

# NATURE-BASED SOLUTIONS FOR EQUITABLE CLIMATE RESILIENCE SCOPING PROGRAMME

Community Engagements Synthesis Report



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## **ACKNOWLEDGEMENTS**

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The authors of this report would like to express their heartfelt gratitude to those who gave up their valuable time to participate in the community engagements. It is our sincere hope that engagements during this scoping process surface local priorities, and that the potential research programme on NbS generates the greatest benefits to local communities in Sub-Saharan Africa.

# BACKGROUND

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The [Climate System Analysis Group](#) (CSAG) was appointed by the [Adaptation Research Alliance](#) (ARA) to facilitate a co-creation process that brings 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 wider project team consists of United Kingdom Research and Innovation (UKRI) - [Natural Environment Research Council](#) (NERC), [Foreign, Commonwealth and Development Office](#) (FCDO), ARA, the [Water Engineering and Development Centre](#) (WEDC) at Loughborough University and CSAG, hereafter referred to as ‘the team’.

Different groups of people in SSA are being engaged at two distinct phases of the co-creation process. In the first phase, Multi-Actor Workshops (MAWs) were hosted to facilitate sharing of higher-level knowledge on priority NbS themes and needs. These themes and needs emerged from a literature review which preceded the MAWs, and the aim was that the higher-level knowledge generated through the MAWs would complement the review. These engagements included *inter alia* academics, government(s) at various scales, non-government organisations, consultants and funding agencies. Four MAWs took place over three days (31 January, 1 February and 2 February 2023). CSAG then led several consultations to check the local-level relevance of the themes that were identified during the literature review and during the MAWs.

This report provides information about the community-level consultations. First, the community consultations process is described, after which findings from these consultations are shared. The report also includes reflections from the facilitation team.

# PROCESS

Based on the outcomes from the MAWs, the facilitation team prioritised consultations with local communities involved in NbS-related initiatives, intermediaries working with local communities, civil society organisations and engineers. Acknowledging the vast differences in focus of community members (in terms of content and scale) and preferences for engagements, the format of the consultations varied. A summary of the consultations is included in the table below.

**Table 1:** Characteristics of community level consultations

#	CONSULTATION	CONSULTATION APPROACH
1	<b>Local community members in Durban (South Africa)</b>	<ul style="list-style-type: none"> <li>• 23 February 2023</li> <li>• Face-to-face meeting in Durban with three community members facilitated by CSAG</li> <li>• Free-flowing discussion bound by themes that emerged</li> </ul>
2	<b>Engineers working on NbS across Africa</b>	<ul style="list-style-type: none"> <li>• 1 March 2023</li> <li>• Microsoft Teams meeting with nine engineers involved in NbS-related work across Africa, facilitated by CSAG.</li> <li>• Consultation designed with time for: i) input from the participants; ii) presentation of synthesis findings after MAWs; and iii) feedback on main themes that have been identified</li> </ul>
3	<b>Adaptation Network: South African network for sharing experiences, practical approaches and frameworks relating to climate change adaptation. Membership includes representatives from civil society, government, parastatals, academia and business.</b>	<ul style="list-style-type: none"> <li>• 3 March 2023</li> <li>• Zoom meeting with seven representatives (with diverse backgrounds) from the Adaptation Network, facilitated by CSAG.</li> <li>• Consultation designed with time for: i) presentation of synthesis findings after MAWs; and ii) feedback on main themes that have been identified</li> </ul>
4	<b>Follow-on from the MAWs, focusing on actors who work with local communities</b>	<ul style="list-style-type: none"> <li>• 7 March 2023</li> <li>• Zoom meeting with 14 participants with diverse backgrounds from across Africa, facilitated by CSAG.</li> <li>• Consultation designed with time for: i) presentation of synthesis findings after MAWs; and ii) feedback on main themes that have been identified</li> </ul>

5	<b>Academics working with local community members in Nairobi (Kenya)</b>	<ul style="list-style-type: none"> <li>● Date of engagements sometime between 10 and 16 March 2023.</li> <li>● Engagement supported by ARIN</li> <li>● Survey used to gather feedback from two academics who work closely with local communities in Mukuru and Kibera</li> </ul>
6	<b>Local community members in Cape Town (South Africa)</b>	<ul style="list-style-type: none"> <li>● 14 March 2023</li> <li>● Face-to-face meeting in Cape Town with four community members, facilitated by CSAG.</li> <li>● Free-flowing discussion bound by themes that emerged.</li> </ul>

Notes were taken during consultations and analysed qualitatively using an inductive-deductive approach to reasoning and Nvivo Software (<https://lumivero.com/products/nvivo/>). Initially, codes were developed in Nvivo according to the main themes that were recorded in the synthesis report, based on the Miro Board and breakout room analysis. Codes for “other” (i.e. text that did not fit into the coding structure based on themes emerging from the synthesis report), NbS type and programme design were also added (see list of codes below).

