

NATURE-BASED SOLUTIONS (NBS) FOR EQUITABLE CLIMATE RESILIENCE IN SUB-SAHARAN AFRICA

Scoping a potential programme



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SCOPING A POTENTIAL PROGRAMME ON NATURE-BASED SOLUTIONS (NBS) FOR EQUITABLE CLIMATE RESILIENCE IN SUB-SAHARAN AFRICA

1 BACKGROUND

The [Adaptation Research Alliance](#) (ARA) supported a co-creation process that aimed to bring local experiences and knowledge to bear on the design of a potential research programme on Nature-based Solutions for equitable climate resilience in Sub-Saharan Africa (SSA). The project team consisted of United Kingdom Research and Innovation (UKRI), [Natural Environment Research Council](#) (NERC), [Foreign, Commonwealth and Development Office](#) (FCDO), Adaptation Research Alliance (ARA), the [Water Engineering and Development Centre](#) (WEDC) at Loughborough University and the Climate System Analysis Group (CSAG), hereafter referred to as 'the team'.

The co-creation process included a desktop literature review led by WEDC, and two phases of consultations led by CSAG: i) Multi-Actor Workshops with people involved in NbS across the region; and ii) community consultations to check the local-level relevance of the themes that emerged and to allow for new ideas/issues to emerge. Knowledge synthesis phases occurred between each set of consultations, which were led by WEDC with input from CSAG and other team members.

It is important to note that the co-creation process was undertaken under extremely tight deadlines and with few possibilities to meet groups of people face-to-face. This had implications for the immersive, bottom-up extent of the co-creation process. It was also the first time NERC has developed a research call using the co-creation process. The core team has reflected on the good, bad and other aspects of the process. We invite you to add your reflections by clicking on this google form: <https://forms.gle/bPDdNMGZqgHcfc4B7>.

2 ACKNOWLEDGEMENTS

The scoping process team would like to express their heartfelt gratitude to those who gave up their valuable time to participate in the various engagements. It is our sincere hope that these engagements have surfaced local priorities, and that the potential research programme on NbS generates the greatest benefits to communities on the ground in Sub-Saharan Africa.

3 PROCESS AND OUTCOMES

A summary of the co-creation process is described below, along with key outcomes from each phase. Figure 1 shows how priority themes were identified and developed/evolved across all stages of the co-creation process.

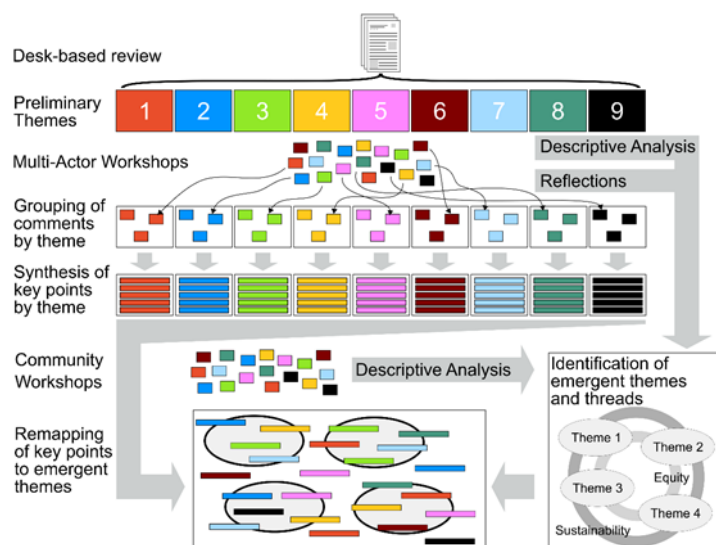


Figure 1: Process of identifying and evolving themes during the co-creation process

3.1 DESKTOP REVIEW OF LITERATURE

Preliminary scoping searches were conducted to identify key grey and academic literature, as well as key terms for NbS identified in Sub-Saharan Africa. A search of both international literature and region-specific literature was carried out and results were thematically coded, revealing a range of key themes and gaps in the current NbS literature.

