



Children collecting Oca in Mangrove forest. Photo: © GIZ
Via Nam/Integrated Coastal Management Programme (ICMP)

Opportunities

in the humanitarian sector¹

for integrating ecosystem-based approaches to climate change and disaster risk reduction



Millions of people every year worldwide are in need of humanitarian assistance as a consequence of disasters caused by natural hazards. The frequency and magnitude of extreme events is increasing under climate change, threatening decades of development efforts and survival. By exacerbating competition over natural resources, environmental degradation, water scarcity and food insecurity, among many other factors, climate change is also a primary amplifier of ongoing humanitarian crises.

approaches. Ecosystem-based approaches focus on the sustainable management, conservation and restoration of ecosystems and their services, to strengthen the resilience of species, people and communities in facing disasters and climate change respectively (UN Environment, 2015).

Cross-sectoral collaboration including multiple stakeholders is crucial for further mainstreaming and scaling-up on Ecosystem-based DRR (Eco-DRR) and Adaptation (EbA). Recent global policy developments provide important entry points not only to scale up EbA and Eco-DRR approaches but also to ensure greater coherence through integrated approaches for conservation, DRR and climate change adaptation, as highlighted in the Sendai Framework for Disaster Risk Reduction, the Paris Agreement, the Agenda for Humanity and the 2030 Agenda for Sustainable Development. In line with a New Way of Working, these approaches can also support bridging the development, conservation and humanitarian worlds.

Current efforts are being made in the relief, early recovery, and reconstruction steps but it is necessary to highlight the need for proactive action in disaster preparedness, risk reduction and risk and vulnerability assessment (Figure 1).

27 million people
displaced annually
between 2008 and 2015
due to climate related
disasters

Between 2008 and 2015, around 27 million people were displaced annually by natural hazards and climate related disasters, and this trend is rising (IDMC, 2015). Healthy ecosystems and ecosystem services can play a vital role in disaster risk reduction (DDR) and climate change mitigation and adaptation as well as in building resilience to changing conditions. Farm incomes would increase by 30 per cent if farmers could effectively mitigate risks linked to climate change (FAO, 2016).

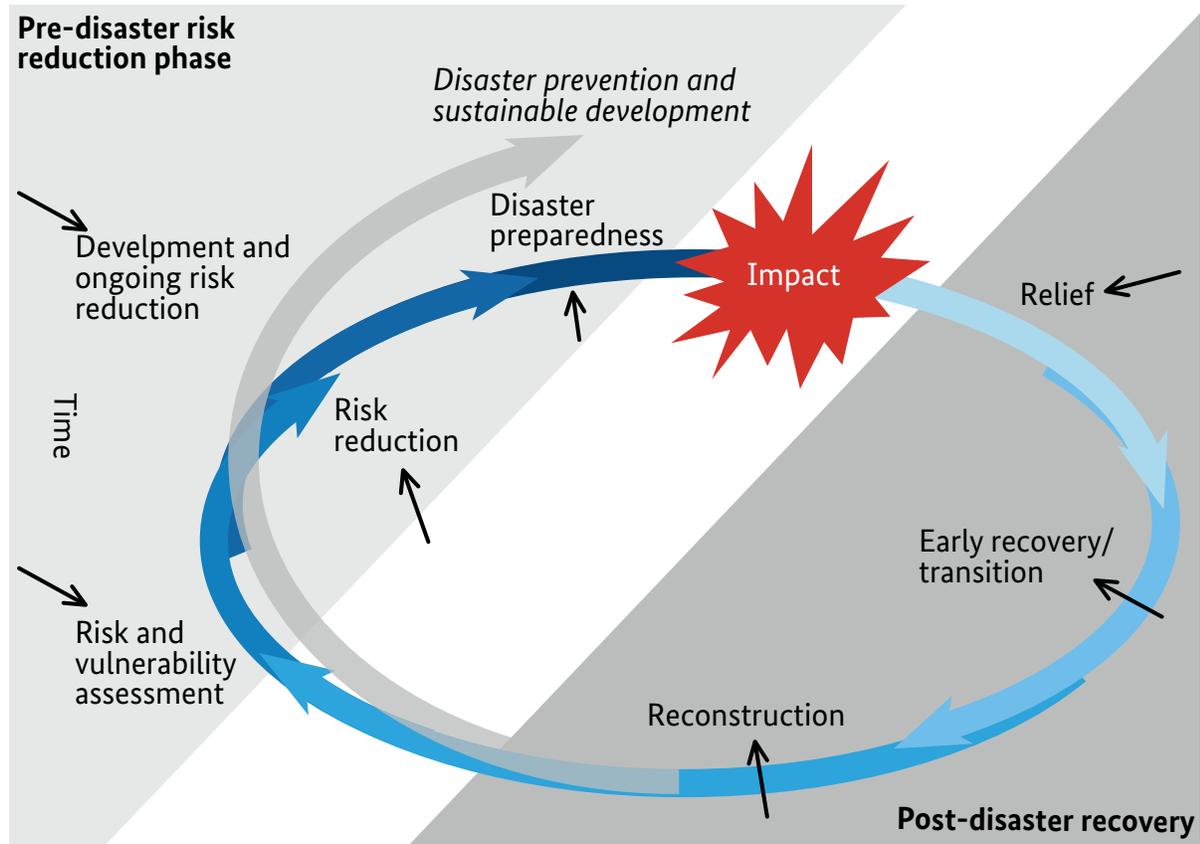
Increase of farm incomes by 30%
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Over the past decade, ecosystem-based and bio-engineering approaches have emerged as an alternative to grey infrastructure or engineered

