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The use of ecosystem-based approaches to climate change adaptation and mitigation: Barriers and success factors

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Overview

- ▶ Introduction
- ▶ Methodological steps
- ▶ Barriers to implementation of EbA/EbM at **project level** and ...
- ▶ Success factors to overcome these barriers
- ▶ Barriers to integration of EbA/EbM into **EU policies and national adaptation strategies** and ...
- ▶ Policy recommendations

Study carried out by:

Ecologic Institute and the
Environmental Change Institute

Assessment of the potential of ecosystem-based approaches to climate change adaptation and mitigation in Europe



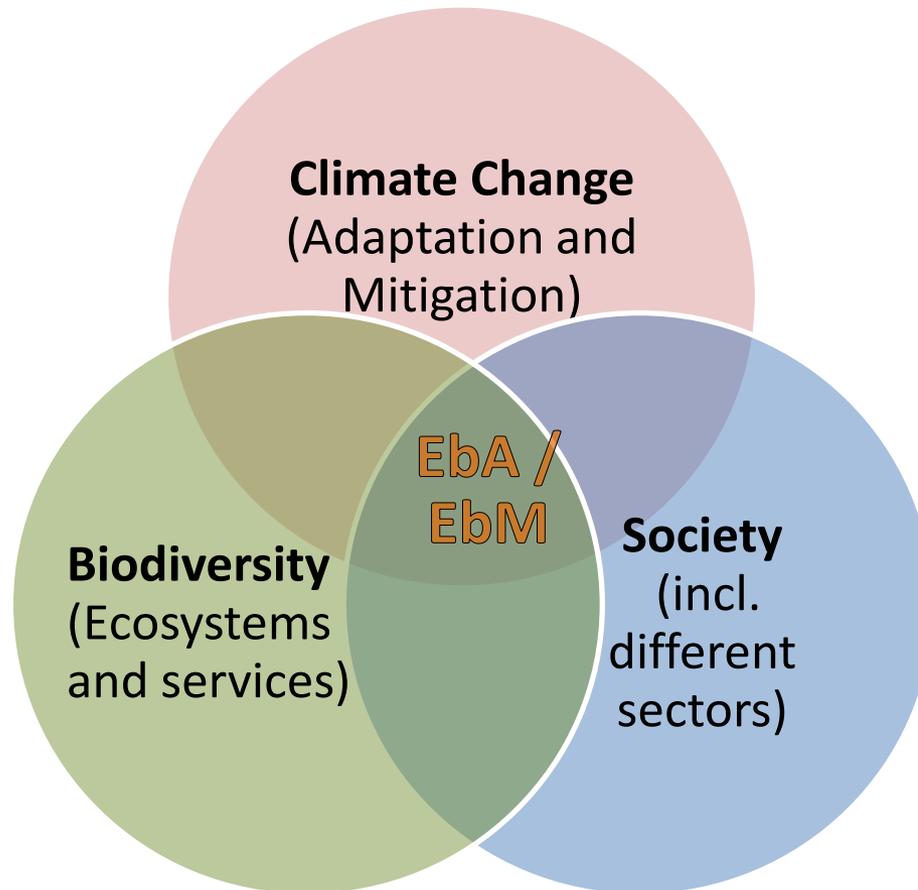


Introduction: EbA and EbM (“working with nature”)

- ▶ 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 addresses the **crucial links between climate change, biodiversity, ecosystem services and sustainable resource management**
- ▶ Issues covered in:
 - ▶ i) **Ecosystem-based Adaptation (EbA)**: maintain and increase resilience, reduce vulnerability of ecosystems and people, help to adapt to climate change impacts through the use of biodiversity and ecosystem services
 - ▶ ii) **Ecosystem-based Mitigation (EbM)**: enhance carbon sequestration, maintain existing carbon stocks, increase carbon storage through the use of ecosystems



Ecosystem-based approaches delivering multiple objectives



→ Panacea for wide range of environmental and other objectives/policies (?)



