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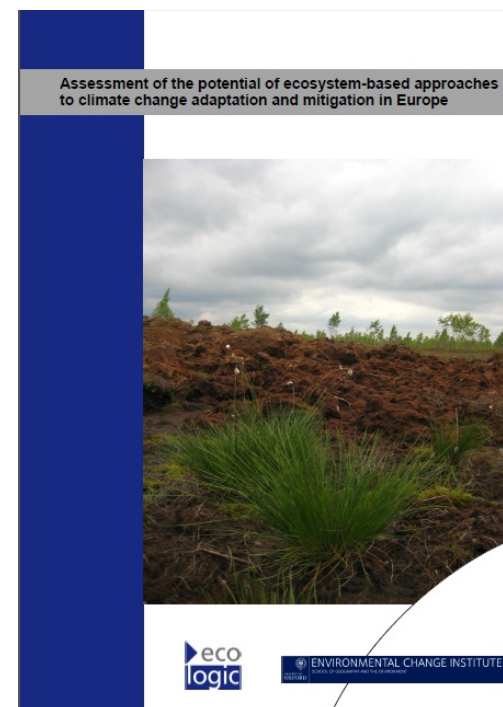
Strengthening ecosystem-based approaches to climate change adaptation and mitigation: Implications for national and European policies

Sandra Naumann
Ecologic Institute



Overview

- ▶ Introduction
- ▶ Methodological steps
 - ▶ Results
 - ▶ Integration of ecosystem-based approaches into EU policies and national adaptation strategies
 - ▶ Barriers to integration and implementation at project level
- ▶ Policy implications





Introduction: EbA and EbM (“working with nature”)

- ▶ CBD definition: "the **ecosystem approach** is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way”
- ▶ Ecosystem approach address the **crucial links between climate change, biodiversity, ecosystem services and sustainable resource management**
- ▶ Issues covered in **Ecosystem-based mitigation (EbM)/ecosystem-based adaptation (EbA)**: enhance carbon sequestration, maintain existing carbon stocks; regulate water flow and storage, maintain and increase resilience, reduce vulnerability of ecosystems and people, help to adapt to climate change impacts, improve biodiversity conservation and livelihood opportunities and provide health and recreational benefits

→ **Panacea for wide range of environmental objectives/policies (?) & triple win**