¹ The development and authorship of the sectoral brief “Opportunities in the humanitarian sector for integrating ecosystem-based approaches to climate change and disaster risk reduction” was led by the International Union for Conservation of Nature.



Figure 1 Entry points for Eco-DRR within the Disaster Management Cycle



Adapted from RICS, 2009



EbA and Eco-DRR opportunities

EbA and Eco-DRR approaches can help understand disaster risk and climate change adaptation by identifying their root drivers through multi-stakeholders and multi-sectoral dialogues. Exploring opportunities for strengthening coordination and better engaging with environmental, development and humanitarian sectors will help to find solutions for alleviating pressures on the humanitarian sector.

Healthy ecosystems can contribute to reducing risks, including for cascading effects and secondary damages, and assist in delivering humanitarian aid before and after disaster. The need to conduct detailed environmental assessments to identify the status of ecosystems facilitates the collaboration of scientists and local communities when developing locally adapted EbA and Eco-DRR plans and strategies. Such activities could promote job creation in disaster prone areas, local ownership and encourage environmental information and data sharing, including traditional and indigenous knowledge. Such would, for example, be the case of post-disaster emergency employment interventions that could contribute to building resilience in the reconstruction, contributing to EbA and Eco-DRR. In addition, both approaches help to develop locally adapted and cost-effective solutions by promoting local innovations through integrated social and ecological vulnerability as well as capacity assessments (Monty, 2017).

Fostering these approaches within a sustainable development framework goes beyond response or recovery from impacts, leading to longer-term resilience. EbA and Eco-DRR entails several aspects, from prevention to increase community, ecosystem and institutional resilience of ecosystem, strengthen public policy on Eco-DRR, enhance preparedness and build back better.

What does the sector have to do?

Ecosystem conservation, restoration and sustainable management are crucial for climate change adaptation and disaster risk reduction, although, advocacy, fund raising and joint efforts remain necessary to address the negative impacts of climate change and disasters. Main challenges can be identified in linking humanitarian assistance to development activities, to increase the understanding of EbA and Eco-DRR by collecting specific data and strengthening capacities of partners to integrate EbA and Eco-DRR into their strategies, plans and projects. Indeed, capacity building, and training on Eco-DRR and EbA to support their integration in humanitarian assistance and ensure cooperation could be seen as a major challenge. Gathering evidence of the benefits of investing in Eco-DRR and EbA as opposed to the costs of inaction or of hard engineering alternatives could help overcome some of these challenges.

