed and maintained by local people in newly established housing areas.

Biodiversity is an important issue considered in green space management, as illustrated by the appointment of an urban ecologist. However, biodiversity in itself is not an imperative, and it is accepted that there can be diversity in the amount of diversity. Attention is given to both native species and adapted urban assemblages of biodiversity as well as to the demands of local people. For instance, depending on community interests at local level there may be a focus on bee and butterfly friendly plant material.

Regarding cultural diversity, much attention is given to the variable recreational demands of different groups of people, e.g. with respect to age, mobility, education and recreational activities. The recreational activities range from passive ones, such as lounging and barbecuing, to more active ones, such as jogging and music playing. To a great extent, the requirements and needs of neighbourhood inhabitants determine the nature of the recreational infrastructure. Several parks are characterised by their multicultural use. The presence of playgrounds and of coffee shops increases multicultural use. Commissioned by the city, research is conducted on the specific demands for green space use by immigrants.

**Bioculturally significant places**

The variety of bioculturally significant places can be illustrated by the following examples: Cultural heritage sites combining historic urban spaces with related assemblages of biodiversity such as Amsterdam’s tree-lined 17th century canal system and the 19th century Defence Line of Amsterdam encircling the city featuring water management and control. Both sites are included in the UNESCO World Heritage system. An example of an historic park in the old part of the city is Vondelpark. The park was established by a community group and is still owned by members. The city hosts many other parks, such as the Sloterpark and Westerpark.

Other examples include newly developed urban living quarters such as IJburg with associated green spaces, including green housing and green rooftops, and redeveloped industrial sites with new green spaces such as the Docks of Amsterdam.

Examples of local and private initiatives in maintaining urban assemblages of biodiversity are a privately developed floating garden on a boat and Baanakkerspark, which is maintained by volunteers from a neighbouring care flat for elderly people.
Citizens on a beach in IJburg, a recently developed neighbourhood on artificial islands (photo: Mirjam Koevoet).

An example of how modern art can contribute to biocultural diversity in the Sloterpark (photo: Mirjam Koevoet).
6) CONCLUSION

The region of Amsterdam consists of five operational government levels, ranging from the provincial level down to neighbourhoods. Within the coming years, the level of city districts will be abolished, which is expected to have consequences for green space planning and the potential of city officials to link up with local realities and with different actors in the city region. Another challenge is to enhance the maintenance, monitoring and evaluation systems of the city.

A key strength of Amsterdam’s planning strategy is the inclusive way of communication. Regional stakeholders as well as citizens are actively involved in different elements of the planning process, facilitated by highly accessible documentation on the internet. There is a strong ambition to actively reach out to all layers of society and involve everyone in at least a part of the process. However, there are difficulties in obtaining participation from all, and the city official has emphasised the role of government as the guardian of public interest and the process.

Actors jointly acknowledge that preserving and enhancing urban green space is beneficial for all stakeholders. The recreation, experience value and social cohesion provided by green space are considered to benefit citizens’ quality of life and the city’s economic value as a whole.

Amsterdam hosts a variety of green space initiatives, ranging from community parks to city-wide projects aiming at a considerable increase of green space on rooftops. These projects are often funded by the government, either directly or through citizen foundations or other non-governmental organisations.
Websites of municipality and core organizations
  ▪ De Dakdokters (Roof Doctors): http://dakdokters.nl/
  ▪ Dienst Ruimtelijke Ordening Amsterdam: http://www.dro.amsterdam.nl
  ▪ Gemeente Amsterdam: http://www.amsterdam.nl
  ▪ Postzegelparken (Stamp parks): http://www.postzegelparken.nl/
  ▪ 1 Hectare daknatuur: http://www.degroenegrachten.nl/1-hectare-daknatuur/

References
For facts in Introduction:
  ▪ Area core city and larger urban zone: Urban Atlas.
  ▪ Population core city and larger urban zone (2012 or latest): mainly Urban Audit. Note: in a few cases the population numbers have been provided by researchers based on statistical data
  ▪ Average annual population change rate (Core city; 1990-2012 or similar): calculated \([(100\times\text{population number last year} / \text{population number first year}) - 100]/(\text{last year} – \text{first year})\] based on Urban Audit.
  ▪ Public recreational green space (Core city; m² per inhabitants; 2006): based on Urban Audit and Urban Atlas. Urban Atlas defines urban green space as “public green areas for predominantly recreational use”. Peri-urban natural areas, such as forests and agricultural land, are mapped as green urban areas only in certain cases. In general, peri-urban green areas are not counted. Private green and blue areas are also not included. Further, green spaces with less than 250 m² are not mapped as well. This leads to deviation with per capita green space values used by city officials


For the rest:
  ▪ Interview with Remco Daalder, City of Amsterdam, Department on Spatial Planning, interviewed by Gilles Havik and Marleen Buizer on July 9th 2014.

De Gezonde Stad: http://www.degezondestad.org/; accessed 4-7-2014
De Groene Grachten (Green Canals): http://www.degroenegrachten.nl/; accessed 4-7-2014
Port of Amsterdam Green Space: http://www.portofamsterdam.nl/Ned/duurzaamheid/Natuur-in-de-haven.html; accessed 9-7-2014
http://maps.amsterdam.nl/ecopassages
### Planning and policy documents

- **Gemeente Amsterdam 2012.** Ecologische Visie. Ecologie, biodiversiteit en groene verbindingen in Amsterdam. 26p.

### Acknowledgements

We thank Remco Daalder for sharing with us his experienced and lively stories about the many urban green space developments in Amsterdam and Koos van Zanen for commenting on a draft version of this portrait.

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**In cooperation with:** Remco Daalder, Municipality of Amsterdam
16  UTRECHT, THE NETHERLANDS

1) INTRODUCTION: Facts and Figures

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Location Map

Utrecht is the fourth largest city of the Netherlands. It is a transport "hub" with highways, rivers and railways passing or transecting the city presenting one of the biggest spatial challenges. Its central location makes the city attractive for commuters. Utrecht is home to one of the largest universities of the Netherlands and the population is relatively young and highly educated.

The national task to expand available housing has been particularly dominant in changing the city. Through the new housing development of “Leidsche Rijn”, Utrecht is expected to grow by 100,000 inhabitants, 30,000 houses, 770,000 m² of commercial office space, and 230 hectares of business area by 2030. This is the largest in scale of the housing programmes in the Netherlands that have been implemented over the past few decades. With a population close to 322,000 in 2013, the size of Utrecht has more or less increased by one third. Utrecht’s spatial coverage has almost doubled (Utrecht monitor 2013).
Map of Larger Urban Zone

Legend:
- Built-up area
- Green urban areas
- Sports and leisure facilities
- Agricultural areas, semi-natural areas and wetlands
- Forests
- Water
- City border

Date: Urban Atlas (EEA)
Author: Anna Bach
Date: 29-10-2014

Euri, HERE, Dulorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community.
2) URBAN AND REGIONAL PLANNING CHARACTERISTICS

General description of the planning system
The Province of Utrecht is responsible for comprehensive land use planning at the regional level. Parts of its vision called the Provincial Spatial Structure Vision 2013-2028 are mandatory for municipalities and obtain a legal basis in the Provincial Spatial Regulation. The Provincial Spatial Regulation imposes restrictions on the municipal land use plans. Changes in a municipal land use plan are evaluated against the parameters formulated in the Provincial Spatial Regulation. At the next level down from the provinces in the Netherlands, all municipalities formulate so-called Structure Visions. The municipal Structure Vision brings together the policy intentions of different policy sectors. The Utrecht Structure Vision (2015-2030) dates back to 2004 and includes the green structure valid for that year. The land use plans are subsequent plans with a legal basis. In the Netherlands, these land use plans that elaborate the Structure Vision are considered as the most important tools for spatial planning. In Utrecht, the Department for Urban Development formulates the Structure Vision. This is done in cooperation with other departments of spatial relevance (e.g., economy, housing, traffic, environment, and water).

As for Amsterdam (see elsewhere in this series of portraits), the main (ongoing) change in the planning system of the Netherlands is a shift from restrictive planning towards development planning; in other words, the focus has moved from restrictions and legality towards development and facilitation, involving less quantitative norms and more qualitative guidelines. This also implies a shift from an evaluating, testing role afterwards, towards a co-generating, cooperative role in the early stages of decision-making.

Instruments for the protection and enhancement of urban green space
The main instrument for the protection and enhancement of urban green space in Utrecht is the Urban Green Structure Plan of 2007. A connection with other policies is found through the Structure Vision, which incorporates the green structure.

The Green Structure Plan distinguishes green around the city, green structures in the city, and green in the city. It is connected with multi-annual green programmes that elaborate in greater detail which measures are to be taken in view of the agreed priorities, how these measures will be financed and a planning schedule. Co-financing and cooperation are articulated as particularly important in the latest programme, particularly because of the restrictions on available funding due to the global financial crisis. The programme emphasises how cooperation with actors such as the province, the municipal land exploitation, the national government and the EU is important for realising investments in the green structure. The multi-annual green programme is updated on a yearly basis.

A second important instrument for the protection and enhancement of green space is the Utrecht “Trees policy” of 2009. The policy emphasises that trees have got their own spatial dimension and problems that merit a special policy document including components such as tree structure, instruments, and guidelines for the management and maintenance of trees.

Objectives, achievements and challenges in urban green space planning
The Green Structure Plan of the city of Utrecht emphasises the importance of the green structure for the attractiveness of the city for (future) inhabitants and businesses to choose Utrecht as their base. Other objectives of the green structure are to improve its role for recreation, social and psychological well-being, health, the environment and ecology. Municipal officials value the realisation of the Green Structure Plan, which is valid for 30 years, and particularly the fact that it has been connected to an implementation programme (the multi-annual green programme) as
the most important achievement in green space planning. Additionally, (1) the development of the green neighbourhood plans in a highly participatory manner; (2) significant investments into urban agricultural initiatives, and green roofs and facades; and (3) the development of the Trees Policy (validity of 50 years), which incorporates spatial, ecological and cultural-historical objectives, are considered as major achievements.

The challenges listed are the continuing increase of traffic and congestion, the density of “underground” infrastructure of pipelines and cables that hinder ground-level measures to improve green spaces and the changing expectations of a greater diversity of inhabitants (e.g., the demand for facilities in urban green spaces accommodating “new” activities such as barbecuing).

Utrecht’s major challenges (from left to right): Utrecht is a city with a highly dense network of infrastructures. In the picture on the left: an “underpass” for hedgehogs. -- In the picture on the right: an overpass (under construction) for cyclists (photos: Jeroen Schenkels).

Utrecht’s major achievements: The interactive map (http://www.utrecht.nl/groenbeleid/groene-kaart-utrecht/) shows the Green Structure Plan, the programme for green areas around the city, the neighbourhood green plans and the green bicycle route (photo by Jeroen Schenkels). -- Utrecht successfully encourages and supports different forms of self-management by inhabitants (photos: Jeroen Schenkels).
3) EXPERIENCES WITH INNOVATIVE GOVERNANCE PRACTICES

Government ideas and practices regarding participation

Over the past decade, the municipality of Utrecht has attached more importance to involve its citizens and their organisations in the formulation of plans. This was particularly the case regarding the 2009 Trees Policy. For the Green Structure Plan, the participation of citizens has been important in relation to “green in the city”. At a neighbourhood level, inhabitants were invited to submit their preferences concerning one of the ten neighbourhood green plans and were given a high degree of freedom in doing so. Their ideas were incorporated into the neighbourhood plan and a budget was provided by the municipality (0.5 million Euro for each plan). The ideas had to comply with a list of criteria; in other words, the project needed to comply with existing policies, be supported by at least five people, and be publicly accessible. More than “green in the city”, green structures in the city and green around the city are considered a responsibility of the municipal government.

In view of a diminishing resource base, the municipality also gives priority to public engagement to include: (1) local knowledge of inhabitants that they can share; (2) the ability of inhabitants to point out bottlenecks in the green structure and articulate their wishes; and (3) the potential role of inhabitants in the maintenance and management of green areas. The Green Structure Plan mentions various local groups of inhabitants that are considered as potential partners in fulfilling these tasks.

Local initiatives

There are a variety of citizen initiatives in Utrecht. The citizen group of Wilhelmina Park, for example, is a long-standing group of relatively highly educated people that has been a continuous factor in contributing to the maintenance and improvement of the park. Other initiatives are new and may encourage new relationships among people. The municipal officials of Utrecht do not have difficulty listing a large range of different initiatives, even those that have not been initiated by their own organisation.

The interviewed municipal officials emphasised a role for more traditional activist groups that may fight for the protection of a green space against extensive development by other sectors or for adequate compensation of loss of green space.

Utrecht also has a wide range of urban agriculture projects. The municipality supports them through subsidies and a regulation for green rooftops and green facades which has been extensively used.

Supporting and hindering factors in participation as perceived by city officials

The city officials pointed out, that the level of trust citizens place in the municipal administration is an important and determining factor for their participation. The officials also emphasize that the space the municipal organization is willing to give is also a defining factor for the level of participation. If potential participants get the idea that their input will not find a response anyway, they are not tempted to join in discussions.

Lastly, a continuous presence of well-educated people was mentioned to contribute to the level of participation in a neighbourhood. While this presence supports participation, it is also a concern for the municipality. The municipal authorities will inquire as to how they can better facilitate engagement from other members of the communities.
Factors that potentially hamper participation are a too high level of self-interest on the part of the municipality being the input to a participatory process, the high costs and time demanded of processes that are imbued with strife among different people, and when there have been too many negative experiences in the past.

**Examples of initiatives coming from local stakeholders**

**Ringpark Dichterswijk**

A plan for Ringpark in the neighbourhood Dichterswijk has been initiated, designed and developed by local inhabitants. A key role was played by three landscape architects who took the initiative, mobilised support from other inhabitants, lobbied for their ideas in local politics and obtained a small budget from the municipality. The initiative for a “green ring”, consisting partly of former derelict land along a railway, followed a petition drawn up by the inhabitants for more green space in their neighbourhood.

While parts of the ringpark are momentarily disconnected, organized walks of the ringpark route with inhabitants as well as other activities to promote the idea, have made the park “real” and already given rise to references to the park in house sales advertisements in the area. Facilities for sports, play, and walking, and later on also an open air theatre and urban tree plantation are the main activities and elements of the park.

**Noordse Park**

According to the inhabitants of the surrounding neighbourhoods, Noordse Park is not a pleasant place. The park has been used by drug and alcohol addicts, and a lot of litter and dog excrements can be found. With all of its problems, and squeezed between roads and railways, it has not attracted local inhabitants or children.

With the ambition to improve both the park and social cohesion in the neighbourhood, the local people organized a budget of 600,000 Euros to increase the overall quality of the park. They preferred their own advisor to the municipality’s in helping them give shape to the plan. The municipality lauded this initiative, and the budget to improve the quality of life of some poorer neighbourhoods was utilised.
### 4) URBAN GREEN INFRASTRUCTURE (UGI) THEMES AND STRATEGIES

#### Main themes related to urban green space
Urban green space planning in Utrecht is multi-themed: it envisions, first of all, the integration of different functions. The Green Structure Plan of Utrecht aims at increasing coherence among different sectors and sees this as one of the biggest challenges: "The urban green is not only valuable because of its significance and values for Utrecht of the separate parts of the green structure. The quality of the urban green also increases if the coherence increases. In Utrecht there are big opportunities for a better coherence between green and nature, ecology, recreation and cultural history. This coherence in the green of Utrecht, to a large extent, is still developing and a promise for the future". Ecology, recreation and cultural history are explicitly taken up as themes and form the basis for the green structure.