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
- ▶ **Screening** and assessment of EU strategies/ policies and selected NAS and **interviews with EC officials**

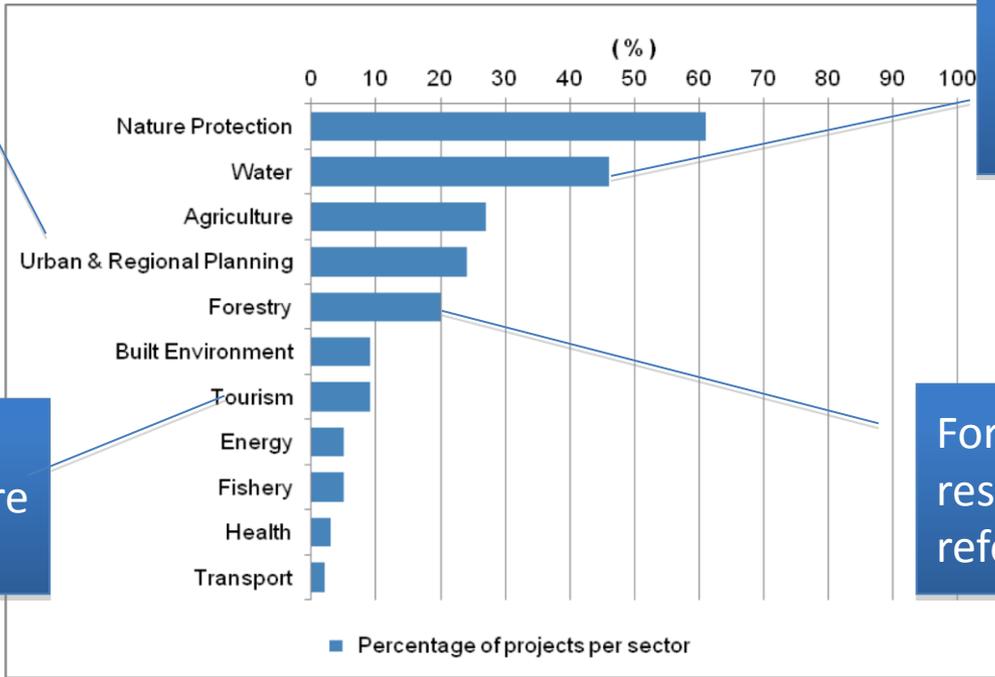




Ecosystem based approaches – addressing various sectors

Increase green and blue infrastructure and spaces (e.g. green roofs, parks, lakes)

River and floodplain renaturation/restoration



Enhance eco-tourism and sustainable nature tourism

Forest conservation, restoration, reforestation



Barrier typology applied

- ▶ **Structural or operational** (organizational challenges)
- ▶ **Capacity** (technical, human or financial)
- ▶ **Contextual** (political landscape and leadership, priorities of the public)
- ▶ **Regulatory and legislative** (policy interaction, integration and influence)
- ▶ **Cultural and behavioural** (habitual practices, relationships, awareness, perception and socio-economic barriers)

(Based on Burch 2010)

