Seminars on nature conservation in German development cooperation

Ecosystem-based Adaptation: Opportunities in policy and practice

-Documentation-

5th – 10th of August 2019

at the International Academy for Nature Conservation

Isle of Vilm, Germany

Insel Vilm
INTERNATIONAL ACADEMY FOR NATURE CONSERVATION

organized by
the German Federal Agency for Nature Conservation (BfN)
and
GIZ GmbH (Deutsche Gesellschaft für Internationale Zusammenarbeit)
and
KfW - German Development Bank

BfN Bundesamt für Naturschutz

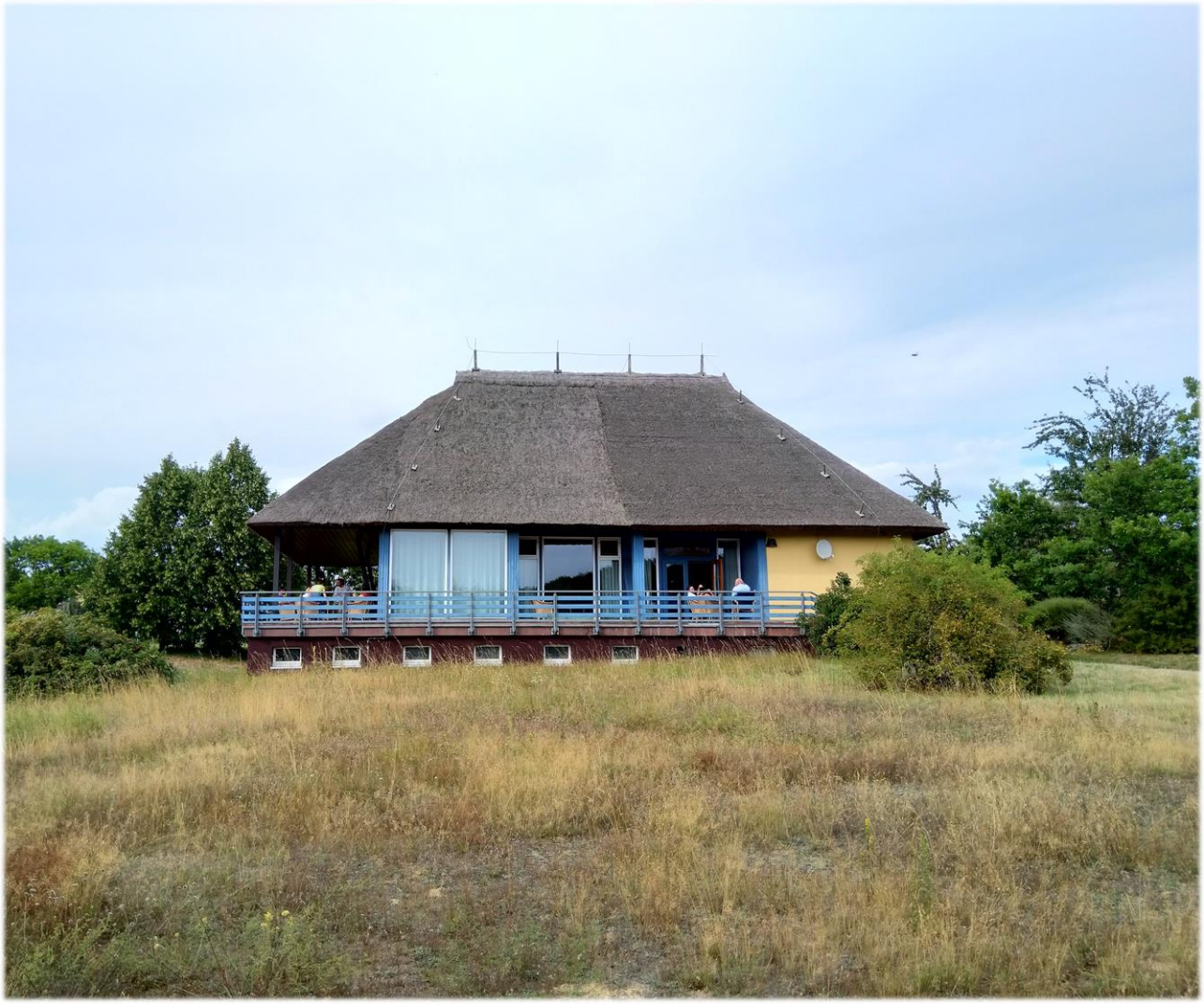
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

KFW

BMU On behalf of Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

Overall learning goal

The seminar ‘Ecosystem-based Adaptation: Opportunities in policy and practice’ provided participants with a space to explore, exchange and build networks on opportunities and processes for mainstreaming Ecosystem-based Adaptation (EbA) to allow for more targeted and needs-oriented international cooperation.



Session 1 – Opening
(Tuesday, 6th of August 2019)

What is the Global Project (GP) EbA?

The global project supports key actors on international and national level in the systematic integration of EbA into strategies, planning, implementation and decision-making processes through:

1. Development and workup of **concepts, methods and instruments** for mainstreaming;
2. Technical inputs in the context of **UN negotiation processes** (UNFCCC and CBD);
3. Knowledge exchange, EbA policy advice and sharing of implementation experiences within the framework of **international expert networks**;
4. Advice of selected **political processes in the IKI partner countries**

Results – concepts & examples

Main knowledge products and exchange formats of the global project include the following:

- **International EbA Community of Practice (CoP).** The GIZ Global Project EbA founded the international EbA Community of Practice in 2015. It is a knowledge and expert network **exchanging and advancing EbA knowledge beyond projects, institutions and regional boundaries**. Members are primarily from national governments, international organizations, civil society and research institutions. Annually, a workshop is held to facilitate the exchange among the CoP members. The CoP has led to concrete South-South cooperation between partner countries and thematic working groups on knowledge products and publications. All products of the GP EbA are based on exchange with the CoP.
- **Framework for EbA Qualification and Quality Criteria** (IUCN, IIED) in cooperation with the IKI-supported Friends of EbA (FEBA) as **Technical Paper** (in Spanish and French) and as a **poster** (in Spanish) with 3 EbA elements, 5 qualification criteria and 20 quality standards.
- **Platform PANORAMA Solutions** with **126 examples of EbA (solutions)** from **more than 43 countries** and **over 15 different ecosystems from Mountains to Oceans.**
- **Training materials for capacity building courses for decision-makers, planners and practitioners** on EbA mainstreaming and valuation.
- Studies prepared by GIZ in cooperation with partners:
    - **Climate Risk Assessment** for EbA (with EURAC/UNU)
    - **Guidelines (Sourcebook) for Valuing the Benefits, Costs and Impacts of EbA Measures** (with ECO Consult)
    - **Entry Point Analysis** for EbA (with AMBERO)
    - **Finance Options and Instruments** for EbA through public and private approaches (with ClimateFocus and IISD)
    - **Voluntary guidelines for the design and effective implementation of ecosystem-based approaches to climate change adaptation and disaster risk reduction and supplementary information** (prepared by CBD, with support of GIZ)
    - **Governance for EbA** (with Thora Amend)
    - **4 Learning Briefs** about EbA experiences from the Community of Practice
    - **Monitoring and Evaluation** Guidebook for EbA Interventions (in preparation)
    - **EbA and Climate Risk Insurance** (in preparation)
    - **EbA and Integrated Water Resource Management** (in preparation)

Further information can be found in a **publication list** as well as on **AdaptationCommunity.net** and the respective **Twitter Account Adapt_Community**. The platform was developed for the interested public and adaptation experts, providing information on approaches, methods and tools that facilitate the planning and implementation of adaptation action.