Another thematic orientation that is strongly articulated in the planning documents is the importance of a network of green spaces for the branding of Utrecht as a city with an attractive living environment for its inhabitants and for businesses to continue or start their activities in Utrecht.

<table>
<thead>
<tr>
<th>Green Structure plan</th>
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<tr>
<td>Original title: Groenstructuurplan</td>
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<td>Date: 2007</td>
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<td>Responsible department(s): Department of Urban Development</td>
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<td>Spatial scale: City region</td>
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<td>Legal status: Non-binding, but approved by politics</td>
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<tr>
<th>Main themes related to urban green space</th>
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<tr>
<td>• Coherent spatial, ecological and recreative vision of urban green in 2030</td>
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<tr>
<td>• Protection of urban green space, improvement and increase of structural coherence</td>
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<td>• Improvement of external cooperation</td>
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<tr>
<th>Parallels with GREEN-SURGE policy concepts</th>
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<tr>
<th>Understanding of UGI and representation of UGI principles</th>
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<tr>
<td>In the Green Structure Plan the concept of UGI is not explicitly mentioned. However, considerable overlaps with UGI can be noted. Connectivity of urban green space is considered important, for example, in the form of ecological coherence and recreation network. As mentioned above, increasing connectivity is the major aim of the plan and is valued as increasing the different ecological and socio-cultural functions or qualities of urban green, relating to the concept of multifunctionality. Green space is also viewed as integrated with other infrastructures such as traffic infrastructure.</td>
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<th>Trees policy</th>
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<th>Main themes</th>
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<tr>
<th>Implementation and evaluation</th>
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<tr>
<td>According to the interviewees, there are several challenges with regard to implementing the green structure in Utrecht. Continuity of the council, continuity of financial resources and an alert, critical citizenry that keeps implementation of plans high on the agenda have all been supporting factors. A dominance of ‘harder’ sectors such as traffic and housing in decision-making, of social safety concerns and of traditions of ‘green coming only second’ are mentioned as the main challenges.</td>
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| Monitoring of achievements of green structure planning implementation are a concern, as monitoring is piecemeal and national monitoring programmes do not always respond to local needs. Utrecht’s Green Structure Plan is linked to yearly updated, multi-annual implementation programmes consisting of details about specific sources of funding, projects and collaborations needed to implement the plan. |
5) URBAN GREEN SPACES: LINKAGES BETWEEN BIODIVERSITY AND CULTURE

Views of what Biocultural Diversity is referring to and how it is addressed in policy

The term biocultural diversity is not recognised in Utrecht, but the notion is reflected in a multi-level approach towards planning and managing urban green spaces. The municipality follows a professionally-based strategy for developing a green structure plan, with different spatial levels of green spaces. The implementation of the latter plan is partially based on ‘neighbourhood green plans’ that are developed by local citizen groups. This approach links strategic planning of a network of different types of municipal green spaces to location-specific planning of local green spaces based on the multiple values of local citizen groups.

At the strategic spatial level, networks and green areas around the city consist of a variety of both historic and newly established objects such as parks, urban forests, and waterways. The municipality combines the ecological management of these green spaces, focussing on native species and the control of plant diseases, with conservation of cultural historical heritage sites and objects such as historic parks, estates, buildings, and statues. These artefacts represent the city’s history and give an identity to the green spaces and their associated assemblages of biodiversity. In newly established parks a more modern assemblage of cultural artefacts and recreational facilities are present.

The neighbourhood green plans have got different objectives with respect to biodiversity, ranging from the conservation of species to the development of urban-adapted assemblages of biodiversity, e.g. in the form of edible gardens. They also include the conservation of cultural heritage objects in parks and the development of new cultural objects as a means to increase the identity of the location-specific green spaces. Due to an active local participation in developing the neighbourhood green plans, these plans are expected to reflect cultural diversity in the different neighbourhoods in terms of social composition, age, and ethnicity. Whether they do or not is a question for further research. It is acknowledged that cultural diversity is a dynamic concept and that people may form new preferences and identities in time, e.g. influenced by communal activities. Recently, the need to give further consideration to the demands of immigrants from other European and African countries is noted.

Bioculturally significant places

The following examples illustrate diversity in the network of green spaces in the city:

Wilhelminapark is an example of a traditional city park that is frequented by highly educated people living nearby. During nice weather it is full of students because it is on the way to the university.

Grift park and Maxima park are more recently developed parks that reflect the dynamic nature of biocultural diversity. Grift Park was developed on a former industrial site after an intensive process of soil reclamation. The parks were designed to accommodate a high variety of cultural elements, including a variety of plots with different compositions of biodiversity, art objects and recreational facilities.

Child in a play-green area in the Spoorverbreding zone (photo: Arjen Buijs)
Park Transwijk is an example of a local green space where the notion of “Food for Good” is reflected in vegetable gardens, urban roofs and facades adorned with edible and ornamental plants.

Japanese garden Maxima park (photo: Jeroen Schenkels).
6) CONCLUSION

Utrecht distinguishes between different types of ‘green’ in its green structure policy: green in the city which gives a high degree of influence to inhabitants and rewards their initiatives, the networks of green spaces in the city (the actual green structure), and larger green areas around the city. For each of these categories of green, which together form the green structure, specific projects are formulated and elaborated in a ‘multi-annual green programme’. Particularly because of the city’s location in the centre of the Netherlands, with a range of urbanisation pressures on the availability of green spaces and high demand, the municipal government with its partners makes significant attempts to improve the multifunctionality of the green structure and its coherence. The municipality values its green structure also for economic reasons – it expects the availability of green spaces to add to the attractiveness of the city for people and businesses to establish themselves in the city and stay there.

A learning point would be to tune the centrally planned green structure to the initiatives led by non-government stakeholders. Are there limits to these initiatives? What to do in case of conflicts between the initiatives and municipal policies? The interviewees in Utrecht explicitly acknowledged a role for different types of participation – from a role for citizens in management maintenance and monitoring to a self-organising role (with financing from the municipality, if necessary). Activism also has a role in placing topics on the municipal agenda, particularly when it concerns the protection of green against stronger interests.

With regard to biocultural diversity, the municipality of Utrecht largely expects biocultural diversity to be a goal that is achieved through neighbourhood green plans and the people participating in those processes.
## Links and References

### Websites of municipality and core organizations
- http://www.utrecht.nl/milieu/groen
- http://www.devergroeningvanutrecht.nl/Welkom.html
- www.degroenestad.nl (not only Utrecht, but has a lot of info about Utrecht)
- http://moesverkeer.wordpress.com

### References

**For facts in Introduction:**
- **Area core city and larger urban zone:** Urban Atlas.
- **Population core city and larger urban zone** (2012 or latest): mainly Urban Audit. Note: in a few cases the population numbers have been provided by researchers based on statistical data
- **Average annual population change rate** (Core city; 1990-2012 or similar): calculated \[((100*population number last year / population number first year) -100)/(last year – first year)\] based on Urban Audit.
- **Public recreational green space** (Core city; m² per inhabitants; 2006): based on Urban Audit and Urban Atlas. Urban Atlas defines urban green space as “public green areas for predominantly recreational use”. Peri-urban natural areas, such as forests and agricultural land, are mapped as green urban areas only in certain cases. In general, peri-urban green areas are not counted. Private green and blue areas are also not included. Further, green spaces with less than 250 m² are not mapped as well. This leads to deviation with per capita green space values used by city officials.
- **Map of Larger Urban Zone:** based Urban Atlas.


**For the rest:**
- **Interview** with Rob Hendriks, Hans Kruse, and Jeroen Schenkels, City of Utrecht, Department Urban Development, 14th May 2014.

**Planning and policy documents**


**Acknowledgements**

We thank Rob Hendriks, Hans Kruse and Jeroen Schenkels who have generously shared their time and enthusiasm with us to come to the formulation of this portrait. I also thank Gilles Havik for being generous in sharing his ideas about green space related developments in Amsterdam.

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**Researcher(s):** Marleen Buizer

**In cooperation with:** Rob Hendriks, Hans Kruse, Jeroen Schenkels, City of Utrecht
17  BARI, ITALY

1) INTRODUCTION: Facts and Figures

<table>
<thead>
<tr>
<th>Core city</th>
<th>Bari</th>
<th>Biogeographic region</th>
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<td>Planning family</td>
<td>Mediterranean/Urbanism</td>
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<td>Core city</td>
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<td></td>
<td></td>
<td>Larger urban zone</td>
<td>577 283</td>
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<td>Average annual population change rate (1991-2012; Core city)</td>
<td>-0.4</td>
<td>Public recreational green space per capita (2006, Core city; m² per inhabitants)</td>
<td>5.57</td>
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Location Map

Bari is the second largest city of Southern Italy and the capital of the Apulia region, located on the Adriatic Sea. Named the fifth largest province in Italy and the sixth most populated, Bari carries a population of more than 300 000. It is a major port on the Adriatic Sea and connects to other Adriatic ports using railways, motorways and shipping. Bari has become one of the top commercial and industrial cities in Italy and takes pride in its seafood industry and adjoining agricultural areas. Its industrial and commercial base is varied and includes chemicals, machinery, printed materials, petroleum, textiles and a growing service sector. Agricultural processing is a principal industry in the province as Apulia produces large quantities of high quality foods.

The city enjoys a Mediterranean climate, but there is increasing concern that climate change might disrupt the seasonal pattern of hot-dry summers and wet winters, impacting the farming chain, quality of life, and wildfires. Urban green spaces constitute less than 2.1 % of the municipality’ surface area. They mainly consist of small parks and neighbourhood gardens (63.7 %). There are pockets of deprivation and investment challenges in improving the housing and urban infrastructure.
2) URBAN AND REGIONAL PLANNING CHARACTERISTICS

General description of the planning system

The planning system of Bari is led by the municipality’s planning department in collaboration with other departments and external public institutions. Urban green space planning is entrusted to the Office of Urban Planning, while the decision-making body is the Department of Planning and Private Building, Municipality of Bari. The coordination of plans occurs at different scales, which includes the regional, provincial, municipal and local levels. The planning system is hierarchical and divided into a series of inter-related processes aimed at conferring an ordered structure to the territory. Current legislation has established the following main types of plans for Bari and its region:

- Regional and provincial territorial coordination plans that guide the coordination and planning of local authorities;
- Regional inter-municipal regulatory plans, which coordinate guidelines on the urban structure of multiple neighbouring municipalities;
- General urban plans that translate general guidelines into precise requirements with reference to the municipal territory;
- Multi-annual implementation plans, which predetermine spatial planning and implement the general regulatory plan; and detailed plans.

Instruments for the protection and enhancement of urban green space

At the city level the Preliminary Planning Document (DPP) aims to identify sustainable urban development approaches through a strategic planning process. The plan is part of the future General Urban Plan (PUG); the organizations involved are the Department of Planning and Private Building and the Department of Infrastructure, Roads and Public Works - Gardens Sector, Municipality of Bari.

Instruments at the regional level include the Regional Urban Landscape Plan (PUTT/P); Regional Territorial Landscape Plan (PPTR), which aims to preserve and upgrade the landscape, implement self-sustainable, socio-economic growth and preserve social, cultural, and environmental aspects, recognizing the role of biodiversity; the Hydrogeological Masterplan of the Apulia Region Water Basin Authority; and Strategic Plan for the Metropolitan Area of Bari. The organizations responsible for these instruments are the Apulia Region Department for the Environment – Ecology Service – Office of Planning and Energy Policy; Apulia Region Department of Spatial Planning – Spatial Planning Service – Office of Landscape Planning and Implementation; Regional Agency for Environmental Protection and Prevention of Apulia; and Water Basin Authority of the Apulia Region. The partnerships are public-private, including the participation of the Apulia Region with local municipalities of the province of Bari and environmental associations.

Objectives, achievements and challenges in urban green space planning

Urban green space planning has experienced a major shift in focus; its objectives increasingly include more regeneration of the urban landscape, a broader strategic approach and involvement of stakeholders and citizens. The system has introduced the themes of green economy (e.g., Park & Ride car park) and social inclusion (e.g., social allotments and Perotti Park). The administrative authorities and stakeholders have been more involved in planning urban green space and enhancing quality space for recreation. By order of the magistracy and public intervention, Perotti Park was built to replace a building complex along the coast; it represents both a challenge and an achievement. Cesare Battisti Square illustrates public-private collaboration; underground parking reduces car congestion and a public park built directly above allows improved air quality and social cohesion. Lama Balice Nature Park was established by the Apulia Region as an important source of biodiversity. It is used also for agricultural purposes and acts as a natural channel for regulating the hydrogeological regime and is a recreational/cultural hub.
Increasing urban green space is reflected in new projects like the Green Shadows Program (Shagree), which involves the construction of green areas (for a total of 2,000 m²) on the roofs of some buildings in the city center. The main goal is to find new areas for growing plants to help counteract the effects of climate change inside buildings and hydrogeological risk, as well as protects citizens from pollution.

Challenges abound in the administration’s attempt to conserve and restore urban green spaces and create new green spaces in abandoned areas (e.g., Bari Centre redevelopment project). Reducing loss of green spaces due to an excess of urbanization is a challenge, as stated by the city official. Efforts involve acquiring more public resources and private support in designing plans. Multiple actors and individual responsibilities require coordination in terms of timing, financial resources, and bureaucratic procedure.

**Bari’s major challenges** (from left to right): Bari Centre redevelopment project was planned to increase green space and connectivity by setting railways below ground and giving priority to an urban park; the major challenge is integrating a large park in a dense urban context (illustration: The Municipality of Bari, 2013). -- Perotti Park was built on the site of a demolished building complex after much legal and private contention (photo: M. Spanò).

**Bari’s major achievements** (from left to right): Cesare Battisti Square is a public-private collaboration. It features an underground parking deck and above-ground public park. This project reduces the urban heat island effect and adds green space to a dense urban context (photo: M. Spanò). -- Once an abandoned area, Lama Balice Nature Park is valued for its landscape features and biodiversity (photo: R. Lafortezza).
### Government ideas and practices regarding participation

The governance approach in the municipality of Bari is based on transparency of government actions focusing on a greater awareness and participation of non-governmental actors and the public in urban green issues. The governance of green spaces (e.g., urban parking decks with roof gardens) is facilitated by public-private partnerships where the focus lies on creating synergies. In spite of this focus, practices are largely based on a top-down approach. The municipality maintains the decision-making power. This is shared foremost with businesses, secondly with non-governmental organizations (NGOs), and to a lesser degree with local citizens. The municipality of Bari is responsible for drafting and implementing plans as well as for collaborating with related authorities in gathering knowledge and recommendations. It governs the spatial distribution of interventions in the landscape and is responsible for controlling and directing landscape changes through a set of guidelines laid out in urban plans and planning instruments.

The municipality coordinates proposals initiated by private businesses and other non-governmental actors. Business community representatives are often involved in green space planning, whereas the interviewee assesses that greater involvement of other non-governmental actors is desirable. Involving non-governmental actors enhances knowledge about green space preferences and uses, which is important for informing private businesses regarding investments needed for building quality green spaces, thus requiring less public resources. In other words, given that public financial resources are limited, the public administration invites private businesses to implement and manage urban green spaces as part of their building projects, thus avoiding these expenses. At the same time, new employment opportunities are created in the developed areas, for example in post offices, restaurants, and shopping centres.