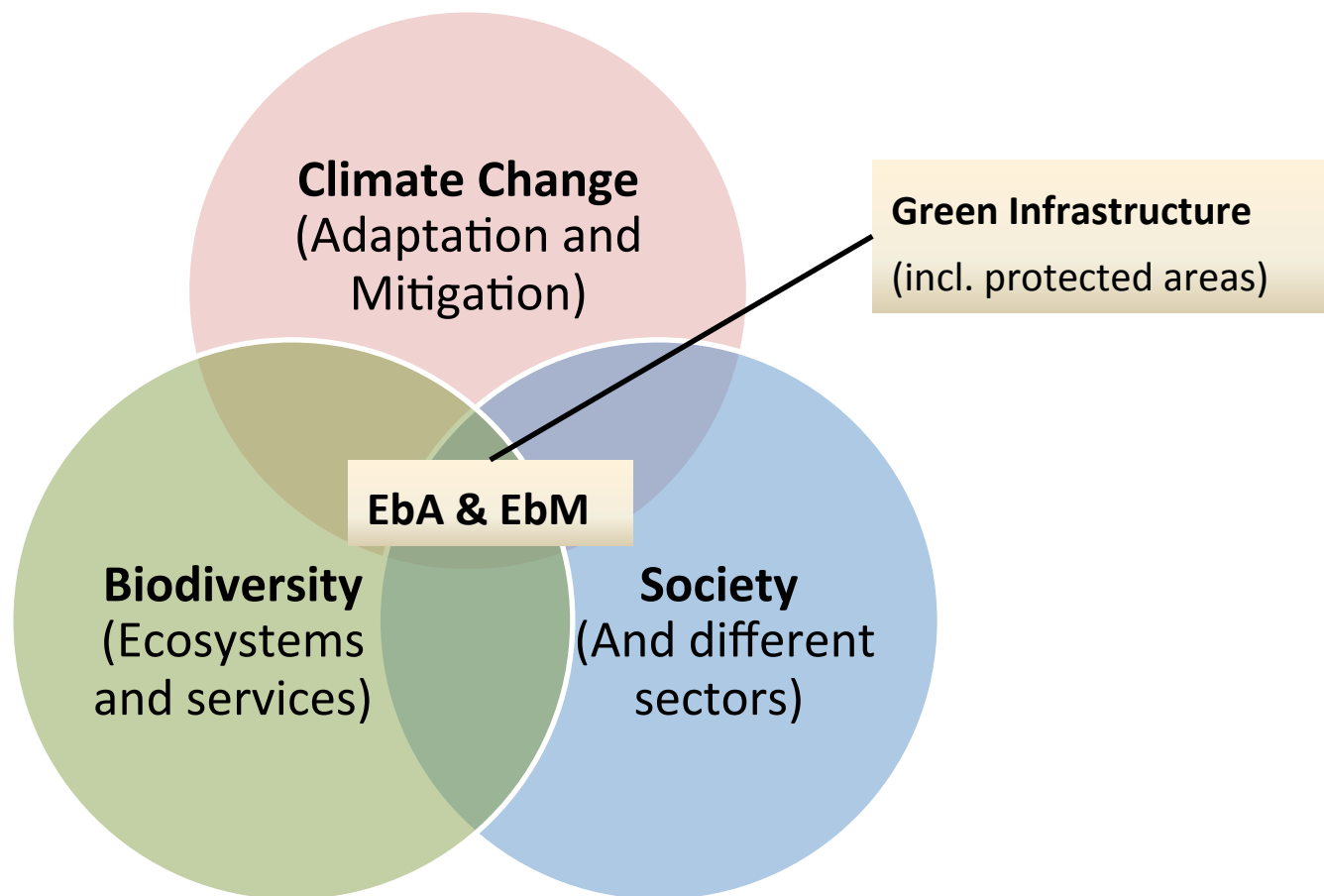


Introduction: Linking EbA/EbM to Natura 2000 sites

- ▶ **Ecosystems** perform important services for society, such as climate regulation, carbon sequestration and storage, flood protection, water purification, water provision and soil erosion prevention
- ▶ Natura 2000 sites can be managed in ways that **increase their mitigation or adaptation role** and deliver Natura 2000 objectives at the same time
- ▶ Natura 2000 sites are a core resource, the sites provide space for nature, but they must be protected and enhanced as part of managing the **Europe's green infrastructure** (target 2, EU Biodiversity strategy)



Ecosystem based approaches delivering multiple objectives





Methodological steps in the project

- ▶ **Project database** (161 projects) assembling parameters on project identification, scope and operation
- ▶ **5 in-depth case studies** in BY, NL, SE, CZ, UK for a more detailed assessment of the initiation and implementation of the respective projects, their costs and benefits, and the barriers experienced in the implementation of the project
- ▶ **Interviews with EC officials**



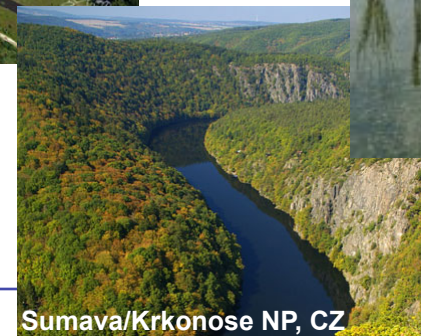
Restoring peatlands, Belarus



Wallasea Island, UK



De Doorbraak, NL



Sumava/Krkonoše NP, CZ



Retrofit SUDS, SE



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Integration of ecosystem-based approaches into EU policies and national adaptation strategies



EU Strategies

- ▶ White Paper on "Adapting to Climate Change - Towards a European Framework for Action"
 - ▶ recognizes that “strategies focused on managing and conserving water, land and biological resources to maintain and restore healthy, effectively functioning and climate change-resilient ecosystems are one way to deal with the (climate) impact”
 - ▶ “working with nature’s capacity to absorb or control impact in urban and rural areas can be a more efficient way of adapting than simply focusing on physical infrastructure”)
 - ▶ “Maintain existing ecological networks”
 - ▶ “Conserve existing biodiversity” (IA)



EU Strategies

▶ EU White Paper, Impact Assessment

- ▶ Gives examples for ecosystem-based approaches on adaptation:
 - ▶ using trees to cool urban areas,
 - ▶ managing wetlands to allow them to adapt, but also providing flood management,
 - ▶ improving soil infiltration and water retention to aid groundwater recharge and surface water,
 - ▶ resources to allow greater development of vegetation for tackling climate risks, such as floods, droughts and heat waves.