Key findings

- ✓ EbA builds the bridge between climate change and biodiversity as themes and in conventions.
- ✓ There exists a great need to find solutions to climate change that are affordable and accepted by society. EbA can deliver on that.

Session 2 – EbA in context
(Tuesday, 6th of August 2019)

Generating a common understanding of EbA

"**Ecosystem-based Adaptation (EbA)** is the
... use of **biodiversity and ecosystem services**
... as part of an **overall adaptation strategy**
... to **help *people* to adapt to the adverse effects of climate change**."

EbA uses the **sustainable management, conservation, and restoration of ecosystems** to provide services that enable people to adapt to the impacts of climate change (CBD, 2009).
Ecosystems and climate change adaptation have a twofold link. While climate change and other anthropogenic pressures are **putting** ecosystems and ecosystem services **at risk**, ecosystem services can simultaneously contribute **to reducing people's vulnerability** to climate change.

Ecosystem-based Adaptation can be defined as a nature-based solution that links **traditional biodiversity and ecosystem conservation approaches** with sustainable socio-economic development. EbA is a **people-centric** approach, but one that acknowledges that human resilience depends critically on the integrity of ecosystems (further information can be found here).

Key findings

- ✓ Climate change is a crosscutting issue affecting sustainable development. If we do not maintain our biosphere, we cannot achieve our targets for sustainable societies and economies.
- ✓ The basis for EbA is to conceptualize humans as part of ecosystems.
- ✓ Certain ecosystem services are particularly important in the context of EbA; these are often forms of regulating and provisioning services (hydrological regulation by forests, temperature and climate regulation by parks in cities, food provisioning).
- ✓ EbA as an approach is not entirely new and closely linked with other approaches. Often, we are already doing EbA without naming it as such, and wording might not always be most important.
- ✓ One major distinguishing feature of EbA, however, is the usage of climate change information and projections for the planning of measures.

- ✓ EbA is a cross-sectoral approach. We thus need to integrate it into other sectors, policies and regulations.
- ✓ There can be a conflict between adaptation objectives and biodiversity conservation objectives in project design and implementation. In this case, EbA favors the adaptation part.
- ✓ In EbA, we should distinguish more between restoration (recreation of natural state) and rehabilitation (reparation of processes, services, and productivity) of ecosystems.
- ✓ It is important to connect climate change issues more with issues of global change: Many impacts on ecosystems and people deal with and equally stem from human behavior, and connecting impacts on the ground with changing climatic conditions often remains complex and insufficiently tangible for local communities.

EbA in the international political landscape

Since 2008, the term EbA has been increasingly incorporated into international policies, for example within the CBD (see also Convention on Biological Diversity Strategic Plan 2011-2020), the SDGs (e.g. Goal 13, 14 and 15), the Paris Agreement under Art. 7 on Adaptation and UNFCCC's Nationally Determined Contributions (NDCs). Currently, 15% of 162 NDCs with adaptation connection refer explicitly to EbA and an additional 66% of the NDCs refer to ecosystem-oriented measures (Nature-based Solutions Policy Platform).

Key findings

- ✓ EbA is a funding priority under the adaptation funding area of BMU IKI.
- ✓ There were 1st generation EbA projects to pilot and test EbA (focus on effectiveness, evidence as well as methods, tools and concepts), later (from 2014 onwards), there was a shift to 2nd generation projects on mainstreaming and upscaling of EbA.
- ✓ There exists a huge difference between funding for adaptation (22 billion USD in 2015) and mitigation (436 billion USD in 2015). 50% of adaptation funds come from government budgets, nearly 50% from development finance. Only a very small fraction stems from private sector investments. These need to be strengthened, to leverage private sector adaptation investments.
- ✓ International outlook: The idea behind EbA – using nature to help people to adapt to climate change – will stay around even though the terminology might change. EbA will thus remain an important topic for BMU-IKI, and the upward trend in EbA funding will continue.
- ✓ 44 IKI projects are strictly EbA projects, but many more under the IKI have EbA elements (e.g. mitigation & biodiversity projects), showing the inter- and cross-sectoral character of EbA.
- ✓ Good EbA projects should be implemented not only in one region, but should address the needs of many people, possibly engage the private sector and contain elements for upscaling.
- ✓ ZUG wants to be in close touch with IKI projects to understand concerns and lessons learnt.

Understanding the strategic importance of EbA and future trends

Key findings on future trends (from a panel discussion)

Funding perspective:

- ✓ IKI wants to fund 'front runners' and innovative approaches that scale up and out: These go beyond piloting and reach 200.000 people instead of a small community.
- ✓ But there is a challenge to 'try out EbA' in new sectors. Knowledge exchange on what worked is crucial.

Country perspective:

- ✓ EbA scaling up is happening now, as many tools are already developed and available.

- ✓ Leveraging funding from the private sector is crucial for ensuring sustainability.
- ✓ Hybrid grey green solutions are often more feasible and convincing to decision-makers.
- ✓ It is important to take a broader view, e.g. landscape view and multi-sectoral view, looking into agriculture, forestry, fisheries. It is crucial to get new allies - we have to work with offices of prime ministers, ministries of finance and planning.