### Local initiatives

Once the municipal administration approves an urban plan, local stakeholders participate in building projects in the role of managers and implementing agencies. They also take responsibility for protecting and creating green space in residential complexes. For example, the Detailed Plan of Lot Expansion C/2 Nos. 20 and 21 and the Shagree project are promoted by private companies that develop the plans and, through an agreement protocol with the municipality of Bari, manage the agricultural and green areas. An interesting example of participation in the form of resistance comes from the strong action of citizens against the Perotti building complex.

The municipality of Bari considers such projects based on the degree to which they are in line with their policies. Public/private stakeholders must abide by the objectives such as sustainability, multifunctionality, connectivity, and land preservation and enhancement.

### Supporting and hindering factors in participation as perceived by city officials

The major factors contributing to participation of non-governmental actors in the management, planning, and design of green spaces that were mentioned by the interviewees are laws that require the protection of the landscape and a reduction of soil consumption and that decisions are shared by organizations of private businesses, citizens, NGOs, and the public administration. In addition, a new General Urban Plan of the city will soon be drafted by the public administration, in which more participation will be required by these private and public stakeholders.

Factors hindering participation include the lack of regulations or principles enabling more active forms of participation from non-governmental actors, laws or rules that are not clear or allow for misinterpretation to private stakeholders regarding spatial planning, the absence of an updated General Urban Plan to reflect the modified requirements for landscape protection, and the absence of a strong cultural attitude aiming to protect the environment in
general and the landscape more specifically. In this regard, there is very little shared knowledge by citizens about urban green space plans and projects. This can be a hindering factor in participation. Officials and public and private stakeholders are now understanding the importance of participation and paying more attention to this aspect in drafting and implementing plans (see, for example, the Preliminary Planning Document – DPP).

**Examples of initiatives coming from local stakeholders**

**Detailed Plan of Lot Expansion C/2 No. 20**

The plan for Lot No. 20 was proposed as a residential housing project (in the General Regulatory Plan) to meet demands for urban expansion. Its main natural feature is the La Marchesa Lama, a depression with important hydrogeological characteristics which also constitutes a linear park of great environmental value. The plan aims to contain and preserve the area’s natural features, using the lama as a channel for regulating the hydrogeological regime, and apply energy-saving and -producing technologies.

The housing facilities will offer a better quality and equitable standard of living to low-income families. Lot No. 20 is a district within the first environmentally sustainable residential complex in southern Italy.

The main non-state actor involved is a private building association. Other stakeholders are the Engineering Dept., the Water Basin Authority of the Apulia Region, individual businesses/residents, and offices/services for public utilities, such as health offices and schools (The Municipality of Bari, 2014).

**Detailed Plan of Lot Expansion C/2 No. 21**

Promoted by the Municipality of Bari and involving private building associates, engineers and architects, the aim of the Lot No. 21 project is to encompass aspects of ecological and energy efficiency to produce a model that combines the principles of bioclimatic architecture with the simplicity of construction and economic sustainability of the building process. This lot covers an area of 90 hectares on the Eastern side of the city.

The Plan includes the preservation of agricultural areas (citrus/olive groves and gardens) enclosed within the new district as “multifunctional agricultural green” to be used by cooperative farmers for “zero kilometre” organic production. The idea is to foster continuity and the synergy of elements (infrastructure, public and private spaces, architecture and landscape), which if properly integrated can prevent peripheral ghettos. The Plan was drawn up in accordance with the guidelines of the DPP’s new General Urban Plan and of the Territorial Regional Landscape Plan (The Municipality of Bari, 2014).
4) URBAN GREEN INFRASTRUCTURE (UGI) THEMES AND STRATEGIES

Main themes related to urban green space
The most important themes related to urban green space for the city of Bari are sustainability, connectivity, multifunctionality (i.e., biodiversity, climate change, social and recreational activities), and mitigation of pollutants. Improvement is needed in enhancing and connecting green spaces (e.g., “lame”- geomorphological depressions or dried riverbeds); the related plans are Detailed Plan of Lot Expansion C/2 No. 20 and the Strategic Plan for the Metropolitan Area of Bari.

Another important theme is the preservation of environmental values, found in the Preliminary Planning Document (DPP) and Regional Territorial Landscape Plan (PPTR), represented by residual green spaces (e.g., forest remains) and agricultural areas. The PPTR plan has as an objective of defining quality standards of landscapes for developing renewable energy. It also defines quality standards for the regional planning of urban and rural residential areas. Thus, the plan envisions developing landscapes in support of a green economy. In its description, the plan seeks to promote the region’s self-sustainable socio-economic growth by preserving and recuperating social, cultural, and environmental aspects. In doing so, it maintains and supplies ecosystem services and safeguards its biocultural land heritage.

The themes “improvement of the hydraulic regime and geomorphic stability” and “sustainable territorial development” are dealt with in the PPTR and Hydrogeological Masterplan of the Apulia Region Water Basin Authority (AdB). This document, along with the PPTR, considers important the enhancement and sustainability of urban and peri-urban landscapes. Of additional interest is the fact that the AdB mentions “implementation of green infrastructure” for the first time in regards to sectoral planning. The concept shall be applied at the regional level with a focus on particular hotspots, such as the metropolitan area of Bari. The AdB has initiated studies to understand how it can be applied to watersheds at the regional level.

Understanding of UGI and representation of UGI principles
The UGI concept is not explicitly acknowledged in the two analysed planning documents of Bari. However, there are similar terms to express the concept such as “green corridors”, “green networks”, and “green crown” (DPP document). Also at the regional level, the term “green belt” is used (PPTR document). It is interesting to note that at these two levels different terms are used to express the same concept.

Green space is understood as a green structure inserted within a built-up structure that beautifies or provides services. The documents also refer to

Regional Territorial Landscape Plan (PPTR)
Original title: Piano Paesaggistico Territoriale Regionale (PPTR)
Date: 2013
Responsible department(s): Apulia Region, Department of Spatial Planning
Spatial scale: Regional
Legal status: Legally binding

Main themes related to urban green space
- Sustainability
- Multifunctionality
- Connectivity

Parallels with GREEN-SURGE policy concepts
- Green economy

Preliminary Planning Document (DPP)
Original title: Documento Programmatico Preliminare (DPP)
Date: 2008/2009, updated 2010
Responsible department(s): Department of Urban and Private Building - The Municipality of Bari
Spatial scale: City
Legal status: Legally binding

Main themes related to urban green space
- Sustainability
- Increasing quality of the urban environment, including landscape quality and accessibility
- Implementation of an ecological network of urban parks

Parallels with GREEN-SURGE policy concepts
- Biodiversity
connections between peri-urban green spaces and urban ones (e.g., the "lame" that border the urban area). This understanding of a green space system or network can be related to the concept of connectivity.

Both documents mention multifunctionality several times. The PPTR includes multifunctionality among its objectives, for example, “To promote the multifunctionality of the regional ecological network” and “To enhance the multifunctionality of peri-urban farmlands”. The DPP defines a “multifunctional agricultural park” as a natural park that provides new services contributing to an improved quality of life to urban dwellers. The park provides quality farm products, livestock, ecological and energy services as well as tourism. The DPP further refers to several functions of green spaces (landscape functions or ecological functions) such as the barrier function to mitigate water runoff or to impede agricultural and urban expansion in the landscape.

**Implementation and evaluation**

Implementation of strategic green space planning in Bari is acquiring greater importance and is advancing. In fact, the DPP document mentions that green space is lacking at the urban level and should be increased. The PPTR document mentions the “city-countryside pact” initiative, emphasizing the notion of compensation whereby green structures abounding in one area can be used to replenish another; for example, exploiting a buffer zone to increase urban reforestation. Nevertheless, implementation for green space planning until now has occurred at a small scale (e.g., social allotments), and there is still little interest to implement larger projects.

According to the interviewee, landscape and sustainability are supported by coordinated political and green space planning initiatives. Rather than waste economic resources on many unfinished minor projects, city officials seek to focus these resources on finalizing projects aimed at enhancing urban green space and its sustainability. Hindering factors are a lack of conceptual knowledge of constructing coordinate, multifunctional green space networks, lack of public awareness and gaps in regard to participation and cooperation among authorities at the municipal, provincial and regional level. The drafting of regional, urban, rural and site-specific plans and projects involves the cooperation of various administrative sectors (e.g., parks, water, and transportation), municipalities and also non-governmental stakeholders. To overcome the hindering factors, the DPP encourages citizens and associations to participate in conferences, forums, etc., to increase their awareness of future plans and exchange information.

Monitoring includes progress reports, periodical updates, and meetings which are conducted to report assessments, planning, and implementation. According to the interviewee, a particular monitoring system is lacking to measure success, as well as contribute to a shared consciousness (for the common good) of the importance of urban green space. Additionally, there is an absence of streamlined, short-term effective laws/policies for implementation and financial support.
Views of what Biocultural Diversity is referring to and how it is addressed in policy

Although the expression biocultural diversity is not used, the city of Bari considers cultural and biological diversity separately. However, from the perspective of biodiversity, there is greater interest in improving connectivity and integration of both urban and peri-urban landscapes.

In regard to cultural diversity, in the last century, urban green areas consisted mainly of gardens and parks where local residents passed their leisure time in social exchange, strolling, and recreation (children). In the 1980s and 90s, with the entry of immigrants from the Balkans and Southeast Asia, the role of parks and gardens changed. Today, despite the fact that urban green spaces in the city of Bari are few, these gardens and parks play an essential role in promoting social exchange and in creating “rooms” where ethnic groups meet and find refuge. The introduction of immigrants has led local residents to search for their own public green space; this has caused tension among them and the immigrants. Thus, an emerging issue is the need to manage green spaces to integrate the cultural orientations of native Italian people and the immigrants, including the allowance of cultural expression, and to provide adequate facilities, thus increasing the multicultural attractiveness of green spaces and improving quality of life. Attention is particularly given to immigration from North Africa (e.g., those arriving illegally by boat) and Eastern Europe, which has resulted in increased cultural diversity in terms of ethnicity, cultural orientations and religion.

Biocultural diversity is also reflected in the various ways in which populations through the centuries, including the present, have made use of the landscape for farming to produce their own food and to preserve popular traditions. The Lot Expansion C/2 No. 21 project, for example, demonstrates how agricultural land, with its historical and cultural identity and indigenous farming practices, can be protected by reducing the consumption of soil, which consequently reduces human pressures on the natural environmental system.

Bioculturally significant places

The administrative authorities of Bari consider urban parks as ethnic “melting pots” and places for fostering social cohesion. Umberto Square is a large public park situated in the heart of the city. Because it is near the central railway station, it attracts various ethnic groups, local residents and people from neighbouring towns, and commuters. It serves as a hub for encounters, public forums, recreation, resting, and seasonal handicraft fairs for locals and ethnic groups alike. The square is rectangular and the vegetation is typical of Mediterranean urban parks, following a planned design. It includes a large fountain, playground, and benches, which are common elements of municipal parks in Italy.

Umberto Square is the city’s primary “melting pot” for ethnic groups (photo: M. Spanò).

Biocultural diversity is also reflected in the traditional uses of land by the local population in the peri-urban regions (e.g., urban agriculture, farming). It is more highly expressed in the interface zones and rural land remnants.
Example of urban agriculture with typical Apulian crops (photo: M. Spanò).
6) CONCLUSION

Urban green space planning and implementation is the responsibility of the Municipality of Bari, which is the leading administrative authority for plans, policies, and decision-making. This administration collaborates with other departments and external public institutions, and coordination of plans occurs at different scales – regional, provincial, municipal and urban. Planning is entrusted to the Office of Urban Planning, while the political decision-making body is the Department of Planning and Private Building, Municipality of Bari. Plans for urban and peri-urban development also include green space planning. The main types of plans are regional and provincial territorial coordination plans, regional inter-municipal regulatory plans, general urban plans, and multi-annual implementation plans. Among the most important planning instruments are the Preliminary Planning Document (DPP), the General Urban Plan (PUG), and Regional Territorial Landscape Plan (PPTR).

The Municipality and planning departments work in tandem at various scales and with external public and private companies, NGOs and individuals for the implementation of their plans in building or restoring urban green spaces. The Municipal administration intends to strengthen urban green space planning by promoting participatory governance, even in small-scale planning initiatives, according to the established planning instruments.

Planning of urban green spaces addresses numerous themes, in particular sustainability, connectivity, multifunctionality, and land/habitat conservation. The plans also promote the integration of different cultural aspects, (i.e., social inclusion, and cultural diversity). Regional planning takes into account biodiversity, green economy, ecosystem services and cultural diversity as well.

Although the term biocultural diversity is not explicitly recognized, the municipality of Bari attempts to integrate ethnic groups within the urban context by allowing cultural expression in the city’s green spaces and access for their enjoyment. In managing urban green spaces, the city aims to increase their multicultural appeal and respect local traditions, and thereby improve urban quality of life, as well as preserve and upgrade landscapes and biodiversity.
**LINKS AND REFERENCES**

**Websites of municipality and core organizations**
- http://www.provincia.ba.it/

**References**

*For facts in Introduction:*
- Area core city and larger urban zone: *Urban Atlas.*
- Population core city and larger urban zone (2012 or latest): mainly *Urban Audit.* Note: in a few cases the population numbers have been provided by researchers based on statistical data
- Average annual population change rate (Core city; 1990-2012 or similar): calculated \[\left(\frac{100 \times \text{population number last year}}{\text{population number first year}} - 100\right)\] based on *Urban Audit.*
- Public recreational green space (Core city; m² per inhabitants; 2006): based on *Urban Audit and Urban Atlas.* Urban Atlas defines urban green space as “public green areas for predominantly recreational use”. Peri-urban natural areas, such as forests and agricultural land, are mapped as green urban areas only in certain cases. In general, peri-urban green areas are not counted. Private green and blue areas are also not included. Further, green spaces with less than 250 m² are not mapped as well. This leads to deviation with per capita green space values used by city officials


*For the rest:*
- Interview with Laura Casanova and Cesare Trematore, City of Bari, Department of Urban Planning, Municipality of Bari, on May 28, 2014.

- http://www.comune.bari.it; accessed October 2, 2014
- Lama Balice nature park: http://www.elaiabitonto.it/lama%20balice%20-%20biodiversit%C3%A0.asp; accessed October 21, 2014
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**Planning and policy documents**


**Acknowledgements**

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**In cooperation with:**

Anna Maria Curcuruto, Laura Casanova and Cesare Trematore,
Municipality of Bari
2) INTRODUCTION: Facts and Figures

<table>
<thead>
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<th>Core city</th>
<th>Milan</th>
<th>Biogeographic region</th>
<th>Continental</th>
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<tr>
<td>Larger urban zone</td>
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<td>Average annual population change rate (1991-2012; Core city)</td>
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<td>Public recreational green space per capita (2006, Core city; m² per inhabitants)</td>
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Location Map

Milan is the second-largest Italian city by population and stands at the centre of one of the most populated metropolitan areas in Europe. Milan is situated in the west of the Lombardy region. Milan became the "Italian economic capital" during the industrial revolution and retains its status today at the European level; it forms part of the "Industrial Triangle" with Turin and Genoa. From the industrial revolution onwards, the city underwent heavy urbanization linked to industrial expansion, which also involved the neighbouring cities. During the last century, the city stabilized its economic and productive role, becoming Italy's most important financial market.

Since the new millennium, the city has experienced architectural and urban renewal with the realization of several projects aiming to redevelop entire districts and large areas of the city and to project the image of the city throughout Europe and the world. The Province of Milan has been the cradle of urban forestry in Italy, introducing important parks, such as Milan's BoscoInCittà. To date, the urban green spaces in the Province of Milan include parks, forests and wetlands, totalling 11.9% (higher than the 2.7% average for other provincial capitals).

