THE IMPORTANCE OF COMPREHENSIVE PLANNING APPROACH FOR GREEN INFRASTRUCTURE

Network conference of Spa-ce.net
Green infrastructure in Central, Eastern and South Eastern Europe: A universal solution to current environmental and spatial challenges?

Ljubljana 27th – 29th September 2015
**THE CONCEPT OF GREEN INFRASTRUCTURE**

**Green Infrastructure**

is „a spatial structure providing benefits from nature to people, aims to enhance nature’s ability to deliver multiple valuable ecosystem goods and services, such as clean air or water. (European Commission, 2013 Building a Green Infrastructure for Europe)"

is “a strategically planned network of high quality natural and semi-natural areas with other environmental features, which is designed and managed to deliver a wide range of ecosystem services and protect biodiversity in both rural and urban settings“ (European Commission, 2013 Building a Green Infrastructure for Europe)"

four ‘types’ of GI function or ‘roles’:
- Protecting ecosystems state and biodiversity
- Improving ecosystem functioning and promoting ecosystem services
- Promoting societal wellbeing and health
- Supporting the development of a green economy and sustainable land and water management

GREEN SPACES as places and as ecosystems

A NETWORK - SPATIAL STRUCTURE

ECOSYSTEM SERVICES & BENEFITS

PLANNING

Human as an integral part of ecosystem
Urban ecosystems
Ecosystem services

Human Well-being
Quality of place
Quality of life
UNDERSTANDING URBAN GREEN

JOINT, COMMON CHARACTERISTICS

• All are defined by natural features and processes & are ecosystems (composed of and linked in) green & blue spaces!

• All (regardless the type) provide Regulatory & Supportive Ecosystem Services – to which extent depends of their ecosystem characteristics

• in continuous process of change and development – human intervention and maintenance is necessary to

all of them contribute to the:

• quality of life
• environmental qualities, climate balance...
• urban structure, image, identity...

FORMING URBAN GREEN INFRASTRUCTURE

DIFERENCES

• spatial features (natural or man-made)
• biodiversity
• character (natural, man-made, urban, rural, temporary, ...)
• appearance (spontaneous, designed)
• basic land use (forests, agriculture), provisional ES
• functions and roles recreation, articulation, symbol, identity, social...
multifunctional, mono-functional, – cultural and provisional ES
• location
• scale – level of importance (national, regional, local, city...) 
• ownership (private, public, publicly accessible)
• size and form
• etc.
PLANNING URBAN GREEN SPACES - WHY?

- natural processes – long-term planning and management
- vulnerability - formal protection
- importance as public good
- complexity and variety
- values and benefits

- needs and values
- possibility of choice
- multifunktionality
- linking aspects
- balance ES
- connections & increase efficiency
- distribution and equal provision
- quality of living environment
- accessibility and inclusion
- climate mitigation
- articulation and image of the settlement
- natural and landscape characteristics of the settlement
- walkability
- new challenges
- place making
- ....
PLANNING URBAN GREEN SPACES - HOW?

Problems and dilemmas:

- How to plan urban green to be efficient – for the inhabitants and for the nature itself?
- How to make them to be an equal part of the city structure?
- How detailed?
- Standards and norms or just rules and guidelines?
- Land use approach is not suitable

Comprehensive Network structure long-term active

- clearly defining typology of urban green areas,
- set guidelines and instruments for particular categories
- including all areas that are important for the green system irrespective of present use and ownership
- not only preserve but also activate urban green areas – defining clear action programs for design, planning and management
- appropriate balance between flexible and constant

Green system of the city: is the method and principle of incorporating and connecting individual green areas of different spatial and functional features into recognizable “integral urban open space”

Urban green strategy: a comprehensive document - Manual of Greenkeys project

Guidelines, standards and rules – linked to some beforehand defined articulation:
- spatial – planning units,
- functional - land use units,
- typology – types of urban green spaces.
Ecosystem services

FIGURE 2.1 Ecosystem Services

Ecosystem services are the benefits people obtain from ecosystems. These include provisioning, regulating, and cultural services that directly affect people and supporting services needed to maintain the other services.


Green Spaces

Benefits and Roles of Urban Green Spaces

Ecological and Environmental
Natural resource, supports the protection of natural resources: preserves functions of soil, water, flora and fauna, buffers climate, opportunities for enrichment, biodiversity, wildlife corridors, etc.