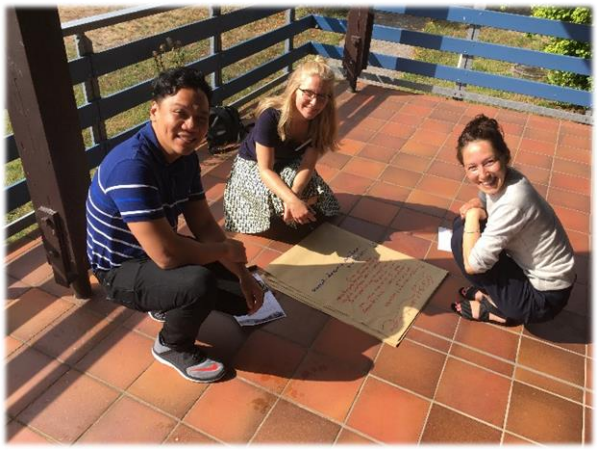
Project developer perspective:

- ✓ There is often a lack of climate change adaptation issues within project concepts. Adaptation initiatives need to demonstrate the added value they bring (e.g. risk reduction).
- ✓ EbA is often 'hidden' within adaptation and conservation projects, but not explicitly mentioned. The appraisal stage is crucial to integrate EbA. However, the willingness to integrate new topics is generally very low.
- ✓ Private sector involvement as a partner can be very promising e.g. for planning, implementation and financing but should be seen as an 'add on' and context specific.

Session 3 – Entry Points for Mainstreaming EbA
(Tuesday, 6th of August 2019)

What do 'entry points' in the context of EbA mean?

A key aspect of mainstreaming is finding appropriate entry points for integrating EbA into concrete but also often complex policy and planning frameworks and decision-making processes. Entry points are windows of opportunity – e.g. situations or processes – that help gain the interest of policymakers, stakeholders or the broader public for integrating the topic into ongoing national and subnational processes and harnessing synergies with other approaches. They may occur at all levels of governance. They normally relate to problem awareness, political will and concrete policies/solutions to overcome the problem. They also include situations or procedures that help gain the interest of policymakers, key stakeholders or the broader public for a crosscutting topic like EbA. In general, potential entry points are governance processes that can for instance include the development, revision and/or strengthening of policy instruments and institutions.



The Global Project has implemented pilot projects in South Africa, the Philippines, Peru (also in Spanish), and Mexico (also in Spanish) to explore entry points for mainstreaming EbA. Promising concrete entry points include the national adaptation plan (NAP) process, synergies between United Nations conventions (e.g. UNFCCC and the CBD) and the creation of strong links between national and subnational policies for effective implementation. Concrete examples from Brazil and South Africa show that entry points for mainstreaming are, in practice, very diverse and are context-specific situations that require clear political will, institutional leadership, and extensive but essential multi-stakeholder dialogues and consultations at national and subnational level.

Mainstreaming also needs to take place in regards to sectors outside of the 'green bubble' such as agriculture, infrastructure or spatial planning. The CBD Sector Briefs on integrating EbA into other sectors provide information on such entry points.

Key findings (from an interview session)

- ✓ Pure evidence on EbA benefits is not sufficient – we need to identify core players and potential champions such as strong local leaders for effective mainstreaming.
- ✓ Strategic thinking and considering timing are necessary to identify windows of opportunity.
- ✓ Capacity development at different hierarchy- and intersectoral levels is core for EbA mainstreaming.
- ✓ Not only scientific climate information but also local knowledge, strong partnerships and well-functioning governance systems are very helpful to make the case for EbA beyond a specific sector.
- ✓ Windows of opportunity can arise on national and subnational level; if a window of opportunity closes on national level, entry points might still be available on local scale.
- ✓ In Peru, a unique entry point opened through the creation of a strong alliance between the Ministry of Environment and the Ministry of Economics and Finance; both had an interest in climate change adaptation and the mainstreaming of natural infrastructure.
- ✓ Crises and emergency situations can also function as entry points: In the case of Peru, a window of opportunity opened following a flooding that occurred after a period of water scarcity.
- ✓ Working with blueprints is not an option for EbA, as you have to thoroughly assess vulnerabilities, socio-economic settings, legal frameworks etc..
- ✓ Identified barriers for EbA mainstreaming can be: Communicating EbA in a non-target group-specific language; challenges in governance such as unclear roles, mandates, overlaps and contradictions; corruption.

Session 4 – EbA Governance
(Tuesday, 6th of August 2019)

What is meant by governance in the context of EbA?

'*Governance for EbA* refers to norms, institutions and processes that determine how a society exercises power, distributes responsibilities and makes decisions to protect, sustainably manage and restore ecosystems, as part of an overall strategy to adjust to actual and expected climate and its effects' (IUCN Environmental Law Center, 2019).

Governance is not synonymous to government. It involves many different actors within the state, the private sector and civil society. It describes how governments and other social organizations interact, how they relate to citizens, and how decisions are taken in a complex world. It is a process whereby societies or organizations make their decisions, determine whom they involve in the process and how they render account. It is thus also important to distinguish between management ('what do we do?') and governance ('who decides what we do, and how do we do it?'). Governance can also be differentiated by quality of governance: equitable governance (accountability, legitimacy and voice) and effective governance (performance). When discussing governance, it is furthermore important to distinguish between rights holders (holding legal or customary rights in a certain context) and stakeholders (having interest in the given context).

A publication on Governance for EbA by the BMU-IKI-funded GIZ GP Mainstreaming EbA provides decision-makers and practitioners with key background information on concepts and quality aspects of governance for EbA.

Session 5 – Valuing and financing EbA
(Wednesday, 7th of August 2019)

Valuing the benefits, costs and impacts of EbA

EbA valuation (Sourcebook also available in Spanish) is the process of describing, measuring and analyzing how the benefits, costs and impacts arising from the implementation of ecosystem-based approaches to adaptation are generated, received and perceived. While the term valuation is variously understood, there is consensus that it should be used to refer to a process of expressing and communicating information about the multiple values of EbA measures. There are three basic elements of EbA value: benefits, costs and impacts. Benefits are the advantages or positive effects of measures; costs are the resources required to deliver them, and the disadvantages or negative effects caused by them; and impacts are the effects or changes in situations or circumstances that arise because of EbA measures.

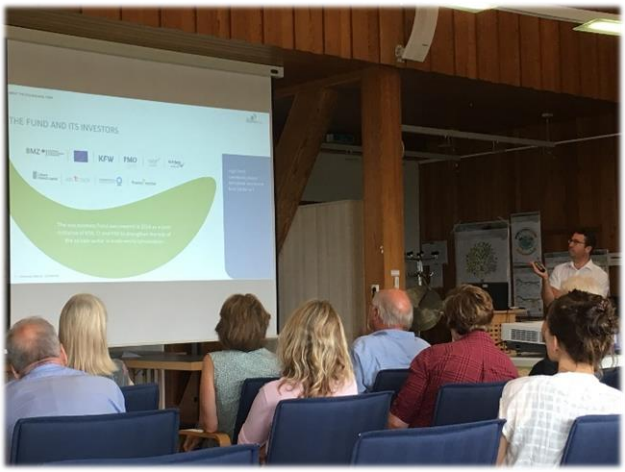
EbA valuation does not only refer to monetary measurements, but also to the assessment of biophysical effects, economic and livelihood impacts, social and institutional outcomes and even changes in people's knowledge, attitudes and practices.
Valuation can provide powerful – and much-needed – arguments for investing in Ecosystem-based Adaptation.