Since 2013, Milan has been designated as the Italian province with the largest foreign community. Among the major challenges in the near future is hosting Expo 2015, with the theme "Feeding the Planet, Energy for Life."
2) URBAN AND REGIONAL PLANNING CHARACTERISTICS

General description of the planning system
The planning system of the city of Milan is hierarchically organized across three levels: regional (territorial plans), provincial (plans outside the municipal boundaries) and municipal (general planning schemes or general regulatory plans). This planning system deals with protected green areas and other urban green spaces that refer to the above three levels, while funding for agricultural activities (EU grants) refers directly to the regional level. Until now, these approaches were not always synergistic.

In 2015 the Province of Milan became a new institutional body defined as a Metropolitan City, which will be responsible for protecting and enhancing green spaces. The institution of a metropolitan-level body offers advantages such as the inclusion of suburbs and rural areas with increasing populations. This translates into the provision of more facilities and services to these areas, which were previously excluded from the central administration of Milan and therefore did not receive funding for the development. The institution of the Metropolitan City also cuts down the level of bureaucracy required for managing territorial activities, because there is a single entity that streamlines administrative procedures for the territory. Thus, all three planning system levels (regional, provincial and municipal) are more easily managed for greater synergy.

The planning system of the city of Milan is managed by The Lombardy Region - General Directorate for Landscape, Urban Planning and Soil Conservation, the Province/Metropolitan City of Milan and the Municipality of Milan. The Province/Metropolitan City of Milan engages in territorial planning between the city (Milan) and surrounding municipalities. The regional administration monitors the implementation of plans.

Instruments for the protection and enhancement of urban green space
Over the past decades, numerous administrative and legislative measures have influenced changes in land use in the Metropolitan Area of Milan. Fostered through Regional Law 86/1983 on protected areas, by 2012 the system of regional parks reached 39% of the land area in the Province of Milan. The system consists of six regional parks and an extensive agricultural belt called Milan South Agricultural Park. The framework of protected areas also includes parks of local interest (PLIS). Currently, in the Metropolitan Area of Milan there are 14 PLIS covering 7,000 ha.

In 2007, the “Green Systems” Act was instituted involving 17 projects in the Metropolitan area of Milan. The concept of afforestation was introduced by national Leg. Decree no. 227/2001, whereby uprooted forest stands must be replaced by new ones. The most important planning instruments at the regional level are Regional Laws 31/2008 and 12/2005 and Regional Decree no. 10962/2009 that produced the Regional Landscape Plan (PTR) and Regional Ecological Network (RER – for biodiversity conservation and for providing ecosystem services).

At the provincial level, the planning instruments are the Provincial Territorial Coordination Plan (PTCP), Provincial Ecological Network (REP) and Forest Management Plan (PIF, for preserving and managing forest resources) that can also interact at the municipal level with municipal planning instruments. At the city level the planning instrument is the Territorial Governance Plan (PGT). These are sectoral instruments (e.g., deal with forests and ecology) that become synergistic at the urban scale.

The most important organizations for protecting and enhancing urban green spaces at the city and regional level are the Directorate General for Agriculture of The Lombardy Region and the Development and Forest Management
Division, while the function of the Province/Metropolitan City of Milan needs to be better defined due to the current transition process. The Municipality of Milan is involved only at the city level.

At the provincial and regional levels there are partnerships among administrative authorities such as between the Municipality of Milan and Province of Milan in implementing Besozza Forest. NGOs (e.g., WWF) also represent important actors working at the regional, city-region, and local levels for the realization of green spaces, mainly within protected areas. In general, NGOs are becoming important actors in promoting and planning green spaces at the outskirts level.

| Objectives, achievements and challenges in urban green space planning |
| A number of major projects and initiatives have been carried out to establish and preserve forest areas in the rural landscapes. In response to loss of habitats and land-use change, two large urban parks have been established since the 1950s, Bosco in Città and Parco Nord Milano. Later on, Forlanini Urban Park was built to re-use former industrialized land. Recently, forest resources were further increased through the “Ten large forests for the plains” initiative. Some important achievements of green space planning in recent years have been, e.g. the creation of Besozza Forest, the Water Forest (Cesano Boscone Municipality), and Cento Passi Forest (Gaggiano Municipality). The latter represented a challenge as well - it was previously agricultural land belonging to the Mafia that was planned for residential construction. It was confiscated in 2005 and transformed into a public park. It includes woodlands, hedgerows, green areas for education/nature experiences, bike paths, and wetlands. The other two parks play a crucial role from a landscape ecology perspective; they are ecological hubs in the RER and REP. The main challenges include providing measures to control and reduce soil sealing caused by the expansion of residential and industrial settlements, identifying transition zones to ensure green space connectivity, protecting and managing urban and peri-urban areas through “ad hoc” laws, and providing administrations with technical experts for managing and assessing urban green initiatives. |

- Milan’s major challenges (from left to right): Cento Passi Forest represents a unique challenge because its 17 ha were confiscated from the Mafia and ceded to the municipal administration (photo: G. Simini). -- Reducing soil consumption is a major challenge for Milan. More than 60% of soil is sealed, which represents one of the highest levels in Italy (photo: G. Sanesi).
Milan’s major achievements (from left to right): Besozza Forest increased the biodiversity and landscape value of the lowlands. -- Water Forest was a heavily degraded area that underwent redevelopment and afforestation; the concept of compensatory afforestation was introduced, whereby forest areas that are removed need to be replaced. (photos: G. Simini)
3) EXPERIENCES WITH INNOVATIVE GOVERNANCE PRACTICES

Government ideas and practices regarding participation

Policy makers and municipal bodies are interested in new models of governance that are not solely based on direct land management by public bodies. A key reason is to lower the costs of land management by involving more citizens in direct management works. Bosco della Giretta, for example, represents a park where non-state actor participation was carried out from establishment to management. In the past decade, there has been an increase in the participation of numerous actors including city employees from other departments, the business community, NGOs, scientists, neighbourhood associations, and farming districts. Examples are farmers’ associations that carry out maintenance or environmentally sustainable activities, and educational, cultural and sports associations, which are involved in enhancing green space to support recreational activities. There is also a growing popular interest on the part of citizens towards environmental and conservation issues (e.g., educational parks) especially concerning urban green spaces (e.g., BoscoinCittà Park) due to their heightened sense of ownership of these areas.

Urban planning relies to an increasing extent on non-governmental actors: there is an increasing emphasis on sharing responsibilities and participation is an influential factor in terms of how green space is governed. The administrative authorities could envision future NGO involvement; e.g., farms to carry out maintenance or environmentally sustainable activities, while local associations could be responsible for the care and supervision of the areas or of educational activities. Given that city officials recognize the importance of participation in green space planning, the contribution that research can provide in this area is still lacking.

Local initiatives

In recent years there has been a growing interest on the part of NGOs, private companies, and citizens in environmental issues, largely concerning land planning and management. The municipal government sees this interest as supportive of its policies.

In Milan there are several initiatives that have seen the participation of local stakeholders in accordance with the objectives of the public authorities. Examples are BoscoinCittà Park and Cesano Maderno Oasis (for both see below). Another important initiative is Vanzago Oasis, a forest and zoological natural reserve owned and managed by the WWF of Italy. The park includes a small experimental farm and studies are conducted on organic cultivation methods. The variety of environments, which are subject to constant maintenance, renders the Oasis a semi-natural area. Several farms participated in the Vanzago Oasis initiative.

Supporting and hindering factors in participation as perceived by city officials

The main factors contributing to the participation of non-state actors in the management, planning and design of green spaces are greater transparency of action, direct contact with possible stakeholders also to identify the real needs and the most appropriate uses of green spaces, greater freedom in management, and the integration of innovative factors. These factors can make initiatives more fruitful, such as creating public/private partnerships especially for generating funding. Both the public and private sectors engage in the management of public land. Among the factors that hinder participation are misinformation, the lengthy time required for approving actions and policies (authorizations or permissions), the lack of technical office staff that know how to promote and raise awareness for initiatives, lack of funds for the management of existing green areas that could attract citizens in the role of volunteers, and no advance payment for work, which discourages private initiatives in the proposals.
Examples of initiatives coming from local stakeholders

Cesano Maderno Oasis

Cesano Maderno Oasis is a public park that was created in 1997 by collaboration between the Lipu (Italian League for the Protection of Birds) of the Municipality of Cesano Maderno and Groane Park. It is located in a heavily industrialized area. The Oasis was designed to promote biodiversity.

As its stakeholders comprise of volunteers, experts, educators, and workers, the Lipu has been successful in implementing numerous recovery interventions within the park, such as the water network system. Its motivation and objective are to create a world in which man lives in harmony with nature in an equitable and sustainable way.

The Oasis is characterized by degraded forests, which however, retain portions of oak, birch and large shrub clearings. A typical green space of the park is the heath, which is carefully maintained and declared of "Community interest" by the European Union. Typical of the area are watersheds, which are often dry but flooded during heavy rainfall.

BoscoinCittà Park

Established in 1974, BoscoinCittà is an initiative of Italia Nostra (an association for the protection of cultural heritage, art and nature) and the City Council. This afforestation project within the perimeter of the urban belt provides urban green space, including forests, for citizens of the western Metropolitan area of Milan. The allocated space consists of a once-abandoned farming area.

A “Friends of the Forest Committee” was founded to provide funding until the Municipality of Milan began to contribute. Stakeholders include Italia Nostra, the Centre of Urban Forestry (CFU), both currently managing the park, and volunteer citizens who fund events. The CFU coordinates and develops the construction projects in the park, provides services, and promotes citizen participation.

Boscoincittà is one of the best-known metropolitan parks in Italy with 110 ha of woods, clearings, trails, waterways, and 140 social allotments. A lake was created to improve the microclimate and enhance flora and fauna. There are sports facilities and educational/cultural events for all ages.
4) URBAN GREEN INFRASTRUCTURE (UGI) THEMES AND STRATEGIES

Main themes related to urban green space
The most important themes related to urban green space planning are the creation/enhancement and conservation of green spaces and biodiversity, as well as quality of life improvement. In regard to these themes, urban/peri-urban (multifunctional) green spaces act as buffers of critical impact, enhance biodiversity and offer ecosystem services, and integrate/coordinate green corridors with landscape elements (e.g., tree rows) for filtering pollutants caused by transport infrastructures.

The related plans are the Forest Management Plan (PIF), Regional Ecological Network (RER) and Provincial Ecological Network (REP) that deal with conservation and connectivity of urban green space. The Provincial Territorial Coordination Plan (PTCP) is a planning instrument that defines the objectives of order and protection of the province and deals with improving the quality of life, enhancing the ecological network, reducing land consumption and increasing the quality of the environment. The PIF concerns the creation of green spaces to improve the landscape and protect the environment through the development and proper management of forest areas on provincial territory. The RER relates to ecological themes such as ecosystem services, biodiversity preservation, connectivity, carbon balance, reduction of water pollution and themes related to the quality of life of local residents.

Understanding of UGI and representation of UGI principles
The PIF mentions “green infrastructure” in relation to an EU document and another plan. In both analysed documents, more frequently terms such as “environmental infrastructure”, “regional infrastructure”, “green system” or “green network” can be found. The understanding of green space as a kind of infrastructure is also expressed in the PIF: “The forests and plants of the agricultural and peri-urban landscapes are infrastructures of multifunctional value, whose characteristic is that of being a living system that dynamically interacts with the territory.”

The principle of connectivity is mainly represented by the Ecological Network, defined in the RER document as “a natural and environmental infrastructure that aims to connect areas with a greater presence of naturalness [...] recovering and mending all those degraded areas scattered throughout the territory [...].” The RER document provides an analysis of the existing natural elements and assesses strengths and weaknesses within the ecological network.

In regard to multifunctionality, the PIF considers “the multifunctional relevance of forests” and aims at monitoring ecosystem services. The RER mentions “buffer functions with respect to the external transfer of dust from

Forest Management Plan (PIF)
Original title: Piano di Indirizzo Forestale (PIF)
Date: 2004 (review 2014)
Responsible department(s): The Lombardy Region - General Directorate for Landscape, Urban Planning, and Soil Conservation; and Agriculture Division, Department of Agriculture
Spatial scale: City
Legal status: Legally binding

Main themes related to urban green space
- Improve the landscape and protect the environment through forests

Parallels with GREEN-SURGE policy concepts
- Biodiversity
- Ecosystem services
- Health

Regional Ecological Network (RER)
Document
Original title: Documento Rete Ecologica Regionale (RER)
Date: 2009
Responsible department(s): The Lombardy Region - General Directorate for Landscape, Urban Planning, and Soil Conservation; and Agriculture Division, Department of Agriculture
Spatial scale: City-region
Legal status: Legally binding

Main themes related to urban green space
- Creation of a regional ecological network
- Sustainability
- Connectivity
- Multifunctionality
traffic, or ecosystem-filtering of stormwater from roadways, or exploitation of biomass to produce energy”, and the network in general aims at connecting green spaces for recreational and educational purposes, safeguarding the health of citizens, as a habitat network, to defend and enhance biodiversity, and to provide ecosystem services.

<table>
<thead>
<tr>
<th>Parallels with GREEN-SURGE policy concepts</th>
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<tr>
<td>• Biodiversity</td>
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<td>• Ecosystem services</td>
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Implementation and evaluation

Implementation of green space planning in Milan and the Lombardy region takes place on multiple scales. According to the interviewee, funding and assessment of planning interventions are conducted satisfactorily. Additional programmes and action plans exist as well as funding for implementing urban green spaces. Also, the PTCP (Provincial Territorial Coordination Plan) is supportive of green space implementation. However, it was emphasized that implementation-oriented action agendas and programmes (e.g., tree planting programmes, manuals, etc.) as well as monitoring and maintenance could be improved.

The officials state that the main factors that support the implementation of green space-related plans are funding continuity, plan stability and political interest. The factors that hinder green space planning and policy implementation are plans that oftentimes are inflexible, a closed perspective towards agriculture leading to a shift from an ecological-oriented policy towards an economical production-oriented policy, lack of political interest and of funding continuity. In addition, there is difficulty in reporting maintenance activities because they are not well recorded and therefore cannot be considered in financial budgets.

Monitoring of green space planning activities is undertaken by the Province through the PIF. The PIF considers it fundamental to launch a monitoring procedure of ecosystem services. Evaluation of the plans for implementing green space, such as the RER, takes place through the coordination of technical-administrative instruments, which are the Strategic Environmental Assessment (VAS), Environmental Impact Assessment (VIA), and impact assessment tools. For instance, the VAS evaluates the environmental impact of the plan’s actions before, during, and after its approval.
5) URBAN GREEN SPACES: LINKAGES BETWEEN BIODIVERSITY AND CULTURE

Views of what Biocultural Diversity is referring to and how it is addressed in policy

In the interviews the concept of biocultural diversity was related to the presence of both transnational green projects (e.g., cultural landscape projects and ecological corridor projects) between the Lombardy region and the neighbouring countries of Switzerland, Austria and Germany and of urban and peri-urban park developments. The role of different green spaces, such as parks and peri-urban agricultural lands, for their cultural heritage is acknowledged and promoted.

The Regional Ecological Network (RER) explicitly states that preservation of the landscape means recognizing, protecting and, where necessary, recovering the cultural values that it expresses. The urban and peri-urban landscapes are characterized by the natural and human actions and their interrelationships. In other words, the identity of a green space is the result “in time” of man’s actions on, or interaction with, the landscape (e.g., economy, land use associated with farming). Within this view, not only the importance of native species is recognized, but also the role of cultivated species, especially historic species that adorn the parks. Regarding biodiversity, the RER focuses on the connectivity between the various urban green spaces and the environments surrounding the city.