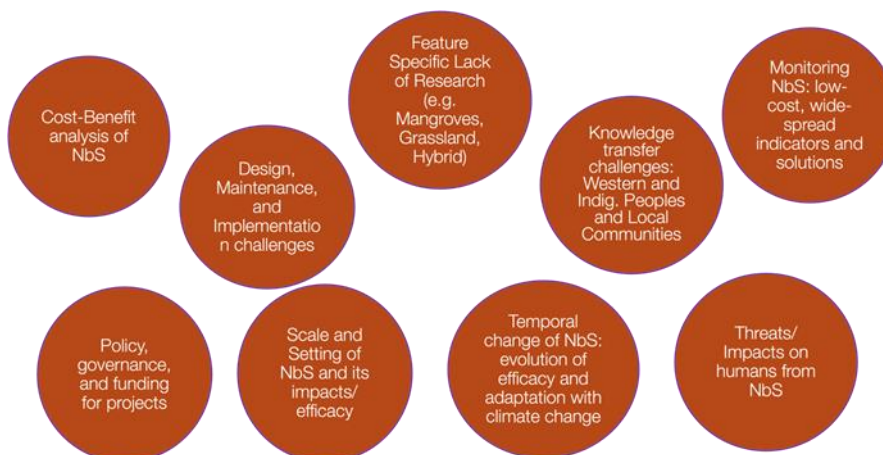


Figure 2: Priority themes emerging from the desk-based literature review

3.2 MULTI-ACTOR WORKSHOPS

Four online consultations took place over three days (31 January, 1 February and 2 February 2023). These engagements included over 50 representatives from *inter alia* academia, government(s) at various scales, non-government organisations, consultants and funding agencies, who were identified using a snowballing method (see graphics below). During these consultations, participants were asked to share their experience relevant to NbS, to respond to the themes that had emerged during the literature review and to share insights relevant to new themes. Team members also recorded reflections in terms of content from workshops and processes.

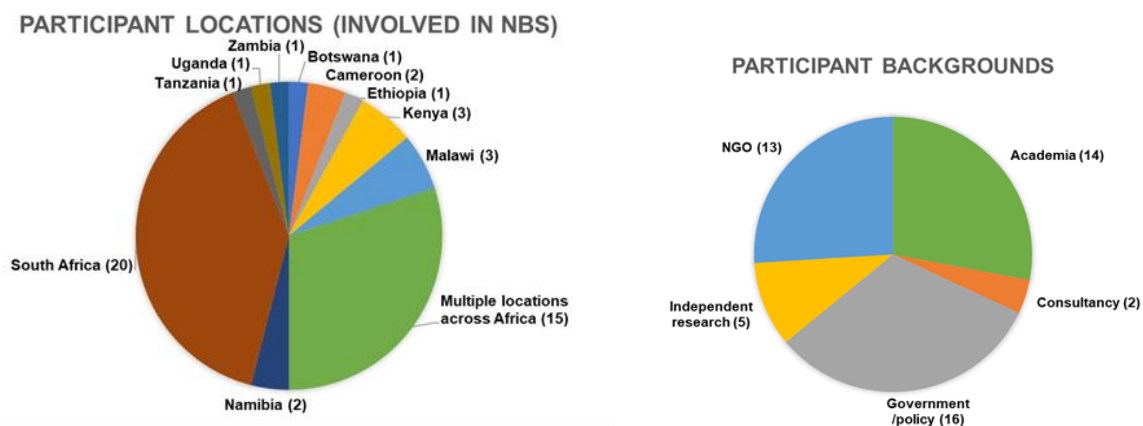


Figure 3: Participant details of MAWs

3.3 SYNTHESIS 1

The workshop data were coded according to the nine overarching themes identified in the desk-based review and an ‘other’ category. Themes that cut across several themes were coded accordingly (i.e. using more than one theme). The coded data were then compared and summarised to develop several core themes from the discussions in an inductive manner (i.e. not according to the themes identified in the desk-based review). Findings from the MAWs, based on the synthesis, were summarised in a workshop brief and shared with participants for comment.