Key findings

- ✓ We need EbA valuation to show the effectiveness and limitations of EbA and thus to provide arguments for decision-makers and communities about its benefits; to identify and rank/prioritize adaptation measures; to assess the sustainability of EbA measures; to attract investment; to identify the levels and dimension on which EbA can generate the biggest impact.
- ✓ When conducting an EbA valuation, you need to include information on climate projections; economics; on what makes the activity a low-regret measure; co-benefits; alternative measures; sector-specific/relevant information; timeframes for EbA effectiveness and the human dimension of valuing ecosystem services.
- ✓ Valuations only make sense if the results they produce convince decision-makers to integrate them into adaptation planning – a criterion to keep in mind when considering a valuation study.
- ✓ A valuation scope depends on the target group and needs to be more elaborated and very specific when a project or concrete measure is planned and implemented: EbA valuation needs to fit the purpose, and the results of a valuation study are very context specific.
- ✓ Valuation of ecosystem services often also depends on the cultural context they are being valued in.
- ✓ For EbA to be convincing, it is important to make it comparable to grey adaptation options. Even though EbA valuation requires additional parameters to be measured, comparability of core parameters to those of other adaptation options is key, as hybrid solutions are often preferred by decision-makers. In turn, this also means that (the lack of) co-benefits should be considered in other adaptation options.
- ✓ Political decision-making is often not rational or necessarily based on facts and figures. Political pressure can work without detailed valuation.
- ✓ Comparative valuation of EbA options with other measures is not yet included in Environmental Impact Assessment (EIA) standards in many countries. The integration of EbA elements within EIA could offer a big opportunity.
- ✓ Targeted communication and capacity building of project partners is key to communicate valuation results and should be part of the overall project design.

Financing EbA

"Climate finance refers to local, national or transnational financing, which may be drawn from public, private and alternative sources of financing. Climate finance is critical to addressing climate change because large-scale investments are required to significantly reduce emissions, notably in sectors that emit large quantities of greenhouse gases. Climate finance is equally important for adaptation, for which significant financial resources will be similarly required to allow countries to adapt to the adverse effects and reduce the impacts of climate change" (adapted from UNFCCC 2019).



Financing options for EbA differ in the planning and implementation phase and might be covered by domestic and international as well as public and private sources. Public sources such as national funds strengthen institutions and ensure consistency but are generally not sufficient to cover financial needs. Further private sector engagement in concrete EbA implementation and upscaling are key and require involvement from the very beginning.
Learn more about experiences from practitioners here.

Key findings

Introduction

- ✓ It is useful to tap into the full toolbox of international, domestic, public and private funding as well as to blend these to deliver more sustainable EbA solutions.
- ✓ Conversion of existing funding, e.g. Disaster Risk Reduction, towards EbA is crucial.

Eco.business Fund

- ✓ The Eco.business Fund was established in 2014 as a joint initiative of KfW, Conservation Interantional and Finance in Motion to strengthen the role of the private sector in biodiversity conservation.
- ✓ It aims to promote business and consumption practices that contribute to biodiversity conservation and the sustainable use of natural resources, and to mitigate climate change and adapt to its impacts, initially in Latin America and the Caribbean.
- ✓ Investment sectors are agriculture, fisheries, forestry and eco-tourism.
- ✓ In order to get private funding in, using the debt funding approach was key, as it comes with lower risks and higher income for the investors.
- ✓ In 2018, 18 partner institutions from 9 countries had invested 277 million USD into the fund.
- ✓ The target group of the Eco.business Fund are small and medium-sized enterprises that can approach local partner banks for funding or receive direct investments.

Caribbean Biodiversity Fund

- ✓ The Caribbean Biodiversity Fund is an endowment fund with potentially eternal investment.
- ✓ Its three donors are KFW, World Bank and The Nature Conservancy.
- ✓ In 2016, KfW on behalf of BMU awarded a 26.5 million USD grant to establish a 5-year EbA Facility sinking fund.
- ✓ The EbA Facility awards grants to support a wide range of actions across the Caribbean.

- ✓ As many pilots already exist, focus lies hereby on upscaling.
- ✓ The Facility is governed through a committee that provides technical oversight; approves all documents related to calls for proposals; performs technical evaluations; takes decision on grants to be awarded and recommends the EbA Facility's annual work plan.

Blue Action Fund

- ✓ There is a GCF funding stream being developed under the Blue Action Fund (BAF) exclusively focused on marine EbA.
- ✓ The vision of the BAF so far focused on marine protected areas; EbA as an approach was not explicitly addressed within the original fund. This new funding stream under GCF will have a clear adaptation focus and will allow to support implementation of marine EbA projects.
- ✓ Outputs of the funded projects are marine conservation, rehabilitation and knowledge exchange as well as capacity building.
- ✓ The project selection is a competitive procedure supported by IUCN as technical advisor.
- ✓ The EbA stream in the Blue Action Fund will be opened with a volume of 30 million Euro.
- ✓ An annual format for exchange on lessons learnt was established for the grantees, called Ocean Talk.

EbA in the insurance sector

Both EbA and Climate Risk Finance & Insurance (CRFI) have been used to aid adaptation; reduce and transfer risk; and build resilience to the growing impacts from natural and man-made hazards. There is a nascent and growing interest in where these strategies may intersect and be mutually beneficial for adaptation.

There are many opportunities for larger integration of EbA and insurance for risk reduction, and many challenges that remain (Beck et al. 2018; Narayan et al. 2016; Reguero et al. 2018; Storlazzi et al. 2019). The substantive engagement between the insurance and environmental sectors is relatively new. Thus, it is hardly surprising that few fully integrated Climate Risk Finance & Insurance and EbA products (e.g. reef insurance in Mexico, p.14) currently exist, and that such solutions face some challenges. That said, there are many common interests and significant opportunities which could help improve integration of CRFI with EbA and more broadly Nature-based solutions. These can lead to innovations beneficial to both sectors and, most importantly, to improved resilience outcomes for vulnerable people and for nature.

A publication on the topic will be available soon on adaptationcommunity.net (GIZ joint publication by InsuResilience Secretariat, ACRI+, GP Mainstreaming EbA; Authors: UC Santa Cruz, The Nature Conservancy, Social Impact Partners).