Economic
Positive impact on business and property values, source of additional revenues for the municipality (events, taxes on property, etc.), is the sum of values that people, both individually and collectively, attach to nature

Social
Outdoor activities, meeting places catering to all ages, popular value of being close to nature, venue for events, fairs and concerts, fundraising, etc., nature experiences, the “outdoor classroom”

Structural
Quality of the urban landscape, visual aspects, effect on property values, promotes the identity of a city or an area, defines urban character

GreenKeys Manual 2008

Ecology aspects
Mising aspects
Ecosystem is not a spatial and planning aspect
Concept of value

Spatial and functional aspects
Planning
balanced aspects
suitable for urban areas
Green System Definition from Spatial Development Strategy of Slovenia

Green System „means the integrity of landscape components within the limits of a town or settlement area. Townscape consists of natural and built media, satisfying man’s special needs and significantly contributing to the town structure and to experiencing it. The green system components of a town or settlement are individual parts of open space, which differ in function, structure, and the degree of naturalness, yet are still interrelated. These components can be parks, children’s playgrounds, school gardens, squares, vegetation and greenery along the streets, roads, water streams, and in residential areas, suburban meadows, suburban and urban forests, and the like“. SPRS 2004

Green System for the City of Ljubljana as an integral part of urban development concept

„The Green system connects city green spaces and open spaces into an effective network with areas important for the quality of life and the image of the city. The system is the basis of planning nature conservation, environmental protection and the other functions of green and open spaces. (Urban Development Concept for the City of Ljubljana, 2002)

(Urban) Green Infrastructure / (Urban) Green System

Green System of the City

is the method and principle of incorporating and connecting individual green areas of different spatial and functional features into recognizable “integral urban open space”
Main goals, intentions and starting points

- satisfying a wide range of human needs closely linked with the use of green areas
- improving the quality of life
- ensuring efficient and active availability for the public domain and public accessibility to all important green areas
- ensuring comprehensiveness, sensible connections and equal distribution of green areas in the city and ties to the hinterland
- contributing a more coherent city structure and co-creating forms and structure of the city space and city identity
- contributing to ecological balance. Establishing ecological balance and adequate living conditions for plants and animals
- ensuring an efficient basis for determine legal, organization and financial resources for preservation or development of particular green areas, their planning and maintenance
- Including all areas that are important for the green system irrespective of present use and ownership
- clearly defining typology of urban green areas, guidelines and instruments for particular categories
- not only preserve but also activate urban green areas – defining clear action programs for design, planning and management
- appropriate balance between flexible and constant
UNDERSTANDING & PLANNING for DIFFERENT ASPECTS

The morphological-Structural concept
- outstanding landscape characteristics
- created landscape and features
- environmental protection regimes
- Landscape parks, Natura 2000, underground water areas
- green space regardless the land use

The social / functional concept
- landscape quality and attractiveness for recreation
- distribution and accessibility
- established and hidden potentials
- connections with the hinterland
- Potentials for public parks
- local and city scale

The ecological concept
Green Infrastructure? Ecosystem Services concept
- natural environment: larger areas and corridors of high natural value, water bodies, forests, areas of natural heritage and of nature conservation concern...
- human environment: climate situation, air, water and soil pollution problems

Connecting aspects connecting sectors
GREEN SYSTEM

Multifunctional
ASPECTS and LEVELS of GREEN SYSTEM of the city of Ljubljana

Concept of green wedges and their inter-connection

Crucial connections and green corridors

Network of parks
Categories of regimes
- protection/preservation
- regulation/improvement

Categories of green system surfaces
- city parks
- parks and prospects
- recreation areas
- thematic parks and prospects
- space of exceptional ecological value
- articulation lines and spaces
GreenKeys strategy building process - open and flexible enough to encompass different city situations but also supportive enough to make the development of green space strategy “simple and possible for all”.

