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Co-creating nature-based solutions

with commonly excluded stakeholders

Insights from practice and research

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Preface

Growing knowledge and mounting evidence on increasing environmental degradation call for nature to be allowed to run its course – whether protected, conserved or restored. However, the willingness and action of individuals and groups are also indispensable parts of the process. In this context, nature-based solutions (NbS) come into play. In the current political landscape, NbS are gaining increasing recognition as providing essential contributions to the climate-neutral, sustainable and equitable future proposed and imagined by the European Green Deal, as well as the Nature Restoration Regulation and the Climate Law, while also offering a potential competitive advantage.

In simple terms, NbS can be interpreted as solutions made for people and nature, with people and nature. This simple, yet effective description points to a key element of the nature of these solutions: the inclusion of people. In fact, while the concept was developed to stress the key role that nature itself can play in addressing key societal challenges, the success of NbS is highly dependent on an inclusive and meaningful involvement of citizens, communities and stakeholders. In other words, people cannot be excluded from forming the solutions that should eventually benefit them too.

Yet, it is often the case that certain stakeholders or groups are excluded from the nature-based solutions co-creation process. Such exclusion may stem from personal factors, socio-economic and demographic inequalities, procedural injustices, or broader social, economic and political conditions. Quite often, it is multiple, interconnected challenges that impact their disadvantage and disempowerment. This publication focuses on ‘commonly excluded stakeholders (CES)’, to refer to those social groups - such as marginalised communities, indigenous people and youth - with a high interest in or significantly affected by NbS, but unable or unwilling to contribute to co-creation processes.

By stressing the challenge of inclusion, and calling for equity, trust building and local context sensitivity, the report offers researchers and the academic community, as well as practitioners, policy and decision-makers, project developers and society at large an insight into the lessons learned and recommendations to support a more just, effective and sustainable NbS governance, one that places people at the core of these solutions.

The value of the report is rooted in the practical experiences and findings drawn from different EU-funded projects represented by the members of the NbS Task Force on Co-creation and Governance, as well as on critical insights gained from stakeholders through a dedicated survey and workshop. The report shows that inclusion is achievable when supported by intentional strategies — from providing accessible formats and financial support to adopting culturally sensitive engagement methods and flexible participation pathways.

For policymakers, these findings have direct implications. Legislation and policy frameworks, including the EU Nature Restoration Regulation, rely on strong, inclusive governance to succeed. When NbS processes are shaped by a wide spectrum of voices, they are more just, more effective, and more sustainable. Including CES will not only enhance legitimacy but also strengthen the EU's collective capacity to restore ecosystems, adapt to climate change, and secure well-being for future generations.

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Executive Summary

Nature-based solutions (NbS) are increasingly recognised as being essential for addressing biodiversity, climate, and societal challenges. Yet their potential to deliver equitable and lasting benefits depends on who is involved in shaping them. Inclusive co-creation - ensuring that diverse voices, knowledge systems and lived experiences inform NbS design and governance - is therefore central to their success.

Commonly excluded stakeholders (CES) — such as marginalised communities, youth, Indigenous peoples, migrants, and those facing socio-economic or accessibility barriers — are often absent or underrepresented in NbS processes. This report defines CES as those *who are highly interested in or (significantly) affected by NbS, but are unable or unwilling to take part, engage, or contribute meaningfully to co-creation processes* and explores why these exclusions persist, what barriers sustain them, and how they can be addressed through more intentional and equitable approaches.

Developed within NetworkNature+ Task Force 6 on Co-Creation and Governance, this report supports practitioners, policymakers, and communities in designing and implementing NbS that are more just, legitimate, and sustainable by ensuring that all voices - especially those often left unheard - are considered. It provides an overview of the NbS co-creation process, identifies who CES are, examines barriers to their inclusion, and synthesises practical tools and methods to address these challenges, including illustrative examples where possible. Building on survey findings and an expert workshop, the report also distills these insights into a set of overarching principles to guide more inclusive future practice.

Key takeaways from the report include:

- **Exclusion is multifaceted:** CES may be excluded intentionally*, unintentionally,* or through *self-selection* and is sometimes *strategic*. Exclusion is context-specific, dynamic, and shaped by intersecting social, cultural, and institutional factors.
- **Barriers reinforce one another:** CES face structural barriers (e.g. language, mobility, legal status), systemic drivers of exclusion (e.g. power asymmetries, extractive practices), practical constraints (e.g. childcare, transport, digital access), and design-related barriers.

These factors are interconnected and, if unaddressed, reproduce inequities and undermine the legitimacy of NbS.

- **Inclusivity brings diverse benefits**: Meaningful engagement of CES improves the quality of solutions, strengthens trust, reduces inequalities, fosters ownership, and enhances long-term legitimacy and sustainability.
- **Methods matter:** Beyond workshops, approaches such as participatory mapping, storytelling, theatre, community walks, playful and tech-based tools, and informal gatherings can open space for diverse voices and knowledge systems. Providing practical support — such as compensation, translation, or childcare — signals respect and lowers barriers to engagement.

Eight guiding principles have been outlined to guide CES engagement:

1. **Intentional inclusion** – Explicitly identify and prioritise CES through deliberate strategies.
2. **Trust building** – Foster transparency, reciprocity, and long-term relationships.
3. **Flexible process design** – Adapt timing, methods, and entry points to CES needs.
4. **Equity and recognition** – Compensate costs, acknowledge contributions, and value all knowledge equally.
5. **Method diversity** – Use varied approaches (visual, experiential, low- and high-tech) beyond workshops.
6. **Cultural sensitivity** – Address historical prejudices, respect local values and knowledge, and embrace intergenerational perspectives.
7. **Shared expectations** – Establish a common understanding of NbS and clarify roles to manage expectations.
8. **Reflexivity and learning** – Continuously reflect, monitor, and adapt to keep processes open and equitable.

1. Introduction

Ensuring inclusivity in the co-creation of nature-based solutions (NbS) is critical to delivering outcomes that are equitable, effective, and sustainable. By drawing on a richer diversity of perspectives, knowledge systems, and lived experiences, the resultant solutions are better tailored to local needs and accepted by local communities. Yet in practice, many groups — such as marginalized communities, Indigenous peoples, the elderly or youth, or other "invisible" or "silent" stakeholders — remain excluded or have limited influence in decision-making processes. This exclusion not only undermines the legitimacy and effectiveness of NbS, but also risks reinforcing existing inequalities. In this report, these groups are referred to as ***commonly excluded stakeholders*** **(CES)** - *those who are highly interested in or (significantly) affected by NbS, but are unable or unwilling to take part, engage, or contribute meaningfully to co-creation processes.*

Developed as part of NetworkNature+ Task Force 6 on Co-creation and Governance, this report supports the development of strategies to engage CES and thereby strengthen the justice, equity, and inclusiveness of NbS governance. The overarching aim is to provide the wider NbS community with practical, evidence-based insights for meaningfully identifying, reaching and collaborating with CES, and to equip practitioners with approaches for designing and implementing more inclusive NbS.