Key findings

- ✓ The motivation by the insurance sector to integrate EbA stems from its interest to reduce risks to lower insurance premiums, and the need to make a business case for this model. Finding showcase examples of this is thus key.
- ✓ There exist three different entry points for integrating EbA within CRFI schemes: providing knowledge on risks and probabilities (informing stakeholders), risk transfer (taking risks from people affected) or direct investment in EbA initiatives.
- ✓ Creating a complex risk model is not a trivial measure, but it is the 'bread and butter' for coastal engineers and underwriters. For example Lloyds sells risk models to insurers and piloted flood damage risk reduction at the north-eastern US-coast.

- ✓ A healthy coral reef is a submerged breakwater reducing 98% of the wave energy at the uppermost one meter of a reef. A combination of reef, sea grass and mangroves provides the strongest protection. The WAVES project on coastal ecosystem and flood risk reduction is a good example.
- ✓ The global flood damage avoided by coral reefs lies at around 200 million USD per year. Similar risk modelling for mangroves and wetlands exists.
- ✓ Cost ratios of natural vs. artificial measures: EbA measures score rather high on the benefit cost ratio, but they might not be the most effective or the cheapest compared to sand bags (very cheap) and houses on stilts (very effective).
- ✓ An example on CRFI and EbA is the FEMA US National Flood Insurance Program which includes a community rating system for allowing communities to suggest EbA measures. These are then evaluated on a benefit cost ratio, and communities receive price reductions in their insurances based on these evaluations.
- ✓ Another example from Quintana Roo in Mexico: Here, for the first time ever, a coral reef was insured as building sea walls and other infrastructural measures were not a risk reduction option. The philanthropist SwissRe foundation was key for the financing activities, and was involved in the insurance process from the beginning.
- ✓ TNC currently develops a concept to make the business case for reef restoration, in situations where a reef has already been degraded.
- ✓ The topic of CRFI & EbA is very new and needs endurance. Insurers still believe that EbA is complicated and costly. As of now, existing concepts on insurance are donor- and NGO-driven.
- ✓ There exists a conflict between easy entry points for the topic, which can be found where financial benefits are greatest, and those where the approach might be most needed, namely areas in which vulnerable communities live.
- ✓ Momentum for the topic is there due to BMZ-interest and the InsuResilience Partnership. The German government has set the right scenery for insurers to deal with the topic.
- ✓ The insurance sector is a data-heavy sector; it is thus important to have facts and figures available for the set-up and communication of the topic; figures for decision-making work best for very strong and very frequent events.

Session 7 – Urban EbA
(Thursday, 8th of August 2019)

Urban EbA

More than 54 percent of the world's population lives in urban areas. Due to rapid urbanization, these numbers will increase drastically – particularly in the Global South. In the absence of effective urban planning, the consequences of this process will be dramatic. Urban populations are vulnerable towards multiple climate hazards (e.g. heat waves, floods and extreme precipitation events). Integrating adaptation further in urban planning is therefore key. On the other hand, urban societies are often the source of innovative ideas and concepts to improve human wellbeing and quality of life. This is of particular importance in the context of implementing the New Urban Agenda (UN-Habitat) and Sustainable Development Goal 11 – to make cities inclusive, safe, resilient and sustainable.

In comparison to adaptation measures in other contexts, evidence shows that investing in urban EbA measures has the highest efficiency and effectiveness in reaching numbers of vulnerable people. Nature-based approaches have the potential to accelerate sustainable urban development, offering multi-functional solutions to urban challenges as opposed to single-purpose grey infrastructure options. Typical co-benefits are public health, social cohesion, urban biodiversity, and climate change mitigation.

Urban EbA measures also have the potential to gain interest of new private sector actors, especially from the insurance and construction sectors, as investments in such projects could help mitigate risks to public health (including mental health) and damages to property.

On the other side, common arguments for EbA such as the cost-effectiveness compared to 'grey' or infrastructure-based measures do not necessarily apply to the urban context due to limited availability of land causing high land prices. Green spaces compete with residential and commercial areas.

Important weblinks with background information:

- WeADAPT: Urban Green Infrastructure: An Introduction.
- European Environment Agency: Exploring nature-based solutions: The role of green infrastructure in mitigating the impacts of weather- and climate change-related hazards. EEA Technical report No 12/2015.
- ICLEI: Resilient Cities Annual Global Forum on Urban Resilience and Adaptation.
- ICLEI: Nature-based solutions for sustainable urban development (ICLEI Briefing Sheet).
- ICLEI, TNC, IUCN: Cities with Nature Initiative.
- ICLEI CBC – Cities Biodiversity Center: Urban Natural Assets for Africa: Coasts for Life.
- Kabisch N., Korn H., Stadler J. & A. Bonn: Nature-based Solutions for Climate Change Adaptation in Urban Areas - Linkages between Science, Policy and Practice.

Key findings

Understanding key concepts and approaches

- ✓ Overall, temperatures in cities are higher than in rural areas; with climate change, this situations worsens as temperatures increase further and more extreme weather events such as heat waves and flash floods occur.
- ✓ The existing indicators for monitoring of urban EbA are insufficient until now; more research on the multiple benefits of urban EbA is urgently necessary, this however can be very time-consuming.
- ✓ Negative effects on health as a consequence of climate-related events are seen as a major danger in urban contexts; reducing this risk and improving health conditions on the other side is a major benefit of urban EbA.
- ✓ It is highly common to use the terms *green and blue infrastructure* instead of *EbA*, particularly on EU-level and in engineering contexts.

Examples – the case of Duque de Caxias, Brazil

- ✓ In the Brazilian city, changes in rainfall patters and extreme rain led to severe landslides in 2014.
- ✓ The head of the Municipal Department approached GIZ and functioned as an 'EbA champion'.
- ✓ GIZ supported vulnerability assessments, awareness raising activities and the mapping of sensitive areas as well as the identification of potential adaptation measures.
- ✓ A participatory approach was very helpful for creating trustworthy relationships.
- ✓ A selling point for urban EbA was to not present it as an additional topic, but as a cross-cutting one.

Examples – the case of Istanbul, Turkey

- ✓ Istanbul is a city highly vulnerable to climate change. It has therefore developed a climate change action plan, yet the integration and implementation of five proposed EbA measures remained unsuccessful.
- ✓ Core obstacles in this process were that the right/needed decision-makers were not sitting at the table, cooperation was difficult and ownership by the municipalities was not given.
- ✓ Further challenges were the lack of local knowledge on EbA, high urbanisation pressure, and a political agenda focused on city growth.
- ✓ The risk perception of locals varies a lot; often, emergency response is expected, but prevention measures are less wanted.
- ✓ An entry point for urban EbA in this context might be to point out the short-term benefits and co-benefits of EbA; to initiate the implementation of rather small measures and to focus on green-grey activities.