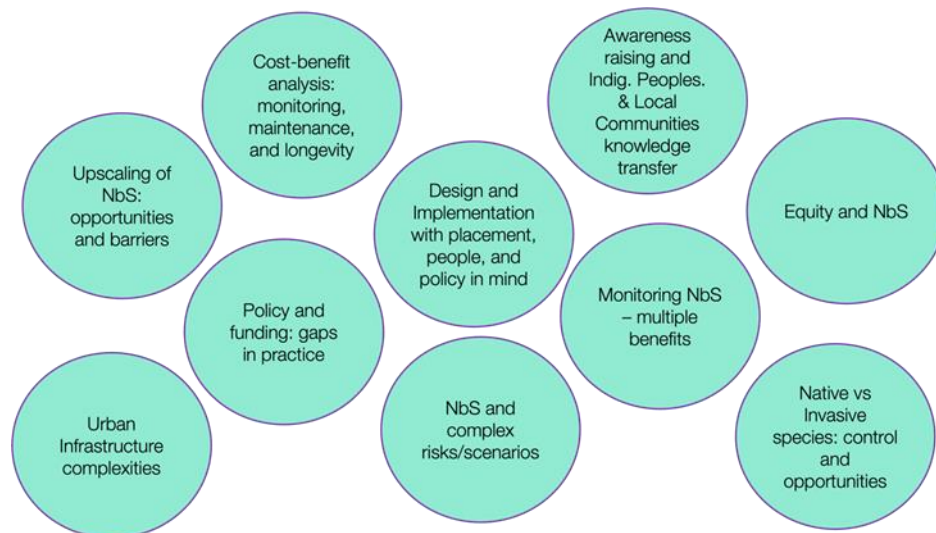


Figure 4: Core themes emerging from the MAWs

3.4 COMMUNITY CONSULTATIONS

Acknowledging the vast differences in terms of preferences for engagements, the format of community consultations varied from face-to-face engagements when possible (guided loosely by NbS themes), small online engagements, larger online discussions and responses to surveys. Six local consultations were implemented with representatives from local communities in Durban and Cape Town (South Africa), the Adaptation Network (South African network for sharing experiences, practical approaches and frameworks relating to climate change adaptation), engineers working on NbS across Africa and intermediaries working with local communities in Nairobi (Kenya). Team members also recorded reflections in terms of content from workshops and processes.

3.5 SYNTHESIS 2

The synthesis of the community engagements followed a similar deductive-inductive approach to reasoning as synthesis 1. Themes that emerged during the MAWs were used as an initial set of themes for coding, while codes for “other”, NbS type and programme design were also added. Coded data were compared and sorted to integrate local perspective in themes.



Figure 5: Prevalence of words in the data as a wordcloud

3.6 PROPOSING KEY THEMES AND DEVELOPMENT OF A FINAL SYNTHESIS REPORT

The content from MAWs, community workshops and team reflections was reviewed to identify themes that emerged and evolved over time. Four final cross-cutting themes were identified, as were two “key threads” relevant to all themes, as described below.

- Theme 1: Producing an open evidence base of impacts
To successfully implement NbS, an evidence base of impacts is required, making use of new methods and technologies, to quantify the diverse impacts of NbS. This evidence base should be openly accessible to all and should include evidence from multiple disciplines and both academic and non-academic knowledge.
- Theme 2: Scalability and contextualisation
There is a need to understand how NbS interact with environments within which they are located, including the built and natural environment, local policy and ecological, social and economic elements. This also includes understanding how impacts of NbS interact and compound across mosaics of NbS interventions at the landscape scale, to achieve larger impacts.
- Theme 3: Whole “system” valuation and optimisation
NbS provide multiple benefits and the full range of impacts of NbS (including benefits and trade-offs) needs to be valued. This valuation should consider biophysical, social and ecological value (monetary and non-monetary). A priority research area is understanding how NbS can provide maximum co-benefits and consider the values of multiple stakeholders while prioritising the marginalised.
- Theme 4: Empowering community-driven governance
There is a need to understand how to better enable and enshrine community-led NbS in policy and law and catalyse sustainable community-level capacity. Challenges emerged around lack of government will and limited capacity (at multiple scales) to implement NbS. Limited knowledge transfer between organisations and other levels was also identified as a challenge.
- Key thread 1: Equity
Two important aspects emerged: (i) how research/action is designed and implemented so that it is equitable (ii) ensuring equitable outcomes for beneficiaries of NbS interventions. Common issues related to equity included limited consideration of indigenous peoples and local communities, gender equality and social inclusion, as well as inadequate knowledge transfer.
- Key thread 2: Sustainability
Long term, sustainable NbS require consideration of longevity of impacts in the face of climate change, land-use change and socio-economic scenarios, maintenance requirements and natural evolution of NbS as well as other temporal factors such as long-term finance, evolution of policy drivers and long-term community capacity.

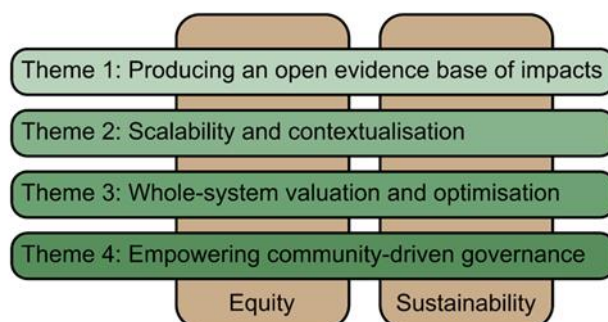


Figure 6: Final four themes and cross-cutting threads presented

In addition to these themes, knowledge was synthesised on ongoing/past NbS initiatives in Sub-Saharan Africa and a database of relevant stakeholders put together, with whom the potential call will be shared (and opportunities for potential stakeholder networking and brainstorming).

3.7 DRAFTING THE “CALL FOR PROPOSALS” TEXT

Team members who will not respond to the call for proposals if/when it comes out will be involved in writing the final call for proposals based on the outcomes from the co-creation process. All of the evidence that has been generated during the various phases of the co-creation process will be revisited during the design of the call (i.e. not only the final synthesis report).

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