1. Cost-Benefit
2. Design, implementation & maintenance
3. Equity
4. Feature specific
5. Knowledge transfer (IPLC)
6. Monitoring
7. Native vs. invasive species
8. NbS & complex risks
9. NbS type [not a theme but of interest for the study]
10. Other
11. Policy, governance & funding
12. Programme design [not a theme but of interest for the study]
13. Scale and setting
14. Temporal change & NbS
15. Threats/impacts from NbS
16. Urban complexities

All text from the community workshop notes were coded using these themes, while allowing for new themes to emerge. Coded data were studied to flesh out insights relevant to themes based on local-level experiences.

# FINDINGS

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Findings include information on the main NbS types in which community members were involved, as well as insights/their perspectives on themes that emerged during the MAWs. References are provided in text to enable linking insights back to community level engagements (see Table 1 for engagement numbers). Finally, trends in the data are shared.

## NbS IN WHICH COMMUNITY WORKSHOP PARTICIPANTS ARE INVOLVED

- Environmental management (rivers, forests) (1, 2, 3, 5)
- Invasive alien plant clearing (1, 2)
- Community-based coastal fisheries (3)
- Livestock to manage nature (3)
- Sustainable Urban Drainage Systems (1, 2)
- NbS in basin management (2)
- Dam management (2)
- Urban farming (5, 6)
- Waste management (1, 5)

## COMMUNITY-LEVEL INSIGHTS ON THEMES

Knowledge transfer: There is a disjunct between international “best practices” and local level needs - there is a need to adapt NbS knowledge to the local African context (2). The need to involve local communities from the very beginning of NbS interventions is increasingly being acknowledged to be sure local knowledge is integrated (i.e. co-creation), however there is limited understanding on how to do this (2, 5). There is a need to increase awareness across different groups in Africa on the benefits of NbS, particularly the longer-term benefits/outcomes of this approach (1, 2, 5, 6). Local and traditional knowledge have not been well documented or employed when designing climate adaptation interventions in African contexts (1, 2, 5). Scientific NbS information and concepts need to be translated across various languages, disciplines and/or working practices so that benefits of technical knowledge and/or information on benefits can be shared (e.g. incorporating NbS thinking into engineering degrees, translating NbS concepts into terms that are practical at the local community level, using local platforms). Generally, access to scientific climate information needs to be improved (1, 2, 5, 6). There is also a need to

facilitate better communication and coordination across groups of actors who have a role to play in NbS (e.g. government and local communities) (1).

Equity: Equity was discussed as a core aspect of NbS in all consultations. Historically, there has been a strong link between livelihoods and NbS work in Africa, a theme that was mentioned in many consultations (2, 3, 4). Evidence suggests that in many cases, livelihoods benefits have ended when projects have ended (3). However, the engineers emphasised a shift in NbS discourse, from one that is centred on livelihoods to one that acknowledges the wider benefits from NbS beyond livelihoods (2). Participants acknowledged the need for co-design with local communities and that this is not generally being done effectively (2, 5). Black communities are forgotten when it comes to service provision and disaster risk response in Durban (1). Participants also mentioned the need to better understand the differential vulnerabilities across communities in relation to NbS interventions and their benefits (e.g. women, elderly etc.) (5). The question of who generally benefits from NbS programmes was raised in one of the consultations - a participant suggested that the academic community currently realises most substantial benefits (3). Longer term benefits from NbS interventions are not well understood (3). Trust building between different groups of people (including academics, engineers and local communities) is essential for such design processes but are very context dependent and participants need to consider stakeholder fatigue (2).

Urban complexities: In Africa, many people are first-time urban dwellers (having moved from rural/natural areas) and are therefore not familiar with urban systems e.g. some people living in informal settlements in Durban are not familiar with urban drainage systems and throw their waste water into rivers (1, 2). Urban ecosystems have been transformed e.g. local communities used to drink water from the rivers that run through Durban, which are now heavily polluted (1). The issue of competition and trade-offs related to land use arose (1, 6) e.g. land that could be used for urban agriculture is being developed (6). Many people settle in places that increase their vulnerability (e.g. in flood areas) with plans to redirect water when faced with the potential for risk, but these strategies are not being implemented in time (1). People build formal and informal houses in wetlands in Durban - many people who own land near rivers sell this land to people who need housing because many people don't own land (1). Formal and informal houses also connect their sewage pipes to rivers because it is the easiest solution and they lack knowledge (1).

