



## Promoting improved ecosystem management in vulnerable countries for sustainable and disaster-resilient development

Disasters have the potential to undermine decades of development gains and limit development achievements for future generations. Human and economic losses from major disasters are on the rise, primarily caused by increasing human activities in hazard-prone areas. Disaster risk reduction (DRR) has therefore emerged as a top priority in international development policy agendas, including the UN Secretary-General's five-year Agenda and the Rio+20 Conference on Sustainable Development.

Ecosystems – such as forests, wetlands, coastal and marine systems, and drylands - have a distinct role to play in disaster risk reduction in the context of sustainable development. Investing in healthy and well-managed ecosystems can reduce disaster risk by influencing all three components of disaster risk: ecosystems

can regulate, mitigate or prevent hazards (e.g. forests preventing rock falls, landslides and snow avalanches). Ecosystems function as natural infrastructure, which can reduce people's exposure to the impacts of hazards (e.g. coral reefs and mangroves provide natural barriers against storm surges). Finally, ecosystems also reduce socio-economic vulnerabilities to disasters by meeting their basic needs and supporting local livelihoods and economies (e.g. wetlands help regulate flood regimes which support local fisheries and farming). Improved ecosystems management can therefore enhance local resilience, providing multiple benefits for DRR, adaptation to climate change-related risks, sustainable livelihoods and green growth.

### What is Ecosystem-based Disaster Risk Reduction?

Ecosystem-based disaster risk reduction (Eco-DRR) provides an integrated approach to disaster risk reduction, climate change adaptation, ecosystem improvement and sustainable livelihoods development. Conventional approaches to DRR often rely on engineered measures, such as use of dykes, seawalls and canals, to manage hazards, which are costly to build and maintain and often only address single rather than multiple hazards. Eco-DRR maximizes investments in environmental management and capitalizes on existing ecosystem services to achieve multiple benefits for sustainable development, including poverty reduction, biodiversity and carbon sequestration, while enhancing local and national resilience to disasters. Eco-DRR yields benefits whether or not a disaster materializes and can thus be considered a “no regret” investment.



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The European Commission (EC) and the United Nations Environment Programme (UNEP) are collaborating on a new project (2012-2015) that seeks to promote, innovate and scale-up Eco-DRR interventions in vulnerable countries and regions and raise greater recognition of Eco-DRR globally.

This project is supported through the Strategic Cooperation Agreement (SCA) between the EC and UNEP, covering 2011-2013 Environment and Natural Resources Thematic Programme (ENRTP) priorities managed by the Directorate General of Development and Cooperation (DG DEVCO). This project is also in line with the Implementation Plan of the EU Strategy for Supporting Disaster Risk Reduction in Developing Countries (2011-2014). Project outcomes and outputs will contribute directly to priorities of Rio +20 outcomes, the Hyogo Framework for Action 2005-2015, and the Millennium Development Goals.

## Project Objectives and Outcomes

This project aims to enable vulnerable countries and communities to apply sustainable ecosystems management in order to reduce disaster risks and achieve resilient development. The project is expected to have the following outcomes:

1. Integrated ecosystem management and disaster risk reduction measures are mainstreamed in national development plans and programmes, including through pilot demonstrations;
2. Ecosystem and DRR linkages are widely communicated and catalyze action at regional and global levels.

## Project Components

This project has five main, inter-related components. It will work in four countries and engage at the community, national, regional and global levels.

1. *Policy Advocacy*– The project will promote Eco-DRR in global and regional fora and aim to influence development, DRR and CCA agendas especially at the national level.

2. *Capacity Development* – The project will assess and develop institutional and technical capacities at regional, national and local levels in applying integrated Eco-DRR tools and approaches (e.g. integrated watershed management; integrated coastal zone management, integrated land-use planning, etc.).
3. *Pilot Demonstrations* – The project will implement Eco-DRR pilot activities in four countries to demonstrate their effectiveness, as well as provide cost-benefit analysis for scaling up activities and evidenced-based advocacy to policymakers.
4. *Knowledge Products* –The project will develop guidelines, toolkits, training manuals, and methodologies, as well as disseminate best and innovative practices.
5. *Partnerships and Learning Exchanges* – The project will work with existing global, regional and national partnerships and networks to promote continuous learning exchange, innovation, and collaboration.

