

Healthy Ecosystems Enhance Resilience to Disasters

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IUCN welcomes the references to clear links between sustainable development, disaster risk reduction and climate change adaptation in the Hyogo Framework for Action negotiations. These include the need for the international community to work towards enhancing resilience, as one point of consensus. In this context, IUCN wishes to emphasize the importance of nature based solutions in enhancing resilience.

Summary of main recommendations

IUCN urges member states to recognize the critical role played by healthy ecosystems in reducing risks resulting from disasters.

Furthermore, IUCN recommends that member states invest in the protection, sustainable use and restoration of ecosystems, as a key risk reduction strategy. In doing so, IUCN summarizes the key recommendations contained in this position paper, below:

- The perception that there is a choice to be made between ecosystem management and national development is a false dichotomy that inhibits progress on this issue. In this respect, nature based solutions (NBS) for disaster risk reduction (DRR) simultaneously contribute to conservation efforts, risk reduction and sustainable development.
- Nature-based solutions for DRR are cost-effective. While these approaches are innovative, they are neither complex nor expensive. Evidence demonstrates that such measures not only reduce risks through strengthening preparedness, but can also be a cost-effective and functional means to address restoration and recovery.
- The Post 2015 global framework for DRR should include nature based solutions. Member states and communities should adopt this approach in their national strategies for disaster risk reduction.
- IUCN's knowledge and experience with respect to nature based solutions for disaster risk reduction is made available in this discussion.

Using ecosystems as a solution: What are Nature Based Solutions for DRR?

Nature Based Solutions for Disaster Risk Reduction refer to the role of ecosystems in supporting communities to prepare for, cope with, and recover from disaster situations. Typically, decision-making processes take into consideration current and future human livelihood needs and the bio-physical requirements of ecosystems. Nature based Solutions for DRR are based on the following facts:

Healthy ecosystems enhance resilience to disasters.

Ecosystems provide key services such as flood regulation, slope stabilization and protection from storm surges. Therefore, ecosystems play an essential role in

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preventing disasters and reducing risks as well as in post disaster responses (by providing food, firewood, clean water and fiber, for example). As such, ecosystem management has a key role in each phase of the disaster management cycle and can be implemented as nature based solutions for DRR.

Ecosystem degradation reduces the variety of ecosystem services, forcing people to rely on fewer natural services and products. Therefore, protection, sustainable use and restoration of ecosystems are central to reducing disaster risks, enhancing community resilience and promoting sustainable development.

Nature based solutions are cost effective

Nature based solutions are not necessarily complex or even expensive, certainly not in relation to the costs of not addressing the risks once disasters occur. Member States, when undertaking development and DRR planning, should consider a combined approach of built and natural infrastructure (or grey-green infrastructure) to enhance resilience while reducing costs. Nature based solutions, in many cases, can provide the same services and benefits as engineered infrastructures and at a lower cost; for instance, the cost of conventional infrastructure for storm-water control in North Carolina, USA, has been estimated at \$3.24 per 1000 gallons while natural infrastructure for the same purpose only costs \$0.47 per 1000 gallons. Similarly, according to Swiss Re, in Barbados damages from wind, storm surge and inland flooding amount to 4% to 6% of GDP per year. Here, every dollar invested in the Folkestone Marine Park could reduce the cost of hurricane loss by \$20.

Nature based solutions provide multiple benefits, regardless of a disaster occurrence

Nature based solutions for disaster risk reduction is a “*no regrets*” option. There is a growing knowledge base that demonstrates how potential damage created by storm surges, flooding and landslides can significantly be reduced by maintaining and/or restoring ecosystems to act as buffers. In addition these same investments in ecosystems also directly support resilient communities and livelihoods. In Vietnam, the costs of mangrove restoration (USD 1.1 million) was significantly outweighed by the benefits of avoiding the annual costs associated with dyke maintenance (USD 7.3 million) and strengthening the livelihoods of 7,500 households in coastal areas.

Nature based Solutions in the HFA

The mid-term review of the HFA indicated that progress on Priority 4: **reducing underlying risks** which includes ecosystem degradation was ‘very limited’. Concerns have been raised on whether Priority 4 will be the prime obstacle to achieving the HFA outcomes and whether Governments have the capacities needed to control externalities and processes, especially in development planning. Until now, much emphasis has been put on ecosystems degradation as a factor exacerbating risk and vulnerability. The current negotiations for a post-2015 HFA are an opportunity to reflect the critical role ecosystem management plays as a *solution, and not an ongoing problem*, in the form of nature based solutions for DRR.

Therefore, IUCN urges the member states to:

- modify paragraph 28.n) of the new HFA to reflect nature’s role in DRR. We propose the following text: “Strengthen the sustainable use and management of ecosystems and implement integrated environmental and natural resource management approaches *that contribute to* disaster risk reduction.”

- endorse the recommendations of the Partnership for Environment and Disaster Risk Reduction (PEDRR) input paper for the streamlined text document dated 28th January 2015.

The negotiations for a post 2015 framework provide an incredible opportunity to firmly establish the recognition and understanding of the critical role nature plays before, during and after disasters, in the most influential global DRR framework. IUCN stands ready to contribute towards a strong post 2015 framework and looks forward to working together in implementing this approach.