Cost-benefit: It is challenging to compare NbS solutions with engineering solutions (2). What are the limits of NbS? e.g. a wetland can only deal with so much sewage/pollution and in some cases, grey/built infrastructure is needed (2).

Scale and setting: In many instances, local communities need to deal with very localised issues e.g. crime - affecting infrastructure for NbS, load shedding, water shedding etc. in Cape Town (6). NbS policies that are applied to whole landscapes can lead to context-irrelevant solutions (5). NbS knowledge that has been developed in other contexts needs to be adapted for the African context, in which different interventions and/or designs are required across contexts (2, 5). There are some issues that are common across landscapes such as environmental degradation and challenges around waste management (5). Addressing issues at the smaller scale is more likely to result in direct benefits, while responding to complex landscape-scale issues require more funding (trade-offs) (2). There is a need to better understand how the localised interventions that are currently being implemented in Africa successfully scale (1). Relational tools required (e.g. to build trust) and optimal engagement processes will differ across landscapes and cultural contexts (2).

Policy, governance and funding: In some cases, there are policies that enable NbS-related interventions (e.g. Climate Change Act, 2016 in Kenya) but there is a need to develop community-centric policies (5). The availability of financial, human and technological capacity plays a role in the implementation of NbS (5). Strategic actors should be better engaged and/or involved in designing NbS interventions to facilitate scaling and to impact more communities (5). Traditional political structures (e.g. traditional governance structures in South Africa) can be leveraged to engage people and share information but this does not happen often (1). Politicians in South Africa hide behind the “story of the poor” for which they must provide (e.g. free services), which benefits their campaigns and does not allow for local agency to be developed (1). Many NbS challenges in Durban relate to politics, fraud and corruption (1).

Design, implementation and maintenance: Much innovation is needed to be sure that interventions can be sustained beyond project timeframes (5). Most ongoing NbS interventions are designed and implemented by NGOs who engage policy makers and other actors (5). Deliberate community participation is an important part of the design of NbS (5). Designing NbS is challenging because we don't understand much about the failures of such interventions (2).

Monitoring NbS: Knowledge on M&E of NbS exists but has not been well implemented, resulting in limited understanding of the benefits of this approach (2). Solutions need to be adaptive (based on what we learn) and robust - M&E is critical for learning and we need better understanding of climate-related indicators (2). Monitoring NbS is much more challenging than monitoring traditional engineering solutions because there are many more indicators to consider (2). There is a long way to go with regards to designing, implementing and monitoring NbS at the local level (2). Availability of and access to data is a challenge for effective monitoring of NbS (2). We need more and better ways of understanding the diverse benefits (and challenges) of NbS while bearing in mind the unique community interventions from diverse communities (5).

Temporal change and NbS: People often opt for “quick fixes” (outcomes that are demonstrable in the short term) instead of prioritising NbS to mitigate effects of climate change over the longer term (5). Peoples movements/urban dynamics over time are important (e.g. people haven't grown up in urban areas and are therefore not familiar with urban landscapes) (1). Some people who haven't historically cared about the state of rivers in Durban do care these days because the river has become wider after flooding and is now nearer to their houses (1). Some of the flood adaptation measures that have been practiced by local communities are no longer effective because the river is too wide.

Invasive vs. native species: The importance of managing invasive alien species, as a form of NbS in South Africa, was again emphasised during one of the engagements (4)

NbS and complex risk: There are strong links between management of rivers and/or natural systems, floods, waste management and health in informal areas (1, 5).

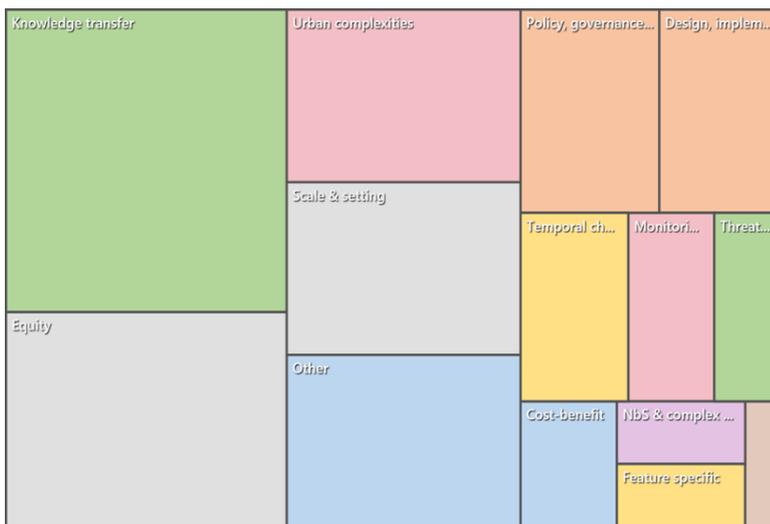
Threats from NbS: In Africa, NbS threats are often linked with water-related NbS e.g. open water presents a drowning risk and contaminated water as part of attenuation structures can result in ill health (2). It is important to understand the failings and threats from NbS in an African context to design optimal solutions (2).

