Nature-Based Solutions for Climate Change Adaptation

Katrin Heeren

17th December 2015 12:30 – 14:00 Lunchtime Conference

EuropeAid - External Cooperation InfoPoint

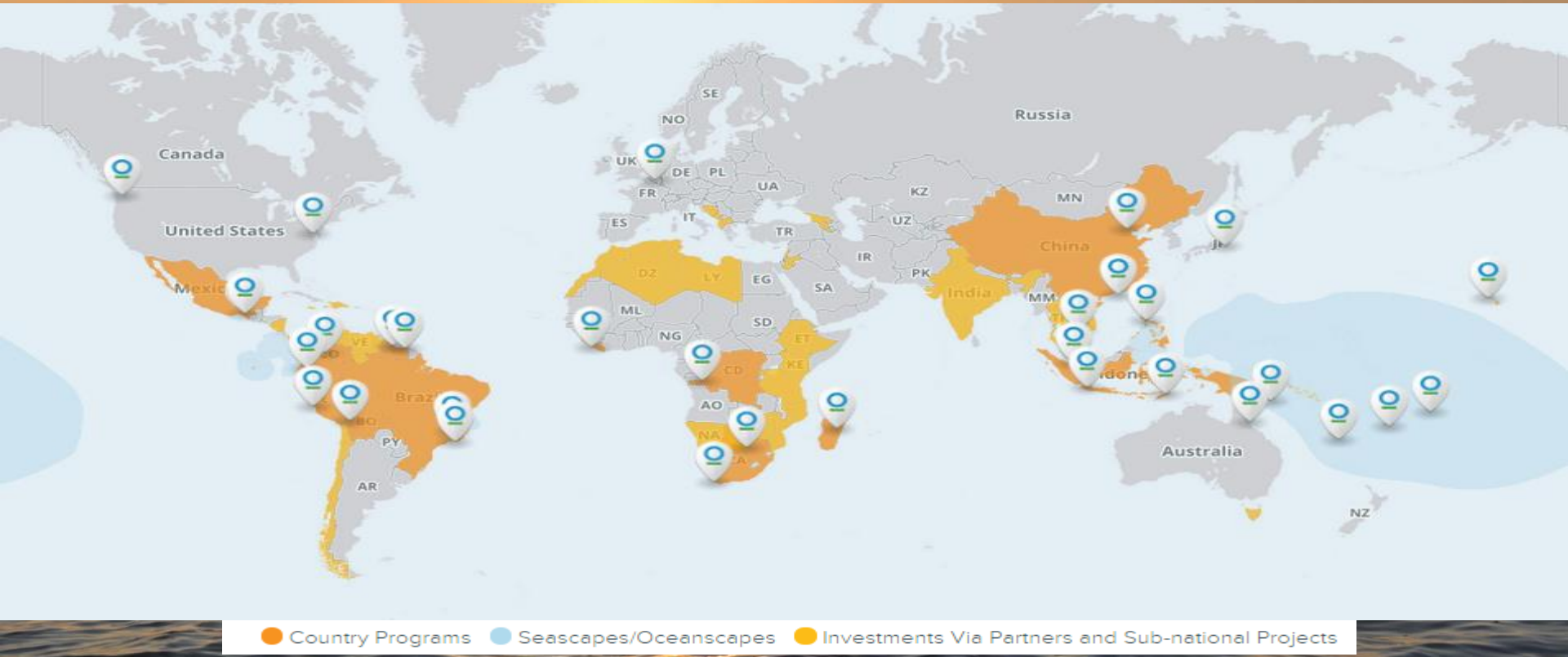
Let Nature speak:

CONSERVATION INTERNATIONAL

Her voice is important for Humankind's Survival

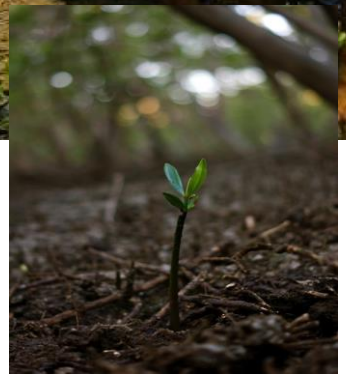
Nature‘s Role in Adaptation: From science to practice and policy