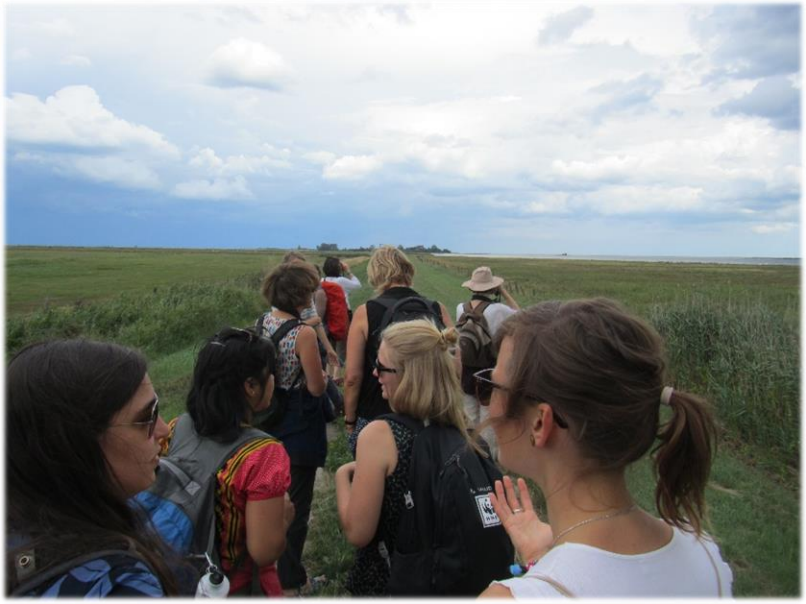
Session 10 – Political messaging
(Friday, 9th of August 2019)

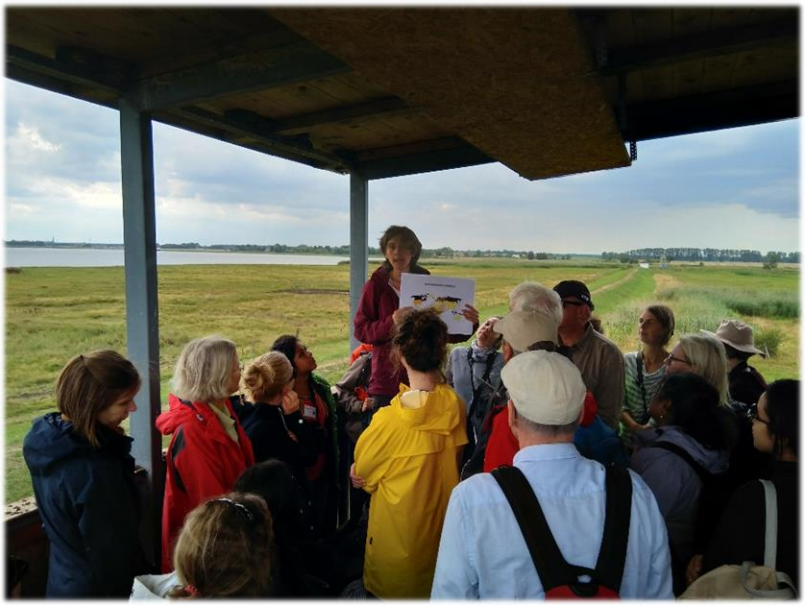
A major challenge in climate change adaptation overall, but specifically in EbA lies in convincing others of the importance and usefulness of the approach we aim to work with. Often, the core difficulty is less a lack of facts and figures, as there is a rather large body of information on the numerical benefits of EbA in different contexts available. However, to get across to stakeholders and sectors that are key to EbA mainstreaming, but might not be familiar with the topic, it is not sufficient to have the numbers right. What is really needed are messages that reach and are understandable for our target group, and that foster ownership: We need to 'speak the language' of other stakeholders, both literally and in a technical sense. To do so, we first and foremost need to develop an understanding of who they are – what moves them, what are their values, how do they communicate?

We call this form of communication political messaging. It requires engaging in a two-way process, as part of which we listen carefully and adjust our message and modes of communication to the needs and interests of our target group. Political messaging is not only relevant in a working context – we make use of it in all contexts of our everyday professional and personal lives, when we promote an idea and try to convince someone or to find compromises.

Key findings

- ✓ It is important to find the right time window for your message.
- ✓ Communication should focus on solutions and benefits instead of problems or losses.
- ✓ You should consider the language and culture of your counterpart.
- ✓ Using personas can help as a method to better understand your target audience and formulate a message.
- ✓ Behavior is a result of multiple behaviors; therefore, one strategy for behavioral change alone is not sufficient. Every behavioral change needs constant refreshment.
- ✓ Political messaging is a process and not a one-time event. It is time-intensive – the process might take years and involve different people as well as different tactics. Taking for granted that a person immediately changes his or her position and approach to a topic is misleading.
- ✓ Communication is key for projects and no add-on; it needs to be part of an overall strategy.
- ✓ You have dedicate resources, money and time to communicate project results.





Glossary of terms

Adaptation	The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects. Adaptation needs: The circumstances requiring action to ensure safety of populations and security of assets in response to climate impacts. Adaptation opportunity: Factors that make it easier to plan and implement adaptation actions, that expand adaptation options, or that provide ancillary co-benefits. Adaptation options: The array of strategies and measures that are available and appropriate for addressing adaptation needs. They include a wide range of actions that can be categorized as structural, institutional, or social (McGray et al. 2007).
Adaptive capacity	The ability of systems, institutions, humans, and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences (IPCC 2014). According to IUCN, in ecosystems, adaptive capacity is influenced by biodiversity (genetic, species and their inherent variability). In social systems adaptive capacity is determined by the individual and/or common ability to cope with change (the ability to learn, manage risks and impacts, develop new knowledge, and devise effective approaches) and the institutional setting (Marshall et al. 2010).
Adaptation costs	Costs of planning, preparing for, facilitating, and implementing adaptation measures, including transition costs (IPCC 2007).
Biodiversity	The variability among living organisms from all sources, including terrestrial, marine, and other aquatic ecosystems, and the ecological complexes of which they are part. This includes diversity within species (genetic diversity), between species and of ecosystems, with corresponding elements, functions and structures. The different levels and aspects of biodiversity directly and indirectly contribute to ecosystem goods and services (CBD 1992).
Convention on Biological Diversity (CBD)	Signed by 150 government leaders at the 1992 Rio Earth Summit, the CBD is dedicated to promoting sustainable development. Conceived as a practical tool for translating the principles of Agenda 21 into reality, the Convention recognizes that biological diversity is about more than plants, animals and micro-organisms and their ecosystems – it is about people and our need for food security, medicines, fresh air and water, shelter, and a clean and healthy environment in which to live. The CBD entered into force on 29 December 1993. It has 3 main objectives: The conservation of biological diversity The sustainable use of the components of biological diversity The fair and equitable sharing of the benefits arising out of the utilization of genetic resources (Secretariat of the CBD 2011).
Adaptation (co-) benefits	The positive effects that a policy or measure aimed at one objective might have on other objectives, irrespective of the net effect on overall social welfare. Co-benefits are often subject to uncertainty and depend on local circumstances and implementation practices, among other factors. Co-benefits are also referred to as ancillary benefits. (IPCC 2014). Different definitions exist in the literature with co-benefits either being addressed intentionally (character of an opportunity) or gained unintentionally (character of a windfall profit). The term co-impact is more generic in covering both benefits and costs (IPCC 2011).
Climate change	Climate change refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings such as modulations of the solar cycles, volcanic eruptions, and persistent anthropogenic changes in the composition of the atmosphere or in land use. Note that the Framework Convention on Climate Change (UNFCCC), in ist Article 1, defines climate change as: “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.” The UNFCCC thus makes a distinction between climate change attributable to human activities altering the atmospheric composition, and climate variability attributable to natural causes (IPCC 2014).
Climate (change) scenario	Plausible and often simplified representation of the future climate, based on an internally consistent set of climatological relationships and assumptions of radiative forcing, typically constructed for explicit use as input to climate change impact models. A ‘climate change scenario’ is the difference between a climate scenario and the current climate (IPCC 2001).

