Nature-based Solutions

Background

Communities across the world are experiencing the growing devastating impacts of climate change and weather-related disasters. The resulting social, economic and environmental impacts are disproportionately affecting the world's most vulnerable people. Without urgent action to combat climate change, build climate resilience and reduce the risk of climate change and weather-related disasters, these disasters will continue to cause unprecedented damage.

Under the current greenhouse gas emissions trajectory, climate change and weather-related disasters and hazards, and their impacts, will reach unprecedented levels in the coming decades, causing significant damage to people and the environment. Further, biodiversity loss and ecosystem degradation are increasing climate-related disaster risk and vulnerability by undermining ecosystems and the ecosystem services which not only buffer climate-related hazards but also are crucial for protecting people's lives and livelihoods[1]. Together with compounding crises – such as pandemics or conflict – these environmental crises are putting the lives and livelihoods of the most vulnerable at significant risk.

Nature-based Solutions (NbS) have been identified as holistic and effective ways to increase community resilience to climate change and climate-related disasters when they are part of larger adaptation and disaster risk reduction efforts[2]. They can be applied both before disasters to reduce climate-related disaster risk, as well as after disasters to support communities in recovering from the impacts of disasters[3]. NbS contribute to multiple societal goals, including improvements in human health and well-being, food and water security, and greenhouse gas emissions reductions. They often build on the knowledge, capacities and natural resources available to local communities.[1]

In addition, NbS are particularly relevant in medium- to long-term climate change adaptation and resilience building of local communities. It is a holistic approach that builds on community knowledge and resources, can be aligned with principles of locally-led adaptation, and provides resilience to increasingly compounding crises that hit vulnerable communities hardest – such as climate change, health crises and environmental degradation.[3]

The Global Climate Resilience Platform is seeking to unleash the full potential of NbS by supporting the successful, locally-led, implementation and scale-up of NbS through community to landscape level approaches.

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[1] IPCC, 2022: Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press. In Press.

[2] IUCN (2020). Global Standard for Nature-based Solutions. A user-friendly framework for the verification, design and scaling up of NbS. First edition. Gland, Switzerland: IUCN. https://portals.iucn.org/library/sites/library/files/documents/2020-020-En.pdf

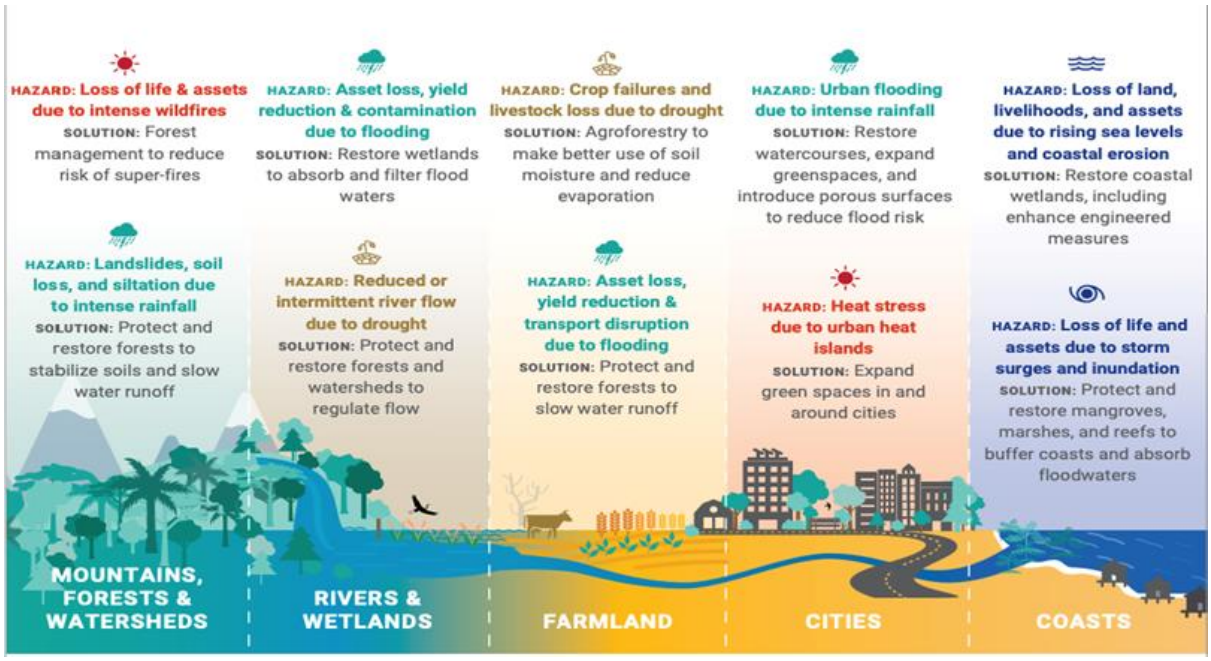
[3] Sudmeier-Rieux, K., Nehren, U., Sandholz, S. and Doswald, N. (2019) Disasters and Ecosystems, Resilience in a Changing Climate - Source Book. Geneva: UNEP and Cologne: TH Köln - University of Applied Sciences.

