Complementary ideas for the implementation of Nature-based Solutions

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1. Introduction & Methodology

- The International Union for Conservation of Nature and the European Commission provide well-established theoretical frameworks that aim to establish a basic understanding of the Nature-based Solutions (NbS) concept.
- However, other organizations that implement NbS follow their own interpretations based on their unique context-specific understanding of the concept, creating gaps between theoretical frameworks and how practitioners implement NbS.
- This study analyzes the gaps between the theoretical frameworks and existing NbS interventions with the aim of providing new and complementary insights for the efficient development of high-quality NbS implementation
- A quantitative survey was developed to compile the perceptions of practitioners related to NbS. 211 were contacted, 66 responded (See Figure 1). A majority worked in NGOs , followed by private sector , government , international organizations such as UN agencies , academia or research institutes

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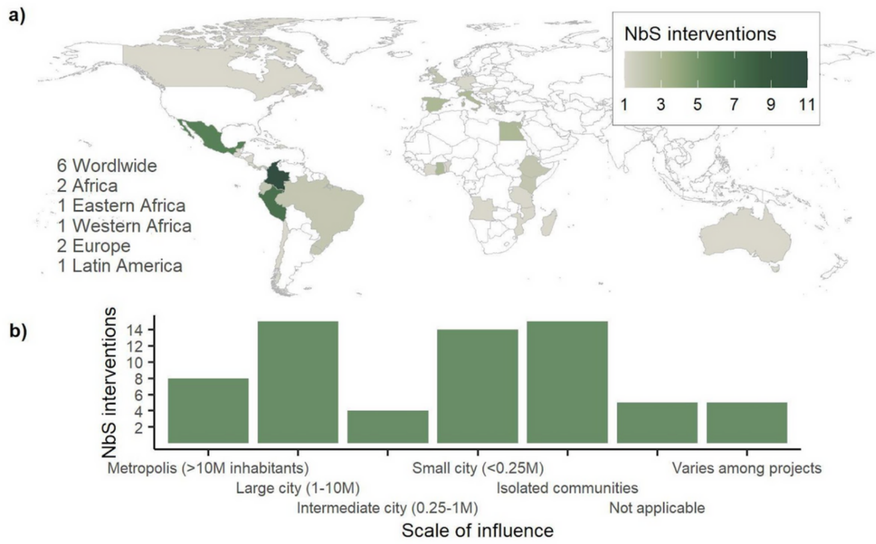

Figure 1. Number of NbS interventions among study participants by geographical region (a) and by scale of influence (b). M = mil

2. Four Main Gaps Identified

Framing of priorities to address an outcome. Critics argue that by focusing on global challenges, NbS take a top-down approach that does not fully take into account local challenges.
Measurability and effectiveness of interventions: While interventions claim to address particular challenges, most lack indicators to assess their impacts or measure progress towards success
Alignment with transformational governance processes. Although NbS frameworks encourage the participation of all stakeholders, in reality, interventions are framed in a context with multiple system levels with different interests, perceptions and priorities facing problems of poverty, crime, corruption, marginalization or/and displacement among others
Understanding of trade-offs. Some types of trade-offs are not elusive or neglected. . The IUCN Commission on Ecosystem Management lists five trade-offs that can be considered when implementing NbS:

- **Scale trade-offs:** Different scales within a given landscape (e.g. districts, states and even national ones)
- **Governance trade-offs:** Aspects of power relations between key stakeholders and how these influence decisions over other stakeholders with less power
- **Cost & benefits trade-offs:** Experienced differently by stakeholders from diverse backgrounds (gender, ethnicity, age, etc.)
- **Temporal trade-offs:** Prioritize or give greater value to benefits in the present over those in the future
- **Biophysical trade-offs:** occur when deciding on a benefit in a landscape at the detriment of another

