

Nature-based solutions for disasters: how can science better inform policy-making?

Rationale & Objectives:

- There is increasing interest in the role of protected areas for disaster risk reduction
- There is great momentum in adopting Eco-DRR or NBS or no-regret solutions
- The role of PA in DRR needs to be emphasized further and,
- The scientific evidence needs to be provided, before
- Policy-makers fully recognize the DRR service of PA when deciding on planning issues
- In this session:
 - Evidence will be presented and discussed
 - Research gaps identified
 - Proposals for an enhancement of the dialogue between scientists and policy makers will be made

Nature-based solutions for disasters: how can science better inform policy-making?

Speakers:

Fabrice Renaud (United Nations University Institute for Environment and Human Security): *Introduction to the session and Research needs for Eco-DRR: Conclusions from the 2014 Workshop of the Partnership for Environment and Disaster Risk Reduction*

Hiromu Ito (The University of Tsukuba): *Study on Great East Japan Earthquake*

Chao-Yang Kuo (ARC Centre of Excellence for Coral Reef Studies, James Cook University (Australia) and Academia Sinica (Taiwan)): *Mitigation role of national parks in assisting coral reef resistance to ocean change: a 30-year study on coral communities of the Kenting National Park, Taiwan*

Sonali Ghosh (Manas Tiger Reserve, India): *Capitalizing on links with climate change adaptation and mitigation - IUCN's Commission on Ecosystem Management recommendations from Manas Biosphere Reserve*

Panelists:

Kazuaki Hoshino (Ministry of Environment, Government of Japan)

Jane Madgwick (Wetlands International)

Radhika Murti (International Union for Conservation of Nature)

Mark Spalding (The Nature Conservancy)



Research needs for Eco-DRR: Conclusions from the 2014 Workshop of the Partnership for Environment and Disaster Risk Reduction

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Institute for Environment and Human Security**

The Partnership for Environment and Disaster Risk Reduction



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Ecosystems for Adaptation
and Disaster Risk Reduction

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by to



International Science-Policy Workshop: *Ecosystem-based disaster risk reduction and climate change adaptation: Guiding development policies in the 21st century* in Bogor, Indonesia, 16-18 June 2014

- Evidence and Economics of Eco-DRR/CCA
- Decision-making Tools for Eco-DRR/CCA
- Innovative Institutional Arrangements and Policies for Eco-DRR/CCA
- Cutting-edge Scientific Research and Technical Innovations on Eco-DRR/CCA

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Making the case for Eco-DRR/CCA



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Why do we need to scale up Eco-DRR/CCA?

- Recognition is growing
- Can be cost-effective
- More sustainable – provides multiple benefits with or without disasters
- Generally self-maintaining/self-renewing
- Involves local communities
- Multi-functional – can address more than 1 hazard



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Making the case for Eco-DRR/CCA



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- Adopt a science-based approach to inform decision-making and policies
 - Including participatory approaches & local knowledge
- Enhancing role of communities /social actors in implementing Eco-DRR/CCA
- Hybrid approaches – green combined with grey infrastructure, harnessing multiple benefits of ecosystems
- Disaster communications – different levels of awareness, perceptions of risk

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Evidence of Economics of EcoDRR/CCA



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- Applying economic tools to value DRR services of ecosystems is still evolving
 - One of the main challenges in economic valuation is quantification of the risk reduction service provided by ecosystems, and the factors and causality of their variability
 - Who gains, who bears the costs?
 - Issue of temporality
- Effective economic analysis considers scenarios for decision making on both grey and green risk management and climate change options
- Economic analyses need to go beyond valuation to also identify the incentives, disincentives and finance that are required to implement and leverage eco-DRR.

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Scientific Research and Technical Innovations on Eco-DRR/CCA



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- To use the Eco-DRR approach effectively, researchers need to understand:
 - The limits of Eco-DRR under different circumstances and situations;
 - The potential of mixed structural and Eco-DRR (hybrid) approaches;
 - The efficacy of native vs non-native species in Eco-DRR
- Generate more evidence that (and how) Eco-DRR operates at different spatial and temporal scales
 - At what scale do measures need to be implemented to provide adequate protection for communities
 - Can solutions developed at one scale be applied more generically to bigger areas (by upscaling or replication)
 - What are the environmental and social conditions that are needed for Eco-DRR to work?
- Provide decision support mechanisms for policy makers and researchers to work together to prioritize attention at the appropriate government level (by identifying key drivers, timeframes, and points of entry)



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Thank you!!!