

Gender Responsive Nature-based Solutions Toolkit

Arup
Social Development Direct



DCED

The Donor Committee for Enterprise Development

Gender Responsive Nature-based Solutions Toolkit

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Acronyms

CBD	Convention on Biological Diversity
COP	Climate Change Conference
CSR	Corporate Social Responsibility
DCED	Donor Committee for Enterprise Development
DRR	Disaster Risk Reduction
EbA	Ecosystem-based Approach
ESG	Environmental, Social and Governance
ESIA	Environmental and Social Impact Assessment
FEMA	Federal Emergency Management Agency
GBV	Gender-based Violence
GGWG	Green Growth Working Group
GIS	Geographic Information Systems
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem
IUCN	International Union for Conservation of Nature
M&E	Monitor and Evaluation
MEL	Monitoring, Evaluation and Learning
NbS	Nature-based Solutions
NGOs	Non-governmental Organisation
NSW	New South Wales
PRA	Participatory Rural Appraisal
SDDirect	Social Development Direct
SDGs	Sustainable Development Goals
SIA	Social Impact Assessment
UNEA	United Nations Environment Assembly
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations International Children's Emergency Fund

Executive Summary

The Gender-responsive Nature-based Solutions (NbS) Toolkit provides a comprehensive framework and practical guidance for integrating gender-responsive strategies into the planning, implementation, and management of NbS. Developed by Arup and Social Development Direct (SDDirect) in collaboration with the Green Growth Working Group (GGWG) of the Donor Committee for Enterprise Development (DCED), it serves as a valuable resource for key stakeholders, including practitioners, policymakers, the private sector, women-led enterprises, the donor community, philanthropies and others aiming to address climate, biodiversity, and social equity goals through more effective and inclusive NbS interventions.

The toolkit emphasizes the transformative potential of gender-responsive NbS to strengthen resilience to climate impacts, address biodiversity loss, advance social equity, and empower women in all their diversity.⁰¹ It recognizes the increasing frequency and intensity of climate-related events globally and acknowledges that the impacts of climate change are not uniform. These impacts vary based on gender dynamics, social structures, geographical location, resource distribution, and the vulnerability of social and environmental contexts. Women, in particular, face systemic barriers—such as gender-based violence, unpaid care responsibilities, and unequal access to resources and decision-making opportunities—that worsen existing vulnerable situations.⁰² Yet, their resilience, knowledge and resourcefulness remain critical assets in addressing climate challenges.

Despite growing recognition of the need to integrate gender considerations into climate and environmental policies for both efficiency and effectiveness reasons, and as an expression of the commitment to gender equity, a significant gap remains in the guidance available to design, deliver, and manage gender-responsive NbS. The toolkit bridges this gap by offering actionable insights to help users overcome these challenges and ensure more inclusive and effective outcomes.

Key recommendations include:

- **Developing gender-responsive NbS policies and regulations**, as they are critical to supporting women’s empowerment within NbS initiatives.
- **Strengthening evidence and advocacy** to fully realize the potential of gender-responsive NbS, and actively work toward enhancing policies, procedures, and practices.
- **Ensuring women’s representation in decision-making for NbS** to enable more equitable decision-making, and sustainability.
- **Advancing financial, economic, and implementation support for women in NbS**, by promoting more tailored financial assistance and professional development opportunities.

The toolkit provides practical guidance to help users overcome common barriers and to integrate gender considerations into NbS initiatives, offering:

- **Clear terminology and concepts** to build a shared understanding of gender-responsive NbS.
- **Strategies for influencing policies, frameworks, and commitments** to advance gender

equity and sustainability goals.

- **Step-by-step processes** for integrating gender-responsive strategies into NbS planning and delivery.
- **Defined roles and collaborative approaches** to promote multi-stakeholder engagement, collaboration, and collective action.

