



The Best of Both Worlds: Uniting Adaptation Technologies and Nature- based Solutions to Enhance Coastal and Ocean Resilience

November 2021

Outcomes from the virtual event organised jointly by the International Union for Conservation of Nature (IUCN), the Friends of Ecosystem-based Adaptation (FEBA) Network, the United Nations Framework Convention on Climate Change (UNFCCC) Technology Executive Committee (TEC) and the UNFCCC Nairobi Work Programme (NWP) Expert Group on Oceans, and held on 8 November 2021 as a Nature+ Zone Pavilion event at COP26 in Glasgow.



United Nations
Climate Change

TEC

NAIROBI WORK
PROGRAMME

FEBA
Friends of Ecosystem-based Adaptation





SESSION OVERVIEW

Innovative adaptation approaches that integrate both technology and nature-based solutions are crucial for enhancing the climate resilience of ocean and coastal communities and ecosystems across the world. Such integrated approaches urgently need to be scaled up into national and international institutions and climate strategies, translated from policy into on-ground implementation, and robustly financed to respond to the increasing threats of climate change and to achieve the goals of the Paris Agreement.

Integrated adaptation approaches are particularly critical in ocean and coastal settings, where climate change is impacting marine conditions, precipitating sea level rise and coastal erosion, and compounding unsustainable resource use to imperil marine biodiversity and livelihoods.

In this context, UNFCCC TEC, in partnership with the UNFCCC NWP Expert Group on Oceans, IUCN and FEBA, is organising a series of events to explore the main challenges and opportunities for integrating both technology and ecosystem-based adaptation to build the resilience of oceans and coastal ecosystems and communities.

This event, the third and last of the Technology Day (TD) series on coastal and ocean adaptation, was held as a Nature+ Zone Pavilion event at the 26th UNFCCC Climate Change Conference (COP26) in Glasgow. Building on the outcomes of the first two events, this session consolidated key messages and outcomes from the series – in both practice and policy. Speakers focused on policy integration, finance, capacity building and other aspects of the enabling environment for implementation to accelerate the uptake and scaling up of integrated adaptation solutions that harness the best of both nature and technology to build ocean and coastal resilience.

100
Live attendees

View the
Livestream recording

Part of the
Technology Day
event series

INSIGHTS FROM SPEAKERS

Opening remarks from Daniele Violetti, Senior Director of Programme Coordination, UNFCCC, set the stage for the session, framing the key role of technology in adaptation and resilience building alongside complementary approaches. Violetti emphasised the need for multi-stakeholder involvement and strong partnerships – such as the collaboration between the UNFCCC TEC, NWP, IUCN and FEBA – to scale and accelerate innovative adaptation solutions.



Keynote speaker Md Mostafa Kamal, Secretary of the Ministry of Environment, Forest and Climate Change of Bangladesh, shared the climate challenges facing Bangladesh and its progress on adaptation, including through nature-based solutions and technology but also through national laws and the embedding of nature conservation into the country's constitution. The Secretary underlined the need for finance to support climate action, especially adaptation, in less developed countries.

“We need to learn from each other. There is so much going on in technology, climate technology, nature-based solutions – we need to break the siloes. We need to get out of our comfort zones because business-as-usual is not working.”

– Ali Raza Rizvi, *Global Coordinator, Adaptation, IUCN*



INSIGHTS FROM SPEAKERS

Panellists:

- Ko Barrett, *Senior Advisor for Climate, NOAA and Vice Chair, IPCC*
- Adelle Thomas, *Senior Research Associate, Climate Analytics & University of Bahamas*
- Hans Piertsen, *Senior Advisor of International Affairs, Ministry of Infrastructure and the Environment, Rijkswaterstaat, The Netherlands*
- Gwendalyn Sisor, *Acting Director for the Bureau of Agriculture, Republic of Palau*
- Carolina Fuentes, *Secretary to the Board and Head of Governance Affairs, GCF*

Moderator: Ali Raza Rizvi, *Global Coordinator Adaptation and DRR / Senior Advisor Resilience, IUCN*

The panel of five distinguished speakers discussed opportunities and challenges for enhancing uptake, scaling and resourcing of integrated approaches to build the climate resilience of ocean and coastal communities and ecosystems. Speakers highlighted the importance of translating national and international policies and financial mechanisms into integrated adaptation action on the ground. Alongside policy mainstreaming across sectors, it was emphasised that climate finance must become made more widely available, accessible and sustainable in order to facilitate local interventions and achieve national adaptation objectives. Knowledge sharing must also continue to strengthen the means of implementation; several panellists highlighted ongoing efforts to develop technical guidance on integrated adaptation approaches, such as the International Guidelines on Natural and Nature-Based Features for Flood Risk Management.