With respect to cultural diversity, urban parks are managed with the aim of fostering a sense of identity and belonging among community groups. The parks are dedicated to users of different nationalities, not only Italian but also immigrants from Eastern Europe and China. In recent years, there has been a marked increase in immigration fluxes from North Africa and later from Eastern Europe. Milan is the Italian province with the largest foreign community and since 2013 the city hosts 20 immigrants for every 100 residents. Public places such as city squares and parks are key resources in the socialization process of these immigrants. Immigrants appreciate the value of the traditional public place. In several cases, they have proposed additional ways of using parks that are related to their own culture of origin, such as picnicking and the practice of sports in large groups (South Americans), playing cricket (South Asians), and collecting wild herbs for vernacular medicine or food (Chinese).

Bioculturally significant places

Two main types of bioculturally significant places can be distinguished – urban parks within the city and cultural landscapes surrounding the city. Parco Sud and Parco Nord are examples of urban parks that are managed in view of multi-ethnic community groups. These multifunctional green spaces include specific areas for games, sports and educational activities for children and teenagers, as well as urban orchards and flower gardens for the elderly (i.e., social allotments). To cater to the demands of multicultural users, there is a tendency to create different types of numerous small areas designed for specific uses rather than a few large multipurpose areas. This creates non-conflicting use opportunities for both groups that use parks for relaxation and enjoyment and for groups that make more active physical use of parks. BoscoinCittà is an example of a park that includes an Environmental Education centre.

Cultural landscapes are an integral part of the urban and peri-urban parks and forests of Milan. Traditional farmland is maintained and with forests forms the backbone of urban green spaces (e.g., BoscoinCittà). These landscapes are normally driven by agricultural and other human activities.
Hedges create a well-defined “open-air classroom” in Parco Nord for educational activities and to encourage social exchange (photo: G. Sanesi).

Social allotments in BoscoinCittà Park provide food and other social and economic benefits (photo: G. Sanesi).
6) CONCLUSION

In the Lombardy region, green space planning aims at linking different spatial levels within and above the city level. The province, region, and municipalities currently interact through management, funding and monitoring activities. In 2015, the Province of Milan became a new institutional body defined as a Metropolitan City, which will be responsible for protecting and enhancing green spaces.

Green space planning in the region of Milan is based on long-term spatial visions supplemented by actions and means for implementation. The Forest Management Plan (PIF) is part of a strategic project of the Provincial Territorial Coordination Plan (PTCP) and aims at environmental preservation and landscape enhancement. The Regional Ecological Network (RER) is the priority tool for multi-scale planning and offers a strategic framework for environmental sustainability. The information acquired through the monitoring of existing green spaces (e.g., parks) supplies indications on how to improve policies for the conservation and enhancement of green areas. The main themes of these planning strategies are the creation/enhancement and maintenance (conservation) of green spaces and biodiversity, and improvement of the quality of life as well as multifunctionality and connectivity.

The Lombardy region invests in participatory governance (e.g., involving NGOs or farmers in landscape maintenance activities), which lead to shared costs and management of green spaces. It also encourages local NGO and citizen participation in green space projects.

Biocultural diversity is reflected in the urban/peri-urban green spaces dedicated to users of different nationalities and the ability of different ethnicities to express their cultures through social and economic activities.

There is a growing interest towards environmental and conservation issues (e.g., educational parks) on the part of authorities and citizens. According to the urban officials, partnerships between the public administration and research need to become a part of strategic green space planning practices.
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- **The Lombardy Region (Regional Ecological Network [RER]):**
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- **LIPU Onlus:**
  http://www.lipu.it/oasi-di-cesano-maderno-monzabrianza

- **Vanzago Oasis (Province of Milan):**
  http://www.provincia.milano.it/parchi/i_parchi/siti_di_importanza_comunitaria/oasi_vanzago.html

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For facts in Introduction:


- **Area core city and larger urban zone**: *Urban Atlas*.

- **Population core city and larger urban zone** (2012 or latest): mainly *Urban Audit*. Note: in a few cases the population numbers have been provided by researchers based on statistical data

- **Average annual population change rate** (Core city; 1990-2012 or similar): calculated \([(100 \times \text{population number last year} / \text{population number first year}) - 100] / (\text{last year} – \text{first year})\] based on *Urban Audit*.

- **Public recreational green space** (Core city; m² per inhabitants; 2006): based on *Urban Audit* and *Urban Atlas*. Urban Atlas defines urban green space as “public green areas for predominantly recreational use”. Peri-urban natural areas, such as forests and agricultural land, are mapped as green urban areas only in certain cases. In general, peri-urban green areas are not counted. Private green and blue areas are also not included. Further, green spaces with less than 250 m² are not mapped as well. This leads to deviation with per capita green space values used by city officials.


- **Map of Larger Urban Zone**: based *Urban Atlas*. 


For the rest:

**Interview** with Guido Simini, City of Milan (Lombardy region), Department of Agriculture, Parks, Hunting and Fishing on June 27, 2014.

**Objectives, achievements and challenges in urban green space planning:** system of protected areas. Available from http://www.reti.regione.lombardia.it/; accessed 23/10/2014.


**Websites for Biocultural diversity:**
- http://www.istat.it/it/archivio/129854

**Planning and policy documents**

**Forest Management Plan (PIF):** *Milano, la mia provincia online – Agricoltura.* Available from http://www.provincia.milano.it/agricoltura/foreste_territorio/Piano_indirizzo_forestale/; accessed 09.01.2014


The following plans/policies mentioned in the document have been cited in the websites above: Regional Landscape Plan (PTR), Territorial Governance Plan (PGT), Provincial Territorial Coordination Plan (PTCP), Provincial Ecological Network (REP).

**Acknowledgements**

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## 19 BARCELONA, SPAIN

### 1) INTRODUCTION: Facts and Figures

<table>
<thead>
<tr>
<th>Core city</th>
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<td>Planning family</td>
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<td>Public recreational green space per capita (2006, Core city; m² per inhabitants)</td>
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### Location

Barcelona is the capital city of the autonomous community of Catalonia and Spain’s second largest city. It is situated in the north of Spain between the coast of the Mediterranean Sea and the Serra de Collserola mountain range. Barcelona is one of the most densely populated cities of Europe and one of the largest metropolitan areas along the Mediterranean Sea accommodating about 5 million inhabitants (Barcelona Activa and Barcelona City Council 2014). Within its dense urban fabric, public green spaces sum up to approximately 1,100 ha; the Collserola mountain range covers additional 1,700 ha of the city area and more than 8,000 ha in total (Green Infrastructure and Biodiversity Plan 2013).

The city is a major cultural and economic centre in South-western Europe and a popular international tourist destination. Barcelona registers a foreign population of 17.4%, mostly originating from American countries, and is considered a multicultural and welcoming city. The port of Barcelona represents an important international transport hub (Barcelona Activa and Barcelona City Council 2014).

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4 For the Green Infrastructure and Biodiversity Plan 6.82 m² of urban green within the densely built city area and 11.33 m² including Collserola have been calculated. These deviations can be explained by the restricted definition of public accessible urban green space in the Urban Atlas.
2) URBAN AND REGIONAL PLANNING CHARACTERISTICS

General description of the planning system
Regional and urban planning for Barcelona and its surroundings are defined in the Urban Planning Law of Catalonia. At the regional level the regional government of Catalonia (Generalitat de Catalunya) and the Metropolitan Area of Barcelona are responsible for spatial planning. The most important planning instrument at this level is the Metropolitan Master Plan of 1976, which is legally binding for Barcelona and 35 other municipalities. The Metropolitan Master Plan should eventually become substituted by the Directive Metropolitan Plan, which is in a very early stage of elaboration.

The Metropolitan Master Plan is also influential at the city level. Other instruments for city-wide planning are binding Planning Regulations and Local Ordinances. The departments dealing with city-wide planning are hàbitat urbà (Urban hàbitat) and Gerència Adjunta d’Urbanisme (Urban Planning Direction). The Generalitat de Catalunya also supervises city-level planning with regard to modifications of the Metropolitan Master Plan.

Instruments for the protection and enhancement of urban green space
In regard to urban green space, the Metropolitan Master Plan and the Urban Planning Law of Catalonia are the most relevant instruments for the metropolitan area. Additionally, areas for nature protection are developed and managed by administrative bodies. The Collserola mountain range is legally protected by a Declaration as Natural Park (Decret 146/2010 Parc Natural de la Serra de Collserola) and is planned and managed by the Consortium of Collserola Natural Park. Barcelona’s rivers, Besòs and Llobregat, are managed by two consortia that represent local councils for urban development and infrastructure and cooperate in planning and management in the river areas.

At the city level, mandatory regulations for the Municipality of Barcelona for green space protection and enhancement are also provided by the Metropolitan Master Plan and the Urban Planning Law. The Urban Habitat (Hàbitat Urbà) department is responsible for green space planning and has recently launched the Green Infrastructure and Biodiversity Plan. This strategic plan sets out the long-term actions that are needed to attain green infrastructure and promote the provision of environmental and social functions.

Objectives, achievements and challenges in urban green space planning
According to the Green Infrastructure and Biodiversity Plan, the preservation and enhancement of the natural heritage of the city and biodiversity conservation are important objectives. This includes conservation, renaturalisation of the city and the creation of new green space, especially in regard to enhancing the connectivity of green infrastructure. The Green Infrastructure and Biodiversity Plan itself is seen as a major achievement and as a helpful tool for communication among departments involved in green infrastructure, planning and urbanisation projects.

To increase connectivity several ambitious projects are being developed, such as “Les Portes de Collserola” (Gates to Collserola Forest Regional Park), which aims to connect the forested area of Collserola with Barcelona. Within the city the Diagonal Verda (Green Diagonal Avenue) is a linear park across the eastern part of Barcelona that will connect the Nus de la Trinitat, a major highway interchange in northern Barcelona, to the waterfront. These projects are considered as major achievements by city officials, but their realization is discerned as challenging because Barcelona is such a dense and compact city. Barcelona’s density also increases challenges such as adapting to climate change and accommodating society’s increasing demand for green space.
Barcelona’s major challenges: Increasing connectivity among green spaces is a challenging task with the dense city structure. The Collserola mountain range has been hardly accessible so far to the city’s citizens (photo: Rieke Hansen, 2013).

Barcelona’s major achievements (from left to right): The city undertakes actions to create a network of green corridors and to protect and enhance biodiversity. The Green Infrastructure and Biodiversity Plan builds the foundation for this process. -- The Park of Cami Comtal is one of the envisioned corridors (both images: Ajuntament de Barcelona).
3) EXPERIENCES WITH INNOVATIVE GOVERNANCE PRACTICES

Government ideas and practices regarding participation
Barcelona’s city officials perceive an increasing role of participation and rising interest of citizens because they seem to feel more connected with the city and to have a demand for more green space.

One example of a participatory process that focussed on experts and organized stakeholder groups is the drafting of the Green Infrastructure and Biodiversity Plan. Companies, guilds, professionals and associations, as well as experts from universities and research centres contributed mainly as consultants during one session where the city council shared an evaluation of the state of green infrastructure and the aims and objectives, while different stakeholders made suggestions. The results of this session were used to draw the plan of action.

City representatives see potential for increasing participation of non-governmental organisations, business community representatives and individual citizens. So far, neighbourhood associations have been mainly involved in planning processes and in the management of some green spaces. Through districts and their participation programmes the City Council also agrees with neighbouring inhabitants upon the redevelopment of green spaces, such as Parc de l’Espanya Industrial or Turó Park.

Local initiatives
There are a few active participatory initiatives run by and for specific groups in Barcelona. In the Apropa’t als Parcs programme, initiated by the City Council, parks are used by schools for learning about sustainability. The maintenance of a green space in Horta Guinardó is undertaken by persons with mental disorders and groups at risk of social exclusion. An example of citizen participation is the analysis and evaluation of the status quo of green areas in the neighbourhood of Tres Torres. A group of residents conducted this analysis and presented a series of proposals for improvement.

Supporting and hindering factors in participation as perceived by city officials
According to city officials, participation would be supported by more tools that enable actors to influence decisions. Non-governmental actors would need to receive more power to not only influence the management and maintenance of urban green space but also to actually influence its use. According to the interviewee, the balance between intensive use of green space and its maintenance and conservation is most difficult to achieve.

Examples of initiatives coming from local stakeholders
Pla BUITS
To give life to vacant areas through temporary use and enable activities with little investment the city administration developed the Plan of Vacant Urban Plots (Pla BUITS). Non-governmental actors suggested uses for vacant areas owned by the City Council. The best initiative for each plot was selected and afterwards the organisations took over the management. Examples of uses include community gardens.

BioBlitzBcn
BioBlitzBcn is an event exploring the flora and fauna of the city in which interested persons may participate. Over a period of 24 hours, scientists studying specific groups of flora and fauna identify all the organisms that participating citizens can find in a given area.
The BioBlitzBcn takes place annually since 2009. The event is organised by the City Council, Barcelona’s natural science museum and the museum’s friends group. It also involves partners such as local universities and nature protection organisations.
4) URBAN GREEN INFRASTRUCTURE (UGI) THEMES AND STRATEGIES

Main themes related to urban green space
The main themes for green space planning in the Barcelona Metropolitan Region are the preservation of agricultural land and environmental protection, for example, as defined in the Protection Plan for the Llobregat Delta. Additionally, forest preservation and enhanced connectivity of forested areas are major topics of the Collserola Natural Park Statement.

Concerning the dense city area the Green Infrastructure and Biodiversity Plan mentions themes including preserving and enhancing the natural heritage of the city and its biodiversity as well as increasing green infrastructure and ensuring its connectivity. Furthermore, the benefits for humans are represented by the aim of securing the provision of social and environmental services from green infrastructure and biodiversity. The plan also aims at increasing the valuation of these services to society through education. It additionally aims at increasing resilience.

Future themes are how to consider economic bonuses and create incentives for promoting the “greening” of urban areas.

Understanding of UGI and representation of UGI principles
Barcelona’s Green Infrastructure and Biodiversity Plan is based on the concept of UGI. In this plan green infrastructure is described as “a network of spaces with public or private agricultural or landscaped natural vegetation, a multi-purpose resource providing ecological, environmental, social and economic services. These services are enhanced further when connectivity of green infrastructure is achieved.” Increasing connectivity through green corridors is one of the main objectives of the plan’s strategy. Furthermore, the idea of multifunctionality is considered and illustrated in the form of environmental and sociocultural services that different types of urban green space such as forests, parks, or vegetable gardens provide. The integration of UGI with other urban infrastructures is also mentioned.

Implementation and evaluation
City officials consider the implementation and evaluation of green space planning to be working quite well. The Green Infrastructure and Biodiversity Plan contains a chapter entitled “Strategic lines and actions”, which suggests several programmes for implementation of the Strategy. The plan also contains a catalogue of actions but no details on their implementation. For the green corridors, such as Park of Cami Comtal, separate plans have been drafted. Furthermore, a monitoring system shall be established based on a set of indicators.
City officials consider integrating urban green into a densely built urban environment and obtaining ownership of the required land as the most challenging factors of green space implementation. Additional hindering factors for plan implementation are based on economic reasons. So, for the creation of connections and corridors between different green spaces political support and willingness are essential. Additional support for plan implementation stems from the increased demand for green space for recreational purposes.
5) URBAN GREEN SPACES: LINKAGES BETWEEN BIODIVERSITY AND CULTURE

**Views of what Biocultural Diversity is referring to and how it is addressed in policy**

The concept of biocultural diversity has not been considered in Barcelona so far. In regard to biodiversity, the Green Infrastructure and Biodiversity Plan emphasises the protection of native species as well as the creation of a green space network that promotes the city’s local flora and fauna. The creation of a green network is considered crucial for enabling connectivity and promoting diversity.