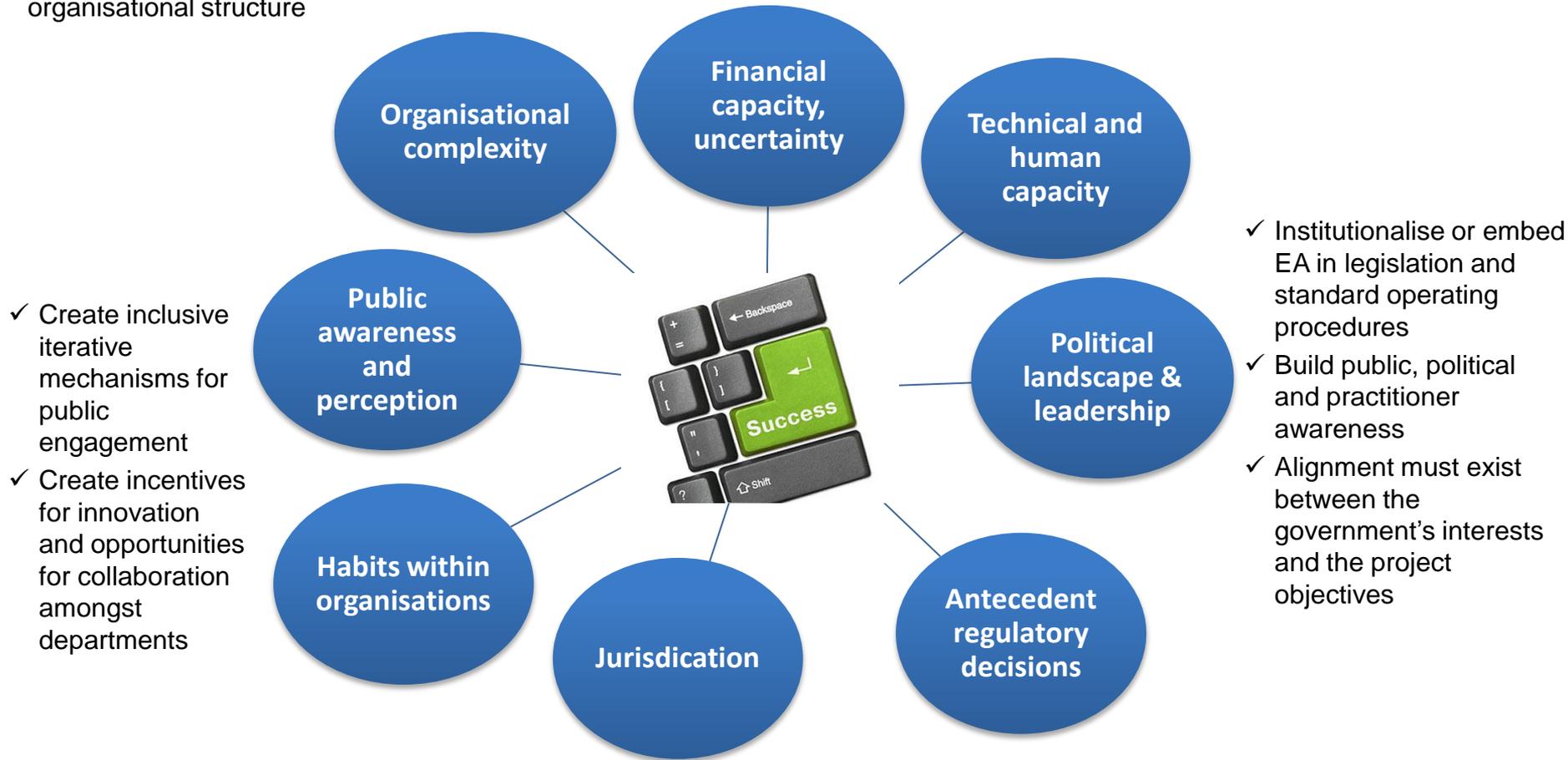


Barriers to implementation at project level

- ▶ Lack of **financial sufficiency** and predictability
- ▶ Lack of **quantitative data** on benefits
- ▶ Limits to **technical expertise**
- ▶ 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

- ✓ Define clearly role and responsibilities of partners
- ✓ Establish suitable project management structures
- ✓ Establish mechanisms for frequent collaboration
- ✓ Embed CC mitigation and adaptation throughout the organisational structure

- ✓ Create early agreement to secure funding
- ✓ Conduct cost-benefit analysis over project lifetime
- ✓ Enhance institutional learning
- ✓ Establish networks to share best practices & lessons learned
- ✓ Selection of experienced staff



- ✓ Strong national mandate for EA matching local capacity building and awareness raising
- ✓ Explore opportunities for enhancing policy consistency and coherence
- ✓ Identify synergies and trade-offs between various policies and their impact on EbA and EbM



Success factor: Stakeholder involvement

- ▶ Involving relevant stakeholders from the inception phase onwards
- ▶ Involving those people who benefit from the habitats, species, and sites (and the services they provide) and those involved in managing them in decisions about project action;
- ▶ Making use of local knowledge, address local needs and seeking a commitment from stakeholders to achieving a shared vision for the relevant area (ownership of the idea);
- ▶ Transferring responsibility for delivery of local targets to the local area;
- ▶ Encouraging collaboration amongst neighbouring land managers to contribute to action for local priorities.

(Based on Christie and Mudge 2009)



Barriers to integration into policies and strategies

- ▶ General lack of **awareness and understanding** of EbA/EbM
- ▶ Lacking understanding 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** (split of competencies 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



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
- ▶ **Government:** central guiding role as **motivating actor**
- ▶ **Central role in supporting** the EU2020 Biodiversity Strategy, the EU Adaptation strategy, 7th EAP and building Green Infrastructure



Policy recommendations

- ▶ **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, linkages and synergies** to different policy sectors
- ▶ 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 recommendations

- ▶ More **research on** quantitative data on **benefits** and CBA
- ▶ Highlight existing **financing opportunities** (including EU funds, national/regional financing possibilities) and explore/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, DG Clima, DG Env etc.)
- ▶ Provide **guidance** for policy makers on implementation of EbA/EbM (incl. best-practice case studies and information on cost-effectiveness)



What can we expect from such a concept?

- ▶ Is the ecosystem-based approach “**too integrated**” for a political environment which is divided in sectors and competencies?
- ▶ How can stakeholders be trained to obtain a more **holistic view** on conservation and environmental protection?
- ▶ How should **financing measures** be designed in order to be attractive for applicants of broad and integrated projects (flexibility, requirements, budgets)?
- ▶ Are there **limits** to the adoption and spread of EbA/EbM



Thank you for listening.

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