9th Ecosystem-based Adaptation Knowledge Day Brief

Discussion Track: Loss and Damage

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Session Leads:

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Brief overview:

This Brief is a consolidated documentation of knowledge shared during the Loss and Damage Discussion Track at the 9th EbA Knowledge Day (KD). It serves as a knowledge product for practitioners and policymakers engaged in this topic at the global, national, and local levels. The Brief summarises discussions and insights that emerged during the session - highlighting the views and ideas shared by participants representing various stakeholder groups (national governments, civil society, academia, etc.) - and offers several suggestions and recommendations for activities that would contribute to the advancement of this topic.

Introduction

The purpose of the Loss and Damage Discussion Track at the 9th EbA Knowledge Day was to explore the following question:

- What are the technical assistance needs and ways to address climate-induced non-economic loss and damage to ecosystems, ecosystem services, and biodiversity?

To further elaborate on this question on more detail, the concrete objectives of the Loss and Damage Discussion Track were to collect and share knowledge and experiences, and elaborate on existing gaps and barriers concerning:

1) **Information** to account for,
2) and **data and technologies** that are required to address climate-induced non-economic loss and damage in the context and ecosystems, ecosystem services, and biodiversity.

Loss and damage to ecosystems, ecosystem services and biodiversity was the focus of this discussion track as it is clear that next to averting and minimizing loss and damage through mitigation and adaptation efforts, we also experience more and more losses and damages in the context of climate change. Ecosystems provide multiple benefits and services, which are leveraged in the context of Nature-based Solutions (NbS) for climate change adaptation (EbA) or disaster risk reduction (Eco-DRR), but can at the same time be adversely impacted by climate-related hazards, either extreme or slow onset events, such as storms, temperature increase or sea level rise. Next to provisioning ecosystem services, such as food sources (e.g. crops or fish) or raw materials (e.g. timber), there are multiple other cultural or regulating ecosystem services which cannot be well accounted for in economic terms (e.g. sense of place, habitat for species, regulating services to buffer extreme events, etc.), however, they are very relevant – especially in the context of climate change adaptation and disaster risk reduction. Thus, information is needed to account for loss and damage of ecosystems, ecosystem services and biodiversity in a holistic manner, and data and technologies required to derive such information. Both these topics have been elaborated on this Loss and Damage Discussion Track.

The Loss and Damage Discussion Track built on the definition of the IPCC (2018) that losses and damages are the observed impacts and projected risks to societies and natural ecosystems[1]. The session specifically focused on non-economic losses and damages (NELDs), which are defined as impacts to individuals, societies, and the environment that are not commonly traded on the market[2]. For this session we focused specifically on NELDs in the context of ecosystems, ecosystem services and biodiversity.

Approach & Key Messages

Design of the Session

The session was kicked-off with an impulse presentation delivered by UNU-EHS on what Loss and Damage represent and in particular what the term “losses and damages” (different meanings whether in upper or lowercase letters) means in the context of ecosystems, ecosystem services and biodiversity, and why it is

[1] From IPCC (2018) Special Report: Global Warming of 1.5 degrees C [link]
[2] As defined by the Warsaw International Mechanism for Loss and Damage Executive Committee [link]

so relevant to accelerate the derivation of targeted information products and advance on data and technologies to address the current knowledge gaps. Following this, the session focused on an interactive element inviting the audience to actively participate, respond to and discuss the key questions of the session. An interactive digital whiteboard platform (Mural platform) was prepared and shared to allow all participants to contribute their ideas directly in a collective manner. The board was structured into two main columns, one for "information gaps" and the other for "data and technology needs", and for each of them the three key aspects, namely ecosystems, ecosystem services and biodiversity have been separated. In the process of this interactive part, the contributions of participants were discussed and consolidated in the second round to derive key messages and replies to the guiding questions of this session for the final report-back during the wrap up of the Knowledge Day as well as for this documentation.

Summary of Interventions & Key Findings

The main findings consolidated from this session can be structured according to the two guiding questions outlined above:

1. **What information is required to account for non-economic losses and damages to ecosystems, ecosystem services, and biodiversity?**

Information about ecosystems

- Basic information about which ecosystems exist and in which condition they are is needed to create baseline information as reference to what can be accounted for in the context of losses and damages, especially in the context of sudden onset events, but also for slow onset events.
- Such a baseline should also consider the relevance of an ecosystem for livelihoods or existing biodiversity (see also below on ecosystem services and biodiversity).
- Guidelines are needed on how to identify, measure and account for non-economic losses and damages and how to compile the information which is needed.

Information about ecosystem services

- Ecosystems provide a variety of ecosystem services and have according to IPBES very diverse values and contributions to people. Information on which services and contributions ecosystems provide is needed to allow the identification of losses and damages.
- It is essential to also consider indigenous knowledge and practice as well as cultural values of the landscape and seascape to indigenous people.

Information on biodiversity

- There are multiple indicators that can provide information on biodiversity in relation to ecosystems. Relevant baseline information in this regard can be the information on key species or endangered species, habitat characterization, or ecosystem condition.

