Ecosystems, Risk and Climate Adaptation

AT A GLANCE

Name
Ecosystems, Risk and Climate Adaptation

Duration
March 2016 – June 2019

Focus area
Global

Target group
Through a series of three studies, this project targets key international and multi-national audiences, including development banks, national governments, corporate sector and NGOs that work in the fields of climate adaptation, conservation, risk modelling, risk reduction, disaster preparedness, infrastructure financing, insurance, and those implementing the Sendai Framework and the post-2015 Sustainable Development Goals (SDGs).

Funds available
The project is funded with 600,000 Euros by the International Climate Initiative (IKI) of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). TNC's own cofinance is 50,000 Euros.

The project is jointly implemented by...
The Nature Conservancy (TNC) as lead in partnership with the Bündnis Entwicklung Hilft (BEH) and a number of research partners: McGill University, University of California Santa Cruz, University of Cantabria, University of Kassel.

Overall aim of the project is...
By building on the well-respected World Risk Report series, TNC and BEH aim to highlight with this report series the value of nature in addressing issues critical to climate adaptation, disaster risk reduction and environmental sustainability.

On behalf of:

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

of the Federal Republic of Germany

The Nature Conservancy

Bündnis Entwicklung Hilft

BACKGROUND

Economic and social risks are growing due to climate change, disasters, urbanization, and environmental degradation. Billions of Euros are invested to reduce risks from climate change mostly through "grey infrastructure", further degrading coastal and river ecosystems and the benefits they provide.

Conservation of natural resources and biodiversity supports many important goals by reducing social vulnerability and risks from natural disasters and climate change. The evidence for strong linkages between conservation, adaptation and risk reduction is growing, yet this case still needs to be communicated more effectively to decision makers.

This joint project between BEH and TNC builds on past successful collaboration to produce the World Risk Report 2012 and aims to communicate the strong links between adaptation, risk reduction and environmental sustainability. Three studies make the case, technically and visually, for biodiversity investments and protection as a key element for cost-effectively meeting development and adaptation goals. As a result, the three reports are expected to adavance the discussion on the importance and cost effectiveness of ecosystem-based adaptation (EbA) and describe ongoing efforts to link adaptation, risk reduction, and biodiversity conservation.

The project will compile three studies on:

1) The role of coral reefs and mangroves in reducing flood risk and aiding coastal adaptation,
2) river and floodplain conservation and risk reduction; and
3) fisheries, food security and climate change.

APPROACH

Through innovative research in the valuation and rigorous quantification of risk reduction benefits of ecosystems, this project will help change the way in which target audiences such as the World Bank, key national governments, and the risk and insurance sectors account for the protection services provided by coastal and floodplain habitats. This advances the body of work on developing new approaches for accounting for ecosystem services. We also aim to influence funding for Disaster Risk to better account for the role of ecosystems in reducing risks from hazards and the role of fisheries in reducing social vulnerability.

By aligning our work and the release of reports with events sponsored by UNFCCC, and other global events, we aim to give governments and practitioners a better understanding of the cost-effectiveness of nature-based projects, practices and tools available to reduce disaster risks and meet other development and climate adaptation goals. With BEH the reports aim to better incorporate environmental indicators into traditional humanitarian assessments of risk and vulnerability as we have done together with the World Risk Report.

We are also targeting businesses, particularly in the engineering and re-insurance sectors. The data, analyses and reports are aimed to ensure these companies more consistently include nature-based defences in the projects and products. By highlighting the effectiveness of nature-based approaches and their ability to achieve multiple benefits these reports will help bring such practices into the mainstream of the business practices in these key sectors.

OUTCOMES SO FAR

- With BMU/IKI support, our paper "The global flood protection savings provided by coral reefs" published in Nature Communications has already received wide attention including 28 news articles and reached more than 500,000 twitter users. It has received more media attention than 99% of all scientific papers published in 2018.[1]
- In Mexico, the National Commission for Natural Protected Areas is developing restoration guidelines for Quintana Roo's Coral Reefs.
- In the Philippines, the project is contributing to the integration of coral and mangrove ecosystems into the system of national accounts (with World Bank cooperation).
- We are working with the leading re-insurance firms to develop new financing and insurance products based on our research on the values of coastal and floodplain habitats for risk reduction.
- We have incorporated key results into a paper for the Geneva Association (representing more than 45 CEOs of insurance sector firms) in incorporating natural habitats into industry risk models.
- TNC is working with Risk Management Solutions (RMS), Lloyd's and Guy Carpenter Co. to assess the role of wetlands and reefs in their models. [2]
- The reports and scientific papers have been presented and are contributing to the global dialogue under UNFCCC, UNISDR, and the Convention on Biological Diversity (CBD).
- Key results of the global coral reef modelling and resilience assessments were presented during a side-event in the German pavilion at the COP 23 in Bonn, opened by Minister Eden of Fiji and State Secretary, BMU Jochen Flasbarth.
- Results were presented at the EbA innovation panel during the IKI 10-year anniversary event on 5th May 2018 in Bonn during the UNFCCC Intersessional Meetings.
- A launch event was held in Berlin on the global mangroves risk and resilience modelling with our partner Bündnis Entwicklung Hilft, BMU/IKI and The Mangrove Alliance.

[1] The summary metrics are available here – https://www.altmetric.com/details/43632237
[1] For example, https://www.rms.com/blog/2016/10/25/after-matthew-putting-a-value-on-natural-coastal-defenses/

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Websites, reports and OpEds/Blogs
All global coral reef and mangroves risk and benefit modelling are shown here:
- http://maps.oceanwealth.org/
- http://coastalresilience.org

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