From a cultural perspective, city officials see the city as very hospitable and open, with many different cultures living together. They do not see any effects of social fragmentation, so there has been no need to focus on cultural diversity in planning and policy. Consequently, no specific attention is given to managing urban green spaces such as parks in terms of the needs of specific groups of users, e.g. with respect to age, health, or ethnicity.

Some parks still maintain their historic design and are considered as heritage objects.

**Bioculturally significant places**

Most green spaces attract mainly the neighbours of the area. Parks in areas with a high percentage of immigrants are more often used by certain ethnic groups. Pou de la Figuera, for example, attracts mainly people with South American roots and is mostly used for outdoor sports, social interaction and urban gardening.

Other parks represent major tourist attractions. In Park Güell the high numbers of tourists lead to more regulation, such as fencing the park and establishing a ticket entrance. Parc de la Ciutadella is one of the most intensively used parks in Barcelona and concentrates all kinds of users from different cultures. It is an historic park that maintains its original design and holds festivals, fairs and all kinds of sports events.
For Barcelona and the metropolitan area statutory planning is mainly based on the Metropolitan Master Plan and the Urban Planning Law of Catalonia. Furthermore, landscape areas of high environmental value, such as the Collserola mountain range or river deltas, are protected and developed through declarations or plans. At city level the Green Infrastructure and Biodiversity Plan 2020 aims at improving the connectivity of urban green spaces through corridors and at protecting the city’s biodiversity. One of the major challenges is to connect the Collserola mountain range with the city and make it accessible.

In regard to governance, city officials perceive increasing interest of citizens in participation, but so far the focus has been on neighbourhood associations and selected stakeholder groups. An example of cooperation between the city administration and non-governmental actors is the Plan of Vacant Urban Plots. Initiatives could submit suggestions for interim uses on vacant areas and after a selection process their objectives could be realized.

In terms of themes and strategies in green space planning, the Green Infrastructure and Biodiversity Plan shares themes considered as important in the GREEN SURGE project. The plan is based on the concept of urban green infrastructure and also includes the concept of ecosystem services. Major aims are improving connectivity and increasing the provision of ecosystem services.

The concept of biocultural diversity is not applied by city officials. Biodiversity is considered in the Green Infrastructure and Biodiversity Plan, while cultural diversity is not perceived as a theme for plan or policy development because the city of Barcelona is hospitable and already many different cultures use urban green space without critical tensions.
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Websites of municipality and core organizations
- Barcelona Metropolitan Area: http://www.amb.cat/s/home.html
- City of Barcelona: http://www.bcn.cat/en/
- Parc de Collserola: http://www.parcnaturalcollserola.cat/
- Gates to Collserola Forest Regional Park (Les Portes de Collserola): http://w1.bcn.cat/portesdecollserola/
- Consorci dels Espais Naturals del Delta del Llobregat: http://www.deltallobregat.cat

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- Area core city and larger urban zone: Urban Atlas.
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For the rest:
- Interview with Joan Llort Corbella, City of Barcelona, Deputy Planning Manager on 16 July 2014.
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- **Plan of Vacant Urban Plots**: Ajuntament Barcelona (n.d.). Pla BUITS. Available from http://w110.bcn.cat/portal/site/HabitatUrba/menuitem.7014095af220d613d303d3a2ef8a0c/?vgnextoid=4f0c9152d1a7310VgnVCM10000072fe8c0RCRD&apppinstanceName=default&lang=ca_ES; accessed 03.11.2014


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**In cooperation with:** Joan Llort Corbella, Sara Udina Armengol, Hector Rodal Lopez; Barcelona City Council
1) INTRODUCTION: Facts and Figures

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Lisbon is the capital of Portugal and its most populous city. It is located on the right bank of the mouth of the River Tagus and, together with 17 other municipalities, composes the Metropolitan Region of Lisbon. This city has a rich cultural heritage, with monuments, botanical and imperial gardens and parks, and historic districts full of features reflecting its Roman origins and Moorish influence.

From 1986 (year of EU entry) to 2005, Lisbon experienced a period of construction boom fuelled by European funding and strong foreign investment, resulting in a highly dense urban fabric. Nevertheless, between 1980 and 2001, Lisbon lost a third of its residents, suffered ruptures of social and territorial cohesion and experienced a severe economic transformation, putting at risk the financial sustainability of the municipality. From 2005 thereof the real estate activity declined and tourism is today the city’s most important sector of economic activity.

In order to address these problems, the municipality is pursuing a strategy of urban regeneration by promoting mechanisms for the rehabilitation of vacant buildings and for the qualitative improvement of public spaces, in particular enhancing green spaces and their connectivity, both strategies of which serve to create more jobs. These mechanisms include the facilitation of licensing processes, financing programmes, tax incentives and the promotion of public-private partnerships with construction companies, banks and civil engineering and architecture firms.
2) URBAN AND REGIONAL PLANNING CHARACTERISTICS

General description of the planning system

Portuguese land use planning policy is based on a hierarchical system of territorial management operating at different spatial levels. At the regional level, the land use planning is coordinated by the Regional Coordination and Development Committee for Lisbon and the Tagus Valley (CCDR-LVT), which is responsible for the Regional Land Use Plan for the Metropolitan Area of Lisbon (PROT-AML). This document sets the strategic framework for spatial planning concerning environmental, economic and social development, establishing also the guidelines for municipal planning.

At the city level, the most important instrument is the Master Development Plan (PDM), which establishes the territorial development strategy as well as the municipal policy of spatial planning and urbanism.

Over the last years Lisbon has been undergoing a process to regenerate the city economically, socially and environmentally. In this context there has been an increase in the number of instruments related to land-use and urban green spaces with a focus on biodiversity, connectivity and human well-being.

Instruments for the protection and enhancement of urban green space

At the regional level, the PROT-AML of the CCDR-LVT recognizes the environment as a key factor for achieving sustainable development and the well-being of the population. At the city-level, the Lisbon Municipality, particularly the Municipal Directorate of Urban Environment and the Department of Public Space and Environment are responsible for green space protection and enhancement. The most important instrument for this is the PDM, and its current version (2012) includes the municipal ecological structure as a key aspect of the city’s land use strategy.

Lisbon today holds different partnerships for specific scientific, economic and management actions aiming at the protection and enhancement of green spaces. For example, there are many research protocols signed between the Municipality of Lisbon and several universities for landscape architecture, land use planning, climate change, biodiversity and ecology, and also partnerships with private companies for sponsoring and funding several green space-related projects. The management of green spaces is often shared with national administrative bodies and the city parish councils.

Objectives, achievements and challenges in urban green space planning

The Municipality of Lisbon established the Lisbon Strategy for 2010-2024, which identified three main objectives for the city: (1) City regeneration – rehabilitation of vacant buildings and degraded city districts and green spaces, to reverse the depopulation process; (2) Climate change adaptation – focus on the challenges of climate change and the consequent natural vulnerabilities (such as flooding), as well as on energy efficiency, reducing the number of vehicles in circulation and increasing the area of green spaces; and (3) Connectivity of green spaces – implementation of a network of green spaces and corridors for recreational activities and protection, appreciation and promotion of biodiversity and of natural and cultural landscapes.

As a result of this strategy, the portion of green spaces in Lisbon significantly increased. The city’s strategy focuses not only on environmental aims but also on well-being and social cohesion by encouraging the use of environmental-friendly means of transport, healthy habits and connecting people to the city. Examples of these are the development of networks of bicycle lanes, bicycle-friendly streets, ecological corridors and allotment gardens. However, city officials recognize that while emphasis has been given to the creation and restoration of green spaces, the maintenance of existing green spaces is neglected due to budgeting constraints.
**Lisbon's major challenges** (from left to right): One of many vacant buildings in Lisbon (photo: Creative Commons, José Pereira, 2010). -- Flooding in the city centre (photo: Creative Commons, Bruno Lopes 2014)

**Lisbon's major achievements** (from left to right): Ecological corridor linking Monsanto and Eduardo VII Park. -- Allotment gardens at Quinta da Granja Urban Park (photos: Câmara Municipal de Lisboa).
3) EXPERIENCES WITH INNOVATIVE GOVERNANCE PRACTICES

**Government ideas and practices regarding participation**

The Municipality of Lisbon puts great efforts into participatory governance, recognizing the interests of non-governmental actors such as citizens’ groups and private businesses, NGOs, and members of the public in participating in the city’s planning and policy-making. Although the planning and design is coordinated by the municipality, the participation of non-governmental actors is highly regarded in Lisbon since it allows the decision-makers to gain an overview of citizens’ needs and concerns.

Participation comes in different forms. Members of the business community sponsor green space projects and scientists contribute with scientific advice, reports and monitoring. Neighbourhood associations, community groups and citizens contribute with ideas and requests. Planning participation in the city is usually undertaken for the entire planning system and not specific to green space plans and projects.

An increasing degree of participation has been observed in recent years and this can be explained through easier access to information and a more educated population, but also through the municipality’s strategy. The objectives are to further strengthen an active citizenship and to promote participation by non-governmental actors. To achieve such, the Lisbon municipality has developed a series of information platforms and participative instruments such as the participatory budget (see below). Besides providing extensive information on participatory mechanisms available on a website (www.lisboaparticipa.pt), there is also a focus on environmental awareness and education activities and workshops. The municipality holds regular citizen meetings within each parish council, allowing the community to discuss green space-related issues. Furthermore, the public in general can review and comment on green plans for parks online.

**Local initiatives**

The Lisbon municipality actively promotes initiatives originating from local stakeholders. In the city’s allotment gardens non-governmental actors are actively engaged in management and maintenance. The Lisbon Participatory Budget (OP-L) is a good example of an instrument to promote initiatives. This participatory programme, whereby any non-governmental actor can propose new ideas for the municipality, started in 2008. The idea, in the form of a project, is then submitted to technical evaluation, voting and implementation. Since Lisbon was the first European capital to implement participatory budgeting, in 2009 EUROCITIES selected the OP-L as one of the top 3 initiatives for the EUROCITIES awards in the category *participation*. Nowadays, the OP-L has a budget of 2.5 million euros and participation is increasing each year. In 2012, more than 200 projects were approved and implemented, voted upon by almost 30,000 citizens. A considerable number of the proposals involve green space enhancement (30%), such as the rehabilitation of the University of Lisbon Botanical Garden.

There are several cases in which non-governmental actors go beyond the public consultation process and force the city council to meet their requirements, being actively integrated in the planning process (e.g., Quinta das Conhas Urban Park, see below).

**Supporting and hindering factors in participation as perceived by city officials**

According to city officials, participation is directly dependent on non-governmental actors’ will to participate, which is influenced by a sense of community and the feeling of attachment to public spaces. People are keener to intervene actively when they see the public space as their own.
Green space quality and its coherence with the surrounding area are also crucial factors, as people tend to participate more when they dislike the projects. Nevertheless, the participation process is sometimes hindered by the lack of political will to allow the dissemination of all available information to non-governmental actors.

Short project timelines and a lack of knowledge are also seen as key issues that can hinder participation. When the planning and decision-making period is short, it becomes more difficult for non-governmental actors to participate in the process, and sometimes there is a general lack of understanding about municipal organisation and legislation, as well as a lack of financial and technical knowledge. This lack of knowledge can lead to conflicts between the municipality and the population, which is often seen as a positive aspect, as it enhances opportunities for all the actors to express their concerns and enhance their knowledge during the planning process.

Examples of initiatives coming from local stakeholders

**Quinta da Granja Urban Park**
The development of Quinta da Granja Urban Park took over 12 years to be completed and involved several non-governmental actors, such as businesses and public transport, universities, associations and neighbourhood commissions, as well as different city governments and parish councils.

The cooperation of this variety of stakeholders resulted in a multifunctional park, integrating many different visions and needs, with features such as flower beds, a playground, community gardens, a forested area and also the restoration of the old palace.

The park is considered to be one of the best examples and one of the most successful projects based on the coordination between the municipality and non-governmental actors.

**Quinta das Conchas Park**
Quinta das Conchas Park was developed through high involvement of the business community, sports clubs, recreational associations, universities and the parish councils. These non-governmental actors also strongly disagreed with each other, creating a conflict-ridden process. The conflicts were severe, as they involved roadblocks being set up as well as physical and verbal aggressions. The conflicts were overcome by actively integrating all the non-governmental actors in the planning process and through huge efforts by the municipality to articulate the different planning opinions and desires regarding the project.

The project resulted in a multifunctional park which is composed of three different green space types: vast meadows, a lake, a woodland with endemic species and an ornamental garden with exotic species, resulting in one of the city’s parks with higher biodiversity.
4) URBAN GREEN INFRASTRUCTURE (UGI) THEMES AND STRATEGIES

Main themes related to urban green space
Urban green spaces are recognized as crucial for achieving a more sustainable city and higher well-being of the population. In this sense connectivity of urban green space is considered as one of the main priorities for the Lisbon municipality. The Municipal Plan of Lisbon establishes the municipal ecological structure, which defines potential areas of intervention to ensure and enhance connectivity between urban green spaces, the physical and ecological sustainability, ecosystem functions and biodiversity.

Biodiversity is also one of the main themes considered in Lisbon green space planning. The strategic document “Biodiversity in the City of Lisbon, A strategy for 2020” comprises an extensive characterization of Lisbon’s biodiversity and ecological features. It further defines strategic guidelines, objectives and indicators for biodiversity protection, assessment and enhancement in order to meet the challenge of increasing 20% of Lisbon’s biodiversity by 2020.

Understanding of UGI and representation of UGI principles
The concept of UGI is not explicitly mentioned in the analysed planning documents from Lisbon. Instead the Municipal Plan included the “municipal ecological structure”. As mentioned above, this concept represents the principle of connectivity as it aims to ensure the continuity and complementarity of natural systems in urban territory and links to the ecological structure on the metropolitan scale. It consists of: (1) the fundamental ecological structure consisting of natural systems, and (2) urban green spaces that are more integrated into the urban fabric such as public parks or patios.

This structure shall secure ecosystem functions, biodiversity, control of water flow and wind circulation, bioclimatic comfort and appreciation of landscape heritage, representing several ecosystem functions and services. However, increasing multifunctionality is not explicitly considered.

While this structure is not explicitly connected to other urban infrastructures, green space is considered with regards to stormwater retention and infiltration.

Lisbon’s Master Development Plan (Revision)
Original title: Plano Director Municipal de Lisboa (PDML) (Revisão)
Date: 2012
Responsible department(s): Municipal Directorate of Planning, Rehabilitation and Urban Management – Lisbon Municipality
Spatial scale: City
Legal status: Legally binding

Main themes related to urban green space
- Urban rehabilitation and regeneration highlighting the historical cultural and natural heritage
- Mobility and soft modes of transport
- Environmental sustainability
- Establishment of the municipal ecological structure

Parallels with GREEN-SURGE policy concepts
- Climate change
Implementation and evaluation

By Portuguese law, Master Development Plans (PDM) need to be reviewed and updated every 10 years and subjected to strategic environmental assessments, seeking to respond to increasing urban environmental challenges. The biodiversity strategy includes a triennial monitoring programme: 2014, 2017 and 2020.

City officials consider political will, public involvement and funding as the main factors determining the success of implementation and evaluation of green space-related plans and policies.

