



RUB

Licenza Pixabay Davide Stanley

RUHR-UNIVERSITÄT BOCHUM

Environmental Urban Planning (170173-SS 24) - Final wrap up & Evaluation

Dr. Blal Adem Esmail

Institute of Geography | Transformation Metropolitan Region | @PlacesLab | @blal_adem

EUP - Session 14: Final wrap up and evaluation

AGENDA

- **Part 1 - Peer feedback on presentation**
- **Part 2 - Joint recap/reflection on course material**
- **Part 3 - Course evaluation**
- **Part 4 – Final report outline**

Peer Evaluation

Is it ethically correct?

Is it pedagogically useful?

Does it lead to competitive and discriminatory behavior?

Let's discuss this at the end..

Nature (3.5 ≈) Culture (3.7 ↓)

Society (3.4 ↓)



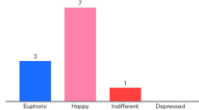
Session 1 Introduction to the course

3 things about yourself that you would like to share with the group, e.g. 1) countries; 2) cities; 3) long-term interests (even beyond your studies)

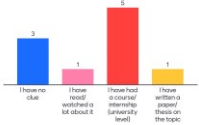
26 responses



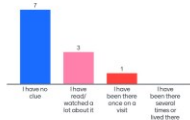
Learning about Environmental Urban Planning makes me feel:



What do you already know about Environmental Urban Planning?



What do you already know about Stockholm?

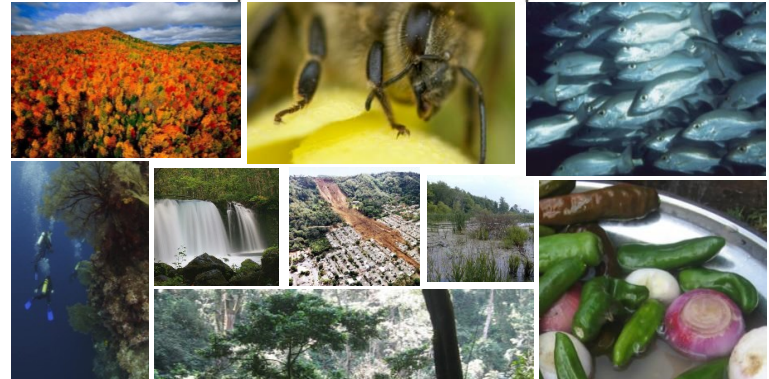
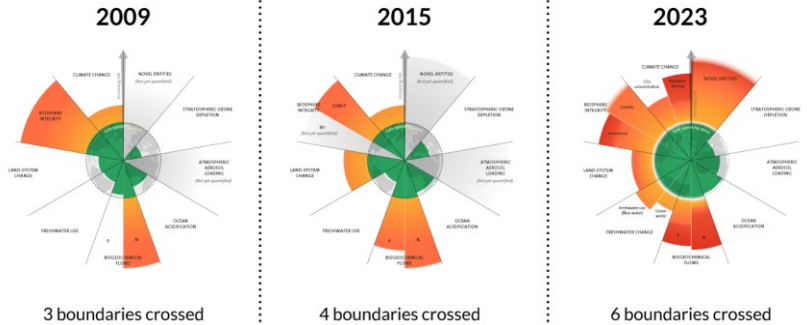


Please rate your interest in the following topics



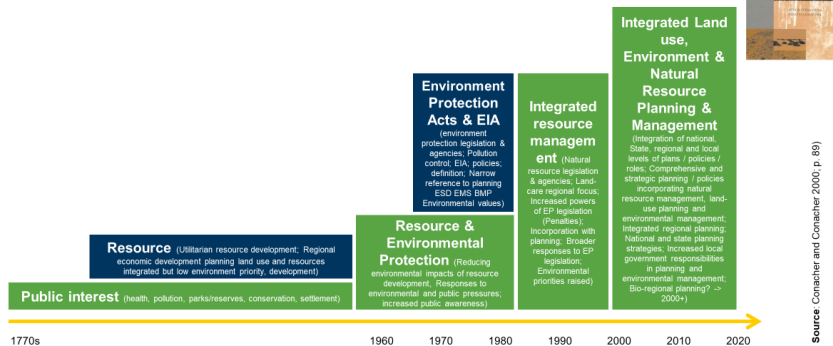
What do you think might be your main challenges in successfully completing this course?

13 responses



Session 2 Environmental planning in a nutshell

Changes of planning focus: E.g. Australia



Chapter I – General provisions

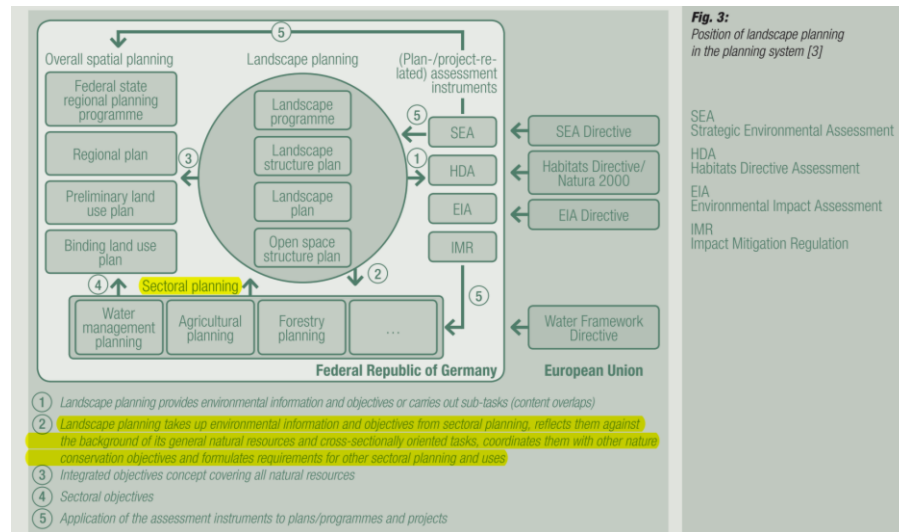
Article 1 – Definitions

For the purposes of the Convention:

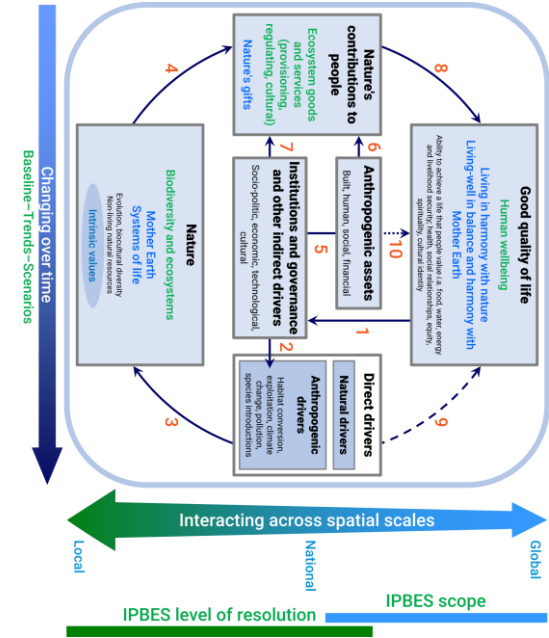
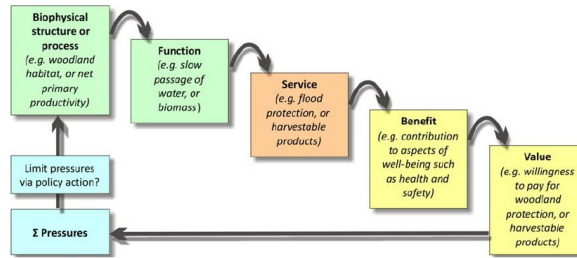
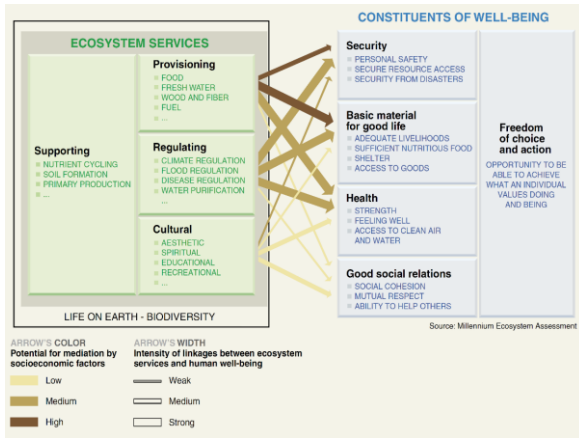
a "Landscape" means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors;

e "Landscape management" means action, from a perspective of sustainable development, to ensure the regular upkeep of a landscape, so as to guide and harmonise changes which are brought about by social, economic and environmental processes;

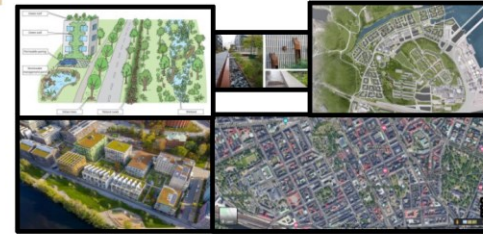
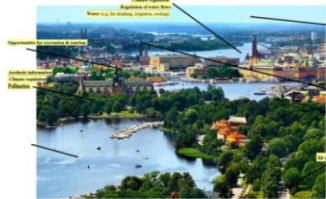
f "Landscape planning" means strong forward-looking action to enhance, restore or create landscapes.