A PROCESS FOR COMPREHENSIVE PLANNING

Elements of the GreenKeyes' Green Space Strategy

Starting Part:
- Establish strategy group
- Identify skills
- Secure political/public/professional support
- Define planning procedures/process

Urban Green Space Strategy Content

Formulation of vision
Formulation of mission
Define strategic aims and priorities

Analytical part:
- Feedback from legal documents
- Gain a general overview of the city
- Analyze current state of green spaces
- Identify local needs and demands
- Identify development trends/tendencies
- Identify problems (spatial, organizational, financial) and potentials
- Evaluation of current state of green spaces

Action part:
- Define strategic issues and priorities
- Prepare the spatial concept of urban green space development
- Define policies for management and development
- Set local standards/directions/principles/regulations/guidelines (quantity, quality, accessibility)
- Formulate action plan

Process monitoring

interlacements / interconnections
# Overview table of Elements of Green Space strategy

<table>
<thead>
<tr>
<th>Elements of the GreenKeys’ Green Space Strategy</th>
<th>Results – expected output (WHAT?)</th>
<th>Ways to achieve results (HOW?)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establishing strategy group</td>
<td>Group of members from different departments, organisations, professionals with defined roles for working on the strategy.</td>
<td>- Address planning offices, departments, organisations (the ones which could be involved in the group) with a clear statement about their role.</td>
</tr>
<tr>
<td>Identification of skills, working program</td>
<td>List of skills needed for developing the strategy, definitions of other members of strategy group or needed external experts.</td>
<td>- Internal discussions and consultations.</td>
</tr>
<tr>
<td>Securing political support</td>
<td>Securing political support for strategy document</td>
<td>- Inform the political decision makers about your activities to get their support.</td>
</tr>
<tr>
<td>Securing political support for vision and goals in strategy document</td>
<td>Political approval for developing a strategy document.</td>
<td>- Ensure political support with clear goals and benefits for the community.</td>
</tr>
<tr>
<td>Securing public support</td>
<td>Support from inhabitants</td>
<td>- Address city councils and mayor with a paper explaining the vision of the strategy, its benefits, and expected results.</td>
</tr>
<tr>
<td>Supporting professionals</td>
<td>Support from professionals</td>
<td>- Influence important politicians to speak about the topic.</td>
</tr>
<tr>
<td>Defining planning procedures/processes</td>
<td>Decision about the form of strategy document and ways of implementing – the formal procedures that are needed.</td>
<td>- Invite political representatives on workshops, presentations.</td>
</tr>
<tr>
<td>Formulating mission and vision statement</td>
<td>Mission statement (general purpose – with regard to green space management).</td>
<td>- Public workshops on different themes (vision, problems, ideas, solutions).</td>
</tr>
<tr>
<td>Defining aims and general priorities of the strategy</td>
<td>Definition of aims and general priorities of the strategy</td>
<td>- Use of educational modules.</td>
</tr>
<tr>
<td>The planning context and links to other legal documentation</td>
<td>Links to legislation, documents and plans at national and regional level.</td>
<td>- Workshops focused on defining the priorities and values.</td>
</tr>
<tr>
<td>General overview of the city</td>
<td>Description, review of city characteristics.</td>
<td>- Written by strategy group.</td>
</tr>
<tr>
<td>Analysis of current state of green spaces in the city</td>
<td>Description of city green spaces, distribution, connections, financing, areas with importance for biodiversity.</td>
<td>- Could be part of existing documents, plans, reports.</td>
</tr>
<tr>
<td>Overview of ecological aspects of green spaces in the city</td>
<td>Overview of ecological features of green spaces, (permeability, use of green spaces).</td>
<td>- Final statements written by strategy group.</td>
</tr>
<tr>
<td>Overview of current state of green spaces in the city</td>
<td>Overview of current planning documents on national level and the links to green spaces.</td>
<td>- Workshops focused on defining the priorities and values.</td>
</tr>
<tr>
<td>Overview of development trends – deviations</td>
<td>Overview of development trends – deviations</td>
<td>- Written by strategy group.</td>
</tr>
<tr>
<td>Problems and potentials</td>
<td>Description of city green spaces, distribution, connections, financing, areas with importance for biodiversity.</td>
<td>- Written by strategy group.</td>
</tr>
<tr>
<td>Spatial problems</td>
<td>Problems in planning, managing, maintaining of green spaces.</td>
<td>- Final detailed analysis.</td>
</tr>
<tr>
<td>Organisational problems</td>
<td>List of problems (some can be solved by NGOs).</td>
<td>- Mark all green spaces on city map, mark types of green spaces on city maps.</td>
</tr>
<tr>
<td>Economic – financial problems</td>
<td>Recommendations: spatial problems can be mapped on a city plan.</td>
<td>- Collect all types of green spaces in the city.</td>
</tr>
<tr>
<td>Potential opportunities</td>
<td>Collection of potentials, opportunities, strengths can be also illustrated.</td>
<td>- City Profile (part 3).</td>
</tr>
<tr>
<td>Evaluation of current state of green spaces in the city</td>
<td>Evaluation map and description of condition of green spaces – general (good/bad) or detailed (explanation of the criteria).</td>
<td>- Collected from documents, different researches, projects and also gained in workshops with professionals.</td>
</tr>
<tr>
<td>Evaluation of quantity and supply (distribution) of green spaces in the city</td>
<td>Evaluation of quantity and quality of green spaces in the city.</td>
<td>- Use of other methods: SWOT analysis (strengths, weaknesses, opportunities, threats).</td>
</tr>
</tbody>
</table>