The report draws on insights from two main sources:

- A **survey** (see Annex B) of 31 practitioners, researchers and policymakers working on NbS across diverse contexts, conducted within the NetworkNature+ NbS Taskforce 6[1].
- An **expert workshop** held online on 13 March 2025, bringing together around 26 stakeholders working in this field to share their experiences, identify barriers, and discuss practical solutions.

These fora were used to explore three core questions:

1. ***Conceptual clarity and framing:*** How should CES be defined in the context of NbS co-creation? Are there overlooked groups or nuances in understanding exclusion that should be addressed?

[1] Task Force 6: Co-creation and Governance | NetworkNature

2. ***Barriers to participation:*** Why are CES often excluded in practice? What systemic, procedural, or context-specific factors limit their involvement, and what are their own reasons for non-participation?

3. ***Actionable strategies:*** Which approaches, tools, and success stories demonstrate effective engagement of CES, and how can these be adapted to different groups and contexts?

Following these themes, the report begins with a conceptual framing to establish shared understandings, followed by a reflection on the benefits of inclusion, barriers to participation, and drivers of exclusion. A set of actionable strategies grounded in field experience are then presented to guide more inclusive co-creation processes, illustrated with case examples raised in the survey or workshop. Finally, the report presents a set of overarching principles for practitioners, researchers and wider stakeholders engaging in NbS co-creation processes to support more inclusivity.

By situating these findings within the broader context of NbS governance, the report provides a foundation for reflection, adaptation, and innovation in the meaningful inclusion of CES throughout all stages of NbS co-creation.

2. Inclusive by design? Rethinking co-creation

Achieving inclusivity in NbS co-creation processes significantly increases the likelihood of effectiveness and long-term sustainability, while fostering a sense of ownership among stakeholders and helping to ensure just and equitable outcomes. Accordingly, inclusivity is embedded in the IUCN's Global NbS Standard under Criterion 5, which calls for "inclusive, transparent and empowering governance processes":

> *"NbS should have an inclusive approach when identifying and establishing governance mechanisms, and recognise and respect pre-existing cultural practices and land uses where possible, throughout the lifecycle of the intervention and beyond…* ***All stakeholder groups should be represented*** *and their stakes in the intervention considered when making decisions concerning the NbS. Doing so can minimise the risk of marginalising a particular*

stakeholder group or worse, affecting them negatively with the NbS intervention" (IUCN, 2020: 29).

The participation gap: Who's missing and why it matters

Despite increasing recognition of the importance of inclusivity, an implementation gap persists. Many NbS governance processes - beginning with the design phase and carrying through implementation, maintenance and monitoring - fall short of including the intended diversity of stakeholders in practice. Certain groups, i.e. 'commonly excluded stakeholders', are often excluded from these processes or wield limited influence in decision-making.

This exclusion risks uneven distributions of benefits and burdens, and often mirrors broader systemic inequalities tied to gender, age, class, ethnicity, education, disability, and their intersections (Haase et al., 2017; see Chapter 4 for more details). Beyond perpetuating social and economic inequities, exclusion can also produce future conflicts involving disaffected stakeholders, undermining the long-term success and acceptance of the NbS interventions (IUCN, 2020).

The likelihood of such injustices and conflicts is closely linked to who participates in decision-making and how co-creation processes are designed and conducted. Rethinking these processes to be inclusive by design is therefore critical to avoiding harm and fostering successful NbS and the distribution of their benefits.

Benefits of inclusivity in co-creation

All respondents to the survey acknowledged the value of engaging CES in NbS co-creation. While some practical trade-offs exist, the overall transformative potential of inclusivity was strongly emphasised. Key benefits identified in the survey and workshop include:

- **Richer processes and solutions**: Including marginalized groups generates innovative ideas for more effective and sustainable NbS which reflect diverse lived experiences and perspectives. Thus, the incorporation of different types of knowledge improves the quality of

decisions. It enables early identification and resolution of potential challenges.

- **Strengthening social cohesion**: Inclusive engagement strengthens community cohesion and builds stronger social bonds.
- **Reduction of inequalities**: including marginalized groups reveals unmet needs that can be tackled through NbS contributing to the reduction of inequalities.
- **Empowerment and pride**: Historically excluded individuals can gain a sense of belonging and pride through their contributions. Inclusive processes boost confidence and self-esteem for both community members and facilitators, leading to greater readiness to engage in future NbS and related initiatives.
- **Enhanced creativity and collaboration**: Increased creativity is inherent in inclusive processes, leading to more dynamic and resilient community networks capable of tackling complex challenges collectively.
- **Long-term sustainability**: Inclusive co-creation fosters acceptance, more legitimate decisions and community ownership, increasing the likelihood of project success in the long-term.
- **Improvement of democratic processes**: inclusivity allows all who are affected by a decision to have influence and redistribute decision-making power.
- **Broadening and shifting perspectives**: Bringing diverse viewpoints together promotes innovative problem-solving and the creation of shared solutions that benefit entire communities. Targeted engagement efforts have demonstrated positive attitude shifts, higher active participation, and stronger long-term acceptance.

Where does inclusion sit within the co-creation process?

In many co-creation processes, stakeholders are engaged in different phases with different tasks, objectives and roles. Including CES as well as keeping them active, included, involved and motivated to differing degrees during the various stages of the process first requires an understanding of opportunities for engagement.

Typically, five stages can be identified in NbS co-creation processes: (1) co-diagnostic, (2) co-design, (3) co-implementation, (4) co-evaluation or co-monitoring, and (5) co-amplification or co-replication (see Figure 1). While much of the public participation and visual actions in terms of producing plans or measures around NbS happens within the co-design stage, participatory approaches comprise an important element of the entire process. Critical is to understand and draw attention to *all* stakeholders – particularly commonly neglected, underrepresented or "quiet" groups - and implement efforts to include their diverse needs as an integral part of the entire co-creation process from the onset.

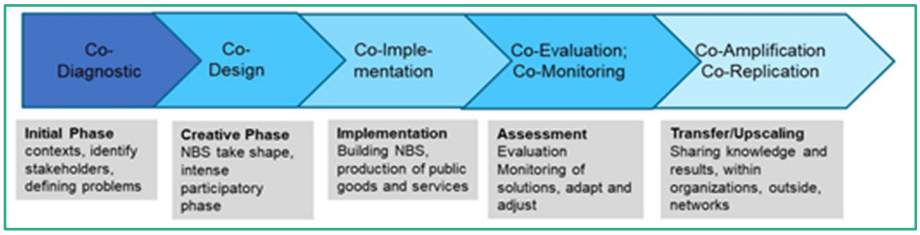


Figure 1: Typical co-creation stages in many NbS projects (based on EC, 2023b)

Building blocks for more inclusive co-creation

Ensuring inclusivity in the co-creation of NbS requires a structured approach that integrates diverse perspectives, addresses power imbalances, and fosters equitable participation. Success in achieving these ambitions is based around so-called 'building blocks', spanning the following (EC, 2023b):

1. **Foundational blocks** to set up the guiding principles and rules for co-creation processes fostering a culture of participation to include CES.
2. **Stakeholder engagement blocks** to support engagement of a broad diversity of stakeholders, particularly underrepresented groups
3. **Context-specific blocks** to adapt co-creation processes to the different geographical, cultural, and socio-economic contexts and bridge gaps to foster meaningful participation.