Session 3 ES definitions, concepts and categories

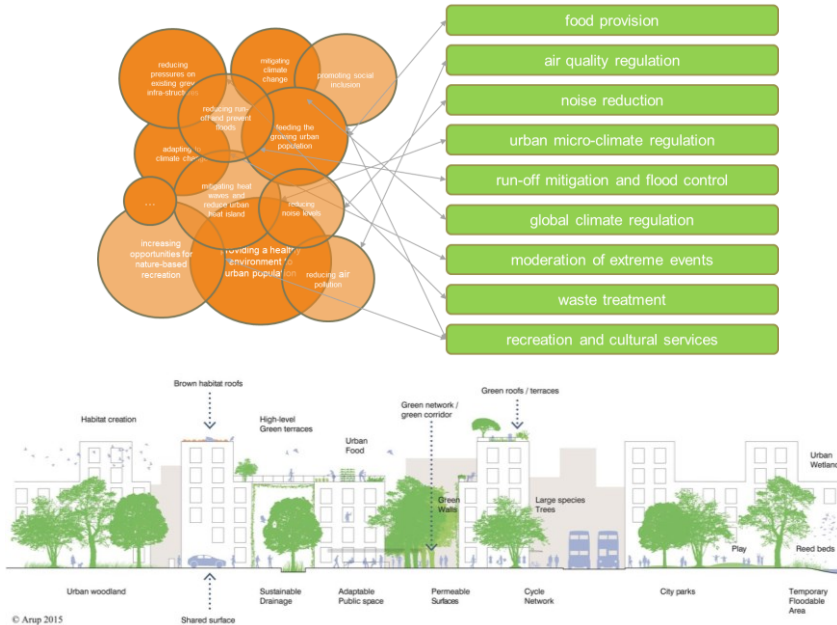


Session 3 ES definitions, concepts and categories

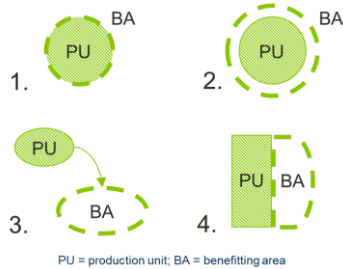


Session 4 Urban ES concept, definitions and links to urban planning

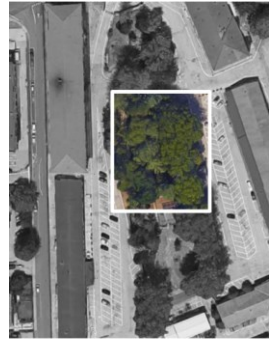
Planning & Urban Ecosystem Services



Session 4 Urban ES concept, definitions and links to urban planning



E.g. Air purification

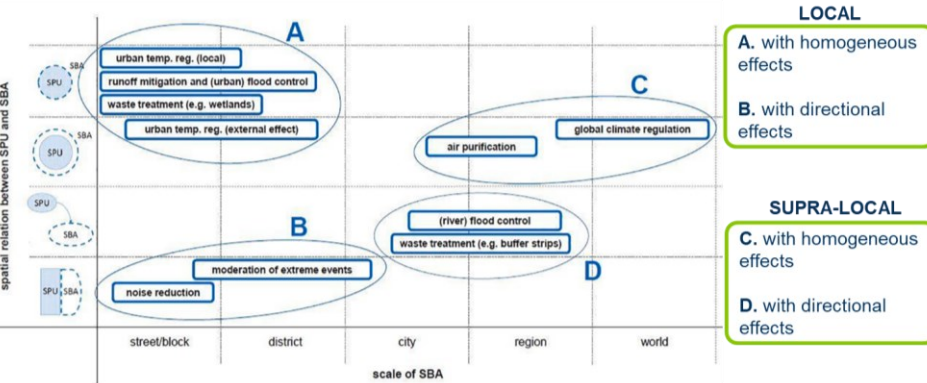


- function:**
capture of gaseous pollutants, deposition of particulate matter
- GI components:**
arboreal and shrub vegetation
- dimension:**
capacity increases with increasing surface area
- location:**
production depends on the quantity of pollutants (proximity to emission sources)
- beneficiaries:**
benefits redistributed across the entire city / region
- variability:**
variable environmental conditions, deciduous trees lose their capacity during the winter season

E.g. Noise reduction

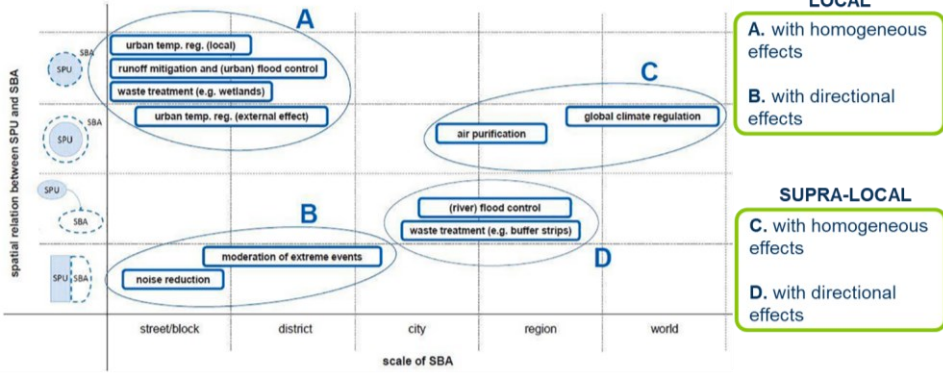
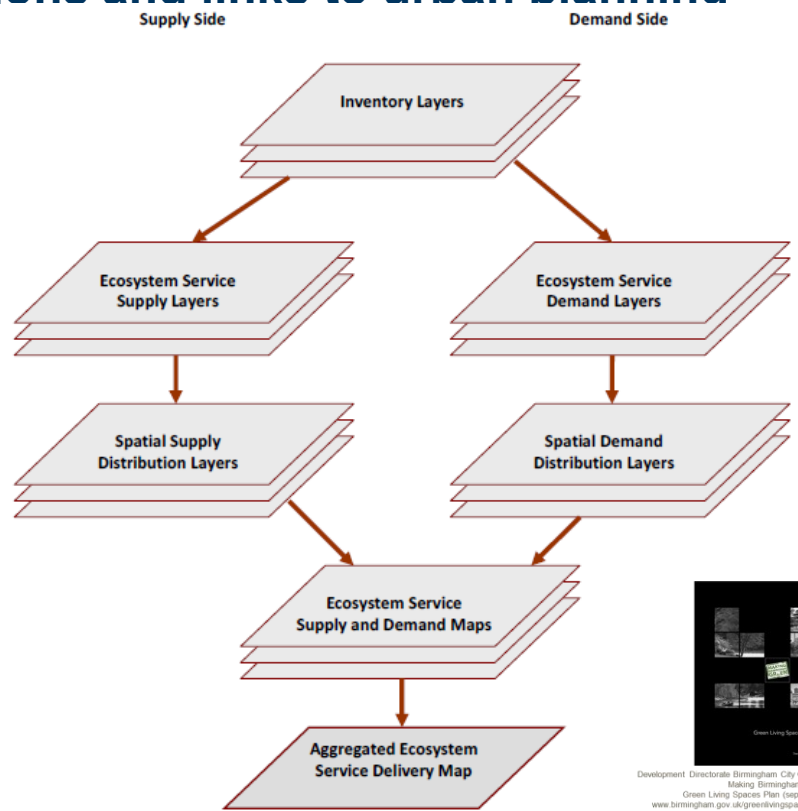
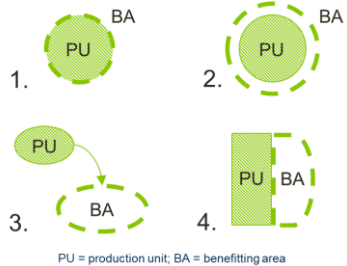


- function:**
reflection, refraction and absorption of sound waves
- GI components:**
high density vegetation groups with different heights (arboreal & shrubby + permeable bottom)
- dimension:**
minimum thickness of the vegetation strip (=15 m) -efficacy increases with > thickness
- location:**
proximity to the source of noise
- beneficiaries:**
areas directly screened (buffer)
- variability:**
constant environmental condition, deciduous trees lose capacity during the winter season



Source: Cortinovis and Geneletti (2019) 'A framework to explore the effects of urban planning decisions on regulating ecosystem services in cities', Ecosystem Services, 38, doi: 10.1016/j.ecoser.2019.100946.