Closing remarks from Stephen Minas, Chair of the UNFCCC TEC, reiterated the critical role of finance, as well as the role of legislation and constitutional law, in facilitating integrated adaptation solutions. Minas emphasised that in a hybrid world where nature and technology are inherently intertwined, we must create hybrid solutions that provide optimal adaptation benefits to both communities and ecosystems.



INSIGHTS FROM SPEAKERS

“We must always keep those who will implement change in the front of our minds as we craft national and international resilience frameworks and create the financial incentives needed to ensure the safety and prosperity of our frontline communities... We must think locally as we act globally.”

– Ko Barrett, *Senior Advisor for Climate, NOAA and Vice Chair, IPCC*



“With the rapid development of technologies – particularly those of a digital nature, the very rapidly growing knowledge and experience of nature-based solutions, and the growing interest from the capital market in nature-positive investments, we have a great opportunity. But to grasp that opportunity we need to harden our resolve in pursuing ultimate long-term resilience while maintaining an open mind to learn from and collaborate with each other.”

– Carolina Fuentes, *Secretary to the Board and Head of Governance Affairs, GCF*

“The big elephant in the room is that we keep recommending these beneficial approaches to adaptation but we are not seeing the financial resources available to actually implement them.”

– Adelle Thomas, *Senior Research Associate, Climate Analytics & University of Bahamas*



“Technology transfer is happening – the issue is whether or not we have the finance to implement it.”

– Gwendalyn Sisor, *Acting Director for the Bureau of Agriculture, Republic of Palau*

INSIGHTS FROM SPEAKERS

“We need more innovative solutions and creative thinking – forward-looking, integrated and sustainable approaches like hybrid technologies. ... Innovative solutions also mean enabling the involvement of multiple stakeholders, bringing together technical, policy, business, financial and social perspectives to the table.”

– Daniele Violetti, *Senior Director of Programme Coordination, UNFCCC*



“A substantial portion of the world’s population live at the interface of land and sea. ... nature-based solutions can help and support the survival of these people.”

– Md Mostafa Kamal, *Secretary, Ministry of Environment, Forest and Climate Change of Bangladesh*

“We live in a hybrid world and hybrid solutions are perhaps inevitable. How can we craft them in the most helpful and the least harmful manner for ecosystems and for people?”

– Stephen Minas,
Chair of the UNFCCC TEC



“It is important to share our knowledge because nature-based solutions are the oldest way to protect ourselves, but the idea of mainstreaming them is relatively new. ... There is already a wealth of knowledge out there. The opportunity that remains is preparing our development finance institutions to work with this new approach, which will require large investment in monitoring and maintenance.”

– Hans Piertsen, *Senior Advisor of International Affairs, Ministry of Infrastructure and the Environment, Rijkswaterstaat, The Netherlands*

HIGHLIGHTS



Policy Brief: Technologies for Averting, Minimizing and Addressing Loss and Damage in Coastal Zones

UNFCCC Executive Committee of the Warsaw International Mechanism (WIM) For Loss And Damage & UNFCCC Technology Executive Committee (TEC)

The policy brief provides information on an array of technologies currently available to assess risks, reduce risks, recover and rehabilitate from the impacts of climate change in coastal zones, including the role of nature-based solutions. It also highlights challenges and opportunities of these technologies where improvements can be made to help countries prepare better to deal with adverse impacts of climate change in coastal zones.



International Guidelines on Natural and Nature-Based Features for Flood Risk Management

U.S. Army Engineer Research and Development Center in partnership with Rijkswaterstaat, U.S. National Oceanic and Atmospheric Administration (NOAA), English Environment Bank, World Wildlife Fund, and the World Bank

The International Guidelines on NNBF for Flood Risk Management provide practitioners with the best available information concerning the conceptualization, planning, design, engineering, construction, and maintenance of NNBF to support resilience and flood risk reduction for coastlines, bays, and estuaries, as well as river and freshwater systems.

KEY OUTCOMES

Innovative solutions are key to addressing the mounting challenge of climate change adaptation in ocean and coastal regions. Nature-based and technological approaches are both crucial for enhancing the resilience of human communities, ecosystems, economies, and infrastructure, but alone they are often not enough to effectively address the impacts of climate change. Integrated adaptation strategies must be deployed efficiently and at scale to achieve the goals of the Paris Agreement and SDG 14 while swiftly meeting the needs of coastal and ocean communities around the world.



