

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

Timo Kaphengst
Ecologic Institute

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



Authors: Sandra Naumann, Gerardo Anzaldúa, Holger Gerdes, Ana Frelih-Larsen, McKenna Davis (Ecologic Institute)
Pam Berry, Sarah Burch, Michele Sanders (ECI)

Overview

- ▶ Introduction
- ▶ Methodological steps
- ▶ Results
 - ▶ **Integration of ecosystem-based approaches into EU policies and national adaptation strategies**
 - ▶ **Barriers of Implementation of ecosystem-based approaches at project level**
- ▶ Conclusions and recommendations
- ▶ Some questions to be discussed



Introduction

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 adaptation (EbA)/ ecosystem-based mitigation (EbM)** : 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**

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**

Ecosystem based approaches in adaptation principles

Ecosystem-based action	Adaptation principle	Mitigation principle
	Maintaining and increasing ecological resilience	
Restoration of forests, floodplains wetlands & peatlands	Conserve range and ecological variability of habitats/Establish ecological networks through habitat creation	Increased carbon storage
Alien species management	Take prompt action to control spread of invasive species	
Improve coastal protection infrastructure	Conserve range and ecological variability of habitats	Possible short-term maintenance of carbon stocks
	Accommodating change	
Soft coastal defences	Make space for the natural development of coasts	Could increase carbon storage
Wetland corridor creation to enhance resilience to climate change	Establish ecological networks through habitat creation	Could increase carbon storage
Manage transition from freshwater to brackish lagoon	Make space for the natural development of rivers	Could help maintain carbon stocks



Ecologic Institute

Berlin
Brussels
Vienna
Washington DC



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**”

EU Strategies II

▶ 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 – first findings

- ▶ term “ecosystem-based approaches to climate change” is not even used in the White Paper and Impact Assessment
- ▶ EU level documents show **little specific mention** of ecosystem-based actions (except for Common Fishery Policy and the Marine Strategy FD) although there was recognition that ecosystem-based actions often provide multiple benefits including mitigation

National strategies

- ▶ **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
- ▶ **little mention** of ‘ecosystem-based approaches’ being applied or built into planning processes
- ▶ → currently **hardly any discussion on ecosystem-based approaches** in policy documents in Europe

Barriers of implementation of EbA projects

- ▶ a lack of **financial sufficiency** and **predictability**;
- ▶ 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; and
- ▶ 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

Recommendations

- ▶ **Raise awareness** about ecosystem-based approaches and their multiple functions and benefits for climate change mitigation and adaptation
- ▶ Existing **financing opportunities** (including EU funds, national/regional possibilities and private financing) need to be highlighted
- ▶ Cross-sectoral **integration**
- ▶ Exchange **best practices** coordinated at EU level

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 actors 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)?
- ▶ How can we find the right **balance** between integrated and specific projects to achieve objectives in environmental policies?



Ecologic Institute

Berlin
Brussels
Vienna
Washington DC



Thank you for listening.

Timo Kaphengst

Ecologic Institute, Pfalzburger Str. 43-44, D-10717 Berlin
Tel. +49 (30) 86880-0, Fax +49 (30) 86880-100

timo.kaphengst@ecologic.eu

www.ecologic.eu