### Action Plan

- **Concept of implementation (regarding the level of strategy – general)**
- **Defining policies for management and development**
  - Policies regarding different themes (priorities, goals), concerning types of green spaces, or activities on green spaces. (Improvements towards achieving the goals of Green Keys participation)
- **Defining local standards, regulations, principles, directions.**
  - Setting quality standards:
  - Setting accessibility standards:
  - Green systems map and data can be very helpful (for land use) or general (observational directions).
- **Preparations of action plans, tasks**
  - Action plan on specific tasks (tasks for each issue and type of green spaces, timetable for tasks, partners, funding sources and performance indicators for each task). It can include also marketing plan.
  - Action plan sets out how the goals and objectives of UGS will be achieved.
- **Preparation of the green system of the city (possibility)**
  - The green system map (concept of green system or network green areas, the green systems map) can be used (for land use).
USING GREENKEYS TOOLS IN A PROCESS

Scheme: GreenKeys’ Tools for Urban Green Strategy development process

- **Greenkeys@Your City**
  - A Guide For Urban Green Quality

- **Strategy Developing Tool**
  - **STARTING PART**
  - **ANALYTICAL PART**
  - **ACTION PART**

- **Strategy development**
  - RAISING AWARENESS
    - eLearning Module
  - COLLECTING DATA
    - City Profile
    - Data Base
    - Public Perception on UGS
  - ASSESSING IMPLEMENTATION
    - Maintenance Guideline
    - Greenspace Site Profile
    - Monitoring System

- **IMPLEMENTATION**

- **Tool for Monitoring the process of GSS development**
SUPPORTING TOOLS

E-Learning Module

◆ For starting with process
◆ For raising political and public awareness
◆ For getting support
◆ For better cooperation
◆ For better understanding
◆ For knowledge development

Questionnaire Perceptions and attitudes towards green spaces

This questionnaire is to explore the opinion citizens have about the existing and prospective green space in their city. The information provided should be confidential and only used for statistical analysis.

To be completed by the participant:

1. City
2. Name the green space
3. Location (area)
4. Size
5. Other information

Question 1: On a scale of 1 to 10, please evaluate the existing public green space in your city, putting a tick (✓) in the appropriate box:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<th>7</th>
<th>8</th>
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<th>10</th>
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<tr>
<td>In too small</td>
<td>In too large</td>
<td>In too small</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>In too congested</td>
<td>In too quiet</td>
<td>In too congested</td>
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<tr>
<td>In too central</td>
<td>In too peripheral</td>
<td>In too central</td>
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<tr>
<td>Not safe at all</td>
<td>Very safe</td>
<td>Not safe at all</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>In danger</td>
<td>In very well looked after</td>
<td>In danger</td>
<td></td>
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</tr>
<tr>
<td>Too much hassle to look after</td>
<td>Very cheap to look after</td>
<td>Too much hassle to look after</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not appreciated by people</td>
<td>Not appreciated at all</td>
<td>Not appreciated by people</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Help economic activities</td>
<td>Promote economic activities</td>
<td>Help economic activities</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>No economic activities take place in or around it</td>
<td>Many economic activities take place in or around it</td>
<td>No economic activities take place in or around it</td>
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<tr>
<td>Not used by visitors</td>
<td>Should be used more frequently</td>
<td>Not used by visitors</td>
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<tr>
<td>Benefits economic development of the city</td>
<td>Should be used more frequently</td>
<td>Benefits economic development of the city</td>
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<td></td>
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<td></td>
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</tbody>
</table>

