How can we strengthen collecting, sharing, and using knowledge to inform Nature-based Solutions? Recommendations and implications

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These interconnected recommendations summarise the learning o an international collaboration o experts in Nature-based Solutions. They are intended to help rein orce and strengthen initiatives to work with nature to tackle societal challenges in line with the Global Standard or Nature-based Solutions™ For more in ormation about this collaboration and the basis o these recommendations, please download the longer briefing rom the project website below.



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For more in ormation about these recommendations or our work on knowledge and NbS, please email Kerry.Waylen@hutton.ac.uk For more in ormation about the wider project please visit Achieving multi-purpose nature-based-solutions or contact Mark.Wilkinson@hutton.ac.uk

Recommendations for strengthening knowledge-sharing to support NbS

- **Foster collaboration and participation**
  - Existing guidance for collaborative and participatory processes can help different stakeholders share and use knowledge.
  - Building trust across different individuals and partners involved in NbS can ease other challenges.
  - Field visits are invaluable. The ability to 'touch and feel' the setting, interventions and other people can be powerful for building understanding and connection between different stakeholders.



- **Expect diverse knowledges and views**
  - 'Evidence' tends to imply a focus on formal reports or databases: but expect that what is useful for NbS will go beyond these types of sources.
  - Expect that different topics will tend to be associated with a different balance of evidence sources: from scientific models to predict the effect of measures to alter hydrology, to stories to understand people's uses of natural resources.
  - Discuss what is judged appropriate to validate insights from different knowledge systems. Identify and discuss conflicting or contradictory views as early as possible. Disagreements may be unavoidable.



- **Embrace systems thinking**
  - NbS requires understanding many environmental, socio-cultural and economic topics, and how they are interlinked.
  - Sharing and communicating about systems can be complex, so needs care and time. A mixture of learning approaches (e.g. visual, written materials, field visits as well as formal meetings) and repeated interactions is required.



- **Check if you can expand expertise**
  - Skilled facilitators can help participatory or partnership processes to share and use knowledge.
  - Consider using contractors and/or upskilling NbS team members to complement any gaps in existing expertise and perspectives.



- **Don't hide challenges**
  - Celebrate progress but also report difficult experiences – these can be useful sources of learning.
  - If possible, share experiences with teams involved in other NbS initiatives – this can be valuable form of peer support.



- **Commit to monitoring from the start**
  - Discuss and document what issues will need to be understood, in order to track and understand the progress of the NbS intervention. The self-assessment framework of the IUCN Global Standard™ can help identify priorities for improving understanding, and for monitoring.
  - It is often challenging to resource or sustain monitoring, but additional fund-raising or partnering with researchers may help.



- **Review and revisit what you have learnt and will need to know**
  - It is likely that knowledge needs will shift as interventions move through planning, to implementation, to evaluation.
  - NbS interventions require adaptive management and updating. Likewise, knowledge needs to be collectively reconsidered over time.



Implications

The above recommendations are relevant to all working with and for NbS. They should help identify what knowledges are needed, who holds these, and how knowledges can be shared. All those who seek to enable or plan NbS should explicitly think about knowledge: it is helpful to ask what knowledges are needed, who holds these, and how knowledges can be shared. These questions should be asked as early as possible, reflecting also on who has the authority to answer these questions. However, putting these principles into practice them will not always be easy, requiring (re)allocation of resources, including time, expertise, and funding. They may also entail a shift in the culture and practices involved in working with nature, and in what types of knowledge are considered relevant.

For those who **lead NbS interventions**:

- Teams should consider their starting point – what is their own existing expertise? What goals have historically been the subject of any prior interventions? What topics were the focus of prior monitoring programmes? This is a positive legacy to build on but can also highlight what has not yet been given sufficient attention.
- It may be liberating to explicitly question 'what counts' in terms of knowledge. Many professionals tend to implicitly focus on evidence in terms of datasets created using scientifically verified methods; whilst these can be important where available, there can also be other valid and relevant ways of understanding the system, e.g. local site experience and expertise.
- Implementing pre-existing recommendations for strengthening NbS, especially on strengthening stakeholder participation, and on the process of design and NbS governance will also tend to reinforce efforts for knowledge sharing.
- Use the recommendations to help consider knowledge at the start NbS development; and return to them over time, when moving across phases of development, implementation and evaluation.

For those who **enable NbS interventions** such as programme and project funders:

- Recognise that limitations in time and resources will limit the mix of evidence and knowledge that can be used to inform an NbS intervention. Consider if resources and/or evaluation of interventions should be tailored accordingly.
- The quicker the timeframe expected for delivery of actions, the more difficult it will be to ensure they are fully informed by all relevant knowledges and shared between all knowledge-holders: the longer the time period allowed, the better for enabling knowledge-sharing.
- Attention to skillsets for identifying and facilitating knowledge-sharing could be considered as part of the criteria for selecting between proposed interventions to fund.
- Ideally, designate specific resources for knowledge discovery, and for knowledge sharing, and later for monitoring and adapting.
- Prompt teams to report knowledge collected and shared whilst developing NbS; and prompt them to report challenges as well as positive experiences. This will help to capture learning that can inform future NbS.

Recognising and responding to a variety of forms of knowledge – from diverse knowledge-holders and on diverse topics – will never be an easy or trivial issue. A variety of topics, formats and sources of knowledge will likely be relevant; and the precise mixture will shift as knowledges are shared, decisions taken, and NbS interventions move across phases. However, viewing knowledge as a core requirement for NbS can complement stakeholder engagement and enable future initiatives to go further in developing solutions that work with nature to tackle societal challenges.