EbA and Eco-DRR can be part of long-term efforts associated with development assistance, as they lay the basis to bridge the humanitarian and development gap. When it comes to humanitarian action which covers recovery and reconstruction practices, however, the environment often continues to be considered only as an afterthought (JEU, 2014). Nowadays, DRR and preparedness have a direct link to humanitarian aid, but it is still necessary to mainstream the ecosystem component into this to promote both EbA and Eco-DRR. Currently, a high percentage of funding is provided to carry out specific DRR activities in the short term, while it would be more effective to invest in ecosystem-based initiatives with a long-term view.

A better coordination between humanitarian and environmental actors combined with a reinforced consideration of environment and climate knowledge in humanitarian assistance can ensure the continuity of response activities into a more



resilient reconstruction phase. Data sharing will facilitate synergies across sectors and underpin a strengthened humanitarian-environmental approach. Environmental and humanitarian ac-

tors should work together to ensure that the environment is duly considered when planning for humanitarian action, creating the basis for longer-term recovery and resilience efforts.

Typical ecosystem-based approaches & technologies include the following:

Approach / technology examples	Description
<u>Land restoration (Ethiopia) – Wetlands International</u> ²	Wetlands International in collaboration with humanitarian partners, including the Netherlands Red Cross worked on large-scale tree planting to mitigate erosion and retain water by establishing a roadmap for improving land and water health, and enhancing awareness through capacity building.
<u>Water sanitation (Peru) – UNEP</u> ³	Project Agua Limpa: restoring the health of water supplies while boosting biodiversity by restoring forests and rehabilitating river banks and riverside vegetation in river basin.
<u>Disaster risk knowledge (Tajikistan) – European civil protection and humanitarian aid operations</u> ⁴	Villagers in Tajikistan put disaster risk knowledge in practice through training session on ecological awareness to reduce risk and protect communities from landslides and avalanches. Activity: tree plantation to reduce avalanches.
<u>Population preparedness through mangrove reforestation (Philippines) – HEKS/EPER</u> ⁵	Mangrove reforestation and fruit tree planting along with training events for DRR committees and community members led to improved understanding of local hazards, early warning systems and better community preparation thus ensuring long term sustainability and the resilience of livelihoods to future disasters.
<u>Resilient coastal cities – USAID</u> ⁶	The goal is to enhance local collaboration and problem solving to support effective climate change adaptation. To do this, community assessment approaches are tailored to community resilience needs at a city-wide perspective so that stakeholders can absorb and contextualize community-scale needs.
<u>Green works and climate change adaptation – ILO</u> ⁷	ILO in collaboration with national governments, employers and workers promotes sustainable local reconstruction and recovery in times of conflict and crisis, seeking to bridge immediate crisis recovery to long-term development work. It aims to create jobs by restoring and protecting the productive capacity of lands to create livelihood and income security for the most vulnerable.

² www.wetlands.org/video/building-ecosystem-resilience-ethiopia-somali-region
³ news.un.org/en/story/2010/06/340652-restoring-damaged-ecosystems-can-generate-wealth-and-employment-un-report
⁴ ec.europa.eu/echo/blog/meet-villagers-tajikistan-who-are-putting-disaster-risk-knowledge-practice_fr
⁵ www.seafdec.org.ph/wp-content/uploads/2016/03/AQDMatters_May-June16_for-distribution.pdf
⁶ coastalresilience.org/project/nature-in-humanitarian-cycle
⁷ www.ilo.org/global/topics/employment-intensive-investment/themes/green-works/lang--en/index.htm



