Effectiveness of EBA

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Outline

- Introduction
- What is effectiveness?
- CCI Study
- Cost-effectiveness of EBA
- Conclusion

Introduction

- Presumption that EBA is effective:
  - It does what it says on the tin
  - It is better holistically
  - It is better long-term (avoid maladaptation and is 'no regrets)
  - It provides multiple benefits
  - It is cheaper

What is the evidence?

What is effectiveness in adaptation?

- Many characterisations of what is successful adaptation.

- Useful characterisation arrived at by expert opinion:

"any adjustment that reduces the risks associated with climate change, or vulnerability to climate change impacts, to a predetermined level, without compromising economic, social and environmental sustainability"

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Systematic review to assess the evidence of effectiveness of EBA

- Workshop in July 2011
- Framework to assess evidence
- Review
  - What evidence exists regarding the ability of ecosystem-based approaches for adaptation to help people adapt to the impacts of climate change?
  - What are the critical knowledge gaps in the evidence?

Not aiming to determine whether EBA effective or not but report extent and description of evidence.

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Evidence of Effectiveness

Assessment Framework

A. Basic Information

Exposure: Climate hazard & impact
Target: Sector
Approach: Ecosystem, intervention(s), options
Location: Region, ecosystem

B. Description Evidence

Type of study: Methods, data
Areas addressed: Environmental, social, economic; trade-offs; institution

C. Detail

Measure of Effectiveness: Result, timescale, threshold
Costs and Benefits: Environmental, social, economic, and their distribution.

D. Practical

Assessments: Vulnerability, EIA, SIA, Alternatives
Stakeholder involvement
Adaptive management
M&E
Sustainability
Policy

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Measures

Measures = indicators used to assess success of intervention

Clarity and measurability of the measures

Environmental, social and economic measures used

Types of measures:

Physical parameters: Water flow, sediment volume, etc.

Reporting: Crop failure/productivity, improved livelihoods

Multi-criteria scoring: sum of several variables

Cost-benefit analyses: Net benefit in USD

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Outcome of measures

53% peer-review studies had all positive results and 11% with mixed results (some positive)

	Positive	Negative	Ambiguous	Not reported
Measures	63%	6 %	26%	6%

Discussed	Threshold	Time scale
No	44 %	66%
Yes	56%	34%
Theory	40%	
Specifics	51%	
Detail	9%	

Thresholds:
= **diverse**

Examples:
- Gully size contributing to probability of slope stabilisation after reforestation.
- In agroforestry, % shade cover and evapotranspiration of coffee .
- Control over water table dependant on topography.

Timescale:
- Function through time (over the year and over the years)
- Start time of function

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Costs and Benefits

Social, environmental and economic costs and benefits of adaptation = important to inform effectiveness

Adaptation costs:

'Costs of planning, preparing for, facilitation, and implementing adaptation measures, including transaction costs'

Adaptation benefits:

'the avoided damage costs or the accrued benefits following the adoption and implementation of adaptation measures'

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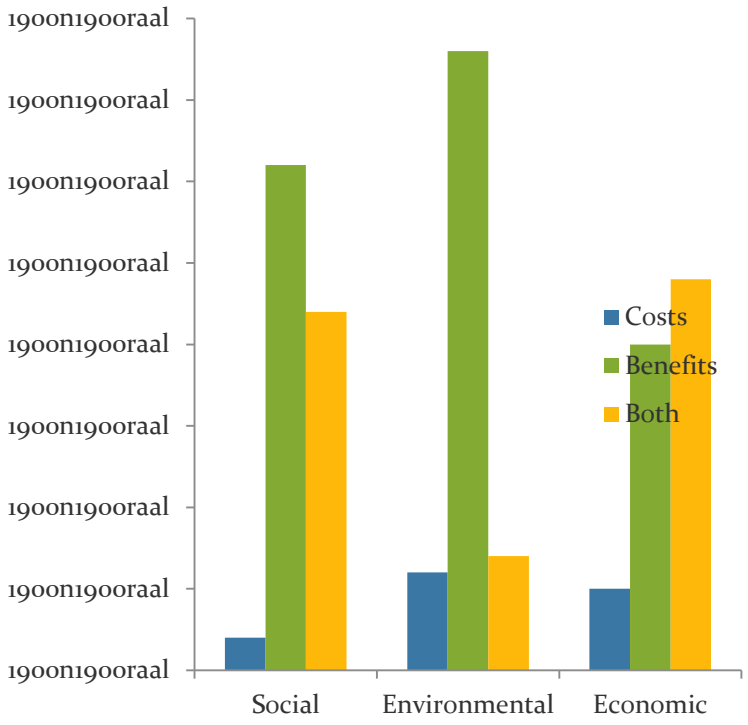
Costs and Benefits



Common social, environmental and economic costs and benefits of ecosystem-based approaches for adaptation reported in literature.

	Social	Environmental	Economic
Benefits	Better livelihoods; Recreation areas; Social cohesion; Empowerment; Better quality land for food/cattle; Better water security; Protection from damage and loss;	Biodiversity conservation; Carbon sequestration; Reduced degradation; Habitat creation and restoration; Mitigation of micro-climatic variability;	Damage costs prevented; New or improved income; Profits; Savings compared to alternatives; Income from subsidies;
Costs	Loss of land that could be used for other pursuits; Effort required for the initiation and maintenance of EbA; Knowledge intensive;	Loss of habitat for certain species; Invasive species; Increasing pressure on natural resources;	Costs for set up and maintenance; Opportunity costs;

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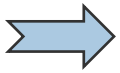
Cost and benefits

Discussed	Equity %	Timing %	Distribution %	Alternatives %
No	54	65	69	43
Yes	46	35	31	57

Assessment of costs and benefits only in a few studies:
Valuation studies

Cost-benefit analysis
Multi-criteria Analysis



Net positive benefit in terms of costs

Cost-Effectiveness Analysis
"Benefit-effectiveness Analysis"

Effectiveness and Cost

Takes into account social, environmental and economic!

CBA, CEA, MCA, combination

Turn into a common denominator - $

Difficulties and challenges:

- Uncertainties
- Valuation
- Equity

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"Cost effectiveness" of EBA

What do the studies say?

1) Valuation studies and benefit assessment studies -> ++

2) Cost-benefit studies -> +

- Depends what is taken into account
- Not many comparing EBA versus not EBA
- + but not universally

3) MCA/other measures -> +

- Depends on criteria
- Cost taken into account
- + but not universally

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Conclusions

- Difficult to fully assess cost-effectiveness of EBA
- Literature demonstrates that value of benefits is high
- Not enough assessment of costs
- Not enough comparisons of methods
- Inadequacies with the methods
- Coverage of issues (equity, etc.)
- Need a holistic assessment where cost is one item

(Cost) effectiveness in the Mountain EBA project

- Do we assess cost-effectiveness?
- Think about objectives and methods

  Methods are a tool not an end in themselves

Filling knowledge gaps
-fully assessing costs and benefits including issues
- compare options

Thoughts & discussion

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