Netwerkdag Ruimtelijke Adaptatie

Utrecht - 19 januari 2017

Goed groen is goud waard

Dirk van Peijpe (De Urbanisten)   Presentatie
Garmt Arbouw (DRGW)             Gesprek
GOOD GREEN IS GOLDEN
ADDED VALUE OF GREEN BLUE NETWORKS FOR THE CITY

DE URBANISTEN  DIRK VAN PEIJPE  UTRECHT, JANUARY 19th 2017
HOW CAN WE BENEFIT MORE FROM THE BLUEGREEN NETWORKS AND VALUE THEIR ECOSYSTEM SERVICES?

In the battle for the limited space in our cities, ecosystem services can offer proper economic arguments that underpin the need for radical urban greening.

A REVALUATION OF PUBLIC SPACE IS NEEDED

Search to integrate traditional urban typologies and natural landscape into new public spaces for the city.
The assets of greenblue networks are resources or processes that derive from natural ecological systems that are beneficial to the city and its inhabitants.
Our test case is the city of Zwolle

How green is Zwolle, based on the ecosystem services its public spaces provide?

Zwolle greenest city of Europe

Zwolle is a green city ranked in the top 10 greenest cities of Europe. It is known for its beautiful parks and green spaces. The city has a strong commitment to sustainability and green living. Zwolle's government has made a commitment to reducing its carbon footprint and becoming more environmentally friendly. The city has implemented many green initiatives, such as using renewable energy sources, promoting cycling and public transportation, and encouraging sustainable practices in the community. Zwolle's green spaces are not only beautiful but also provide many ecosystem services, such as improving air and water quality, reducing urban heat island effect, and providing recreational opportunities for residents. The city is an excellent example of how a city can incorporate green spaces into its urban planning and design, creating a more livable and sustainable environment.
WE METICULOUSLY MAPPED ALL EXISTING PUBLIC SPACES OF ZWOLLE
24 COLOURS OF PUBLIC SPACE, BASED ON TRADITIONAL FUNCTIONAL CATEGORIES

- City park
- Generic soft playground
- Dense forest
- Wild field edge

- Sports field
- Generic hard playground
- Allotment / nursery
- Stony public space

- Generic green structure
- Wild meadow
- Shrubs / Bushes
- Stony parking lot

- Cemetery
- Wet bank
- Sandy underused plot
- Asphalt parking lot

- Lawn
- Green underused plot
- Grassland
- Stony underused plot

- Generic schoolyard
- Wood less dense
- Agriculture field
- Logistic space
FUNCTIONAL PUBLIC SPACE MAP OF ZWOLLE

ZACHTEN OPPERVLAKKEN
- Park
- Sportveld
- Begraafplaats
- Speelplaats
- Speelplaats school
- Grasveld (met bomen en struikgewas)
- Hout (dunbebos gebied)
- Bos (dichtbebos gebied)
- Struikgewas
- Weides
- Natte oever
- Volkstuinen / kwekerij
- Grasland
- Landbouw
- Groen ongebruikt kavel
- Zanderig ongebruikt kavel

HARDE OPPERVLAKKEN
- Verharde openbare ruimte
- Verhard parkeerterrein
- Geasfalteerd parkeerterrein
- Verhard ongebruikt kavel
- Verhard oppervlak
- Bouwplaats
All functional public spaces are scored according to 18 ecosystem services.
ALL FUNCTIONAL PUBLIC SPACES ARE VALUED AS HIGH - MEDIUM - LOW QUALITY GREEN
REVALUATION OF PUBLIC SPACES IN ZWOLLE

HARD 29 %  SOFT 60 %

Proportional distribution of all surfaces of the city of Zwolle.

40 % CONTRIBUTIVE

Proportional distribution of the green-blue surfaces.
AGENDA FOR ZWOLLE
Can the blue green network of Zwolle contribute to the "agenda" for the future development of Zwolle in other domains?

+ URBAN GROWTH

HEALTHY CITY

CLIMATE ADAPTATION

WATER SAFETY

DE URBANISTEN
Bevolkingsgroei vanaf 1900

Bevolkingsgroei tussen 2008 en 2025 (prognose)

Structuurplan Gemeente Zwolle, 2008
+6.000 woningen tot 2020

Stedelijke ontwikkeling
THE HEALTHY CITY

Zwolle zet in het kader van het programma ‘jongeren op gezond gewicht’ (JOGG) in op een gezonde speel- en leefomgeving.

Wethouder de Heer neemt de prijs ‘Zwolle Fietssstad 2014’ in ontvangst.

Geluidscontouren (bron PBL)

Fijnstof (bron PBL)

NO2 uitstoot (bron Atlas Natuurlijk Kapitaal)
Variatie lokale temperatuur in Zwolle gedurende een hittegolf omstreeks 15.00u
bron: Tauw

Infiltratiecapaciteit in de ondergrond
oorspronkelijke bron: ANK, bewerking URBANISTEN
Het complexe waterveiligheidssysteem van Zwolle en omgeving

De 'bottleneck' in de binnenstad van Zwolle


Bron: Gemeente Zwolle
HOW CAN WE INCREASE THE ECOSYSTEM SERVICES OF THE GREEN-BLUE NETWORK OF ZWOLLE?

ecosystem services

+ urban agenda

AND LINK THIS TO THE URBAN AGENDA OF ZWOLLE?
DESIGN FOR ZWOLLE “SINGELSTAD”
DESIGN FOR ZWOLLE “SINGELSTAD”

HARD 25 %    SOFT 64 %

Proportional distribution of all surfaces of the city of Zwolle.