Session 4 Urban ES concept, definitions and links to urban planning

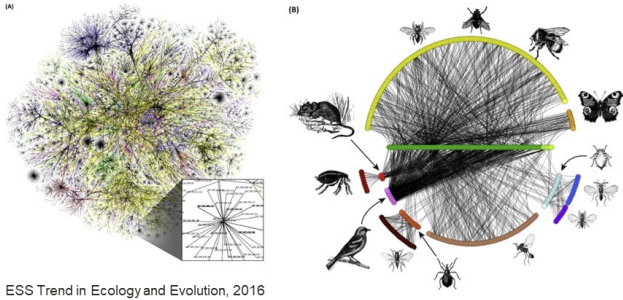


Source: Cortinovis and Geneletti (2019) 'A framework to explore the effects of urban planning decisions on regulating ecosystem services in cities', Ecosystem Services, 38, doi: 10.1016/j.ecoser.2019.100946.

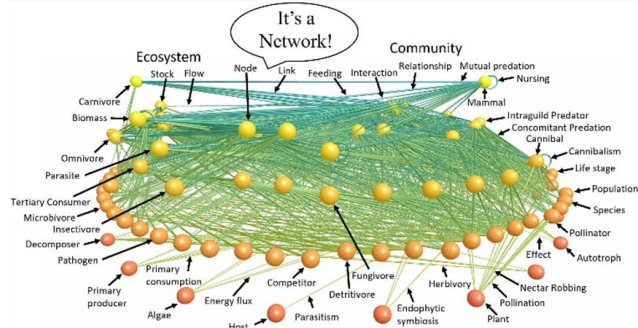


Development Directorate Birmingham City Council
 Making Birmingham Green
 Green Living Spaces Plan (sept. 2013)
 www.birmingham.gov.uk/greenlivingspacesplan

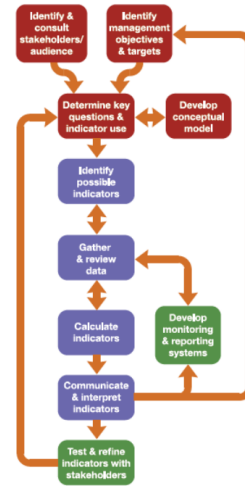
Session 5 Overview of methods for mapping and assessment of ES



Food web network = trophic level + feeding relationships



ES Indicator Development Framework



UNEP (2014) Measuring Ecosystem Services

Step 1: Identify and consult stakeholders and target audience

- Questions to ask during this step:
- Who are the relevant stakeholders, and do they all need to be consulted?
 - What questions do the stakeholders want answers to regarding the ecosystem service of concern?
 - How will the stakeholders want to use the indicator? e.g. for decision making, for reporting, for education.
 - How the inputs, expectations and outputs of the indicator development process been clearly defined for the stakeholders?
 - How much ownership and decision making power are different stakeholders going to have over the choice of indicators?

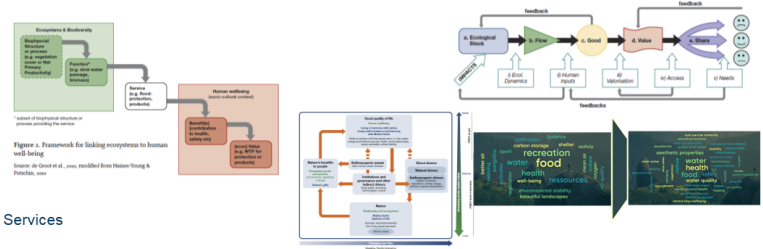
Step 2: Identify ES related policy objectives and targets

Step 3: Determine key questions and indicator use

- Questions to ask during this step:
- What are the key questions that the intended user or audience have about ecosystem services?
 - Can the key questions be made more specific or focused?
 - How will the indicator be used?
 - Who will be using the indicator?
 - What level of education and familiarity with the subject does the intended audience already have?

- What ES does this habitat provide?
- Are the ES declining in our country?
- What are the main threats to the ES in the area?
- What is the status of the tourism numbers visiting the park?

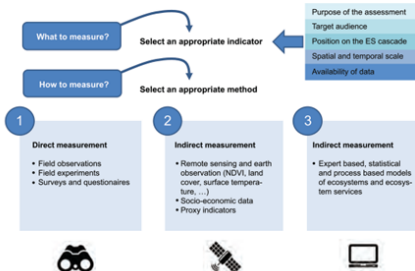
Step 4: Develop a conceptual model



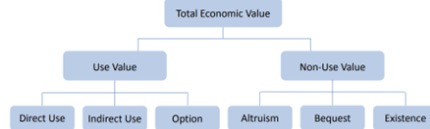
Session 5 Overview of methods for mapping and assessment of ES

Biophysical

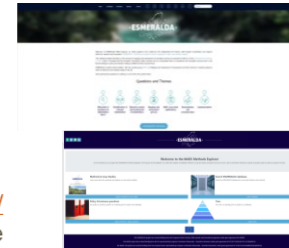
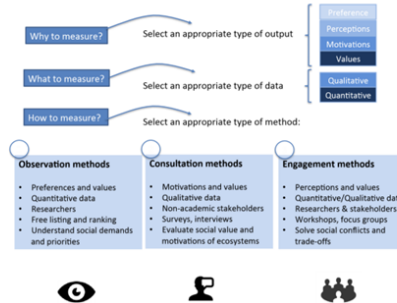
Biophysical quantification of ecosystem services



