URBAN POLICIES AND BIODIVERSITY

A Selection of West-European Good Practices

ZUCCA Maxime
• October 2010 : first City Biodiversity Summit in Nagoya (Japan). Adoption of a Plan of Action on Subnational Governments, Cities and other local authorities for biodiversity

  ➞ Promotion of good practices
  ➞ Supporting local strategies in favor of biodiversity

• Natureparif and the city of Paris are among the signatories

• How does Natureparif integrate its actions to the Nagoya Plan of Action?
Disseminating good practices through cities and organization network

A guidebook for Ecological management of public spaces by city councils
Disseminating good practices through cities and organization network

A guidebook for Ecological management of public spaces by city councils

A guidebook for the conception of green roofs
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A professional guidebook for integrating biodiversity into the conception of buildings
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Urban policies and biodiversity : Collection of actions in France and Europe
Why preserving biodiversity in cities?

- Regulation services:
  - Water purification. Ex. Munich: needs no treatment, thanks to the preservation of forests around the cities and help to organic farming; ➔ leading to the cheapest costs for citizens (2,74 euros/m$^3$)
  - Air purification: three young trees per inhabitant.
  - Local climate cooling.
  - Control of allergy occurrence
Why preserving biodiversity in cities?

• Cultural services:
  - Well-being
  - Adequation to our biological cycles
  - Naturalist opportunities

• Philosophical aspects:
  - reconsidering the opposition Culture/Nature
What is biodiversity in cities?

- In the 70s: reluctance of architects to introduce nature in the city
What is biodiversity in cities?

Some attempts... Nature in pots.
What is biodiversity in cities?

Separate the wheat from the chaff?
What is biodiversity in cities?

- Building cities into the countryside vs bringing back countryside into the cities
Case study in France : Rennes agglomeration

- 460,000 hab
- 113,600 ha

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural</td>
<td>76%</td>
</tr>
<tr>
<td>Natural</td>
<td>13%</td>
</tr>
<tr>
<td>Urbanized</td>
<td>11%</td>
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</tbody>
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Currently : 250 ha are urbanized every year (at a rate three times more important than Paris area)

60,000 new inhabitants every 10 years : how to minimize the consommation of agricultural and natural spaces ?

➔ Political tools (Local Urbanism Plan – PLU - and Territorial Coherence Schemes – SCOT) to prevent urbanization of chosen natural and agricultural spaces – towards an « archipelago city »
Keeping green while building

Case study in Germany: Berlin city center

- Very densified and sealed district
- Building an indicator for planning: the Biotope Area Factor

\[ BAF = \frac{\text{Sum of (vegetalization index} \times m^2)}{\text{Patch area}} \]

- Sealed surfaces: 0.0
- Semi-permeable surfaces: 0.3
- Semi-open surfaces (permeable for water and air): 0.5
- Green spaces on stab < 80 cm: 0.5
- Green spaces on stab > 80 cm: 0.7
- Rainwater infiltration per m² of roof surface: 0.2
- Vertical planting to at least 10 m: 0.5
- Greenroof: 0.7

Objective: to reach a BAF of 0.3 in old districts, commercial and industrial areas; of 0.6 in new districts, schools, kindergardens...
Case study in Germany: Berlin city center

Patch area: 479 m²
Built-up area: 279 m²
Free space area: 200 m²

140 m² Asphalt × 0.0 = 0 m²
59 m² lawn × 0.5 = 30 m²
1 m² open ground × 1.0 = 1 m²

\[ BAF = \frac{31}{479} = 0.06 \]

**BAF to reach = 0.3**
Case study in Germany: Berlin city center

How to reach a BAF of 0.3?

\[
\begin{align*}
21 \text{ m}^2 \text{ concrete slab} & \times 0.0 = 0 \\
79 \text{ m}^2 \text{ deep soil} & \times 1 = 79 \\
100 \text{ m}^2 \text{ pavement} & \times 0.3 = 30.0 \\
10 \text{ m}^2 \text{ wall planting} & \times 0.5 = 5.0 \\
41 \text{ m}^2 \text{ greenroof} & \times 0.7 = 29.0
\end{align*}
\]

\[
\frac{143}{479} = 0.3
\]
Case study: Strasbourg (France)
Green and Blue Infrastructures

Case study: Strasbourg (France)

A biodiversity-orientated Policy

32% of the territory linked to water
79% just next to the ground water

22% of the territory made of green infrastructures
3 200 ha of old-growth forest
Green and Blue Infrastructures

Case study: Strasbourg (France)

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Discovering ordinary nature

- Priority to knowledge: naturalists inventories of wetlands, woodlands...
- Priority to the sharing and diffusion and this knowledge

Towards a Sustainable Management of the territory

- Being and remaining examplary
- Ecologic management of the green spaces

Developping the ecological network

- Planification of the urbanisation
- Pilot sites for experimentations
Green and Blue Infrastructures

Case study: Strasbourg (France)

Urbanization towards ecodistricts
Renaturation

Case study: Isar river project in Munich (Germany)

Objectives:

• Revive the river

• Maintaining flood control

• Enhance biodiversity

• Dedicated areas for tourism and leisure

• Costs: 35 M€
Case study: Isar river project in Munich (Germany)

- Re-meandering
- Banks renaturation
- River bed enlargement

To prevent the risk of flooding:

- new dikes with new processes, and with a gentle slope allowing lower erosion and sedimentation
Case study: Isar river project in Munich (Germany)
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Case Study: Eco46 in Lausanne

- Materials supplied from a 50km distance

- Materials cost - - // human costs ++

- Reduce impacts on biodiversity: ecological footprint
Locally sourced building products

Case Study: Eco46 in Lausanne

Life cycle analysis of materials
Locally sourced building products

Case Study: Eco46 in Lausanne

Training: new jobs for firms
Eco-twinning between cities

Case Study: Grenoble and Ouagadougou (Burkina -Faso)

- Cooperation between the 2 cities since 1999 mostly in cultural and educational fields
- In 2009: aim to highlight the green belt of Ouagadougou:
- Creation of a Botanical conservatory of rare local species, for replanting
- Replanting trees in highschools yards (one per year)

- How to finance on long time? Thanks to parking meters in Grenoble!
  ➔ 0.015 € on each parking tickets go directly to this program (60 000 €/year)
Thank you for your attention!

http://www.natureparif.fr/