Other themes: Ideas/insights emerged as a result of the engagement which are not related to a particular theme. These are detailed below.

- NbS and Disaster Risk Reduction (DRR): The need to better understand a suite of ‘back-pocket’ NbS interventions that can help with DRR (2, 4) (this could link with NbS and temporal change?)
- People forget about climate-related traumas fairly quickly (5) (this could also link with NbS and temporal change?)

Project/programme design: Stakeholder fatigue (local communities) was mentioned as a common issue when considering involving local communities in NbS projects, particularly in cases where communities are not realising benefits from interventions and are tired of “telling their stories” (3, 4). Programmes need to demonstrate sustainability and potential for transformation (4).

## TRENDS IN THE DATA



**Figure 1:** Prevalence of themes across data sources (i.e. number of times the theme is coded).



# REFLECTIONS FROM THE CONSULTATION TEAM

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## GENERAL REFLECTIONS ON THE COMMUNITY CONSULTATIONS

The community consultations were challenging to organise and facilitate for several reasons, which are described in more detail below.

Disconnect between local community activities/realities with funding call process and themes: the paradigms/realities of people working at a high-level to develop funding calls (e.g. NERC, researchers at UCT/Loughborough) are far removed from the issues experienced and needs of local communities living and working in Africa. In many cases, priorities of local communities relate to employment and income. Climate-related disasters are experienced as matters of life and death, and not as a subject that is studied. The reason for undertaking consultations with local communities is to understand these perspectives and integrate them into the funding call. However, it is challenging to facilitate once-off consultations when “starting points” are so incredibly different and trust has not yet been adequately built. It is also incredibly challenging to connect higher-level ideas related to NbS with local priorities. In many instances, the themes that emerged from the literature review and MAWs are of little relevance to local communities (apart from equity which speaks to the needs of historically oppressed and disenfranchised communities). It might have been better to start with community consultations (instead of MAWs) and to design a process that is very open ended/generative to genuinely reflect local-level perspectives. However, there is a risk that themes that emerge will neither match up with priority areas of funders nor themes documented in literature.

Issues related to expectations: many local community members have engaged in processes to identify priorities/co-produce knowledge when research projects are initiated. During this process, they are able to (or should be able to) negotiate their roles in the process and understand expected benefits. While there is a strong call to integrate local community perspectives into the design of research programmes from the very start (e.g. during the process to scope a programme for equitable NbS in SSA), this introduces new challenges related to expectations of community members in terms of their involvement in research processes and outcomes. In many cases, community members will neither have access to the communication channels to receive the call for proposals if and/or when the call is released, nor the capacity to respond to the funding call. In other words, they need to rely on researchers to respond to the call for proposals and to involve them.

Time requested for community members to engage: while local communities are the intended beneficiaries of action research projects (such as the envisioned programme on NbS for equitable climate resilience) they are often involved in the project without compensation. For example, community members participate in workshops and/or interviews to generate or co-produce knowledge relevant to the issue of interest. Involvement of non-academic actors without compensation (while researchers are generally compensated for their time) contributes to inequities across project partners and to mistrust. This is particularly noticeable when community members participate in research projects that don't result in concrete outcomes/benefits (e.g. development of infrastructure). Local community representatives did not directly benefit from being involved in consultations for the scoping

process and since it was a potential research programme (i.e. funding was not secured), links to direct benefits were even more tenuous.

Ethics and “knowledge colonisation”: two participants raised the issue of sharing knowledge to design a research call focused on SSA if the project will likely be led by a UK institution. Processes that have called for local African knowledge in the past while benefitting UK researchers most substantially have led to distrust amongst stakeholders.

# NATURE-BASED SOLUTIONS FOR EQUITABLE CLIMATE RESILIENCE SCOPING PROGRAMME

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