Where CI works: country programs + seascapes + investments



EbA around the world

Mangrove replantation in Costa Rica



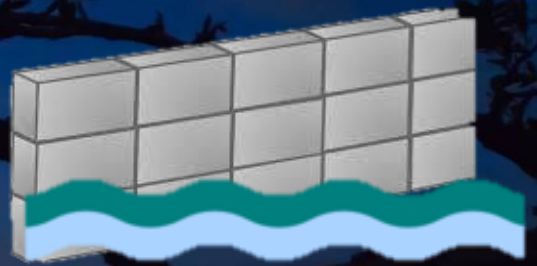
CONSERVACIÓN INTERNACIONAL Costa Rica

CATIE Solutions for environment and development Soluciones para el ambiente y desarrollo

Mangrove rehabilitation + management in the Philippines


Economic Study Philippines:
Case Study of Silonay, Calapan City in Oriental Mindoro
4 economic analysis
for
4 adaptation scenarios

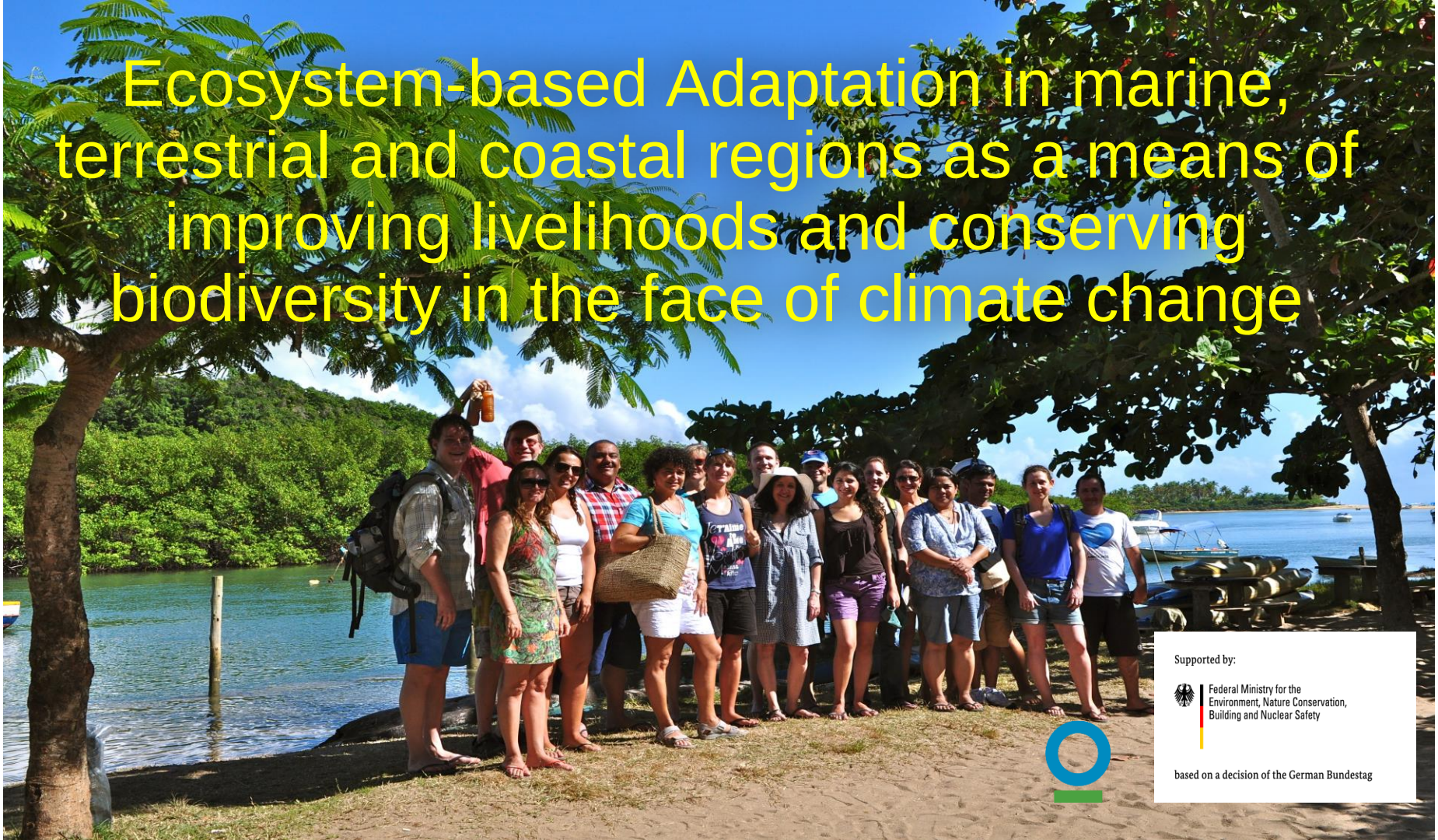
Results from this case study

	Protecting Existing Mangroves	Building a seawall
		
Least Cost / USD:	**14,887**	**264,474**
Benefit/Cost:	**69%**	**1%**

Total Economic Value (TEV)

Mangroves: US$ 174, 000 each year

Ecosystem-based Adaptation in marine, terrestrial and coastal regions as a means of improving livelihoods and conserving biodiversity in the face of climate change