4. **Inclusivity blocks** to foster a culture of open-mindedness and openness to ensure inclusivity and accessibility, especially to CES.

Annex C provides a more detailed overview of how CES can be included in the different co-creation phases, the need to include CES, and relevant building blocks for each phase to support inclusiveness.

Closing the inclusion gap: Laying the groundwork for change

While some evidence of what has worked well in engaging CES across different socio-ecological and governance contexts exists (see e.g. Gionfra et al. 2023), practical tools and insights about the invisible stakeholders in the decision-making process and the reason for their lack of engagement remain sparse and scattered. This report aims to address this critical gap.

3. Conceptual clarity and framing: Who are commonly excluded stakeholders?

Having a common understanding of key concepts is essential for making sense of the challenges, practices, and recommendations throughout this report. Terms like "exclusion," “commonly excluded stakeholders”, "participation," and "co-creation" do not have one universal meaning and can be understood differently depending on the field, context or group involved. The way these terms are used in conversations, research and practice around NbS can strongly shape how inclusive the process is in reality - sometimes helping, but other times acting as a barrier to engagement.

For inclusion to be truly effective, the words we use need to be easily understood, relevant to local cultures, and flexible enough to fit different settings and institutional contexts. How we frame these concepts can either encourage people to get involved or make them feel shut out, especially those who have been excluded or marginalised in the past.

For example, some workshop participants felt that the term “exclusion” sounded too rigid or accusatory. They suggested using terms like “not reached”, “invisible” or “silent stakeholders” to better describe the many ways

that people might not take part in NbS co-creation. Similarly, the word "co-design" caused some confusion because it stems from design fields. Participants suggested alternatives like "co-planning", which feels clearer and more fitting for working together on environmental projects.

This chapter draws directly on the survey responses and discussions from the workshop, aiming to create a shared understanding of these key ideas that better reflect real world experiences and supports more inclusive and context-sensitive approaches to designing and implementing NbS. Working definitions of key terminology are included in Annex A.

Rethinking exclusion: Definitions and nuance

While existing literature frames CES as *social groups who are highly interested in or (significantly) affected by NbS, but are unable or unwilling to take part, engage, or contribute meaningfully to co-creation processes,* the survey and workshop feedback made it clear that exclusion is not a simple yes-or-no condition. Instead, exclusion and people's experiences and marginalisation changes depending on where, when and how people live and is shaped by overlapping and interrelated social, historical and institutional factors (see Chapter 4), known as intersectionality. For example, race, class, gender, immigration status, education, and legal standing often interact to create complex barriers to participation. Stakeholders should thus not be seen through single identity categories, but as facing multiple, interconnected challenges impacting disadvantage and disempowerment.

Workshop participants raised several points around these considerations:

- **Exclusion can be *intentional*** (e.g. when people are left out because they are seen as being disruptive or politically inconvenient), *unintentional* (e.g. due to logistical constraints or systemically embedded biases), or *self-selected* (e.g. because of distrust, consultation fatigue, or negative past experiences with participation).
- **Sometimes exclusion is *strategic*** and does not always equate to marginalisation. In some cases, excluding certain groups can help to stop more powerful actors from dominating the process.
- **Participants' characteristics do not fully explain who is excluded**. Inclusion depends on the specific context and can

change during different stages of a NbS co-creation process and across settings.

As such, participants suggested broadening the working definition of commonly excluded stakeholders to include individuals or groups referred to as “invisible” or “silent” stakeholders.

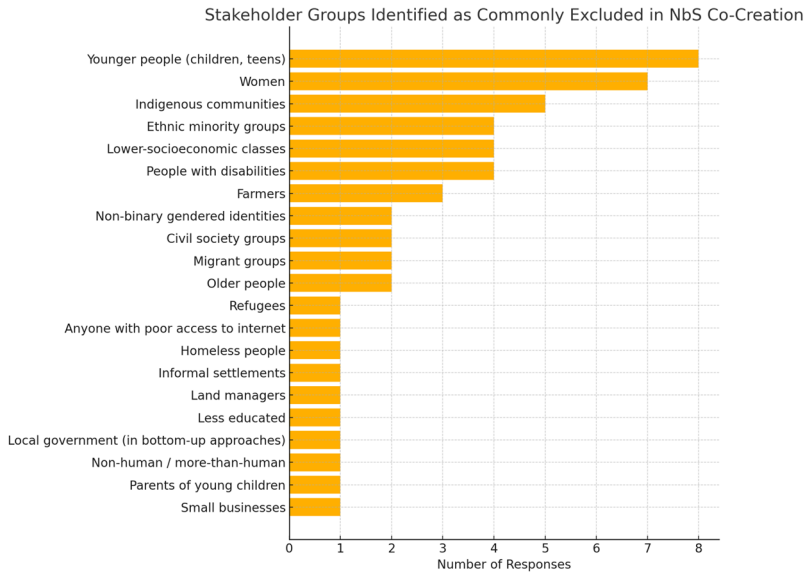
At the same time, participants highlighted the importance of practitioners, researchers and institutional actors being mindful of *their own role* in co-creation processes. Power dynamics, personal assumptions, and institutional histories inevitably shape how engagement processes are designed, implemented and experienced. Promoting reflexivity - i.e. regularly reflecting on how one’s own actions might support or challenge exclusion - can help create fairer and more inclusive processes.

This reframing encourages moving beyond fixed ideas of who is or should be included in co-creation. Rather than assuming who is excluded, it calls for ongoing reflection and attention to the specific context by asking: *Who is or has been excluded, when, why, and as a result of what processes?* These questions around stakeholders and the potential role that CES can play should be reflected on from the start of the co-creation process.

Who are commonly excluded stakeholders?

Survey results identified a wide range of groups perceived as being commonly excluded from NbS co-creation processes. Among the most frequently mentioned were youth, women, Indigenous communities, migrants, ethnic minorities, people with disabilities, and those from lower socio-economic backgrounds (see Figure 1).

Figure 1: Survey-identified commonly excluded groups in NbS co-creation



The diversity of responses collected in the workshop also pointed to less obvious groups and some which were not mentioned in the survey, such as technical staff and engineers, local government actors in bottom-up processes, informal workers and landless residents, non-binary and gender-diverse individuals, parents, refugees, and small business owners.

Some respondents emphasized the need to consider non-human and more-than-human stakeholders such as ecosystems, biodiversity, and species affected by NbS. This broader framing aligns with principles of ecological justice and opens new directions for inclusive co-creation that acknowledge the interdependence of human and natural systems. While this aspect goes beyond the scope of this work, it raises an interesting perspective for future exploration.

These diverse perspectives reinforce the understanding that exclusion is deeply context-dependent and cannot be reduced to static identity labels. The category of "commonly excluded stakeholders" should thus be seen as fluid, shaped by who is making decisions, whose knowledge counts, and whose interests are prioritized or overlooked in specific NbS settings.