Climate Finance	Financial support by industrialized countries to help developing countries to mitigate greenhouse gas emissions, protect tropical forests and adapt to the effects of climate change. Climate finance was established by the UN Framework Convention on Climate Change. Climate finance is distinguished in Private Climate Finance and Public Climate Finance (German Climate Finance 2019).
Co-benefit	The term 'co-benefits' refers to the non-climate benefits of GHG mitigation policies that are explicitly incorporated into the initial creation of mitigation policies. Thus, the term co-benefits reflects that most policies designed to address GHG mitigation also have other, often at least equally important, rationales involved at the inception of these policies (e.g., related to objectives of development, sustainability, and equity). In contrast, the term ancillary benefit connotes those secondary or side effects of climate change mitigation policies on problems that arise subsequent to any proposed GHG mitigation policies (IPCC 2014b).
Community-based adaptation	Local, community-driven adaptation. Community-based adaptation focuses attention on empowering and promoting the adaptive capacity of communities. It is an approach that takes context, culture, knowledge, agency, and preferences of communities as strengths.
Cost-benefit Analysis (CBA)	Monetary measurement of all negative and positive impacts associated with a given action. Costs and benefits are compared in terms of their difference and / or ratio as an indicator of how a given investment or other policy effort pays off seen from the society's point of view (IPCC 2014b).
Ecological infrastructure	A concept referring to both services by natural ecosystems (e.g. storm protection by mangroves and coral reefs or water purification by forests and wetlands), and to nature within man-made ecosystems (e.g. microclimate regulation by urban parks) (TEEB 2010).
Ecosystem based Adaptation (EbA)	The use of biodiversity and ecosystem services as part of an overall adaptation strategy to help people to adapt to the adverse effects of climate change. As one of the possible elements of an overall adaptation strategy, ecosystem-based adaptation uses the sustainable management, conservation, and restoration of ecosystems to provide services that enable people to adapt to the impacts of climate change (CBD 2009).
Ecosystem-based approach	Ecosystem-based approaches to adaptation use biodiversity and ecosystem services as part of an overall adaptation strategy to help people adapt to the adverse effects of climate change. Ecosystem-based approaches to adaptation use the range of opportunities for the sustainable management, conservation and restoration of ecosystems to provide services that enable people to adapt to the impacts of climate change (UNEP/CBD/SBSTTA 2010).
Economic valuation of ecosystems services	The process of estimating a value for a particular good or service in a certain context in monetary terms. (TEEB 2010). The reason for economic valuation of ecosystem services is to demonstrate the values of such services to humankind and to strengthen the economic argument for the ecosystem for policy decisions.
Ecosystem	A community of plants, animals and smaller organisms that live, feed, reproduce and interact in the same area or environment (IUCN 2010). It is a dynamic complex of animals, plants and microorganisms and their non-living environment interacting as a functional unit, and depending on one another (Alcamo and Benett 2003). If one part is damaged it can have an impact on the whole system. Humans are an integral part of ecosystems. Ecosystems can be terrestrial or marine, inland or coastal, rural or urban. They can also vary in scale from global too local. Examples of ecosystems include forests, wetlands, marine/open ocean, coastal, inland water, drylands, desert, cultivated (cropland, pasture, e.g.) and urban ecosystems.
Ecosystem assessment	A social process through which the findings of science concerning the causes of ecosystem change, their consequences for human well-being, and management and policy options are brought to bear on the needs of decision-makers (UK Ecosystem Assessment 2011).
Ecosystem degradation	A persistent reduction in the capacity to provide ecosystem services (MA, 2005).
Ecosystem restoration	The process of assisting the recovery of an ecosystem that has been degraded damaged or destroyed. (SER 2004).
Ecosystem services	The benefits people obtain from nature. These services come from natural (e.g. tropical forests) and modified ecosystems (e.g. agricultural landscapes). While there is no single, agreed method of categorizing all ecosystem services, the Millennium Ecosystem Assessment (MEA) framework of provisioning, regulating, supporting and cultural services is widely accepted and seen as a useful starting point.
Ecosystem value	The value that individuals place on knowing that a resource exists, even if they never use that resource (also sometimes known as conservation value or passive use value) (TEEB 2010).