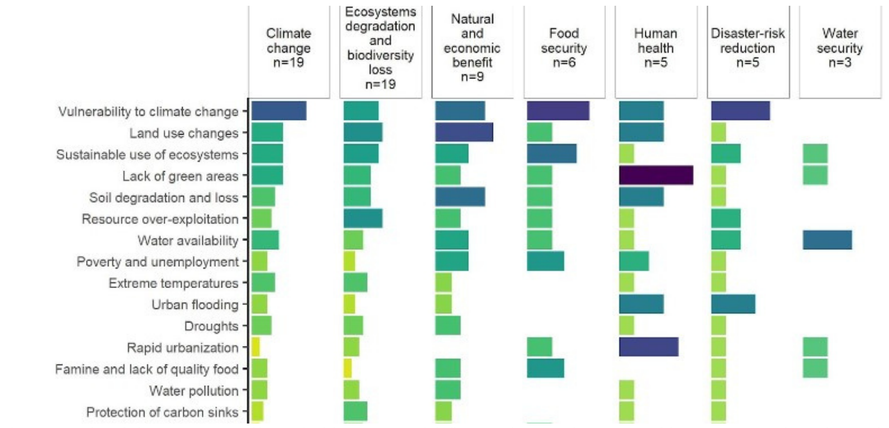

Figure 2. Number of NbS interventions tackling each of the main societal challenges (columns) and, percentage of the interventions within each societal challenge tackling the local challenges listed on the y-axis.

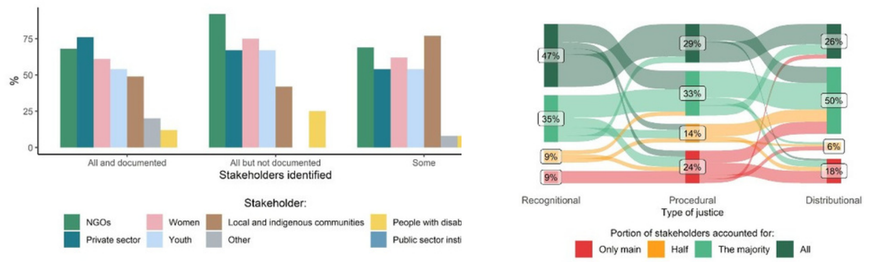

Figure 3. Left: Proportion of times each stakeholder group was said to be involved in a NbS intervention grouped by practitioners three levels of stakeholder recognition and documentation. Right: Portion of stakeholders recognized during the project stages (left), involved in the decision making (center), and benefited by the outcome (right) as reported by surveyed NbS practitioners, and the frequency of occurrence of each level of inclusion.

4. Reference list

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3. Results and Discussion:
5 complementary ideas

Framing of priorities: From local to societal challenges

- Apart from the 7 societal challenges of IUCN, Participants identified 29 local challenges See Figure 2.
- Our results indicate that addressing both local and societal challenges could complement each other and help to distinguish different scales of priorities when implementing NbS.

The need for quantitative and qualitative indicators

- A quarter of the study participants used indicators of local challenges, rather than societal challenges, and a fifth did not use indicators at all.
- There is a general mismatch in types of indicators used but there is tendency for quantitative indicators
- Both quantitative and qualitative indicators should complement each other to obtain the expected outcomes in NbS

Plural valuation for transformative NbS

- Our results also show that many interventions do not achieve distributive, recognition and procedural justice for a proportion of stakeholders, and many are unable to engage with the local authorities or are unaligned with public policies (Figure 3).
- These shortcomings and the need to recognize local priorities underscore the importance of plural valuation as a pathway to transformational NbS governance processes.

Address the systemic environment of NbS

- There are structural barriers of NbS governance that go beyond the power of practitioners such as the power imbalance between stakeholders, conflicting policy frameworks, limited governmental capacity, and corruption.

Identify different types of trade-offs

- Two main trade-offs were highlighted: land competition (biophysical trade-off) and long-term benefits instead of short ones (temporal trade-offs).
- The trade-offs that were neglected are governance (local knowledge vs science), scale (local vs global priorities, and cost & benefits (economic vs non cultural vaöues). These three types of trade-offs share a root in not recognizing the rights, views, and priorities of marginalized stakeholders.