What are NbS?

NbS are actions to protect, sustainably manage and restore natural or modified ecosystems that address societal challenges simultaneously providing human well-being and biodiversity benefits[4].

Nature can be a key ally in reducing climate-related risks. Indeed, nature can address all parts of the risk equation, reducing the likelihood of climate-related hazards developing, exposure to such hazards, and the vulnerability of communities. Nature can reduce the likelihood of and prevent the occurrence of climate-and weather-related hazards. For example, vegetation on slopes can prevent landslides from occurring during heavy rain events - including those caused by an increase of heavy rainfall events due to climate change - by slowing the movement of rainwater and holding the soil together.[5] Nature also often acts as a natural buffer against hazards that do happen, reducing exposure and protecting people and their assets from their worst impacts. For example, mangroves and coral reefs act as natural defence against coastal erosion caused by sea level rise. Recent research by IFRC and WWF (2022)[6] shows that nature-based solutions could reduce the intensity of climate and weather-related hazards by around 26%. Nature also provides multiple services, including the provision of food and water, which can increase community resilience to climate change and weather-related disaster impacts.

Examples of NbS in different contexts of climate- and weather-related hazards



Source: Global Commission on Adaptation. Adapt Now report, 2019

[4] Cohen-Shacham, E., Walters, G., Janzen, C. and Maginnis, S. (eds.) (2016). Nature-based Solutions to address global societal challenges. Gland, Switzerland: IUCN. xiii + 97pp.
[5] UNDRR (2021) Words into action guidelines on Nature-based Solutions for Disaster Risk Reduction
[6] WWF, IFRC (2022) Working with Nature to protect people https://www.ifrc.org/sites/default/files/2022-05/IFRC_%26_WWF_V_6-LR.pdf

NbS include initiatives focused on: a) protecting nature, b) restoring nature, c) sustainably managing nature, or d) creating ecosystems in ways that address societal challenges. By allowing nature to continue to provide services that protect communities from climate change and weather-related hazards, and increase community capacity to adapt to them, NbS have a strong potential to reduce climate-related disaster risk and support climate change adaptation.

If well designed, NbS can also achieve multiple co-benefits and contribute to the overall resilience of vulnerable communities. NbS benefits include contributing to food and water security, as well as providing health benefits – all of which are closely tied to the humanitarian sectors of food security and nutrition; water sanitation and hygiene (WASH); and health[7]. This highlights the relevance of NbS before, during and after climate- and weather-related disasters. However, climate change threatens the future potential of NbS. This means, implementation must be scaled up now from short-term, small-scale to longer-term, landscape-scale solutions with NbS as part of a comprehensive package of disaster risk reduction and climate change measures.

The growing base of successful projects highlight several key enablers for NbS: engagement of local stakeholders; a supportive legal and policy environment; multi-stakeholder approaches; utilizing both traditional knowledge and science; and ensuring both long- and short-term benefits are delivered. As NbS often rely on local communities to implement and manage the interventions, the engagement of local stakeholders is crucial for successful implementation. This helps ensure that projects work in the local context, build on local knowledge, local people experience the benefits, and that the project is sustainable[8].

Establishing legal and policy frameworks that support NbS is also critical for success.

IFRC network's role

NbS are an institutional priority for the IFRC network – recognized in our Plan and Budget 2021-2025[9]; the Climate and Environment Charter for Humanitarian Organizations[10] and the Global Climate Resilience Programme of the IFRC.

The Global Climate Resilience Platform seeks to catalyse investment in this innovative approach and to integrate it at scale in the work of the 100 National Red Cross and Red Crescent Societies by 2025. NbS will be implemented to reduce climate-related disaster risks and their impacts, in addition to strengthening the resilience of vulnerable communities through securing ecosystem services.