Economic



Social



<http://www.maes-explorer.eu/>
<http://database.esmeralda-project.eu/home>

Session 6 Presenting joint problem analysis in Skarpnäck

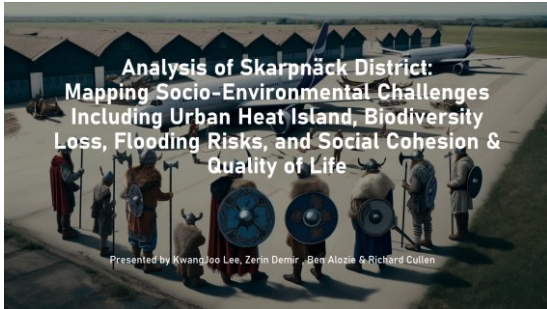


Figure 1. Aerial view over parts of Skarpnäck (Stockholms Stad, 2024)

RUHR-UNIVERSITÄT BOCHUM
JOINT PROBLEM ANALYSIS IN SKARPNÄCK
 Environmental Urban Planning 2024



RUHR-UNIVERSITÄT BOCHUM
CASE STUDY SKARPNÄCK-DISTRICT
 Stockholm, Sweden

Loss of Biodiversity

City planning goal
A growing city

More and more people are moving to the cities of the world. Cities open up opportunities and enable people to be themselves. Cities bring together people with different backgrounds, interests and characteristics. They create relationships and exchange ideas. The urbanization level is particularly clear in Sweden and in Stockholm. Many people want to live in Stockholm and the city's development for Stockholm to continue to grow and develop as an open, vibrant and welcoming city. Stockholm is a home town for many immigrants – and everyone who's born here, moves here to study or work, or comes to visit. Sweden must have the opportunity of finding a home.

Driving force	Population growth, transportation development, expanding industrial capacities
Pressure	Additional construction of residential units and industrial facilities, infrastructure, increase vehicles and roads
State	Air pollution, water pollution, and changes in plant and animal species and populations
Impact	Plant health, forest resource degradation, etc.
Response	Creating environmentally centered plans, etc.

Figure 13. Change in urban land cover over Skarpnäck, Trångsund and Ålta in and around three different types of Stockholm's green infrastructure: Flatland nature reserve buffer zone, a deciduous forest corridor and green wedge core area.



SHUIAZHUANG (2018)

A Value of €15 bil. in the EU

European Parliament (2021b)

15 Problem analysis in Skarpnäck



4. Flooding Risks

- High surface runoff of water
- Climate Change
 - Precipitation
 - Rising water levels
- Impervious surfaces
- Anthropogenic infrastructure (streets, buildings, parking lots, etc...)
- Flood Risk Reduction
- Green Infrastructure (Wetland, Grassland, Forests, etc...)



Fig 11. Dubai flooded with year's worth of rain in just 12 hours (CNN 2024)

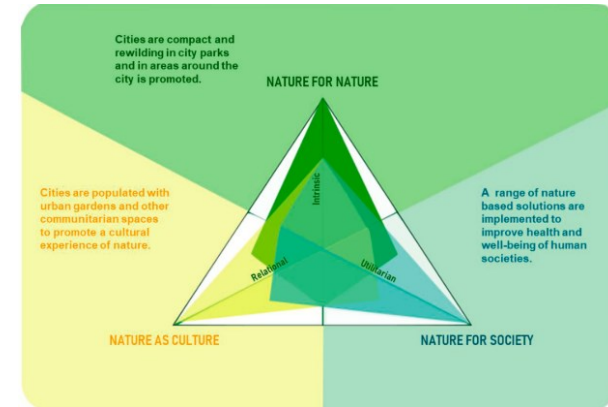
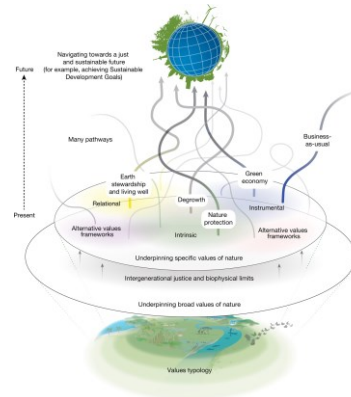
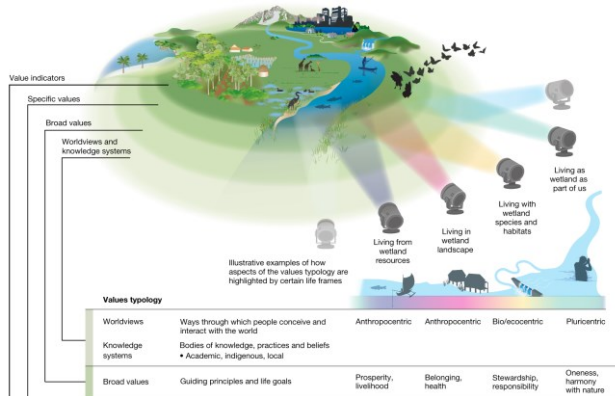
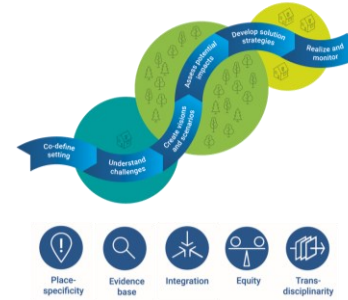
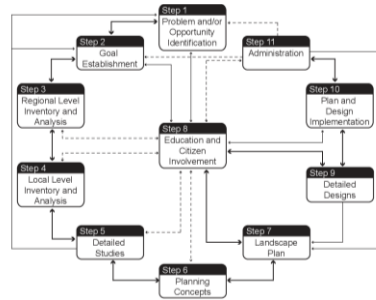
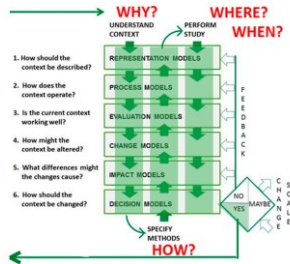
(Genov et al. 2016; Yousefi et al. 2018; Moore et al. 2022; NLFFW 2016)