Key takeaways for inclusive framing

The following insights form a foundation for the actionable strategies that follow in Chapter 5 and principles outlined in Chapter 6, where we explore practical ways to implement inclusive NbS co-creation on the ground:

- **Language and framing choices matter.** The terms used to describe participation can either invite or discourage engagement. Where necessary, replace contested or confusing terms like “co-design” with clearer, more inclusive alternatives such as “co-planning”, “joint planning” or “designing together”. Language should be accessible, non-technical, and meaningful to diverse audiences, particularly in multilingual or cross-cultural contexts.

- **Stakeholder identification must be broadened.** Effective NbS co-creation requires moving beyond a narrow focus on traditionally marginalized groups. Practitioners should also consider powerful actors who may be excluded for strategic reasons or lack of common interest points, as well as often-overlooked groups such as informal workers, migrants, or landless residents.

- **Exclusion is dynamic and context-specific.** Practitioners should avoid applying fixed identity categories (such as “youth” or “elderly”) as universally excluded. Instead, it’s essential to ask who is excluded, when, why, and from what processes. Exclusion can be structural, such as legal or institutional barriers, but may also stem from fatigue, mistrust, or past negative experiences with participation.

- **Engagement should account for multiple, interacting barriers and reflect on facilitator roles.** Inclusion efforts should consider how different factors combine, such as race, class, gender, and migration. At the same time, those leading NbS co-creation processes should reflect on how their own role, background, or assumptions may shape access, legitimacy, and influence within co-creation processes.

- **Participation frameworks should evolve.** NbS co-creation should expand its definition of stakeholders (e.g. to include technical actors

like engineers and ecologists) and develop methods that make space for diverse, often overlooked perspectives. Practitioners should prioritize strengthening existing community knowledge and systems, rather than introducing parallel structures that may undermine local agency.

4. Barriers to inclusive participation

Inclusive NbS co-creation is often hindered by a constellation of barriers that interact across individual, social, and institutional levels. Insights from the background survey and expert workshop point to four primary barrier clusters around engaging commonly excluded stakeholders: **structural barriers, systemic drivers of exclusion**, **practical constraints**, and **design-related barriers.** These categories are over-simplified and have been selected for ease of reference, acknowledging that they are closely interconnected in reality, with each reinforcing or amplifying one another. Together, these barriers shape who participates, whose knowledge is legitimised, and how influence is exercised in NbS co-creation processes.

Left unaddressed, poorly managed trade-offs risk reproducing inequities, suppressing diverse knowledge, and undermining the legitimacy and long-term success of NbS. Recognising both the constraints and the interconnected nature of barriers is the first step toward redesigning co-creation processes so that CES can shape priorities, decisions, and benefits on equal footing.

Structural barriers

Participation spaces around NbS often privilege verbal fluency and confidence in group discussions, which can disadvantage CES. Processes that rely heavily on workshop debate risk overlooking other ways of knowing and expressing knowledge, such as visual, embodied, or experiential forms. The reliance on technical jargon and complex terminology can compound this, especially when discussions are abstract or detached from the lived realities and priorities of CES. When participants feel that conversations do not connect to their concerns, or that they lack the “right” education, title, or

status to contribute, they may self-exclude or remain silent, reinforcing patterns of marginalisation.

These barriers are often compounded by a lack of familiarity with, or empathy for, CES among other participants and organisers. Misunderstandings of cultural values, worldviews, or everyday realities can give rise to stereotyping and prejudice, undermining trust before collaboration has begun. For some, an absence of personal connection to the topic or unfamiliarity with participatory practices may further heighten the sense of being “outsiders” to the process.

Structural barriers also stem from material conditions: insecure legal status, financial precarity, or social stigma can diminish people’s confidence to engage; disabilities or mobility limitations may prevent attendance without specific support. Together, these barriers limit who feels able and entitled to participate in NbS co-creation. They also intersect with the systemic drivers of exclusion discussed in the next section and combine with practical constraints to shape the depth and diversity of engagement.

Systemic drivers of exclusion

Historical and ongoing power asymmetries shape who is heard and whose knowledge “counts” in NbS co-creation processes. These asymmetries often privilege technical or institutional voices while marginalising experiential, local, or Indigenous knowledge. When participation spaces are designed in ways that are inaccessible — whether through exclusive use of jargon, formal settings, or opaque procedures — CES may feel powerless to contribute meaningfully. Past experiences of unfulfilled promises or extractive practices, in which projects “take” knowledge without reciprocity, compound this mistrust. For example, communities that have been repeatedly consulted without seeing their input reflected in decisions may disengage entirely, perceiving future initiatives as yet another “box-ticking exercise.”

These systemic drivers rarely operate in isolation. They intersect with broader social inequities such as racism, gendered power relations, class divisions, and discrimination based on age, disability, or migration status. The result is a self-reinforcing cycle: groups that have historically been excluded are more likely to distrust processes, withdraw from participation, or be dismissed as “hard to reach.”

Such systemic drivers build on the structural barriers described earlier — such as language, legal status, or accessibility — and, in turn, create practical hurdles like low trust, reduced willingness to engage, and disengagement over time. Without explicit efforts to recognise and redress these dynamics, NbS risk reproducing rather than transforming patterns of exclusion.

Practical constraints

Even when structural barriers and systemic drivers are addressed, many CES face everyday practical challenges that limit their ability to participate in NbS co-creation. These obstacles are often less visible to facilitators but strongly influence who can attend and contribute.

A lack of time or capacity is a common barrier. Many CES have multiple responsibilities — balancing work, care duties, and other obligations — which makes attending meetings or workshops difficult. For women in particular, caregiving roles often reduce flexibility for engagement, while for youth, school or employment commitments can constrain availability. Without deliberate efforts to accommodate these realities, participation may skew toward those with more flexible schedules or financial security.

Physical accessibility also plays a major role. Some stakeholders may be unable to reach venues due to distance, inadequate transport, or mobility limitations. The growing use of digital engagement methods has lowered some barriers, but it has also introduced new ones: individuals without reliable internet access, digital devices, or confidence in using online platforms are effectively excluded from participation. Invitations, background documents, and consultation materials may never even reach them.

Participation also comes with direct and indirect costs. Transport, childcare, meals, or taking time off work all represent sacrifices that can disproportionately affect CES. If such costs are not acknowledged and compensated (see Chapter 5), engagement becomes an additional burden rather than an opportunity.

Language presents another significant challenge. In multilingual settings, the use of a non-native language can further marginalise those who lack fluency, forcing them into a passive role or deterring them from participating

altogether. For some CES, such as recently arrived migrants, this barrier can be particularly pronounced.

These practical constraints often interact with structural and systemic drivers of exclusion. For instance, when logistical hurdles combine with a lack of trust in institutions, CES may decide not to engage at all. Addressing these barriers therefore requires not only logistical fixes but also a recognition of how everyday realities shape who is able — and willing — to participate in NbS co-creation.

Design-related barriers

NbS co-creation processes are often embedded within short project cycles characterised by fixed timelines and limited budgets. These constraints leave little room to adapt engagement formats, build trust, or sustain involvement with CES beyond the immediate project.

