



EUROPEAN UNION



EU MISSIONS

ADAPTATION TO CLIMATE CHANGE



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EU Mission Adaptation Community

Summary of the event: Nature-based Solutions as an Adaptation Option.

Tuesday 23rd January 2024

1. Introduction

This report provides a summary of the discussion that took place on Tuesday January 23rd, 2024, as part of the EU Mission Adaptation Community event – Nature-based Solutions as an Adaptation Option. The recording of the event is available through this [link](#).

The online event received a total of 76 registrations, from which 57 participated in the event, broken down as:

- 32 Charter Signatories
- 4 Friends of the Mission
- 7 Mission Project representatives
- 2 from the Mission Secretariat
- 1 Member State Facilitator
- 12 others (incl. 11 MIP team and 1 University faculty)

The objectives of the event were to provide participants with an understanding of Nature-Based Solutions (NbS) and their multifaceted benefits; highlight NbS success stories, demonstrating its positive impact on climate change, biodiversity, and human well-being; foster a space for community members to engage in discussions and explore NbS applications, challenges and opportunities, lessons learnt and best practices; network and link with members of the Community and continue building a sense of community.

The full agenda can be found in the Annex. Box 1 summarises the main findings from the event.

Box 1. Main findings from the 'Nature-based Solutions as an Adaptation Option' event.

- There exists a willingness within communities and regions to learn and implement Nature-based Solutions (NbS) to address the climate risks they confront. Nevertheless, certain regions have yet to initiate any NbS endeavours.
- Consistent challenges and issues associated with NbS have been identified across diverse regions with unique contexts (incl. health, climate resilience, water management, biodiversity enhancement, air quality, natural and climate hazards, land and green space management, among others).
- There is a recognized imperative to disseminate the benefits of NbS to stakeholders and policymakers in order to gather increased support for its implementation and funding. To this end, the importance of sharing clear, easily comprehensible information has been underscored.

2. Summary of the event

The event explored Nature-based Solutions (NbS) as an adaptive measure. It began with a brief introduction to the four-month peer learning program comprising four online sessions. The primary objective of this initiative is to foster in-depth exchanges and provide mentoring to regions and local authorities on relevant topics of interest.

The event featured a presentation by Susanna Gionfra from IUCN, a participant in the NetworkNaturePLUS project, on NbS. In her introduction she clarified NbS definitions and terminology, highlighting the following key points:

- **NbS characteristics:** multifunctional, context-specific, benefiting biodiversity and human well-being, addressing multi-societal challenges, applicable across all ecosystems, and either replacing or complementing conventional solutions.
- **Challenges addressed by NbS:** encompassing health, social justice and cohesion, participatory planning and governance, climate resilience, water management, biodiversity enhancement, air quality, natural and climate hazards, land and green space management, place regeneration, new economic opportunities, and green jobs, among others.
- **NbS benefits** across environmental, social, and economic sectors.
- **Misuses of NbS:** contribution to gentrification, inequitable distribution of benefits, promotion of industrial agriculture and monoculture planting, displacement of communities, failure to contribute to biodiversity and ecosystem integrity, and overlooking the rights of indigenous peoples and local and vulnerable communities.

Moreover, a framework for verifying and supporting NbS design, the IUCN Global NbS Standard, was presented. The plenary session concluded with the sharing of a successful NbS case study—the ReDuna project in Almada, Portugal—illustrating NbS implementation for adaptation with various benefits, including the restoration of sand dunes through sand nourishment, installation of natural willow fences, removal of invasive species, and planting of native species.

In the subsequent Q&A session, participants inquired about key variables and factors relevant to NbS, definitions and examples of green infrastructure, NbS trade-offs, and recommendations for drought management. The complete compilation of Q&A can be found in the Annex.

During breakout room sessions, participants exchanged experiences, needs, challenges, and tips regarding NbS implementation. It is noteworthy that some participating regions are still in the process of evaluating and identifying the most suitable NbS options to address their specific situations.

As concluding remarks, participants were briefed on upcoming events, including a training session on climate risks and vulnerabilities on January 25, a follow-up event on guiding climate risk assessment (CRA) on January 30, and the inaugural meeting of the peer learning program on February 19.