19 Case study Skarpnäck District in Stockholm, Sweden

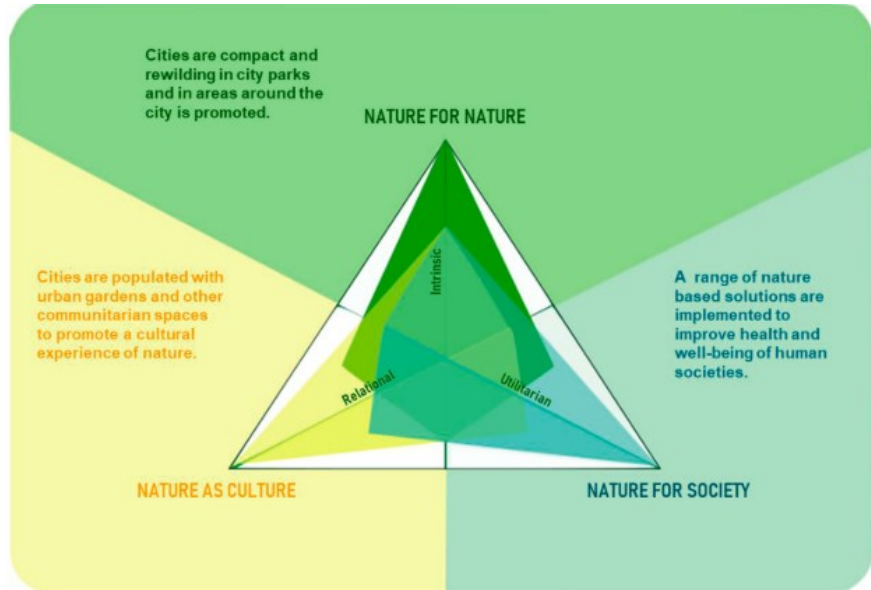


Session 7-8 Developing visions and scenario storylines (hands on)

ASSESSMENT DATA
KNOWLEDGE VALUES
INTERVENTION DATA
KNOWLEDGE VALUES



Urban Nature Framework



Eco-centric values



Relational values

Utilitarian values

NATURE AS NATURE
(Biodiversity first)

NATURE FOR SOCIETY
(People first)

NATURE AS CULTURE
(Tradition first)

Session 9 Presenting of vision for in Skarpnäck



Fig 1.: Aerial photograph. Source: stockphotos

RUHR-UNIVERSITÄT BOCHUM

ENVISION SKARPNÄCK

Maximilian D., Stephan S., Gabriel O., Fabian D.



RUHR-UNIVERSITÄT BOCHUM
FUTURE VISION

Nature for Nature



Green Community Gardens

Figure - Community Garden Dome in Cork (own photo)



Figure 3: Drivers of urban gardens characterizations (Glatton Granchamp 2018: 5)



Green community Gardens also affect:
UHI, Flood Prevention, Loss of biodiversity, social cohesion and quality of life

RUHR-UNIVERSITÄT BOCHUM RUB

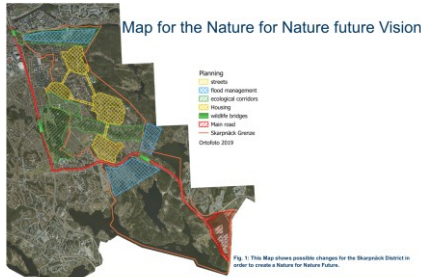


Fig. 1. This Map shows possible changes for the Skarpnäck District in order to create Nature for Nature Future.

Environmental Urban Planning - Skarpnäck Future Vision RUB

Nature For Society & Living Urban Canvas in Skarpnäck

Living Urban Canvases are dynamic, adaptive, mixed-use spaces that help create community identity and aid urban life through the assimilation of NBS.

Application in Urban Regeneration

- Economic revitalization through diverse events and activities

Integration of Technology and Nature

- Bio-adaptive architectural technologies

Sociocultural Relevance

- Inclusive spaces accessible to diverse demographic groups

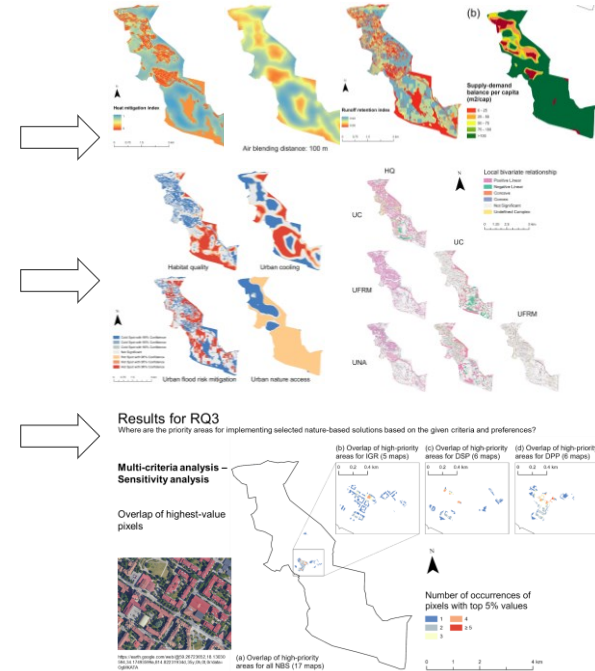
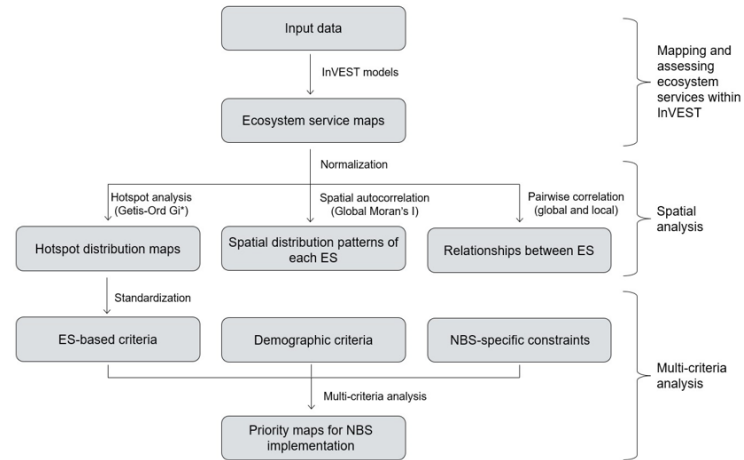
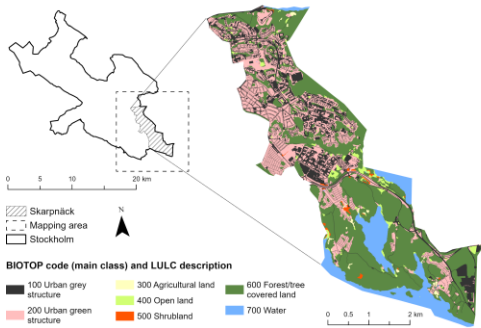
Policy Implications and Community Engagement