Survey respondents highlighted that CES are frequently not explicitly acknowledged or targeted in project design at all. As a result, engagement efforts risk being superficial or symbolic, with participants left feeling “used” or exploited rather than valued. Inflexible processes of this kind can reinforce existing structural disadvantages, while weak communication and limited follow-up further entrench systemic patterns of disengagement. In this sense, poor design does not simply overlook CES — it actively deepens the barriers they face.

A further challenge is the often long time lag between ideation and tangible outcomes in NbS. If participants cannot see how their input connects to decisions or leads to benefits in the near term, enthusiasm wanes and “consultation fatigue” sets in. Without visible pathways from contribution to outcome, CES may question the purpose of their involvement and makes it hard to sustain CES involvement across the life of a project.

Pre-set agendas exacerbate these issues. When facilitators or initiators subtly steer discussions toward predetermined outcomes, CES may be invited to participate but only within narrowly defined roles. This creates a sense of tokenism, where inclusion is more symbolic than substantive. Instead of challenging inequalities, such design choices can reproduce or even intensify them.

Ultimately, design-related barriers highlight the critical role of process architecture in shaping inclusion. Projects that fail to provide flexibility, transparency, and continuity risk undermining the very goals of co-creation. Without visible pathways from contribution to outcome, or commitments that extend beyond project cycles, CES are unlikely to see participation as worthwhile or transformative.

When inclusion is challenging: Trade-offs and tensions

While co-creation processes should strive to be as open and welcoming as possible — including space for dissent, doubts, and concerns — survey respondents highlighted that complete inclusivity is not always feasible. There are inevitable trade-offs in terms of the nature and degree of participation in NbS governance, particularly when projects face constraints such as limited resources, compressed timelines, or the need for highly technical expertise at specific stages. In such situations, the decision to limit inclusion should never be taken lightly. As one survey respondent noted, *"the decision to limit inclusion should always be carefully considered, balancing the need for diverse input with the practicalities of the decision-making process."*

Adopting a tactical engagement approach can help to navigate these trade-offs. This means identifying the appropriate level and timing of engagement, ensuring that CES can contribute where their perspectives are most relevant, while also being flexible enough to allow stakeholders to step back or re-enter the process at different points. Such flexibility helps prevent exclusion from becoming permanent and allows participation to adapt to the varying capacities and priorities of CES over time. The next chapter sets out pragmatic strategies and recommendations for more inclusive practice around engaging CES.

5. Approaches, tools and methods for engagement

Building on the barriers identified in Chapter 4, this chapter sets out practical strategies to support the meaningful engagement of CES in the co-creation

of NbS. While no single method can guarantee full inclusiveness, the following approaches demonstrate how processes can be designed to reduce barriers and expand opportunities for participation and more inclusive governance. Concrete project examples raised during the workshop or in the survey are outlined where appropriate.

Designing engagement with CES in mind

Inclusion must be intentional in NbS co-creation processes from the outset. Stakeholder mapping should explicitly identify CES, considering factors such as age, gender, ethnicity, migration status, socio-economic conditions, and disability as well as the intersections of these attributes and how they interact with each other. Multicultural stakeholder mapping can reveal overlooked groups, including Indigenous communities and ethnic minorities and ensure strategies are more representative.

Beyond identification, engagement formats should be accessible, culturally resonant, and responsive to local needs and rhythms of life as well as clear about roles, expectations, and decision-making responsibilities. Targeted communication — framed in accessible language and delivered through appropriate channels — can help connect CES to processes that may otherwise feel distant or irrelevant and ensure that they feel their participation is valued. In URBINAT, for example (see Box 1), a green wall was created in a school by using a performative approach to help children express their preferences and wishes without the need to speak up. Community asset mapping can further strengthen this by recognising popular knowledge, local technologies, and different ways of doing.

Case study 1: Organising co-design workshops at local initiatives' premises - Grünlabor Hugo Gelsenkirchen

The CLEARING HOUSE project focused on co-designing strategies for improving the benefits of urban forests and urban trees for urban communities. One of the cases was the German post-industrial city of Gelsenkirchen in the Ruhr area, a city with a very diverse population. Many cultures are collaborating in a community garden located at a former mining site, the Hugo site that has been transformed into a multifunctional greenspace. Members of the community garden delivered the catering for the co-design event, and as such the catering was a facilitator to engage the

members of the community garden in the co-design event: they felt at home as the co-design was organised in their garden, and receiving appreciation from other stakeholders and being praised for the catering has led to a relaxed and open atmosphere, which created a setting for engaging actively.

Intentional design also requires building trust and overcoming historical prejudices. Promoting cultural awareness through ethnographic approaches, art, and performance can foster empathy and mutual understanding. Collective team-building activities and dedicated spaces for dialogue and building deep connections help participants reflect on historical power dynamics, build empathy across groups, and strengthen connections. Recognising and valuing diverse knowledge - including intergenerational aspects and social memory - and linking NbS to place identity and community belonging supports ownership and long-term stewardship across generations and groups.

Case study 2: Building trust through cultural celebration - Viva la BIO Fest

In Envigado, Colombia, the INTERLACE project demonstrated how cultural celebration can become a platform for inclusive ecological dialogue. The city's biodiversity festival, *Viva la BIO Fest*, combined artistic performance, moderated dialogues, and interactive workshops to connect themes of gender diversity, cultural identity, and environmental stewardship. By using art and performance as entry points, the festival created a welcoming and culturally resonant space where groups often marginalised in civic processes — including LGBTI and deaf participants — could engage alongside other residents. Moderated conversations fostered trust and empathy, while collective activities encouraged reflection on social dynamics and built connections across differences. The festival illustrates how intentional design, grounded in cultural awareness and creative methods, can overcome prejudices, strengthen community belonging, and open new pathways for inclusive NbS co-creation.

Once trust is established, meaningful dialogue becomes possible. This includes creating safe spaces for intercultural exchange that respect both equality and difference, centering lived experiences and everyday challenges from the outset, and carving out authentic connections that allow newcomers

to join at any stage. Communicating tangible results is critical to show the value of participation and reinforce legitimacy.

Case study 3: Engaging the Roma community in healthy corridors

In Porto, Portugal, the URBINAT project applied social science and humanities approaches to design inclusive "Healthy Corridors" that integrated environmental improvements with community health and wellbeing. Ethnographic co-evaluation helped bridge gaps between stakeholders and bring Roma perspectives into NbS planning, fostering mutual respect and a deeper understanding of cultural and historical narratives. Mapping participatory cultures revealed barriers and exclusions, while socio-cultural mediators and local associations built trust in a context of longstanding marginalisation. Performative workshops in schools engaged children in constructing a green wall, linking NbS to place identity and fostering intergenerational involvement. These activities not only made marginalised voices more visible but also helped overcome prejudices and everyday perceptions contributing to social separation in urban space. The case highlights the importance of combining ethnographic methods, participatory design, and cultural awareness to tailor engagement processes, amplify accessibility, and ensure that NbS reflect the lived experiences of historically excluded groups such as the Roma community.