The municipality recognizes that monitoring, maintenance and evaluation of plan implementation need improvement, since they are crucial to evaluate green space planning success, to improve the functionality of green spaces, and to maintain their attractiveness and vigour. Since maintenance costs are high, existing green spaces are sometimes neglected, resulting in a progressive degradation.

Biodiversity in the City of Lisbon, a Strategy for 2020

Original title: Biodiversidade na cidade de Lisboa, uma estratégia para 2020
Date: 2012
Responsible department(s): Lisboa E-Nova - Municipal Agency for Energy and Environment
Spatial scale: City
Legal status: Non-binding but approved by politics

Main themes
Increase urban biodiversity

Parallels with GREEN-SURGE policy concepts
- Biodiversity
- Ecosystem services
View of what Biocultural Diversity is referring to and how it is addressed in policy

Although the term biocultural diversity is not included in plans, in urban green space planning there is a concern for cultural and also biological diversity, yet the terms and related practices are not necessarily linked with each other. Cultural diversity is recognized by the city officials as promoting multifunctional green spaces and providing equal access and facilities for users with different needs, ages, and cultural backgrounds. Several cultural activities take place in different parks and gardens, such as organic markets, handicraft markets, music festivals, exhibitions, and environmental awareness activities, fostering sustainable lifestyles and a closer connection with nature.

The main policy of Lisbon for the development of green urban spaces and the enhancement and protection of biodiversity is Lisbon’s Master Development Plan. In this document the municipal ecological structure as well as linkages between the city and the surrounding peri-urban environment are identified, with special attention given to connectivity and multifunctionality. Biodiversity conservation receives special attention in the document “Biodiversity in the City of Lisbon: a strategy for 2020”. Although the biodiversity strategy recognizes specific types of biodiversity, which includes exotic species and cultivars, it emphasizes the need to protect native species and control invasive alien species. The use of native species is seen as a way to not only increase biodiversity and ecosystem services but also as an approach to tackle challenges of climate change adaptation and to reduce maintenance costs.

In Lisbon’s ecological structure the Monsanto Ecological Park is of particular relevance. The park of 900 hectares includes a network of woodlands, peri-urban vegetable farms, allotment gardens, and a series of multi-use parks and gardens.

The municipal ecological structure also includes the preservation and rehabilitation of historical green spaces such as botanical and ornamental gardens as well as related historic buildings such as palaces and a castle. Cultural heritage areas such as patrimonial gardens and parks are considered as constraints to the promotion of endemic species since they mainly comprise exotic species stemming from the country’s colonial history, but are nevertheless seen as key features in the city identity and cultural landscape.

Bioculturally significant places

Lisbon has a diversity of green urban spaces relevant from a biocultural perspective, including open squares, different types of parks and communal gardens.

Although most of the squares are poor in biological diversity, they are critical for cultural identity and are important meeting points providing interaction between people from many different cultures and ethnicities. For example, the Martim Moniz Square has an informative pavilion about Lisbon, a market selling handicrafts and multicultural restaurants. It also hosts exhibitions and cultural festivals (ethnic, food, music, dance, etc.) throughout the year.

Arco de Cego garden is an example of a multi-use park in which local families, young and elderly people as well as handicapped people enjoy outside leisure activities such as family gatherings, picnicking and skating.

The Monsanto Ecological Park consists of a combination of dense vegetation and clearings overlooking the city and the Tagus River. The park has a rich biodiversity and offers a wide range of cultural and recreational activities, including an environmental interpretation centre and a rehabilitation centre for wildlife. It also has a well-developed recreational infrastructure consisting of a number of trails for mountain biking, jogging tracks, rock climbing walls, etc.
The communal gardens in Lisbon constitute an important element of the city’s strategy for achieving a more sustainable and inclusive future. These gardens are promoted not only because they contribute to the city’s ecology, but also to self-sufficiency in vegetable production. The city’s garden policy has a strong educational and recreational focus and fosters relationships between neighbours and cultural groups.
After Portugal’s entry to the European Union in 1986, Lisbon experienced a period of significant urban development due to EU funding and foreign investments. However, the city has been struggling more recently with a decrease in population and private investments. Hence, it is one of the city’s main objectives to improve its economic situation and the environment as well as to enhance social cohesion.

According to the municipality, urban green spaces are recognized as crucial in order to achieve a more sustainable city and promote the well-being of its citizens. Hence, the restoration and enhancement of green spaces and the connectivity of Lisbon’s ecological structure are among the main objectives. The new Master Development Plan for Lisbon includes the ecological structure as a key factor in the city’s planning strategy. The ecological structure aims to ensure the continuity and complementarity of natural and semi-natural systems in the urban territory, which is strongly constrained by the dense urban fabric, especially in the city centre.

In order to enhance biodiversity by 20 % until the year 2020, a biodiversity strategy was elaborated. Cultural diversity is recognized by promoting multifunctional green spaces and providing equal access and facilities for users with different needs, ages and cultural backgrounds. The use of native species is seen as important for the sustainability of urban green spaces since they require low maintenance, increase biodiversity, provide ecosystem services, and are also able to cope with the effects of climate change. While the municipality promotes the use of native species in new green spaces and aims at increasing native biodiversity, it also has to maintain and protect its cultural heritage. This means protecting patrimonial gardens which have high concentrations of exotic species, since they are seen as key features of the city’s identity and cultural landscape.

The municipality actively promotes initiatives of local stakeholders and has several instruments and programmes in place to foster participation. While in city-wide plans related to urban green spaces, the approaches are not clearly articulated, there are several examples of new forms of governance and participation on a district or project level, such as the involvement of non-governmental actors in the planning of new green spaces, the creation and maintenance of allotment gardens and several projects emerging from the Lisbon Participatory Budget. The Participatory Budget is considered as one of the main achievements with regards to citizen participation.


Websites of municipality and core organizations

- Regional Coordination and Development Committee for Lisbon and the Tagus Valley (CCDR-LVT) - www.ccdr-lvt.pt
- General Directorate of Territory - http://www.dgotdu.pt/
- Portuguese Environmental Agency (APA) - http://www.apambiente.pt/

References

For facts in Introduction:

- Area core city and larger urban zone: Urban Atlas.
- Population core city and larger urban zone (2012 or latest): mainly Urban Audit. Note: in a few cases the population numbers have been provided by researchers based on statistical data.
- Average annual population change rate (Core city; 1990-2012 or similar): calculated \[\frac{(100 \times \text{population number last year} / \text{population number first year}) - 100}{\text{last year} - \text{first year}}\] based on Urban Audit.
- Public recreational green space (Core city; m² per inhabitants; 2006): based on Urban Audit and Urban Atlas. Urban Atlas defines urban green space as “public green areas for predominantly recreational use”. Peri-urban natural areas, such as forests and agricultural land, are mapped as green urban areas only in certain cases. In general, peri-urban green areas are not counted. Private green and blue areas are also not included. Further, green spaces with less than 250 m² are not mapped as well. This leads to deviation with per capita green space values used by city officials.


For the rest:

- Interview with João Castro and Célia Costa, City of Lisbon, Municipal Directorate of Urban Environment - Division of Planning and Project on 30th July 2014.
- Interview with Duarte Mata, City of Lisbon, Adviser on Deputy Mayor Office, on 19th August 2014.

Planning and policy documents


**Lisbon Master Development Plan (PDML):**


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**Acknowledgements**

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- Duarte d’ Araújo Mata, João Rocha e Castro and Célia Costa,
- Lisbon Municipality
1) INTRODUCTION: Facts and Figures

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Almada municipality belongs to the metropolitan area of Lisbon and is located 3 km south of Lisbon. It is currently the sixth most populous city of Portugal, with more than 170,000 residents. Located on the left bank of the Tagus estuary, it holds 35 km of coastline, with 13 km of sandy beaches and natural assets such as the protected area Arri-ba Fóssil da Costa da Caparica and the Botanical Reserve Mata dos Medos.

In the 19th century, industry was the main economic driver in Almada. However, the greatest economic change occurred after the construction of the bridge that connects Lisbon and Almada in the late 1960s, which led to unregulated growth, including illegal construction in some areas of Almada. Later industrial decline and its associated unemployment rate weakened social cohesion. At present, Almada is more based on the tertiary sector, and is challenged to become more sustainable and culturally active.
2) URBAN AND REGIONAL PLANNING CHARACTERISTICS

General description of the planning system
The Portuguese land use planning policy is based on a hierarchical system of territorial management which operates at three spatial levels: national, regional, and municipal. At the regional level, land use planning is the responsibility of the Regional Coordination and Development Committee for Lisbon and the Tagus Valley (CCDR-LVT), which developed the Regional Land Use Plan for the Metropolitan Area of Lisbon (PROT-AML). This document sets the strategic framework for spatial planning concerning environmental, economic and social regional development, establishing guidelines for municipal planning. The instrument that guides land use planning at the city level is the Almada Master Development Plan (PDMA), currently under revision, which sets the municipal development strategy and spatial planning policy. The administrative body responsible for land use planning at the Almada city level is the Municipal Directorate of Planning, Territorial Administration and Construction.

Instruments for the protection and enhancement of urban green space
The PROT-AML establishes the environmental protection and development network at a regional scale. This Metropolitan Ecological Network is translated to the local scale in each municipality. At the city level, the instrument that protects or enhances urban green spaces is the PDMA. The PDMA defines land uses and the municipality manages natural areas, agricultural land and other kinds of green space based on several strategies and plans. The document “Characterization Studies of the Municipal Territory. Notebook 2 - Environmental System (2011)”, part of the revision process of the PDMA, defines guidelines for Almada’s environmental system with a particular focus on the Municipal Ecological Structure, climate change and agriculture. The municipal strategy includes the protection and enhancement of ecological features and their connectivity in natural, rural and urban environments and also promotes coordination with grey infrastructure planning, e.g. in regard to stormwater management.

Responsible for planning in regard to environmental issues in the Municipality of Almada is the Department of Sustainable Environmental Strategy and Management. These plans are discussed with other municipality departments such as Transport, Green Spaces and Well-being, and the Town Council for Mobility, Urban Valorisation and Civil Protection under the leading role of the Mayor.

Objectives, achievements and challenges in urban green space planning
According to the city officials, one of Almada’s main objectives is to achieve environmental sustainability by enhancing green space connectivity and resilience. Over the last decades, Almada, which once had an important industrial role, has undergone a major transition towards more environmental sustainability. To achieve this, Almada’s planning system increasingly focused on the conservation of natural resources, the enhancement of green spaces, and promotion of environmental awareness, aiming to become one of the cities in the region with a higher level of human well-being as well as being more attractive for living and tourism and better adapted to climate change. Almada officials are particularly interested in discovering more about the city’s biodiversity, finding ways for promoting it, and increasing connectivity for biodiversity and recreation among green areas.

The municipality’s major challenges are improving the quality of illegal urban areas and preventing their further spread, taking advantage of opportunities to create new green spaces, protecting remnants of natural areas and promoting connectivity. In order to achieve this last goal, Almada is developing its Municipal Ecological Network, which combines areas for environmental protection and enhancement and re-establishes ecological connectivity in natural, rural and urban environments. With respect to the creation of new green spaces, special attention was
given to the use of native species to promote ecosystem functions and resilience, and enhance adaptation to climate change. Being a municipality with about 35 km of coastline, the municipality has been affected by coastal erosion. The ecological restoration of dunes and streams, as well as the re-introduction and conservation of native species, is also part of the municipal strategy for climate change adaptation. Ecological restoration is based on ecological engineering techniques, including measures for environmental education and awareness. At present, restoring riparian vegetation in order to enhance connectivity between green spaces is considered in several detailed plans. Additionally, Almada has started to develop a network of allotment gardens to promote social cohesion, increase biodiversity levels and achieve sustainability.

*Almada’s major challenges* (from left to right): Illegal housing in areas of biophysical interest increasing habitat fragmentation (photo: Creative Commons, Ponto Verde, 2006). -- Coastal erosion mitigation measures at Costa da Caparica, Almada (photo: Câmara Municipal de Almada).

*Almada’s major achievements* (from left to right): Promotion of native species integrated with other infrastructures such as the Almada Cycling Network. -- Ecological restoration of dunes involving citizens as an awareness raising campaign (photos: Câmara Municipal de Almada).
3) EXPERIENCES WITH INNOVATIVE GOVERNANCE PRACTICES

Government ideas and practices regarding participation

At present, planning in Almada relies mainly on technical and expert knowledge. In existing plans related to urban green spaces, participatory approaches are not clearly defined and no indicators of success are presented. Participation processes during the mandatory public consultation periods are usually time consuming and public involvement has been low. However, according to the city officials, there has been an effort to increase environmental knowledge and awareness related to planning issues over the past years. References to an “active citizenship and active public participation” are becoming increasingly common in Almada strategic documents and municipal goals. Furthermore, the Almada Strategy for 2014/2017 aims to involve non-governmental actors in the planning process of green spaces, particularly through encouraging participation by providing online information, and creating forums and participation platforms.

In spite of this recent effort, the interest of non-governmental actors in actively participating in planning and policy-making did not increase significantly over the last years. City officials note that non-governmental organizations (NGOs) should be more actively involved in future planning, and also consider mechanisms to increase the active participation of other non-governmental actors (e.g., business community representatives, scientists, neighbourhood associations, community groups and individual members of the public). In the opinion of Almada’s officials, the best solutions for green space planning usually arise from the interaction between non-governmental actors and the City Hall, bringing together the technical knowledge and the expertise of the scientific community and the experience-based knowledge from other stakeholders.

Local initiatives

Local initiatives are usually municipality-led, both at the level of design and implementation of urban green spaces. The municipality also initiates and manages the participatory process. Nevertheless, there are some examples of initiatives and projects originating from local stakeholders. The allotment gardens are an example where non-governmental actors play a key role in the management and maintenance of public green space, although under restrictions and obligations defined by the municipality. There are also some park initiatives starting from local stakeholders such as the Sobreda Multi-use Park and the Costa da Caparica Urban Park (see below). These parks were developed based on community demands. Local associations and individual citizens were actively involved, contributing with ideas and demands, not only in the planning phase but also in its management and maintenance. Also, the ecological restoration of dunes has been developed involving schools, teachers and various associations, who also collaborated on the design of the project.

Supporting and hindering factors in participation as perceived by city officials

According to the city officials, municipality-promoted participation processes can only be successful if they are part of the municipal strategy and if there are mechanisms and policies that promote inclusive governance practices.

Participatory processes are directly dependent on the interest and willingness of non-governmental actors but these processes sometimes do not develop in a positive way. City officials state that there is a general lack of civic consciousness and people tend to participate only to safeguard their own interests, thus neglecting municipal and ecological interests and constraints. Participation levels could be higher with more financial resources, since participation processes demand funding to be carried out properly. Financial resources are seen as the key factor for NGO-level participation in Almada, since NGOs often struggle to obtain sufficient human and financial resources, making it difficult to get involved in additional projects.
Officials point out, that participatory processes could be promoted if the planning would be based on studies and information regarding cost-benefit analysis of ecosystem services, allowing both the municipality and non-governmental actors to make more informed decisions.

Examples of initiatives coming from local stakeholders

Sobreda Multi-use Park

The cooperative development of Sobreda Park with neighbourhood associations, NGOs, and scout associations resulted in a multi-use park of about 7 hectares, designed to be a meeting place for people of all ages. The park includes a large playground, a skate park, a picnic area, and a circuit training area. The municipality aimed at developing a green space that is part of the community, where people would feel safe and have a strong sense of belonging.

In the planning phase, the opinions and demands of all involved non-governmental actors were taken into account and integrated into the project. The participating associations are also responsible for the park’s management and maintenance along with the municipality.