## Responding to Needs and Challenges

The UNEP-EC collaboration responds directly to needs by Member States, as well as challenges to achieving widespread adoption of Eco-DRR, namely:

1. Absence of well-documented case studies that demonstrate the ecosystem-DRR linkages and tangible benefits for people;
2. Absence of cost-benefit analyses of investing in Eco-DRR as an alternative or supplement to conventional DRR approaches;
3. Lack of local technical capacity to design Eco-DRR projects and implement them in the field;
4. Lack of awareness among international donors and national decision-makers regarding the potential role of ecosystems in DRR; and
5. Limited cross-sectoral mechanisms to address the challenges of disaster risk in an integrated manner, and hence limited efforts in bringing together environmental, disaster management and adaptation experts to develop more cost-efficient, effective solutions.

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## Country Focus

Pilot demonstration initiatives will be implemented in four countries:

- Afghanistan;
- The Democratic Republic of Congo;
- Haiti; and
- Sudan.

These countries have been selected on the basis of their high vulnerability to disasters, the limited resilience and capacities of local communities (due to factors such as political fragility, low awareness and technical capacities, etc.), and the presence in these countries of existing UNEP country programmes that can be leveraged for logistics and networks to implement the country pilots in a resource-efficient manner.

Each of these countries will benefit from three types of activities:

1. field-based activities targeting a specific ecosystem, hazard and livelihood in selected communities;
2. capacity development at local and national levels, targeting government authorities as well as civil society; and
3. peer-to-peer networking aimed at bringing professional DRR, CCA and ecosystem management communities-of-practice in each country and from the region to learn from field projects and up-scale activities.



Country	Hazard	Ecosystem	Eco-DRR Intervention
Afghanistan	Severe winter / floods	Mountains	Increasing community livelihood resilience
DR Congo	Erosion / flooding	Savanna, gallery forests/ micro-catchments	Integrated watershed management
Haiti	Erosion/flooding/silting	Coastal zone	Integrated coastal zone management
Sudan	Drought	Drylands	Integrated water resources management



## Measuring Success

From the outset, the field-based projects will be designed based on rigorous scientific assessments and tools (including the use of remote sensing and GIS mapping) in order to develop conceptually and demonstrate the hazard-ecosystem-disaster risk reduction linkages. Therefore, pilot projects will all have ecosystem management components that are clearly linked to disaster risk reduction results (i.e. either by mitigating or preventing hazards, reducing people's exposure to hazards, and/or reducing vulnerabilities and increasing resilience). Participating local communities are expected to derive direct livelihood benefits from the field projects, targeting women and vulnerable groups. Moreover, economic analysis will be integrated into project monitoring to demonstrate the cost-effectiveness of Eco-DRR in the four pilot areas.

## Leveraging Partnerships

Achieving fundamental changes in national policies to support more integrated Eco-DRR approaches is not possible for UNEP and the EC to undertake alone. UNEP is already working with a global partnership of 14 other international and regional organizations, known as the Partnership for Environment and Disaster Risk Reduction (PEDRR/[www.pedrr.net](http://www.pedrr.net)), which promotes ecosystem-based disaster risk reduction and adaptation and seeks to leverage resources and advocacy efforts, in order to maximize reach in communities and countries where partners each have their own comparative advantages. Through PEDRR, UNEP engages with the ISDR system on raising awareness and addressing environmental concerns related to disaster risk reduction. The project will also partner with other major initiatives, such as the Global Facility for Disaster Reduction and Recovery (GFDRR), the Centre for Natural Resources and Development (CNRD), Capacity Development for Disaster Reduction Initiative (CADRI), Partners for Resilience, and Ecosystems and Livelihoods Adaptation Network.

## Contact Information

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