Tactical engagement strategies

As not all stakeholders can or need to be engaged at every stage, tactical approaches help match engagement with both project requirements and CES capacities. Flexible timing, rotating participation, and open entry and exit points allow stakeholders to opt in and out across the NbS co-creation process. Building engagement around key decision moments prevents consultation fatigue. Iterative formats, where feedback is returned to participants and used to adapt next steps, reinforce accountability and sustained involvement.

Case study 4: Tactical engagement in practice - La Mimosa project

Within the INTERLACE project, the city of Granollers (Catalonia, Spain) worked with stakeholders to launch *La Mimosa*, an initiative promoting

access to agroecological food for socio-economically vulnerable families. Families joined a local agroecological consumption group (*La Magrana Vallesana*), purchasing organic products through a card-wallet credit system. Importantly, participation was phased: In the first year, families were engaged mainly in implementation to familiarise them with the project, before being invited to shape its redesign in later phases. This tactical, stepwise approach allowed vulnerable households to gradually build confidence and capacity to influence decisions. Families took part in workshops on seasonal cooking, organic gardening, and recreational activities, learning about agroecology, nutrition, and the right to food. For beneficiaries, the project provided healthier diets, reduced stigma, and offered meaningful participation. For producers, it expanded membership, diversified consumer profiles, and strengthened the market for agroecological products. The case illustrates how tactical engagement — introducing CES gradually and creating clear entry points at different stages — can build trust, reduce barriers, and sustain involvement over time.

Provision of support measures

Recognising the diverse efforts and contributions of CES is essential. Inclusive co-creation requires significant time and resource investment, which should be acknowledged and, where possible, remunerated. Compensation can take many forms — such as honorariums, vouchers, food provision, childcare, or transport support — and should be adapted to local contexts given taxation or legal considerations. Regardless of form, providing compensation reduces financial burdens, signals respect, fosters a sense of ownership, and supports long-term stewardship beyond project cycles.

Case study 5: Supporting participation through volunteer structures in CBIMA

The María Aguilar Interurban Biological Corridor (CBIMA) in Costa Rica demonstrates how well-designed support measures can sustain inclusive community engagement. Local residents participate as *brigadistas* in biodiversity monitoring brigades — including a dedicated group for older adults — coordinated via WhatsApp and social media. Volunteers carry out bird counts, amphibian surveys, mammal monitoring with camera traps, and opportunistic observations uploaded to the iNaturalist app. To ensure

participation is meaningful and accessible, CBIMA provides training, equipment, observation guides, and even refreshments, reducing barriers and recognising the contributions of its volunteers. By taking care of practical needs, the project signals respect for participants' time and effort. The data collected feeds into vulnerability mapping and restoration planning, ensuring that community knowledge shapes ecological decisions while strengthening local ownership and long-term stewardship of the corridor.

Support also extends to process design. Practical barriers like time constraints, mobility limitations, or digital access gaps need to be anticipated and addressed. Translation, interpretation, and accessible background materials allow CES to participate on equal terms. Simple adjustments — familiar venues, appropriate scheduling, and providing food — help create a welcoming environment. Workshop participants highlighted that even modest forms of support can significantly increase both attendance and the quality of contributions.

Beyond the workshop: alternative and complementary approaches

Conventional workshops often privilege verbal fluency and technical literacy and exclude those who do not feel comfortable speaking in larger or more mixed audience settings. More inclusive approaches invite other ways of knowing and expressing knowledge. Ethnological approaches — such as spending time with communities, observing daily practices, and situating NbS within cultural realities — can surface perspectives that formal meetings miss. Participatory mapping, storytelling, theatre, photo voice, and community walks translate technical ideas into lived experience and open up space for diverse perspectives. These approaches can translate technical ideas into relatable experiences and foster dialogue across groups that may not normally interact, while respecting different (religious) beliefs and fostering a more collaborative and non-hierarchical approach to the generation of knowledge.

Case study 6: Arts-based engagement to communicate NbS – The Sarajevo Pathway in A Coruña

Within the ConnectingNature project, partners developed the Sarajevo Pathway to help cities communicate the concept and benefits of NbS through co-creative, arts-based methods. In A Coruña, the process unfolded in two separate but interconnected activities with local citizens involved in municipal urban gardens, many of whom came from migrant and minority backgrounds. First, participants reflected on their past connections with nature through memory work, mindfulness, and immersion in nature, writing short memory texts supported by a local poet. In a follow-up session, they mapped their present experiences through body mapping, supported by both a poet and an illustrator. The artists not only contributed creative outputs but also legitimised the process, helping participants feel more confident to express themselves. The outputs were exhibited publicly in the Agora building, combining participants' creative work with technical information on the city's urban garden programme. This exhibition became both a communication tool and a way of validating CES voices, making their perspectives visible to the wider community. Crucially, the composition of the group underscored the inclusive potential of the approach: by involving participants from different ethnic and cultural backgrounds, the process demonstrated how urban gardens can act as first anchor points for migrants and newcomers. At the same time, engaging individuals across different age groups highlighted their role in fostering intercultural and intergenerational exchange. The project team reflected that participants showed enthusiasm to re-engage, suggesting that the process was trusted, meaningful, and effective in promoting ownership of NbS among groups often excluded from such dialogues.

Dedicated sessions or exchange formats outside of large workshops can also provide safer spaces to collect initial ideas and prepare participants for broader discussions. These formats require sufficient time and resources to reach and include diverse stakeholders, ensuring that their needs, aspirations, and constraints are acknowledged. Low-barrier entry points — such as informal community gatherings, neighbourhood BBQs, or other social events — can help build trust and establish early connections in a welcoming setting. In the TRANS-lighthouses project, for example, neighborhood BBQs were used as an entry point to start discussions with very diverse local communities in Brussels to reflect on perceptions and values around NbS for water retention. Such approaches not only improve comfort levels for CES but also enrich subsequent joint sessions with more diverse contributions.

Blended methods — combining online, offline, formal, and informal spaces (such as house visits or cultural events) and high and low-tech methods — help widen participation, ensure accessibility across different groups, and enable CES to contribute in ways that best suit their needs and requirements.

Playful and tech-based methods can make participation more accessible and engaging, especially for youth. Digital mapping tools, interactive apps, and virtual reality experiences provide interactive entry points, while games, arts, music, and performances invite creative expression and allow participants to experiment with different roles. These approaches help overcome language or literacy barriers, stimulate creativity, and act as ice-breakers that build confidence.

Case study 7: Engaging youth through play – Minecraft workshops in Chemnitz

In Chemnitz, Germany, the INTERLACE project used playful, technology-based methods to involve children, adolescents, and immigrant youth in NbS co-creation. Minecraft workshops were organised in schools with high proportions of immigrant students, offering a familiar and enjoyable medium through which young people could contribute ideas for ecological planning. While outreach to these groups was initially challenging, adapting communication channels helped secure participation. Once engaged, the students became active contributors, sharing fresh perspectives and creative ideas for greener urban spaces. The case shows how digital games can lower barriers linked to language and technical literacy, while sparking enthusiasm and confidence among younger participants. Playful methods like these can transform engagement from an obligation into an empowering and inclusive experience.