IFRC's approach to NbS prioritizes landscapes that are vulnerable to climate-related disasters (including droughts, sea-level rise and coastal erosion, increased extreme events), while focusing on locally-led NbS that enable vulnerable communities to increase their resilience and adaptive capacity to climate change – in the short-, medium- and long-term.

[7] FEBA-PEDRR (2021) Nature-based Solutions in humanitarian contexts. Key messages https://www.iucn.org/sites/default/files/2022-07/nbs_in_humanitarian_contexts_key_messages_1.pdf
[8] IFRC (2022) The Nature Navigator. https://preparecenter.org/site/nbs/nbsresources/nature-navigator-handbook/
[9] https://www.ifrc.org/sites/default/files/Plan-and-Budget-promo-doc-FINAL.pdf
[10] https://www.climate-charter.org/

The approach promoted by IFRC includes carrying out community-based vulnerability assessments, climate risk assessments and ecosystem assessments, which help identify sites, risks and appropriate NbS within each landscape, tailored for each community. A special focus is given to strengthening local capacities, of both communities and local authorities and partners, to ensure locally-led implementation of NbS.

IFRC seeks to align NbS with national disaster risk reduction and adaptation priorities, identified in e.g., National Adaptation Plans and Nationally Determined Contributions, and support the integration of these into local level disaster risk management plans to ensure sustainability. This includes bridging global-to-local divides in achieving targets set under e.g., Paris Agreement and Sendai Framework, through delivery of locally-led action to enhance adaptive capacity, strengthen resilience and reduce vulnerability to climate change and climate-related disasters.

This will be implemented through the following actions:

- Carrying out community-based vulnerability assessments and ecosystem assessments, combining local and scientific knowledge.
- Strengthening capacities of communities and local authorities in designing, implementing and monitoring NbS.
- Implementing NbS measures such as: sustainable agriculture and water conservation; reforestation and forest restoration; mangrove restoration; sustainable land management.
- Advocacy, analysis and training at local and national level on the integration of NbS into local and national disaster, climate and development plans, policies, laws and budgets.
- Catalyzing partnerships and dialogues between disaster risk reduction, environment and climate actors at local and national level between communities, governments, organizations, research institutes and private sector.

IFRC network's value proposition

The IFRC network brings its extensive experience in climate-related disaster risk management. The IFRC network is working with a range of actors and organizations to increase understanding on NbS along the climate change, humanitarian and development nexus. Recognizing the need for strong environmental expertise to design and implement NbS, IFRC has launched global partnerships with key environmental players including The Nature Conservancy, UNEP and WWF. These partnerships are now being taken to the national and local level to catalyse NbS action on the ground.

In addition, IFRC has been active in global partnerships, such as the Partnership for Environment and Disaster Risk Reduction (PEDRR) and as co-Chair of the Friends of EBA (FEBA) NbS in Humanitarian Contexts working group, in providing thought-leadership on the relevance of NbS as part of climate-related disaster risk reduction and disaster management.

IFRC builds on its decades of expertise in community-based disaster risk reduction, and its exceptional outreach – with presence in over 160,000 communities worldwide – as a unique

entry point for community-led NbS, focused on climate-related disaster risk reduction and climate change adaptation.

IFRC has already applied NbS in various contexts. This includes restoring mangroves for coastal protection from increased extreme events and sea level rise in Jamaica and Viet Nam; reforestation through vegetation belts to protect refugee camps from sand encroachment and drought in Kenya; and using vegetation barriers to reduce the risk of landslides, worsened by an increase in extreme events, in Honduras.

The IFRC network added value in this space includes:

- Our long-term community presence through our network of 160,000 local branches and 14 million volunteers which play an important role in community mobilization, awareness raising and education around climate change and nature-based solutions.
- Our proximity and access to local actors play a critical role in ensuring NbS approaches are locally-led, respond to local needs, are inclusive and sustainable. The buy-in, support and understanding of local communities is essential to protecting, sustainably managing and restoring ecosystems.
- Our presence before, during and after climate-related disasters enables us to take the time needed to implement NbS as part of long-term resilience building programmes while also ensuring the potential of NbS in preparing for and recovering from such disasters.
- As auxiliaries to their governments, National Red Cross and Red Crescent Societies are uniquely placed to advocate for NbS to be integrated into relevant disaster, climate or development policies, plans, laws and investments at local and national levels.