▶ EU 2020 Biodiversity Strategy

- ▶ "ecosystem-based approaches to climate change mitigation and adaptation can offer cost-effective alternatives to technological solutions, while delivering multiple benefits beyond biodiversity conservation"



EU Strategies - Findings

- ▶ Term “ecosystem-based approaches to climate change” is not even used in the White Paper and Impact Assessment
- ▶ Sectoral strategies revealed that **agriculture, forestry, biodiversity, water and coastal and marine areas** are the sectors most relevant for the application of ecosystem-based approaches
- ▶ ...but, EU level documents show **little specific mention** of ecosystem-based actions (except for Common Fishery Policy, the Marine Strategy FD and WFD) although there was recognition that ecosystem-based actions often provide multiple benefits including mitigation



National Strategies

- ▶ **Little mention** of ‘ecosystem-based approaches’ being applied or built into planning processes
 - ▶ **Priorities:** Water management (in particular flood prevention), land use/agriculture and ecosystems
 - ▶ The application of ecosystem-based approaches significantly **more frequent in EU 15** (79%) than in EU 12 (21%) → more advanced, specialized and demanding national strategies
 - ▶ Evidence of concrete **adaptation** actions was found in less than half of the **country level reports**, **mitigation** was given in the majority of cases
 - ▶ “**protected areas, ecological connectivity and ecosystems as carbon stores**” are the most frequently mentioned ecosystem-based action categories but not much detail is provided on their implementation
- currently **hardly any discussion on ecosystem-based approaches** in policy documents in Europe



Barriers to integration into policies

- ▶ General lack of **awareness and understanding** of EbA/EbM
- ▶ Lacking understand about **multiple functions and services** of ecosystems
- ▶ Lack of **human capacity** to pursue ecosystem-based approaches (and to manage involvement of all relevant stakeholders in planning etc.)
- ▶ Lacking knowledge and information on **costs and benefits**
- ▶ **Political institutional problems** (rivalry and competition between different units at EU and national level?)
- ▶ Lacking knowledge on **funding opportunities** (on behalf of MS)
- ▶ Lack of **strong policy drivers** behind EbA/EbM at national/regional scale results in low incentives for municipalities to implement



Barriers to implementation at project level

- ▶ Lack of **financial sufficiency** and predictability
- ▶ Lack of quantitative data on benefits
- ▶ Limits to **technical expertise** and **awareness**
- ▶ Organizational and institutional **complexity** arising out of the diversity and number of **partners** that must be engaged in projects
- ▶ Antecedent **regulatory or legislative** decisions that inhibit landscape-scale decision-making and the creative provision of funds, materials, and expertise
- ▶ Limited **public awareness** about the multiple benefits associated with ecosystem-based approaches.



Conclusions

- ▶ **Useful examples** of ecosystem-based approaches to adaptation and mitigation exist
- ▶ Examples represent **integrated approaches**, which can address the objectives of several EU policies simultaneously
- ▶ Concept of ecosystem-based approaches **has not yet been taken up by** decision-makers in a meaningful manner
- ▶ **Central role in supporting** the EU2020 Biodiversity Strategy, the planned GI strategy and EU Adaptation strategy



Policy implications (at national and regional level)

- ▶ **Raise awareness** about ecosystem-based approaches (nature) and their **multiple functions and benefits** for climate change mitigation and adaptation and **cost-effectiveness** among policy makers and public
- ▶ Outline **opportunities and linkages** to different policy sectors and synergies
- ▶ Need for cross-sectoral **integration of EbA/EbM** in climate change strategies, action and planning processes → an improved and more sophisticated integration between environmental and other sectors will be required to tackle climate change
- ▶ **Clearly outline EbA and EbM actions** to be undertaken and establish a **monitoring**



Policy implications (at national and regional level)

- ▶ More **research on** quantitative data on **benefits** and CBA
- ▶ Highlight existing **financing opportunities** (including EU funds, national/regional financing possibilities) and enhance in particular **private financing** (e.g. PPP, carbon markets, CSR, off-setting and compensation)
- ▶ Disseminate knowledge and tools on relevant EU websites (e.g. The European Climate Adaptation Platform (CLIMATE-ADAPT), DG Clima, DG Env etc.)
- ▶ **Government:** central guiding role as **motivating actor**
- ▶ Provide **guidance** for policy makers on implementation of EbA/EbM (incl. best-practice case studies and information on cost-effectiveness)



Policy implications (Natura 2000 – specific)

- ▶ Exchange **best practices and real-life case studies** coordinated at EU level
- ▶ Strengthen **collaboration between MS** in adaptive Natura 2000 management
- ▶ Ensure that Natura 2000 sites become embedded in the EU **GI network**
- ▶ **Acknowledge healthy ecosystems** and nature (Natura 2000 sites) as one asset for successful climate change management
- ▶ **Review and adapt important EU policies:** EU2020 Biodiversity strategy, Habitats Directive, Adaptation strategy, 7th EAP (further: urban & regional planning, CAP, WFD, transport etc.)



Thank you for listening.

Sandra Naumann

Ecologic Institute, Pfalzburger Str. 43-44, D-10717 Berlin

Tel. +49 (30) 86880-0, Fax +49 (30) 86880-100

sandra.naumann@ecologic.eu

www.ecologic.eu