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 - 3 EU-funded disaster risk initiatives prove crucial when sudden help is needed. A villager shows how his vegetable garden got flooded when the water level rose. © Flickr, creative commons, EU/ECHO/Pierre Prakash, www.flickr.com/photos/eu_echo/35521052513
 - 4 Mangrove forest, Pandan Island, Puerto Princesa, Palawan, Philippines. © Flickr, creative commons, Storm Crypt, www.flickr.com/photos/storm-crypt/3076940251
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 - 6 Construction of stone walls using the labour-based approach to prevent slope erosion and protect the Gonaive Watershed, Haiti. © Employment Intensive Investment Programme (EIIP)



Advantages and challenges of mainstreaming Eco-DRR and EbA approaches:

According to priority 1 of the Sendai Framework, “policies and practices for disaster risk management should be based on an understanding of disaster risk in all its dimensions ...hazard characteristics and the environment” (UNISDR, 2015). To achieve cross-sectoral implementation of policies and practice, local and indigenous knowledge and practices should be combined with scientific knowledge mainstreaming the ecosystem component thus ensuring EbA and Eco-DRR implementation.

A cross-sectoral approach, coupled with high investment and involvement of crucial sectors, e.g. policy and decision makers, informed by the best scientific and local knowledge ensures increasing inter-institutional collaboration and community capacity building. This combination helps to improve human well-being, strengthen resilience and enhance preparedness. Ecosystem-based approaches within climate change adaptation and DRR are useful not only for their capacity to reduce and buffer against impacts of hazards, but also for associated social, economic and cultural benefits.

Despite advantages as aforementioned, there remain many challenges particularly in the enhancement of existing partnerships and the creation of new ones along with an increase of funds allocated to EbA and Eco-DRR projects. Further action will be needed in the following areas:

- Enlarge the Humanitarian-Environmental cooperation, integrating also the Development sector.
- Promote synergies between Humanitarian, Environmental and Development actors in the production and sharing of knowledge and capacities to design and implement EbA and Eco-DRR. Promote open-access to data that do not present any safety concern (population safety, conflict of interest, etc.).
- Map environmental information, data and assessments at different levels with focus on preparedness, disaster-wide data, national level coordination and direct programming implementation.
- Ecosystem risks are directly related to social vulnerability and success of Nature-based Solutions in general, and particularly of EbA and Eco-DRR approaches. Therefore, ecosystem risk assessments (e.g. IUCN RLE methodology) should be conducted as a key baseline for monitoring ecosystem health and identifying key threats and mechanisms driving to biodiversity loss.
- During post-disaster phases, environmental assessment tools should be framed according to the range of users, aims and functionalities within community consultation and engagement; these should also be realistic in terms of humanitarian response timelines and lack of environmental expertise in many humanitarian organisations.
- Increase the overall quality and accountability of humanitarian action by assessing environmental risk more accurately and from early-stages of interventions.





- Quantify benefits of EbA and Eco-DRR approaches to demonstrate the value provided by ecosystem services; both approaches are still both very underfunded, despite the evidence that every preparedness dollar has an impact in the long term. It is recommended that suitable performance indicators be developed to improve accountability, monitoring and knowledge management.
- Broadening the engagement and awareness of the donor community on these ecosystem-based approaches. Focus should be given to these new concepts in order to endorse a longer term vision which directly benefits the affected communities.
- Cope with the lack of institutionalization of environment due to constant rotating personnel.
- Work to develop ways to better integrate environmental considerations into the humanitarian programme cycle approach, starting from early planning stage.





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Further reading

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World Overview of Conservation Approaches and Technologies (WOCAT), see more at www.wocat.net/en. The overall goal of the WOCAT Network is to unite knowledge management and decision-support efforts, to enable scaling up of Sustainable Land Management among all stakeholders.

The Climate, Environment and Disaster Risk Reduction Integration Guidance (CEDRIG) is a practical and user friendly tool developed by the Swiss Agency for Development and Cooperation (SDC), see more at www.cedrig.org

Developed and authored by:



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