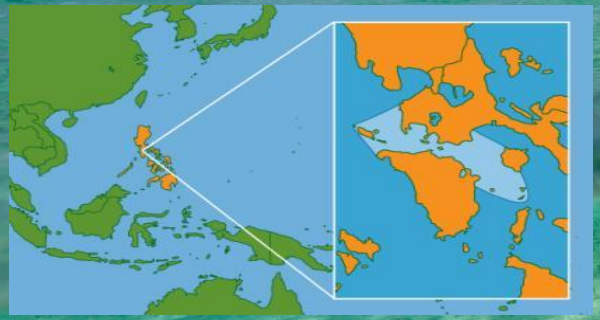
Supported by:

Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety

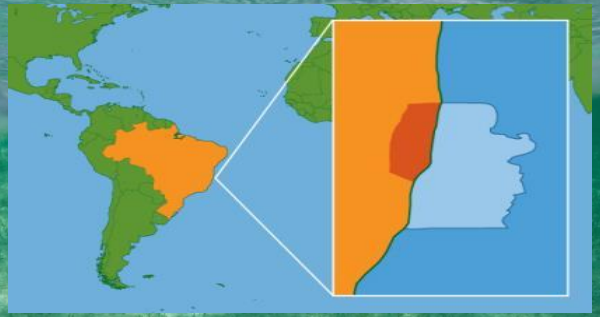
based on a decision of the German Bundestag

Project sites

Philippines (Verde Island Passage)



Brazil (Discovery Coast)



South Africa (Namakwa District)

Brazil: Costs Coral reef protection v. sea walls

	Adaptation options	Costs using different discount rates (in millions of US dollars)				
		0%	1.4%	3%	8%	12%
EbA	Coral protection	7.6	6.09	4.87	2.85	2.14
Conventional solution	Sea wall	20.1	18.7	17.64	45.98	14.48
	Sea wall (10yrs delay)	18.75	15.79	13.1	7.69	5.2

South Africa: Economic Analysis

EbA- wetland rehabilitation	Discount rate		
Costs (in millions – US$)	3%	5%	8%
Lower bound (removing alien vegetation only)	0.5	0.49	0.46
Upper bound (all measures required)	11.84	11.28	10.57