60 % CONTRIBUTIVE

Proportional distribution of the green-blue surfaces.

- High quality green
- Medium quality green
- Water
- Hard
- Buildings
- Others
THE GOOD GREEN PUBLIC SPACE
TYPOLOGIES OF ZWOLLE SINGELSTAD

RICH BANKS

WET FOREST

WILD MEADOW
THE GOOD GREEN PUBLIC SPACE
TYPOLOGIES OF ZWOLLE SINGELSTAD

TERRACE LAWN

URBAN FARM

WILD PLAYGROUND
In het TEEB-stad tool worden verschillende categorieën aan ecosysteem diensten gekwantificeerd in de toegevoegde waarden (in euro’s) die kunnen worden gegenereerd door groen-blauwe netwerken. Die toegevoegde waarden van groen-blauwe netwerken zijn nu nog enkel gekoppeld aan kwantitatieve hoeveelheden groen en blauw.

De gewaardeerde ecosysteemdiensten zijn niet zo precies als (en komen niet overeen met) de gedetailleerde categorisering van de Atlas Natuurlijk Kapitaal. De ecosysteemdiensten zijn wel direct te koppelen aan de aspecten uit de agenda Zwolle. Daarmee kunnen we met behulp van het kwantificeren van het groen-blauw netwerk uit een ontweremodel, directe toegevoegde waarden berekenen voor de verschillende aspecten uit de stedelijke agenda Zwolle.
WATER SAFETY

Enlarge buffer capacity by incorporating the water into the blue veins of the city.

+ € 5.041.000,- annually
Avoided water damage

Beneficiaries:
Property owners and local government (avoided damage), insurance companies (avoided payments), water board, national and local government (less investment costs by combining functions), banks and mortgage providers (risk reduction, increased reliability).
CLIMATE ADAPTATION
RAIN

Catchment of storm water in the blue and green veins of the city.

+ € 1,438,000,- annually
Avoided water purification costs

Beneficiaries:
Dwellers and owners of all ground floors plus basements and local government (avoided damage), insurance companies (avoided payments), water boards and local government (less investment costs by combining functions), banks and mortgage providers (risk reduction, increased reliability).
Passive thermal regulation provided by a refined green tree structure. Cooling via water circulation loops fed by the cold water of deep sand mining ponds.

**Beneficiaries:**
All residents (avoided health costs and productivity increase), health insurance companies (avoided payments), all property owners and renters (less energy costs), employers and companies (increased productivity), local government (decrease of maintenance costs).

- **+ € 298.000,- annually**
  Avoided healthcare costs by extra green

- **+ € 1.457.000,- annually**
  Value of productivity increase by extra green

- **+ € 249.000,- annually**
  Value of energy savings by extra green
A refined bike network directly connected to the green-blue network providing fresh air.

**HEALTHY CITY
EXERCISE**

**+ € 3.253.000,- annually**
Direct health effects by adding extra trees and reed beds

**+ € 2.675,- annually**
Recreation value

**Beneficiaries:**
All residents (avoided health costs), health insurance companies (avoided payments), local government and hospitality (increase of visitors and consumption).
A learning environment ensuring direct access to sport facilities and playgrounds.

**+ € 24.597.000,- annually**
Positive effects on social cohesion by extra green

**+ € 8.364.000,- annually**
Positive effects on social cohesion by extra water

**Beneficiaries:**
All inhabitants, especially children (more social interaction, positive attitude towards life, better future prospects), local government (avoided damage), insurance companies (avoided payments).
**URBAN GROWTH**

Potential for small scale densification within the green-blue network, plus rise of value of existing real estate.

**+ € 11.405.000,- annually**
Rise in property values of existing homes

**+ € 2.777.000,- annually**
Rise in property values of new homes

**Beneficiaries:**
Home and land owners (property value), local government (taxes), banks and mortgage providers (risk reduction, rise of reliability).
RECAPITULATION OF SINGELSTAD

GREEN - BLUE NETWORK SURFACE: 3060 Ha

HARD 25%  SOFT 64%

TOTAL BENEFIT ESTIMATION
+ € 1.766.000.000,-
in 30 years time!
HOW TO BENEFIT FROM BLUE-GREEN NETWORKS AND THEIR ADDED VALUES?

How can we live up to this promise of a rich, extended and refined green-blue network?

1

Step one is to understand that problems can be solved by integrated public space design. Practice is proving that in such cases more impact can be achieved with the same or even less amount of money than if the two were treated and dealt with separately.

2

Step two is to acknowledge that public space provides a wide range of ecosystem services. They can help avoid damage and moreover they add value in their contribution to climate adaptation, better public health, more labour productivity and higher real estate values. The exact quantification of these added values is still disputable but becoming more comprehensible and credible.

3

Step three is to negotiate new models of exploitation and return of investments. The challenge will be to involve other stakeholders to see their potential future personal benefit in added values as a viable investment in improving public space.
GOOD GREEN IS GOLDEN

CRa
College van Rijksadviseurs

MINBROEKT van Infrastructuur en Milieu

Plandienst voor de Leefomgeving

DE URBANISTEN
info@urbanisten.nl
www.urbanisten.nl
ONDERWERPEN VOOR HET GESPREK

1. Zijn er vragen over het onderzoek en de gebruikte methodiek?

2. Hoe kan de methodiek helpen bij opstellen van omgevingsvisies?

3. Wat is er nodig om de waarde van groen een plek te geven bij investeringsbeslissingen in de ruimtelijke ordening?

VERVOLG

- Belangstelling voor helpen doorontwikkelen methodiek?
- Belangstelling voor oefenen in masterclass?