3. Lessons learnt and outputs

Following discussions in the breakout rooms, several crucial lessons were gleaned, encompassing needs, barriers, recommendations, and examples from various participating regions and projects regarding NbS implementation:

- **Needs:** It's imperative to consider the additional benefits of NbS and simplify information dissemination to foster better communication among municipalities/regions and research entities. There's a demand for gathering more evidence about NbS viability through a multi-actor approach to enhance design and adoption, increase credibility, and garner interest from policy-makers. Assessing thresholds and trade-offs during the design process is essential, alongside studying stakeholders' and communities' final perceptions about implemented NbS. Furthermore, creating incentives for actors and sectors to incorporate NbS is crucial.
- **Barriers and challenges:** Challenges include lack of support and knowledge regarding NbS implementation in decision-making processes, difficulty in reaching a diverse audience from various economic backgrounds and marginalized communities, securing stakeholders' buy-in, estimating long-term effectiveness, measuring benefits, addressing land management issues, contextual specificity of NbS, lack of incentives, funding dependence, and conflicting results.

Examples of NbS implementation include agricultural management to reduce soil erosion, CO₂ storage, planting hedges, green roofs, tiny forests, and flood prevention, as well as initiatives such as spongescapes. An overview of the participants' perceptions was collected through slido (Figure 1).

Figure 1. Participants' perception on implementing NbS

Have you implemented or are considering implementing NbS in your region?

- Experiences Agricultural management to reduce soil erosion + CO2 storage and flood prevention (co-benefits); planting hedges / Water retention measures / Green Roofs / Tiny forests monitoring is key. --> restoration projects provide a good opportunity to assess benefits provided by NbS (spongescapes project) Legislation (regarding hedges / green roofs) (e.g., not enough incentives)
- It is important that the authorities support putting this types of solutions in place
- Long period of droughts followed by heavy rains and searching for Nbs to retain water during precipitation to be used during drought spell. Submitted a Horizon project (agriculture) but was not successful. Trying to get external finances to solve this issue, but it is complex
- It is important to raise awareness among inhabitants of the region regarding NbS being implemented
- Land identified during the feasibility study

Participants suggested employing cost-benefit analysis (CBA) to persuade policymakers and informing stakeholders about the collective social, economic, and environmental benefits of NbS to enhance acceptance and involvement.

4. Feedback on the event

During the event, participants were asked a question regarding the main takeaways from today's discussion (Figure 2) was answered, highlighting the importance of disseminating the social, economic and environmental benefits of NbS and the opportunity for sharing experiences in different regions and projects.

Figure 2. Takeaways from the breakout rooms' discussions.

What are your main takeaways from today's discussion?

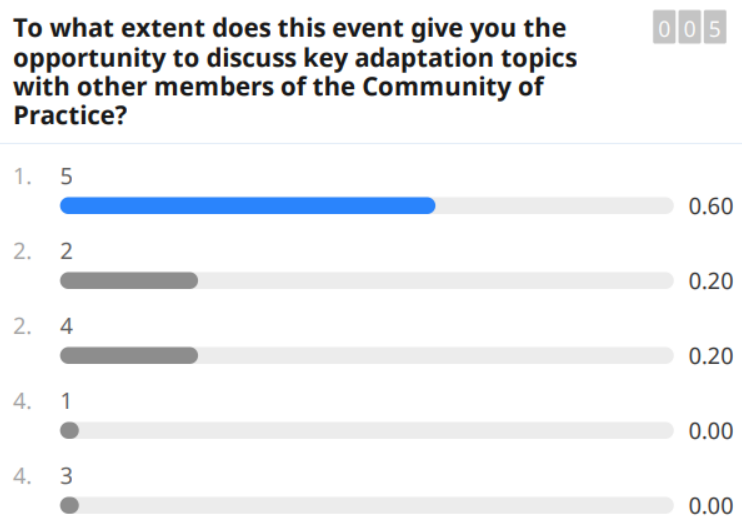
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- Sharing of experiences
- not just the technical information, but the "community feeling"
- Communities are eager to learn, which is great to hear. Hopefully more of communities/municipalities/regions will join those events in future
- Importance of highlighting social, economic and environmental benefits all together to improve acceptance and involvement
- Same challenges and issues in very different contexts. Good to know we are not alone!