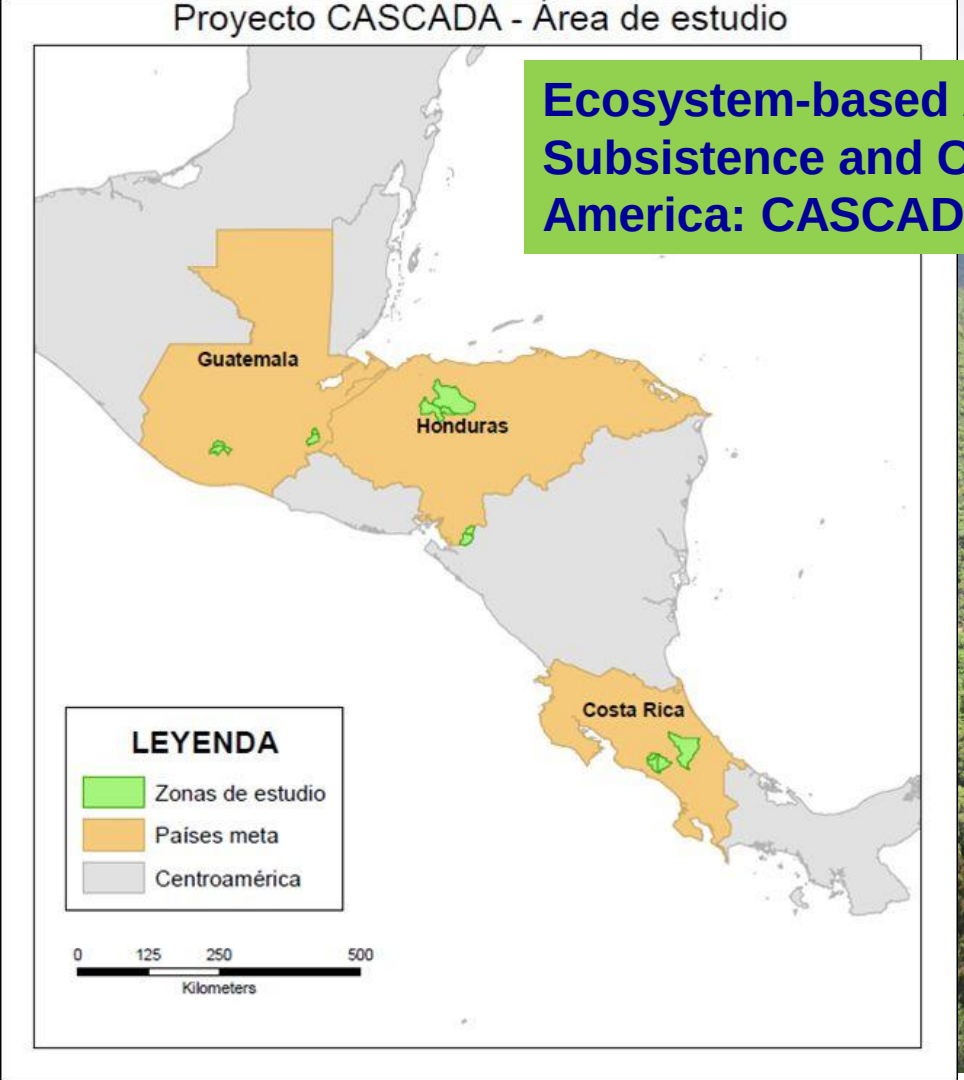
Conventional- suppl. feed for livestock + drilling boreholes	Discount rate		
Costs (in millions – US$)	3%	5%	8%
Lower bound (depending on timing and extent)	0.21	0.16	0.11
Upper bound (depending on timing and extent)	0.4	0.3	0.21

First Take Away Messages

1. Existing economic models are inadequate for robustly assessing the costs and benefits of adaptation, particularly for EbA

2. EbA may be the cheapest option

3. Where people are highly dependent on ecosystems and natural resources, EbA may represent the optimal adaptation solution