- Public-private partnerships for development and maintenance



Session 10

Prioritizing and evaluating NBS to support urban planning

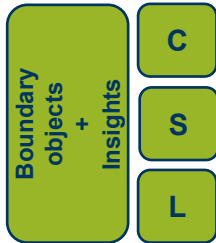


Session 11-12

Geodesign

Geodesign Process

Boundary work



T

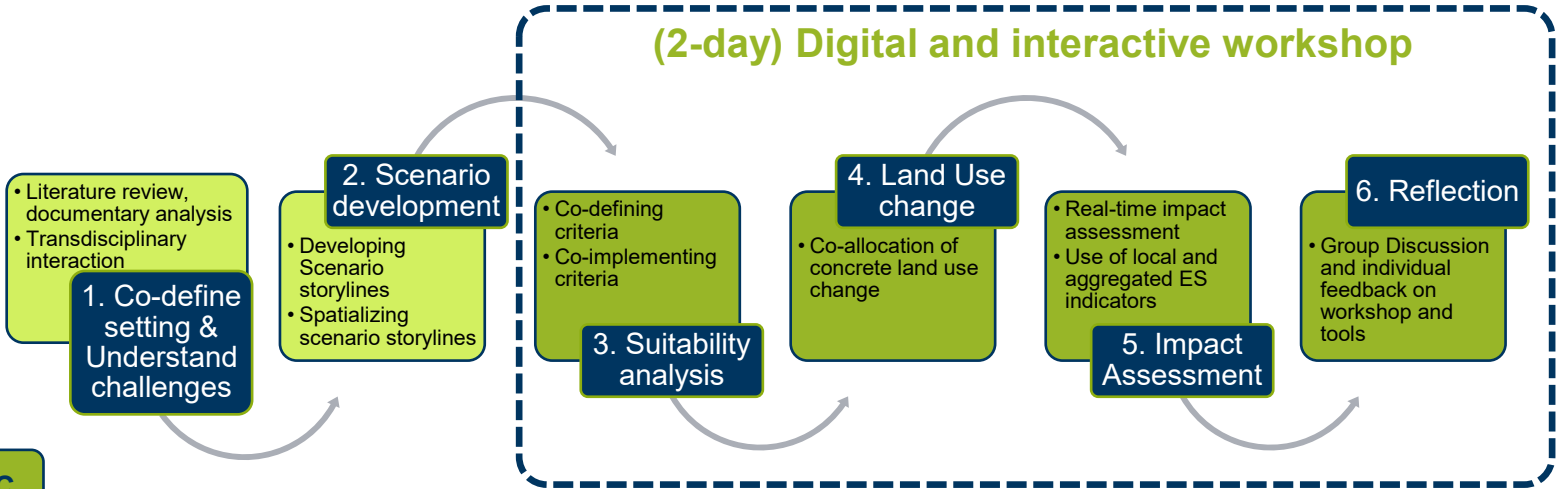
Translation

C

Communication

M

Mediation





5 Vision of Skarpnäck

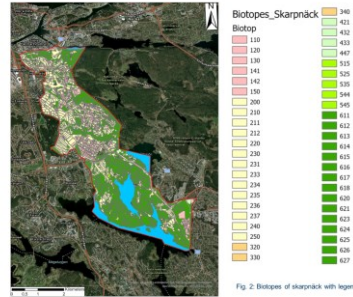


Fig. 2: Biotopes of skarpnäck with legend

Living Canvas Skarpnäck City Planning Outline

- Hammarbyöden & Sjörösparken**
Create a green residential community that actively utilizes the natural environment by building rooftop gardens on top of residential units. Provide eco-friendly housing by building community gardens into housing complexes.
- Citycore**
Create an Urban Living Canvas to cater for community cohesion and function while also stimulating local commercial functions in addition to increasing green space between neighbourhoods.
- Skarpnäcks Gärd & Flögaremosse**
Connect the two areas by creating a green corridor that serves as a space for culture as well as providing educational benefits and facilitates community engagement. Build housing, businesses and other public infrastructure that takes advantage of natural properties. Open markets must use residential buildings. Create neighbourhoods with diverse residential buildings with diverse skylines. Build urban corridors to connect with surrounding areas and add commercial and office functions to serve as a centre.
- Hammarbyöden**
Develop as a residential area and commercial corridor with good transportation infrastructure, proximity to major sites, making the most of the natural environment. Rebuilding a 3-5 story low-rise residential building. Create neighbourhoods with green residential buildings with diverse skylines.
- Skarpnäcks Gärd**
Create a green residential community that actively utilizes the natural environment. Providing eco-friendly housing by building community gardens into housing complexes.