6. Bringing it all together: Overarching principles for inclusive co-creation

This chapter distills the core lessons emerging from the survey and workshop into a set of guiding principles for inclusive NbS co-creation. These principles capture what is most essential for improving practice and should serve as reference points for future NbS design and governance. Rather than

prescribing fixed rules, they provide high-level orientations that can be adapted to diverse local contexts and highlight that inclusion is not a one-off action, but a guiding commitment throughout the co-creation process. The aim is to guide those working with NbS to embed equity and inclusion into governance practices in ways that remain flexible and responsive to place-specific realities.

Principle 1: Intentional inclusion

Inclusivity must be a conscious design choice. CES should be explicitly identified, prioritised, and engaged through deliberate strategies, rather than assumed to benefit indirectly from general participation processes.

Principles 2: Trust building

Trust is the foundation of meaningful engagement. This requires transparency, reciprocity, and consistent follow-up so that CES can see how their input is valued and acted upon. Relationship-building should precede and continue beyond formal processes.

Principle 3: Flexible process design

Rigid processes reinforce exclusion. Inclusive NbS co-creation requires flexible timing, methods, and entry points, allowing CES to engage in ways and moments that fit their capacities and interests.

Principle 4: Equity and recognition

Inclusion is not only about access but also about fairness. This means compensating participation direct (e.g. transportation) and indirect (e.g. lost income due to participation) costs, acknowledging contributions, and valuing diverse knowledge systems — from Indigenous practices to lived community experience — on equal footing with technical expertise.

Principle 5: Method diversity

Inclusive co-creation values multiple ways of knowing and communicating. Moving beyond traditional workshops to include visual, experiential, and culturally grounded methods as well as low and high-tech approaches ensures that participation is accessible to a wider range of stakeholders.

Principle 6: Cultural sensitivity

Historical prejudices and social tensions must be actively addressed by developing solutions with communities rather than for them, respecting local histories, traditions, and values and recognising dynamics of exclusion. Creating space for intergenerational perspectives, social memory, and place-based identity strengthens legitimacy and ensures that NbS solutions are developed *with* the community rather than *for* the community.

Principle 7: Shared expectations

A common understanding of what NbS co-creation means to different stakeholders is vital to manage expectations, prevent fatigue, and inform appropriate approaches. Clarity at the outset allows different groups, including CES, to see how their input matters and how NbS align with their priorities and avoids extractivism.

Principle 8: Reflexivity and learning

Inclusive NbS design requires continuous reflection on who is included, how, and why. Monitoring, evaluation, and willingness to adapt ensure processes remain transparent, open and equitable and that learning can take place over the co-creation process.

References

European Commission - Directorate-General for Research and Innovation, Naumann, S., Burgos Cuevas, N., Davies, C., Bradley, S. et al. (2023a). Harnessing the power of collaboration for nature-based solutions – New ideas and insights for local decision-makers, Publications Office of the European Union., https://data.europa.eu/doi/10.2777/954370

European Commission - Directorate-General for Research and Innovation, Andersson, I., Ferreira, I., Arlati, A., Bradley, S. et al. (2023b). Guidelines for co-creation and co-governance of nature-based solutions – Insights form EU-funded projects, Ferreira, I.(editor), Lupp, G.(editor) and Mahmoud, I.(editor), Publications Office of the European Union https://data.europa.eu/doi/10.2777/157060

Fraser, N. (2000). "Rethinking recognition." *New Left Review*, 3, 107–120.

Gionfra, S., Utkarsh, S., Moncorps, L. (2023). Leaving no one behind: Towards inclusive nature-based solutions. Knowledge Brief drafted by IUCN and ICLEI for NetworkNature (H2020 project No. 887396). https://networknature.eu/sites/default/files/uploads/networknature-nbs-knowledgebrief03.pdf

Haase, D., Kabisch, S., Haase, A., Andersson, E., Banzhaf, E., & Baró, F., (2017). Greening cities - To be socially inclusive? About the alleged paradox of society and ecology in cities. Habitat International 64, 41-48. https://doi.org/10.1016/j.habitatint.2017.04.005

IUCN (2020). Guidance for using the IUCN Global Standard for Nature-based Solutions. A user-friendly framework for the verification, design and scaling up of Nature-based Solutions. First Edition. https://portals.iucn.org/library/sites/library/files/documents/2020-021-En.pdf

Leone, M., Lammens, L., & Callebaut, J. (2021)., INTERLACE Stakeholder Engagement Strategy. Deliverable 1.5. INTERLACE project.

Maestre-Andrés, S., Calvet-Mir, L., & Apostolopoulou, E. (2018). Unravelling stakeholder participation under conditions of neoliberal biodiversity governance in Catalonia, Spain. Environment and Planning C: Politics and Space 36(7), 1299-1318. https://doi.org/10.1177/2399654417753624

Reed, M.S. (2008). Stakeholder participation for environmental management: a literature review. Biological conservation, 141(10), 2417-2431. https://doi.org/10.1016/j.biocon.2008.07.014

Schlosberg, D. (2007). Defining environmental justice: Theories, movements, and nature. Oxford University Press.

UNEA (2022). Nature-based Solutions for supporting sustainable development (UNEA 5 Resolutions UNEP/EA.5/Res.5). United Nations Environment Assembly of the United Nations Environment Programme.

U.S. Environmental Protection Agency (EPA). (1998). Environmental Justice Strategy.

Zingraff-Hamed, A.; Hüesker, F.; Lupp, G.; Begg, C.; Huang, J.; Oen, A.; Vojinovic, Z.; Kuhlicke, C.; Pauleit, S. (2020). Stakeholder Mapping to Co-Create Nature-Based Solutions: Who Is on Board? Sustainability, 12, 8625. https://doi.org/10.3390/su12208625

Annexes

Annex A: Key concepts addressed in this report and working definitions

Concept	Working definition
Commonly excluded stakeholder(s)	A group or individuals, also named invisible stakeholder(s) or silent stakeholder(s) (Zingraff-Hamed et al. 2020) that are highly interested in or significantly affecting or affected by NbS, but are unable or unwilling to participate, engage, or meaningfully contribute to co-creation processes. Exclusion can be intentional or unintentional and stem from, for example, personal factors, socio-economic and demographic inequalities, or procedural injustices (e.g. biased processes, lack of transparency and representativeness). Broader social, economic, and political conditions can also limit access to essential services like education, healthcare, and secure livelihood options, further sustaining exclusion. These individuals can vary significantly depending on the context.
Co-creation	A collaborative governance approach that promotes cooperation and mutual learning among stakeholders in designing, implementing, evaluating and monitoring NbS. In many projects, five different key phases can be identified: (1) co-diagnostic - identifying stakeholders, defining goals, outlining activities; (2) co-design - ideas about NbS emerge; (3) co- implementation - NbS are built; (4) co-evaluation and monitoring - assessment/monitoring, adaptation and adjustment; (5) co-amplification and replication - sharing knowledge, spreading and disseminating NbS (EC, 2023a).