Environmental Impact Assessment	Environmental Impact Assessment (EIA) is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse (CBD 2019).
Global change	A generic term to describe global scale changes in systems, including the climate system, ecosystems, and social-ecological systems.
Green finance	IISD (2015) is defining green finance as a financial system targeted to realize environmental sustainability. The dynamics of the system can help to reduce the financing of activities or assets that exert negative influences on the environment and help to increase financing to the assets or activities (including energy conservation, emission reduction and pollution control) that play a positive role for the environment.
Integrated Coastal Zone Management	ICZM is a complement to sectoral planning. It is an adaptive process of resource management for environmentally sustainable development in coastal areas. It is not a substitute for sectoral planning, but focuses on the linkages between sectoral activities to achieve more comprehensive goals (UNEP 1995).
Integrated Water Resource Management	IWRM is an empirical concept which was built up from the on-the-ground experience of practitioners. Although many parts of the concept have been around for several decades – in fact since the first global water conference in Mar del Plata in 1977 – it was not until after Agenda 21 and the World Summit on Sustainable Development in 1992 in Rio that the concept was made the object of extensive discussions as to what it means in practice. The Global Water Partnership's definition of IWRM is widely accepted. It states: 'IWRM is a process which promotes the co-ordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.' (UNEP-DHI Centre for Water and Environment. 2009).
International Climate Initiative (IKI)	Since 2008, the International Climate Initiative (IKI) of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) has been financing climate and biodiversity projects in developing and newly industrialising countries, as well as in countries in transition. In the early years of the programme, its financial resources came from the proceeds of auctioning allowances under the emissions trading scheme. To ensure financial continuity, further funds were made available through the Special Energy and Climate Fund. Both funding mechanisms are now part of the Federal Environment Ministry's regular budget. The IKI is a key element of Germany's climate financing and the funding commitments in the framework of the Convention on Biological Diversity. The Initiative places clear emphasis on climate change mitigation, adaption to the impacts of climate change and the protection of biological diversity. These efforts provide various co-benefits, particularly the improvement of living conditions in partner countries (BMU-IKI 2019).
Landscape approach	A landscape approach builds on the principles of natural resource management systems that recognize the value of ecosystem services to multiple stakeholders. The principles that underpin the landscape approach provide guidance on how to pursue different land-use objectives and livelihood strategies. More recently, the term 'landscape approach' has been redefined to include societal concerns related to conservation and development trade-offs. It also includes increased integration of poverty alleviation, agricultural production and food security. The approach puts the emphasis on adaptive management, stakeholder involvement and the simultaneous achievement of multiple objectives (FAO 2013).
Land degradation	Reduction of or loss in the biological or economic productivity and complexity of land (rain-fed cropland, irrigated cropland, range, pasture, forest, or woodlands), including reduction of its capacity to perform ecosystem functions and services that support society and development, resulting from land uses or from processes arising from human activities and habitation patterns, such as: soil erosion caused by wind and/or water; deterioration of the physical, chemical and biological or economic properties of soil; and long-term loss of natural vegetation (UNCCD 1994; FAO, 2007).
Mainstreaming EbA	Mainstreaming Ecosystem-based Adaptation means landing the Approach of Ecosystem-based Adaptation at the national and local levels, and integrating into national, sub-national, and local plans for development; and subsequently into budget allocations. Mainstreaming is a process rather than a goal (adopted from UNDG 2015).
Maladaptation	Actions that may lead to increased risk of adverse climate-related outcomes, increased vulnerability to climate change, or diminished welfare, now or in the future (IPCC 2014). Maladaptation could also include adaptation measures which in the end do not lead to reduced but increased vulnerability because of lack of information, wrong assumptions, ill-devised implementation, side effects, etc. (OECD 2009).
Mitigation (of climate change)	A human intervention to reduce the sources or enhance the sinks of greenhouse gases (IPCC 2014).

Monitoring and Evaluation	Is the systematic collection of data to allow stakeholders to check whether an initiative is on track (monitoring) and to measure the impact or effectiveness of an intervention in achieving set objectives (evaluation). M&E faces challenges in terms of attribution and causality, as complex phenomena make it difficult to assign a precise and testable connection between measures taken, other influencing factors or a general development and the results observed. Common method includes the comparison of a baseline vulnerability assessment vs. a repeated vulnerability assessment (GIZ 2013).
Multi-criteria Analysis	Integrates different decision parameters and values without assigning monetary values to all parameters. Multi-criteria analysis can combine quantitative and qualitative information. Also referred to as multi-attribute analysis (IPCC 2014b).
Nature-based solution	Nature-based solutions aim to help societies address a variety of environmental, social and economic challenges in sustainable ways. They are actions which are inspired by, supported by or copied from nature. Some involve using and enhancing existing natural solutions to challenges, while others are exploring more novel solutions, for example mimicking how non-human organisms and communities cope with environmental extremes. Nature-based solutions use the features and complex system processes of nature, such as its ability to store carbon and regulate water flow, in order to achieve desired outcomes, such as reduced disaster risk, improved human well-being and socially inclusive green growth. Maintaining and enhancing natural capital, therefore, is of crucial importance, as it forms the basis for implementing solutions. These nature-based solutions ideally are energy and resource-efficient, and resilient to change, but to be successful they must be adapted to local conditions (European Commission 2015).
No-and low-regret option	Adaptation actions that provide a host of development benefits in addition to fostering climate change adaptation. No regret options can be implemented even in the presence of remaining uncertainties about future climatic conditions (OECD 2009). Low-regret options yield large benefits under relatively low risks (The World Bank 2010).
Opportunity costs	The cost of an economic activity forgone through the choice of another activity (IPCC 2007). Choosing to create and manage protected areas, for instance, requires foregoing alternative uses from resource use (TEEB 2009).
Payments for Ecosystem Services (PES)	Payments for ecosystem services are direct and flexible incentive-based mechanisms, under which a user or a beneficiary of an ecosystem service makes a direct payment in cash or in kind to an individual or community whose decisions on the use of natural resources have an impact on the ecosystem service provision. As PES are voluntary, incentive-based instruments, seeking out sites with higher value and lower costs, they can provide potentially large gains in cost effectiveness compared to indirect payments or other regulatory approaches used for environmental objectives (OECD, 2010).
Policy/policies	Has a contextual dimension and considers the different fields of politics as e.g. economic policy, social policy and environmental policy. Each policy looks at the actual situation of a field, the tasks it contains the goals of the policy to be passed, the realization of it and the expected and achieved results. A course or principle of action adopted or proposed by an organization or individual (Oxford dictionaries).
Resilience	The capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation (IPCC 2014). Ecological system: The level of disturbance that an ecosystem can undergo without crossing a threshold to a situation with different structure or outputs. Resilience depends on ecological dynamics as well as the organisational and institutional capacity to understand, manage, and respond to these dynamics. (UK Ecosystem Assessment 2011).
Risk	The potential for consequences where something of value is at stake and where the outcome is uncertain, recognizing the diversity of values. Risk is often represented as probability of occurrence of hazardous events or trends multiplied by the impacts if these events or trends occur. Risk results from the interaction of vulnerability, exposure, and hazard (IPCC 2014).
UNFCCC	The United Nations Framework Convention on Climate Change was adopted on 9 May 1992 in New York and signed at the 1992 Earth Summit in Rio de Janeiro by more than 150 countries and the European Economic Community. Its ultimate objective is the “stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system”. It contains commitments for all parties. Under the Convention, parties included in Annex I aimed to return greenhouse gas emissions not controlled by the Montreal Protocol to 1990 levels by the year 2000. The convention came into force in March 1994. In 1997, the UNFCCC adopted the Kyoto Protocol. (IPCC 2012).

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