1

Local community action and involvement are critical for effective adaptation action on a global scale.

National and international climate resilience frameworks must be translated to the local level. We must enable access to resources – knowledge, legal, policy, capacity-building – to support the communities who will implement needed changes. Interventions must also be flexible and adaptable to local circumstances, including ecosystems, cultures, institutions and economies. Alongside the technical development of engineering and nature-based solutions, it is critical to meaningfully engage local stakeholders to decide on the best approach. Participatory consultations take more time upfront but arrive at more sustainable, effective, and locally acceptable and desirable interventions, contributing to long-term provision of adaptation benefits and the preservation of cultural knowledge and products.

2

The accessibility and sustainability of finance, especially for communities most affected by climate change, must be improved.

Coordinated international knowledge sharing can support the capacity strengthening, access to tools, and policy development that individual countries need to achieve national objectives, reach targeted groups, and contribute to common global goals. Within national governments, institutional change and cross-agency collaboration can combine various agency mandates, missions and resources to facilitate the implementation of system scale solutions that integrate nature-based solutions and conventional approaches. Local governments are key to unlocking the scale and space needed for integrated solutions through land use planning, as well as for critical pilot projects that bring diverse stakeholders together and promote learning by doing.

3

Integrated adaptation solutions should be embedded across policies and ministerial sectors

beyond those specific to or traditionally associated with climate change adaptation, such as agriculture, tourism, water security and disaster risk management. Using existing frameworks, like integrated coastal zone management, can help to mainstream and scale up the use of hybrid technologies and support adaptation in every aspect of development for coastal and small island states.



NEXT STEPS

Following the conclusion of the three-part joint event series, the UNFCCC TEC, NWP, IUCN and FEBA are developing a policy brief which will identify challenges, opportunities and recommendations for improving uptake and upscaling of innovative adaptation approaches that integrate technology and nature-based solutions.



To learn more about the event series, visit:

[FEBA Events](#)

[Technology Day Events](#)



Follow organisers on Twitter for insights and updates:

FEBA: [@FriendsofEbA](#)

NWP: [@AdaptXChange](#)



LEARN MORE

TEC

The Technology Executive Committee (TEC) is the policy arm of the Technology Mechanism under the United Nations Framework Convention on Climate Change (UNFCCC). It focuses on identifying policies that can accelerate the development and transfer of low-emission and climate resilient technologies. The TEC and the Climate Technology Centre and Network (CTCN) form the Technology Mechanism, which also serves the Paris Agreement.

TECHNOLOGY DAY

“Technology Day” (TD) is a series of events taking place in 2020 and 2021 whose objective is to promote innovative approaches to deploy, disseminate and scale up adaptation technologies in various key sectors.

NAIROBI WORK PROGRAMME

Oceans, coastal areas and ecosystems, including mega deltas, coral reefs and mangroves are amongst the priority areas under the Nairobi Work Programme (NWP), the UNFCCC knowledge-to-action hub for adaptation and resilience. The NWP expert group on the ocean has worked together since 2019 to find synergies to strengthen adaptation knowledge networks and address support of specific knowledge needs for Least Developed Countries (LDCs) and Small Islands Developing States (SIDS), while also collaborating with the constituted bodies under the UNFCCC process.

FEBA

Friends of EbA (FEBA) is a global collaborative network of 90+ agencies and organisations involved in Ecosystem-based Adaptation (EbA) working jointly to share experiences and knowledge, to improve the implementation of EbA related activities on the ground, and to have a stronger and more strategic learning and policy influence on EbA. FEBA works to synthesise multi-stakeholder knowledge on EbA; disseminate this knowledge by convening the global EbA community around high-level events, technical workshops, and expert working groups; and raise awareness and understanding of EbA in adaptation planning processes and multilateral policy frameworks. The CBD COP recognizes FEBA as a key partner “to support Parties in their efforts to promote ecosystem-based approaches to climate change adaptation” (Decision 14/5).



The Global Green-Gray Community of Practice is a collaboration across the conservation, engineering, finance, and construction sectors to generate learning and innovation to achieve climate adaptation benefits for communities, their future generations, and biodiversity. The multi-disciplinary Community of Practice has grown to over 100 member organizations spanning the globe, representing non-profit, academic, government and private organizations. The Community of Practice is working to: share ideas and facilitate collaboration; innovate and pilot new approaches; expand science, engineering, and policy activity; and implement and learn from projects in a multitude of geographies and settings.