Co-governance	Collaborative decision-making processes around NbS design, implementation, maintenance or monitoring involving the local community, NGOs, private sector actors, and other actors to empower individuals, build capacities and knowledge, and foster a sense of ownership over local environments to develop a sense of ownership for their local environment (EC, 2023a).
Distributional justice	Examines how the costs and benefits of NbS including access to green, nature-based amenities is distributed among different social groups.
Environmental justice	The fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, in the development, implementation, and enforcement of environmental laws, regulations, and policies (EPA, 1998). It seeks to ensure that all individuals have access to decision-making processes that affect their environment and health (Schlosberg, 2007).
Inclusivity	Involves engaging a representative group of stakeholders when making decisions concerning the NbS, paying special attention to disadvantaged groups defined by gender, culture, age, class, sexual orientation, education, religion, ethnicity or other intersecting factors. Failing to promote social inclusivity in participatory processes can lead to the exclusion of key social actors from decision-making and disempower local communities (Maestre-Andrés et al., 2018)
Nature-based solutions	"Actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems which address social, economic and environmental challenges effectively and adaptively, while simultaneously providing

	human well-being, ecosystem services, resilience and biodiversity benefits" (UNEA, 2022)
Procedural justice	Levels and forms of civil participation in decision-making to ensure that the planning, design, implementation and evaluation of NbS are open to inputs by diverse stakeholders (Fraser, 2000).
Recognition justice	Different needs, values and preferences regarding green space and nature must be incorporated in designing, planning, implementing and monitoring NbS.
Stakeholder(s)	Any group or individual with a direct or indirect interest in or influence on a project (Reed, 2008), including those providing resources (e.g. knowledge or expertise), or are affected by the outcomes (Leone et al., 2021).
Stakeholder mapping	Identifies systemically the range of stakeholders who will be affected by the NbS (IUCN, 2020), their relationships and attitudes.
Vulnerable groups and communities	Minorities, children, elderly, immigrant and indigenous populations, persons with disabilities and those from low-income households; generally, the most affected by the adversities resulting from the triple crises of climate change, pollution and biodiversity loss (Gionfra et al., 2023).

Annex B: Survey questions

Part 1: About you and your projects/experiences

1. Please introduce your relevant (research) projects/experience/context in which you're working on these topics, including geographic scope, targeted stakeholder groups (if relevant), funding (for research project)

Part 2: Context/setting the scene

2. What do you understand as 'co-creation' and what are the objectives for you? e.g., information absorption, capacity building, ownership of NbS?
3. 'In co-creation processes around NbS - referring to the entire NbS lifecycle from planning to monitoring, some actor groups are commonly excluded`. Does this align with your perspective? Would you suggest any specific terms or changes to this description based on your experiences?
4. What groups would you define as being commonly excluded in the context of NbS co-creation (within your project or more widely)? Please describe the groups and provide a brief explanation of why you consider them to be particularly relevant for NbS decision-making processes. What are the different causes for their exclusion?
5. What are the ethical and/or equality issues needing to be considered when designing co-creation processes around commonly excluded actor groups in research projects?
6. How can the co-creation of NbS benefit from actively engaging commonly excluded actors? What are the key advantages of inclusive processes compared to less inclusive ones? Are there scenarios where complete inclusion may not be necessary, and if so, what factors influence this decision?

Part 3: Experiences and lessons learned in inclusive engagement around NbS

7. For what (co-creative) activities in your research project have you tried to inclusively engage commonly excluded groups?
8. Which specific groups did you try to engage that you would consider to be more challenging?? What were the specific barriers for each?
9. What are some of the benefits and positive outcomes you have observed from engaging with commonly excluded groups in your projects?
10. What strategies, methodologies, or tools have demonstrated success in effectively engaging commonly excluded groups in various activities, and how do these approaches contribute to fostering inclusivity and empowerment within these communities?" How was this different compared to the practice before?
11. What are key lessons learned regarding inclusive engagement of these groups that you could share with others trying to implement similar processes?

Part 4: Wrap-up and next steps

12. Are there any further questions, topics, or points that we have not covered so far that you would like to add.

13. Do you have recommendations for individuals or organizations who are experienced in this form of engagement, who we could invite to our workshop?
14. Can you share any guidelines, resources, or materials that we can refer to in developing our background paper?
15. What type of output or resource would be helpful to you and your work, coming out of our planned workshop?
16. Would you agree to potentially be contacted in the future again within the context of this workshop and its surrounding work (e.g. to review the background document / final product)

Annex C: Co-creation phases and CES inclusion needs

This table provides an overview of NbS co-creation phases and, per phase, elaborates related actions, needs to include CES and relevant building blocks, tools and methods that can be utilised in each phase to support inclusiveness.

Phase of co-creation	Related actions	Needs to include CES	Building blocks, tools and methods
Co-Diagnostic	Framing the co-creation process in a physical space Systematic identification of groups and persons Problems and challenges addressed with NbS are identified	Decisive to have everyone who should be part of the process identified and included from the beginning Without engagement of CES already in this phase, the co-creation process is prone to fail or being exclusive at all stages	Systematic stakeholder identification/ mapping, e.g. actor network mapping, power-interest-influence matrices, impact-based categorization Institutional support (e.g. participation incentives, childcare, etc.), rules, shared values, democratic practices, transparency, trust building
Co-Design	Conceptual and technical phases Identify goals, functionalities and beneficiaries	Special attention to CES needs to ensure continuous engagement and motivation, giving CES a voice to bring issues to the table	Facilitation, building trust, ensuring equity, learning, empowerment; skills and competencies development, new stakeholder abilities

Co-Implementation	Activities and procedures are carried out to refine and start implementing or operationalizing proposed NbS	Special attention is needed to voice needs and materialize benefits for CES	Iteration, feedback loops, co-identification of added value and co-benefits, creating ownership for implemented NbS
Co-Monitoring	Assessment, monitoring and evaluation of co-creation and co-governance to review, adapt and adjustment as needed	Create evidence on created benefits and their materialization for CES according to the initial setup	Use of commonly defined indicators for evidence around: NbS benefits; level of engagement; diversity of participation; legitimacy and influence; equitable distribution of benefits
Co-amplification / co-replication	Dissemination; upscaling; cross-pollination activities	Special attention to support CES in their role as multipliers and champions	NbS ownership, empowerment, skills and competencies, evidence of co-benefits

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This report, developed within NetworkNature+ Task Force 6 on Co-Creation and Governance, highlights the persistent exclusion of commonly excluded stakeholders (CES)—such as marginalised communities, migrants, Indigenous peoples, youth, older adults, and those facing socio-economic vulnerabilities—from the co-creation of nature-based solutions (NbS). Inclusivity is shown to be essential for NbS to be legitimate, effective, and sustainable, yet CES often remain sidelined due to power asymmetries, structural disadvantages, rigid project cycles, and a lack of trust. Drawing on survey findings and an expert workshop, the report examines key barriers and synthesises practical approaches and measures that can enable meaningful participation and provides diverse illustrative examples. From these insights, the report distils eight guiding principles for inclusive NbS co-creation, emphasising intentional inclusion, trust-building, flexibility, equity and recognition, cultural sensitivity, and long-term commitment. The central message is that inclusion of CES is not a one-off step, but a continuous commitment across the NbS lifecycle.

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