Additional points include community aspects, such as perceived values in the context of ecosystems, preferences of the affected people and communities and their priorities in terms of ecosystem services. Additionally, contributions of an ecosystem to disaster risk reduction and climate change mitigation and adaptation needs to be considered when accounting for losses and damages of ecosystems, ecosystem services and biodiversity

2. What data and technology is required to monitor non-economic losses and damages to ecosystems, ecosystem services, and biodiversity?

Data and technologies to monitor impacts on ecosystems

- Remote sensing and Geographic Information Systems (GIS) provide data and technologies for spatial explicit mapping of land cover and land use. Building on this, new methodologies are needed to qualify ecosystem condition and health to create relevant baseline information products for assessing losses and damages of ecosystems. Remote sensing has a huge potential that needs to be further explored in this regard.
- Technology is needed that is accessible also at the local level and can help to facilitate knowledge sharing and understanding of losses and damages.
- Data on future projections of climate change and different scenarios of slow onset and extreme events are needed at regional or local scale to assess exposure of ecosystems.

Data and technologies to monitor impacts on ecosystem services and biodiversity

- Next to remote sensing-based approaches to qualify ecosystem conditions and health, stakeholder perspectives need to be added to account for ecosystem services and understand different dimensions of losses and damages of ecosystem services.
- Citizen science has a huge potential to collect data on ecosystem services and biodiversity, as well as on losses and damages by rural communities.
- The modelling of habitats, habitat suitability and conditions build on input data that characterize ecosystems and can provide information on ecosystem condition and biodiversity.

There are different **policy instruments** that can be leveraged to advance the consideration, monitoring and accounting for losses and damages of ecosystems, ecosystem services and biodiversity, such as National Adaptation Plans (NAPs), National Biodiversity Strategies and Action Plans (NBSAPs) or National Disaster Risk Reduction Strategies. Nature can be considered as connector between climate, biodiversity and disaster related challenges, which means that healthy ecosystems can address these global challenges simultaneously, and losses and damages to ecosystems, ecosystem services and biodiversity need to be well understood and accounted for in order to accelerate the implementation of climate resilient Nature-based Solutions.

Recommendations & Follow-up Activities

Recommendations for different actors involved in loss and damage accounting and monitoring:

1. <u>For practitioners on the ground:</u>
    a. Refer to use cases in which indigenous/local knowledge and practice concerning ecosystem services were integrated in the loss and damage accounting/monitoring process
2. <u>For intergovernmental actors and national-level policymakers in collaboration with technical experts and practitioners:</u>
    b. Agree on a definition of the term “loss and damage” that can inform accounting and tracking efforts for ecosystems, ecosystem services, and biodiversity

c. Provide guidelines for accounting and monitoring of NELDs with a special focus on the environment
d. Develop a global database compiling and tracking NELDs with special focus on the environment
e. Develop guidelines for integrating NELDs accounting and monitoring processes with climate and biodiversity objectives at the national level (NAPs, NBSAPs, etc.).

3. For technical experts and other stakeholders
   f. Develop methodologies and data products to inform indicators to monitor and track NELDs with special focus on the environment
   g. Develop mechanisms to effectively integrate different types of data and information (for example remote sensing, GIS, and citizen science) for accounting and monitoring of NELDs with special focus on the environment
4. For scientists
   h. Develop a conceptual understanding how to qualify and quantify NELDs for specific ecosystems.
   i. Develop indicators that can be used to assess and monitor NELDs in the context of sudden and slow onset events and their impacts on ecosystems, ecosystem services and biodiversity

Additional Literature Resources

Griswold, Delilah; Emily Goodwin; Sandeep Chamling Rai; Yvonne Walz; Zita Sebesvari; Antoine Libert et al. (2022): LOSS & DAMAGE, ECOSYSTEM INTEGRITY AND NATURE-BASED SOLUTIONS. FEBA-PEDRR ISSUE BRIEF FOR UNFCCC COP27. [link]

Janzen, Sally, Emerton, Lucy, van der Geest, Kees, Narvaez, Liliana and Sebesvari, Zita (2021). Assessing losses and damages to ecosystem services: current state and opportunities for the Warsaw International Mechanism under the UNFCCC. Climate Policy, 21(7), 912-926. [link]

Nicholson, Emily; Watermeyer, Kate E.; Rowland, Jessica A.; Sato, Chloe F.; Stevenson, Simone L.; Andrade, Angela et al. (2021): Scientific foundations for an ecosystem goal, milestones and indicators for the post-2020 global biodiversity framework. In *Nature ecology & evolution* 5 (10), pp. 1338–1349. [link]

Qi, J.; Dazé, A.; Hammill, A. (2023): Addressing loss and damage: What can we learn from countries' National Adaptation Plans? International Institute for Sustainable Development (NAP Global Network). [link]

Walz, Yvonne, Janzen, Sally, Narvaez, Liliana, Ortiz-Vargas, Andrea, Woelki, Jacob, Doswald, Nathalie and Sebesvari, Zita (2021). Disaster-related losses of ecosystems and their services. Why and how do losses matter for disaster risk reduction? International Journal for Disaster Risk Reduction, 63(102425), 1-16. [link]

Upcoming Events & Participation Opportunities

UNFCCC COP28, 30th November – 12th December 2023, United Arab Emirates. Information on registration and participation is available here. Under the theme of "Health/Relief, Recovery and Peace", preventing and addressing loss and damages will be discussed.