Following the event, a satisfaction survey was issued via email and the online EU Mission Adaptation Community site. The satisfaction survey received only one response in total. Feedback gathered at the event was overall positive. Participants were asked about the extent to which these types of events are useful to discuss key adaptation topics with other members of the Community. Figure 2 shows the

participants opinion through Slido. It can be noted that most participants do believe these events are useful for them in the sense of fostering exchanges.

Figure 3. Opportunity perceived by participants to discuss key adaptation topics with other CoP members.



5. Next steps

The recording, presentations, and a compilation of the questions received during the event with their specific answers were shared after the event via the online EU Mission Adaptation Community site by using the forum discussion: "[Nature based Solutions as an adaptation option](#)". Furthermore, six forum discussions are open within the EU Mission Adaptation Community site, one for each step of the Regional Adaptation Support Tool (RAST). Charter Signatories and Friends of the Mission are invited to continue engaging via those forums to exchange experiences and practice within each step of the adaptation process.

The next event on Presenting MIP4Adapt's guide to Climate Change Risks and Vulnerabilities Assessment is scheduled for January 30. Moreover, a Training session on how to assess Climate Change Risks and Vulnerabilities will be held on January 25.

Peer-learning programme first meeting is scheduled on February 19th. Our [online community site](#) contains detailed information regarding the topics, the frequently asked questions and registration process. More information will be shared at the beginning of February on the [EU Mission Adaptation Community site](#), as well as more information on the upcoming events.

For any queries from members of the Community of Practice on associated activities and events, specific concerns about your climate adaptation planning process, communications and press releases, and IT technical issues with the website, contact us via the [Helpdesk form](#).

Annex

1. Agenda

Event Agenda
Welcome and opening remarks (5 min)
NbS overview: what are they and why are they relevant as climate adaptation options? (15 min)
Q&A (15 min)
Breakout session for sharing experiences (50 min)
Closing remarks (10 min)

2. Compilation of Q&A asked during the workshop

The answers to the questions compiled below were provided by Susanna Gionfra, IUCN, NetworkNature+, who delivered a presentation on “NbS overview: what are they and why are they relevant as climate adaptation options?”. For further information on NetworkNature+, please click on the following [link](#).

How can local communities actively participate in or benefit from nature-based solutions, how can collaboration between different stakeholders be fostered?

NbS have to acknowledge, involve and respond to the concerns of a variety of stakeholders, especially rights holders. This is in line with criterion 5 of the IUCN Global NbS Standard: inclusive governance. It is important that the potential implications of a project are assessed in early stages (design stage) to avoid unwanted consequences. For this, co-creating and co-design of NbS is crucial. Examples include dedicated co-design sessions, educative sessions to explain the project and its direct and indirect impacts, feedback session to ensure all voices are heard. Many EU NbS projects have been developing tools and guidelines for co-creation of NbS. Recently, the NbS Taskforces on co-creation and governance developed the EC publication on “[Guidelines for co-creation and co-governance of nature-based solutions](#)”.

How do we address potential challenges related to maintenance, readjustment, or adaptation of nature-based solutions as environmental conditions evolve?

A degree of uncertainty is inherent when managing most ecosystems due to their complex, dynamic and self-organising nature. NbS implementation plans have to include provisions to enable adaptive management as a response to uncertainty and as an option to effectively harness ecosystem resilience. This is related to the IUCN NbS Global Standard Criterion 7: Adaptive management.

Is there a European body who will approve a solution as NbS to the standard in advance of being implemented?

No, such approach is not in place. There is a self-assessment tool for the IUCN Standard. While before it had to be requested, a new online version of the tool was developed and will be made available soon. At the moment, there is not process for the “assurance’ of the application of the standard. However, IUCN is exploring opportunities for the future.

What is green infrastructure? Could you provide some examples of what it entails?

Green infrastructure has been defined as “a strategically planned network of natural and semi-natural areas with other environmental features, designed and managed to deliver a wide range of ecosystem services, while also enhancing biodiversity.” Such services include, for example, water purification, improving air quality, providing space for recreation, as well as helping with climate mitigation and adaptation (European Commission, n.d.). For further information refer to the following [link](#).