Costa da Caparica Urban Park

The Costa da Caparica Urban park emerged from the need to regenerate an illegal urban area in the vicinity of a protected landscape area. The project involved the demolition of houses and relocation of the local population and, due to its biophysical characteristics, a green space was created as an ecological restoration project. This park of 14 hectares includes several sports facilities, a playground, picnic and restaurant areas, and also a centre for environmental monitoring and awareness.

The planning process involved a high level of participation from the local community, particularly neighbourhood groups, fishermen, and sports and social welfare associations. These actors participated not only in the planning phase but are also responsible for the co-management and maintenance of the park.
4) URBAN GREEN INFRASTRUCTURE (UGI) THEMES AND STRATEGIES

**Main themes related to urban green space**

Connectivity and multifunctionality are regarded as the most important factors for Almada’s green space planning strategy. The “Characterization Studies of the Municipal Territory. Notebook 2 - Environmental System”, which is part of the revision of the Master Development Plan (PDMA), defines the following key objectives: to (1) promote connectivity between green spaces, (2) ensure ecological integrity to safeguard ecosystem functions, and (3) foster Almada’s genetic heritage. It establishes the Municipal Ecological Network as a key instrument of the municipal planning strategy. It is highlighted that the ecological network provides several ecosystem services of great importance to achieve municipal resilience, particularly regarding climate change (e.g., water and climate regulation).

To promote connectivity and functionality, the document sets guidelines to improve and develop the network of green spaces and the connections between them, either by creation of ecological corridors or through the development of smaller green spaces as part of a “stepping stones” system.

**Understanding of UGI and representation of UGI principles**

Although UGI is not explicitly mentioned, the analysed planning document from Almada discusses principles related to the concept of UGI. The Municipal Ecological Structure represents the principle of ecological connectivity. It constitutes an ecological network at the local level, which preserves ecological features in the natural, rural and urban environment and connections between them.

The document does not directly refer to linkages between the green network and other urban infrastructures or explicitly refer to increased multifunctionality, but green areas and corridors within this network are identified as relevant for ecosystem functions and services such as storm water infiltration, habitat provision for fauna and flora, conservation of soil and agricultural systems, regulation of water systems and flooding reduction, promotion of bioclimatic comfort, accommodation of sustainable mobility networks, and provision of opportunities for leisure and enjoyment of nature. Multifunctionality is considered in a way that each of the several components of the ecological network area has preferential use and services that need to be combined with potential land uses.

Integration with grey infrastructure is mainly mentioned in regard to stormwater management. It is suggested, that in areas with high soil permeability semi-natural or natural green spaces with an appropriate vegetation cover are used for infiltration.


*Original title*: Revisão do Plano Director de Almada. Estudos de Caracterização do Território Municipal. Caderno 2 - Sistema Ambiental

*Date*: 2011

*Responsible department(s)*: Department of Strategy and Sustainable Environmental Management – Municipality of Almada

*Spatial scale*: City

*Legal status*: Legally binding

**Main themes related to urban green space**

- Creating an ecological structure,
- Vulnerabilities and resilience,
- Susceptibility to climate change and adaptation,
- Agriculture and food safety

**Parallels with GREEN-SURGE policy concepts**

- Biodiversity
- Ecosystem services
- Adaptation to climate change
Implementation and evaluation

Important factors for the successful implementation of green space related plans and policies as perceived by Almada’s city officials are access to funding mechanisms and an adequate budget, as well as political willingness and supporting policies. Although it is recognized that over the last 10 years the city has had a good performance in terms of the implementation of green spaces and monitoring, more funding is necessary for improved management, which is often limited due to the lack of personnel and technical resources.

Ecological research and monitoring is considered to be a major asset of Almada, which established collaboration protocols with the Centre for Ecology, Evolution and Environmental Changes (Ce3C), former Centre for Environmental Biology (CBA), Lisbon University, for research on biodiversity assessments and habitat restoration, including the identification of potential greenways to promote connectivity between habitats.

Private property is one of the factors hindering green space implementation as highlighted by the municipality. It is often difficult to reconcile private interests and the municipal green strategy. While private owners usually consider the financial profit, the municipality aims to enhance and develop green spaces as a public good that cannot be easily expressed in monetary values.

By Portuguese law, the PDM needs to be reviewed and updated every 10 years, and is subjected to strategic environmental assessments. The city officials expect that the introduction of the Ecological Network as part of the PDMA will be determinant for the implementation of the Urban Green Infrastructure concept.
5) URBAN GREEN SPACES: LINKAGES BETWEEN BIODIVERSITY AND CULTURE

Views of what Biocultural Diversity is referring to and how it is addressed in policy

The term biocultural diversity was not used in the analysed documents from Almada, but the notion is reflected in several forms of cooperation between the municipality and local stakeholder groups for managing different assemblages of biodiversity. This cooperation involves a collaboration agreement between the municipality and the Centre for Ecology, Evolution and Environmental Changes (Ce3C), Lisbon University, on biodiversity management, ecological infrastructure development and habitat restoration. Almada Municipality is presently preparing an application for the Long Term Ecological Research (LTER) Network in cooperation with Ce3C, aiming to turn Almada into a LTER urban site.

The most important strategic plan concerning biodiversity conservation and enhancement is included in the “Characterization Studies of the Municipal Territory. Notebook 2 - Environmental System”, which is part of the present version of Almada’s Master Development Plan. It gives specific attention to the development of an ecological network structure linking urban green space and the surrounding natural environment as well as the promotion of native species. The aesthetics of cultivated non-native species is recognised, but from a biodiversity conservation perspective native species are preferred. The plan focuses in particular on the city’s ecological vulnerabilities and the promotion of resilience. Various ecosystem functions and services provided both by natural areas and by green spaces in an urban environment is also a focus. Further attention is given to susceptibility to climate changes and adaptation, taking into account agriculture and food safety.

It is acknowledged that managing urban green spaces involves participation of local citizen groups in the maintenance of public green spaces in the form of multi-urban parks and gardens. These spaces should provide opportunities for performing different cultural and sport activities and should contribute towards actively promoting environmental education and awareness. Historic green spaces can contribute towards such goals. Attention is also given to stimulating social integration of different ethnic and cultural groups in green spaces, e.g., by providing a varied infrastructure for different recreational activities such as biking, jogging, or practicing yoga or Tai-chi.

Bioculturally significant places

Almada has a coastline with important natural features such as the Protected Landscape of the Costa da Caparica Fossil Cliffs, and the Botanical Reserve of Mata dos Medos. These areas are of special importance not only geologically and geomorphologically, but also because of their rich plant diversity, including several endemic and rare species of conservation importance.

The largest park in the municipality is the Paz Park, with an area of 40ha. It is a multifunctional park consisting in one part of recreational areas for various uses such as sports or family gatherings, and in another part of restricted access areas for the preservation of flora and fauna. The park has a rich biodiversity and is therefore used in several environmental education activities.
In Almada, agriculture has a long cultural tradition. By promoting communal gardens and vegetable farms, the municipality seeks to enhance the city from an environmental, social, and economic perspective. The network of communal allotment gardens plays an important role at various levels, including the preservation of soil, water and biodiversity, promotion of local production and small-scale commerce, and promotion of social cohesion by fostering social relationships and helping the family budget.

Allotment gardens in S. João da Caparica, Almada (photo: Câmara Municipal de Almada).  
Paz Park (photo: Câmara Municipal de Almada).
6) CONCLUSION

Almada experienced significant economic changes in the past decades. The closure of many industries led to high unemployment rates which, along with illegal urban development, led to issues of social cohesion. Nowadays, Almada is focused on the tertiary sector and the planning system highlights the enhancement of green spaces and the protection of natural areas.

Like all other Portuguese municipalities, the most important instrument that guides land use planning at the city level is the Master Development Plan (PDM), which defines the territorial development strategy and the municipal policy of spatial planning. The new version will comprise the Municipal Ecological Structure as a key instrument for city planning, aiming at a better coordination between green planning and traditional, engineering focused infrastructure planning, enhancing ecological features and improving connectivity in natural, rural and urban environments.

Connectivity and the promotion of resilience provided by the Municipal Ecological Structure are two of the city’s main goals. In order to achieve this, Almada established several partnerships for the protection and enhancement of green spaces, particularly through collaboration protocols with universities. For example, the collaboration agreement with the Ce3C, Lisbon University, resulted in several studies on biodiversity management, ecological infrastructure development and habitat restoration. Furthermore, the city strategy includes environmental education and awareness campaigns, frequently coordinated with schools and associations, such as the ecological restoration of dunes project. Environmental education and awareness is seen as a key factor to achieve a better understanding of the territory’s ecological functions and services, which may lead to better land use management and valuation in Almada, allowing more informed participatory processes.

There are only few examples of initiatives and projects originating from local stakeholders. Participation is mainly based on municipality-led initiatives, often based on consultation, but this is not clearly stated in plans related to urban green spaces. According to the municipality, participation levels have not changed over the past decade, which may be mainly due to financial constraints both from the municipality and NGOs.

The term biocultural diversity is not used in practice, but the underlying concept is reflected in the different forms of cooperation between the municipality and local stakeholder groups for developing local initiatives and managing different assemblages of biodiversity. Urban green spaces are planned in order to become multifunctional spaces providing a range of leisure opportunities for the community as a whole.
LINKS AND REFERENCES

Websites of municipality and core organizations

- Almada Municipality - http://www.m-almada.pt/
- Regional Coordination and Development Committee for Lisbon and the Tagus Valley (CCDR-LVT) - www.ccdrlvt.pt
- General Directorate of Territory - http://www.dgtd.pt
- Portuguese Environmental Agency (APA) - http://www.apambiente.pt/

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- **Map of Larger Urban Zone**: based Urban Atlas.


For the rest:

- **Interview** with Catarina Freitas and Nuno Lopes, City of Almada, Department of Sustainable Environmental Strategy and Management - Division of Environmental Studies and Management on 2nd July 2014.

Planning and policy documents


### Acknowledgements
Authors would like to acknowledge the valuable contribution of Catarina Freitas and Nuno Lopes for the kind availability in answering the questionnaire, and the support of Paula Gonçalves in the review of the manuscript.

### Authors and contributors

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<th>Catarina Freitas, Nuno Lopes and Patrícia Pinto da Silva; Almada Municipality</th>
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22 CONCLUSION

The comparative study of 20 European cities provides a broad overview of the current state of urban green infrastructure (UGI) planning and governance. The 20 case study cities have discovered a myriad of ways to tackle challenges and seize opportunities related to urban green space (see Table 2). Among the major achievements are strategic planning, development, and conservation of green space networks, restoring degraded areas into natural reserves and public parks, and stronger engagement of citizens and public-private partnerships. Still, the cities face a variety of challenges related to urban green space. While some are facing restructuring processes, other cities are trying to protect and provide urban green space under the pressure of growth and densification. Many cities struggle with natural hazards such as flooding, especially in the face of expected effects of climate change. Others perceive social challenges such as combating social inequities and responding to changing recreational demands. Further main challenges are organizational in nature, such as the need for better administrative cooperation and more resources.

In terms of participatory governance, “consultation on plans” and “strategic involvement in decision-making” appear to be strongly embedded in the case study cities. The study revealed a multitude of examples of green space initiatives in which government actors play a leading role. More cooperative forms of green space planning and management which include non-governmental actors occurred less frequently but seem to be on the increase. Informal, spontaneous initiatives to influence policies or green space practices (e.g., initiatives to create allotment gardens and more multi-functional spaces in parks for different user and cultural groups), which arise independently from governments also occurred in several cases. In most cases, the intended outcomes of initiatives were either environmental or social in nature with many projects combining these types of objectives. Intended outcomes were delivered either through changing the physical environment or organising activities. For an in-depth report on participatory governance in the case study cities, please read Buizer et al. (2015)5.

Another aim of the case study research was to explore if the case study cities apply the concept of green infrastructure or follow green space planning strategies that are closely related to the concept. While very few cities explicitly refer to the concept of green infrastructure, older concepts such as green system/green structure or ecological networks are much more prominent. From all analysed plans, Barcelona’s Green Infrastructure and Biodiversity Plan 2020 most prominently refers to the concept, which is already included in its title. However, despite the few explicit notions of the concept, broad overlaps could be found between planning strategies in the case studies and UGI planning and process principles defined for the GREEN SURGE project. The highest degree of implementation and understanding of UGI principles was identified for connectivity, multifunctionality and strategic planning. Integration, multi-scale, inter- and transdisciplinary planning and social inclusion were implemented to a lesser degree. A detailed comparison in regard to UGI planning can be found in Davies et al. (2015)6.

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The concept of biocultural diversity is not explicitly embedded in green space planning in the case study cities. However, numerous approaches can be related to the concept, for example, the protection of cultural and ecological heritage in green rings, belts and circles or urban community gardens that host a variety of species and allow cultural expressions of different ethnicities. Nevertheless, cities currently apply policies to address biodiversity and cultural diversity separately. Several cities aim at protecting and developing biodiversity with the help of specific biodiversity strategies. Cultural diversity is primarily addressed through the provision of multifunctional green space that can host a variety of users as well as provide facilities for specific user groups such as the elderly, children, dog walkers, bikers, or skaters. The relation between human interests and biodiversity conservation in urban areas was sometimes found to be in conflict, e.g. the disturbance of sensitive species by intensive recreational use. For a comparative analysis of the results for biocultural diversity please read Vierikko et al. (2015)\(^7\).

This report has, for the first time, provided a comparative survey and assessment of the state of green space planning and governance across Europe. Overall, it shows the diversity of approaches taken by cities. Most cities already adopted some of the principles and policy concepts of green infrastructure planning, pursue participatory governance approaches and thus may provide a receptive environment for its further mainstreaming. Yet, important barriers to adoption could also be identified such as limited resources and monitoring capacity as well as limited or varying political willpower. In the next stage of the project, good practice for green infrastructure planning and governance will be identified and analyzed in-depth to develop strategies and tools that aid green space planning in different contexts and responds to specific needs of European cities.

Table 2: Major achievements and challenges of the case study cities -selected examples (image sources can be found in the prior case study portraits; except for the last one bottom right: City of Oradea)

### Achievements of European cities – selected examples from the case studies

**Barcelona:** Green infrastructure as a strategic planning approach

**Ljubljana:** Protection of nature reserves such as the Marsh Nature Park, listed as UNESCO world heritage

**Helsinki:** Renaturation of landfills into natural areas with high biodiversity

**Milan:** Promotion of native vegetation and development of biodiversity and landscape values

**Berlin:** New parks through conversion of vacant land

**Poznan:** Improvement and restoration of urban parks

**Bari:** Square development as public-private partnerships

**Amsterdam:** Parks as meeting places for different cultural groups

**Utrecht:** Participatory planning and self-management by citizens

**Bristol:** Green space quality – Bristol wins the European Green Capital 2015 award

### Challenges of European cities – selected examples from the case studies

**Edinburgh:** Development of new homes poses pressure on green space

**Linz:** Combining densification and conservation/development of green space

**Halle:** Shrinkage and urban redevelopment of prefabricated housing lots

**Malmo:** Targeting social disparities in urban renewal of public spaces

**Lodz:** Overcoming sectoral “silo” approaches in green space management

**Lisbon:** Flooding in the city centre

**Aarhus:** Adaptation to climate change and green space management

**Almada:** Illegal housing in sensitive habitats causing fragmentation

**Szeged:** Conflicts between green and grey infrastructure projects

**Oradea:** Contracting out of maintenance and securing quality
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