Greenkeys is published by the European Union Community Initiative INTERREG III B
1. Area, land use and population
Development area, type of boundary, land use areas, availability of digital data and maps, dimension of green and open space by types, land use trends and ownership
Population: situation and trends

2. Geographical background
Location context, climate, relief, hydrology, soil, vegetation, natural protection areas

Partly included aspects of PROVISIONAL and CULTURAL ES

3. Experiences & Objectives for development of urban green and open spaces
Policies.....
How city can use the City profile for it’s own needs?

- For better understanding the UGS situation in the city
- For building its own green space (green infrastructure) strategy and developing green system
- For reporting to the public and politics
- For comprehensive overview of the city situation
- For better decisions and policies
- For comparition
- For monitoring the development

The quality of data is very important!!!
monitoring the process as a very important part of the planning process

### Symbols used

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
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</thead>
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<tr>
<td>○</td>
<td>in progress</td>
</tr>
<tr>
<td>□</td>
<td>finished</td>
</tr>
<tr>
<td>!?</td>
<td>unclear</td>
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</table>

### Problems

- 1 = no data
- 2 = insufficient data
- 3 = time consuming
- 4 = too time consuming
- 5 = too expensive
- 6 = complicated
- 7 = too complicated
- 8 = not yet identified

### Comment

- ? = help necessary
-  = useful
-  = good practice

### Sources

-  = City Profile
-  = Telephone Question
-  = Report Ljubljana
-  = Economical Questionnaire
-  = our estimation
-  = personal communication
-  = others (e.g. maps)
- () = indirect information source

### Remarks & Open Questions

- G: General (for all city partners)
- S: City partner specific
- C: Cities comments

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### Table: monitoring table

<table>
<thead>
<tr>
<th>PP01 Dresden</th>
<th>WP4: Overview Table: Strategy Building Progress</th>
<th>UFZ 06/03/2007</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Steps - GSS content</th>
<th>Status / Sources</th>
<th>Problems / Sources</th>
<th>Comments / Sources</th>
<th>Specific link to sources</th>
<th>Comments and open Questions</th>
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<tbody>
<tr>
<td>Strategy group</td>
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<td>Mission statement</td>
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<td>Vision statement</td>
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<td>Arms and general priorities</td>
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</tbody>
</table>

| Skills               | ○                | ○                  | ○                  |                          | 0                           |
| Links and relations to legislation, documents and plans | ○ | ○                  | ○                  |                          | 0                           |
| General overview     | ○                | ○                  | ○                  |                          | 0                           |
| Analysis of current state | ○ | ○                  | ○                  |                          | 0                           |
| Local needs and demands for GG | ○ | ○                  | ○                  |                          | 0                           |

| Development trends and tendencies | ○ | ○                  | ○                  |                          | 0                           |
| Problems              | ○                | ○                  | ○                  |                          | 0                           |
| Evaluation of current state of green space (city level) | ○ | ○                  | ○                  |                          | 0                           |

| Strategic priorities (planning priorities) | ○ | ○                  | ○                  |                          | 0                           |
| Planning priorities and goals on provision | ○ | ○                  | ○                  |                          | 0                           |

| Defining of local standards | ○ | ○                  | ○                  |                          | 0                           |
| Defining ways of solutions | ○ | ○                  | ○                  |                          | 0                           |

| Monitoring            | ○                | ○                  | ○                  |                          | 0                           |

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C: Development concept for accident zones and playgrounds is existing
C: Local level: Response for playgrounds, Maintenance strategy concept (national level: Landscaping e.g. landscapes for trees)
C: National level: Standards for playgrounds existing
G: Landscape plan in progress
CONCLUSIONS & FUTURE CHALLENGES

- Green Infrastructure and ES not instead but for improving Green system approach
- Land use planning is not suitable approach
- ES are not related to the use of space but to its characteristics (natural and man made)
- For comprehensive Green infrastructure or Green System all green spaces should be taken into consideration
- Maintainance strategy is needed
- New challenges & transdisciplinary cooperation
Thank you for your attention

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