Ecosystem-based Adaptation for Smallholder Subsistence and Coffee Farming Communities in Central America: CASCADE

Countries: Costa Rica, Guatemala and Honduras

Landscapes dominated by smallholder coffee and maize / bean production

First step: survey with 890 farmers


PLASTICO
ALUMINIO

Impact (to date)

- 3 national policy workshops
- 5 expert meetings with scientists
- 6 workshops with smallholder farmers

- 5 scientific articles
- 1 infographic
- Special edition journal Climatic Change (with 12 papers) underway

- 5 policy briefs on EbA for smallholder farmers, widely disseminated

- Participated in 3 training events, NAMA Café (Costa Rica)
- Training materials: EbA for smallholder farmers
- Planned training of >150 agronomists/technicians
- Support for 9 institutions to replicate trainings farmers

Additional Take Away Message

EbA is essential to achieving the Sustainable Development Goals (SDGs):

- ✓Many SDGs - linked to health and biological diversity of ecosystems / agro-ecosystems
- ✓Many disadvantaged sectors of the society that are targets of the SDGs: highly dependent on ecosystems to support people's lives

EbA Science

EbA Policy engagement

EbA Field Projects

EbA & Mitigation Cost-benefit analysis

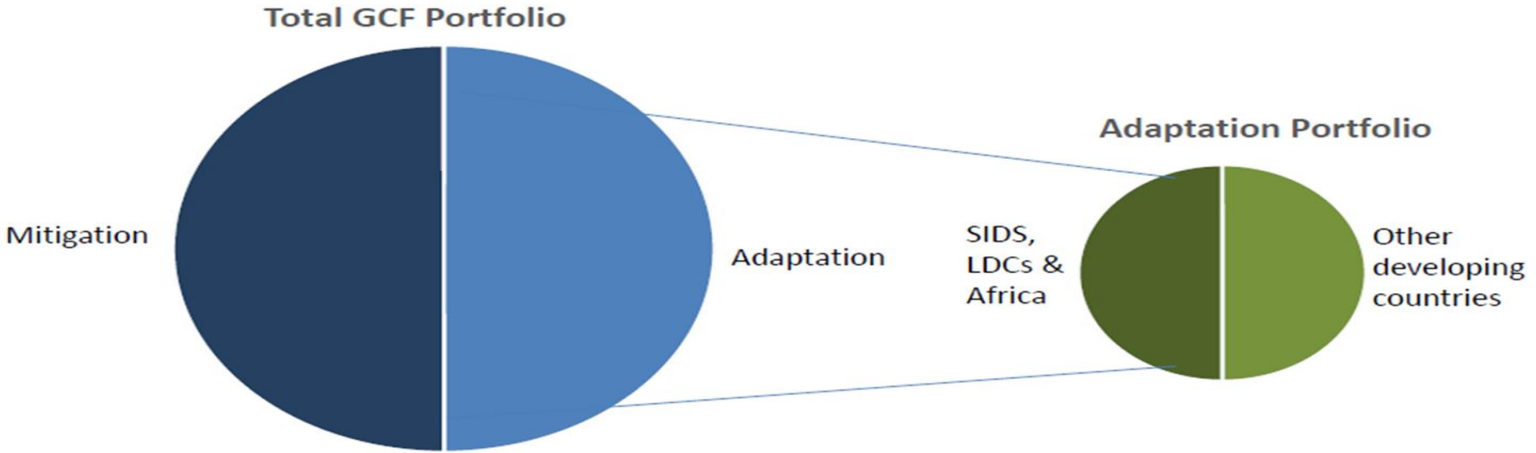
Outreach & Exchange

Finance challenge

Link to Development, SDGs, Mitigation

Stakeholder participation

CI: GCF Implementing Agency



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CI's Expertise

the role of natural capital in adaptation


Buildings


Disaster Reduction


Coastal Defense


Urban Infrastructure


Capacity Building

nature-based solutions


Fisheries


Conservation


Green Infrastructure


Agriculture

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thank you