Green infrastructure is increasingly prevalent in urban environments and can be considered a form of Nature-based Solutions (NbS), depending on its implementation, especially when targeting ecological connectivity and biodiversity and human benefits. This occurs when efforts go beyond merely establishing a single infrastructure and aim to establish connections between different green infrastructures within a city. The concept of connectivity is crucial in understanding green infrastructure as NbS. NetworkNature has developed [three design briefs](#) that can be helpful (e.g. on biodiversity-positive design for urban areas).

Considerable efforts, both in research and implementation, are underway to make cities more environmentally friendly. Green infrastructure can manifest in various forms, such as green roofs, green streets, and sponge parks. For instance, in the city of Wroclaw, Poland, the [Grow Green](#) project created a network of seven pocket parks linked to a green street. This initiative also involved re-greening the internal courtyards of buildings surrounding that street, fostering biodiversity by connecting all these green spaces. As part of the same project, a sponge park was established in Manchester, UK, incorporating several Nature-based Solutions features to manage floods and water runoff resulting from the adverse effects of heavy rainfall and outdated sewage systems.

What are the key variables, encompassing environmental, biophysical, social, and governance factors, that define the context and scale for applying nature-based solutions (NbS)?

All these factors—environmental, biophysical, social, and governance—must be taken into consideration when determining the context and scale for implementing a nature-based solution, as emphasized by the [IUCN Global NbS Standard](#). The selection of key variables for NbS is highly context-specific:

- I From a biophysical and geographic perspective, the concept of scale applies. It is crucial to examine the characteristics of the working environment, including soil composition, existing species in the area, and potential species for planting. Connecting various solutions can contribute to achieving scale, with distinctions between rural and urban areas. In cities, linking smaller sites might be necessary for scalability.
- li Consideration should also be given to the challenges faced by the area, such as heatwaves or floods, to appropriately select the type of action deemed suitable for addressing them.
- lii The concept of scale applies also to the influence of economic systems, policy frameworks and the importance of cultural perspectives, to ensure NbS design recognises the complexity and uncertainty that occur in living dynamic land/seascapes
- liii From a social and governance standpoint, active involvement of citizens and stakeholders affected by the solutions is essential. This ensures a shared understanding of the project's objectives and helps prevent negative impacts on communities, whether directly or indirectly affected. For instance, the concept of green gentrification in urban areas can be mitigated through early engagement with stakeholders to identify potential issues and adapt designs accordingly. Governance and co-creation play a crucial role, and the absence of community involvement may render a nature-based solution inappropriate, particularly if the rights and concerns of certain communities are not adequately considered.

For further information on the IUCN NbS Global Standard, you may refer to the following [link](#).

How do you navigate the trade-offs between economic feasibility and providing benefits to ecosystems, especially in the context of Nature-based Solutions (NbS)?

Trade-offs in land and natural resource management is inevitable. Ecosystems provide a wealth of different benefits and not everyone values each of them in the same way. While tradeoffs cannot be avoided, they can be effectively and equitably managed. Unlike conventional solutions, particularly in infrastructure, which offer immediate benefits and tend to depreciate over time, NbS requires a longer-term vision to deliver its benefits. One of the challenges lies in the fact that current funding mechanisms and investments are not well-aligned with the longer-term nature of NbS. Shifting the mindset is crucial to achieving these trade-offs. While savings from NbS may not materialize immediately, it's essential to recognize that NbS has the potential to address various challenges, such as climate adaptation, and can result in long-term savings, including reduced healthcare costs. Identifying these benefits and co-benefits, which may not be immediately apparent in conventional solutions, is crucial. Additionally, there's a distinct perspective when considering public and private benefits. Publicly, NbS benefits may appear to come at higher costs compared to conventional solutions, even when acknowledged as beneficial. In the private sector, the challenge is more pronounced, as it tends to be more difficult for private entities to invest in NbS. However, there is a growing interest in the private sector, driven by increased recognition of the necessity for such investments.

Are there any Nature-based Solutions (NbS) specifically recommended for addressing droughts?

Numerous NbS approaches exist for water management and drought resistance, with many of them tied to the restoration of wetlands. These solutions prove particularly viable for addressing the challenges posed by drought conditions.