Legend:

- Black School
- Urban Living Canvas
- Sports Facility
- New entrance for natural resource areas
- Ecological Corridor

12 Vision of Skarpnäck

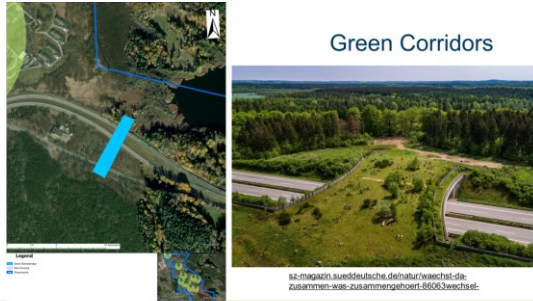


What it might look like



Fig. 12: Proposed Changes in the central part of Skarpnäck - AI-generated

13 Environmental Urban Planning - Skarpnäck Problem Analysis



12 Vision of Skarpnäck



Mitigating Flooding Risks

Existing waterbodies

Skyfall Project; maximum water flows during a 100-year rainfall The flood protection

The flood protection solution examples

13 Environmental Urban Planning - Skarpnäck Problem Analysis



Session 14

Course evaluation



<https://tinyurl.com/2ypexrmv>
Environmental Urban Planning

Peer Evaluation

Is it ethically correct?

Is it pedagogically useful?

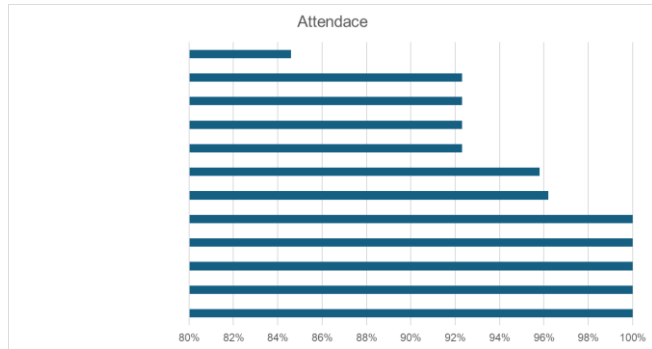
Does it lead to competitive and discriminatory behavior?

Let's discuss this..



Evaluation

Attendance and assignments



Attendance	Missed	%	Session 2	Session 3	Session 3	Session 3	Session 6**	Session 8	Session 9**	Session 11: Q1	Session 12: Q2 & Q3	Session 13**	Biotope evaluation	Session 14
100%	0	0%												1
100%	1	8%												1
100%	1	8%												1
100%	1	8%												1
96%	2	17%									1			1
96%	2	17%								1				1
92%	3	25%	1							1				1
100%	3	25%				1							2	
85%	3	25%									1		2	
92%	4	33%									1		2	1
92%	6	50%				1				1	1		2	1
92%	6	50%	1	1	1						1		2	

Final Report

Three questions to address

Environmental Urban Planning (170173-55 2024) / Final report / Submission (due August 22, 2024)

Submission (due August 22, 2024)

Assignment Settings Advanced grading Freeze this context More

Due: Thursday, 22 August 2024, 2:11 PM

Please submit your report as a PDF file. Hardcopy submissions are not necessary.

Please name your files appropriately. Use the name: Report_YourID.pdf

Make sure you attach a separate Excel file in which you specify the contributions of each member (see example in attachment).

Make sure to submit it on time on August 22, 2024, by 14:00.

📎 EUP_report_individual_contributions_2024.xlsx 16 July 2024, 9:23 AM

View all submissions

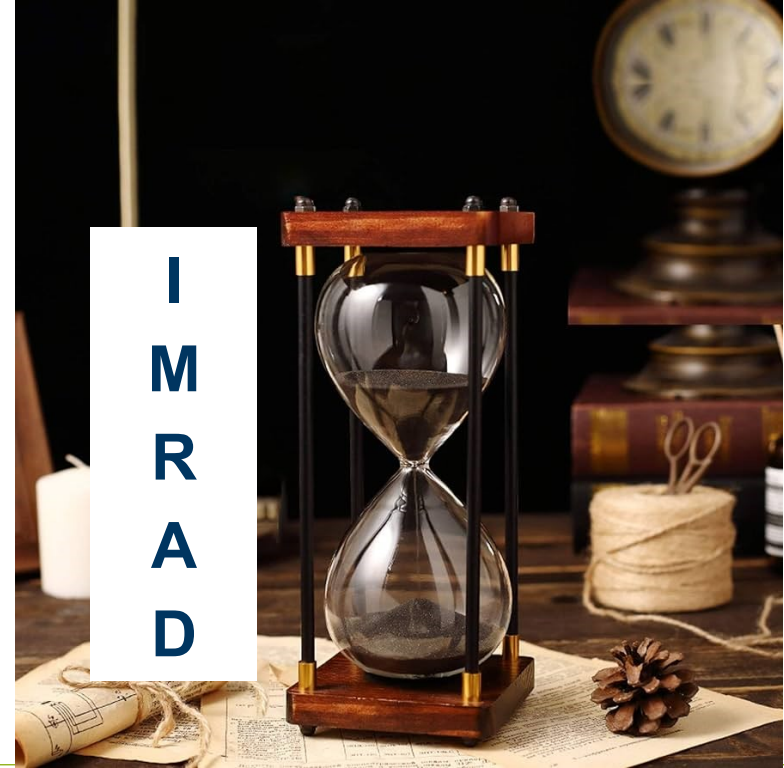
Links

Grading summary

Hidden from students	No
Participants	12
Submitted	0
Needs grading	0
Time remaining	37 days 4 hours

Distribution of Responsibilities		Member 1	Member 2	Member 3	Member 4	Member 5	Member 6	Member 7	Member 8
Chairperson									
Secretary									
Member 1									
Member 2									
Member 3									
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Member 50									

- 1) What are the principal problems pertaining to the study area, with a particular focus on the housing and four selected ES?
- 2) How do you envisage the area in accordance with the assigned nature perspective?
- 3) What measures are being proposed to achieve the stated vision? What potential impact might these proposed measures have?



Thank You

[PLACES Lab - blal.ademesmail@rub.de](mailto:blal.ademesmail@rub.de)