Ultimately, the toolkit calls on stakeholders to take coordinated and collective action to mainstream gender-responsive NbS into development agendas, policies, practices, and funding mechanisms. It emphasizes the responsibility of policymakers, practitioners, funders, women-led enterprises, and community leaders to integrate environmental and social goals, address systemic inequalities, and empower women as agents of change. By aligning efforts, stakeholders can contribute to equitable, resilient, and sustainable solutions to address today's complex global and local challenges effectively.

French

La boîte à outils pour les solutions fondées sur la nature (SfN) sensibles au genre fournit un cadre complet et des conseils pratiques pour l'intégration de stratégies sensibles au genre dans la planification, la mise en œuvre et la gestion des SfN. Développée par Arup et Social Development Direct (SDDirect) en collaboration avec le Groupe de travail sur la croissance verte du Comité des donateurs pour le développement des entreprises, elle constitue une ressource précieuse pour les principales parties prenantes : praticiens, décideurs, secteur privé, entreprises dirigées par des femmes, communauté des donateurs, philanthropies et autres personnes visant à atteindre les objectifs du climat, de la biodiversité et de l'équité sociale par le biais d'interventions plus efficaces et inclusives en matière de SfN.

La boîte à outils met l'accent sur le potentiel transformateur des solutions fondées sur la nature sensibles au genre pour renforcer la résilience aux impacts climatiques, lutter contre la perte de biodiversité, faire progresser l'équité sociale et autonomiser les femmes dans toute leur diversité.⁰¹ Elle reconnaît la fréquence et l'intensité croissantes des événements liés au climat à l'échelle mondiale et reconnaît que les impacts du changement climatique ne sont pas uniformes. Ces impacts varient en fonction de la dynamique des sexes, des structures sociales, de la situation géographique, de la répartition des ressources et de la vulnérabilité des contextes sociaux et environnementaux. Les femmes, en particulier, sont confrontées à des obstacles systémiques – tels que la violence sexiste, les responsabilités de soins non rémunérées et l'accès inégal aux ressources et aux possibilités de prise de décision – qui aggravent les situations de vulnérabilité existantes.⁰² Pourtant, leur résilience et leur ingéniosité restent des atouts essentiels pour relever les défis climatiques.

Malgré la reconnaissance croissante de la nécessité d'intégrer les considérations de genre dans les politiques climatiques et environnementales pour des raisons d'efficacité et d'efficacité, et comme expression de l'engagement en faveur de l'équité entre les sexes, une lacune importante subsiste dans les orientations disponibles pour concevoir, mettre en œuvre et gérer des solutions fondées sur la nature sensibles au genre. La boîte à outils comble cette lacune en offrant des informations exploitables pour aider les utilisateurs à surmonter ces défis et à garantir des résultats plus inclusifs et efficaces.

Les principales recommandations comprennent :

- **Élaborer des politiques et des réglementations SfN sensibles au genre**, car elles sont essentielles pour soutenir la prise d'autonomie des femmes au sein des initiatives SfN.

- **Renforcer les évidences et le plaidoyer pour réaliser pleinement le potentiel des SfN sensibles au genre**, et travailler activement à l'amélioration des politiques, des procédures et des pratiques.
- **Assurer la représentation des femmes dans la prise de décision concernant les SfN** afin de permettre une prise de décision plus équitable et une durabilité.
- **Faire progresser le soutien financier**, économique et de mise en œuvre pour les femmes dans les SfN, en promouvant une assistance financière plus personnalisée et des opportunités de développement professionnel.

La boîte à outils fournit des conseils pratiques pour aider les utilisateurs à surmonter les obstacles courants à la collecte de ressources et à l'orientation personnalisée et à intégrer les considérations de genre dans les initiatives de SfN, en offrant :

- **Une terminologie et des concepts clairs** pour construire une compréhension commune des SfN sensibles au genre.
- **Des stratégies pour influencer les politiques, les cadres et les engagements** afin de faire progresser les objectifs d'équité entre les sexes et de durabilité.
- **Des processus étape par étape** pour intégrer des stratégies sensibles au genre dans la planification et la mise en œuvre des SfN.
- **Des rôles définis et des approches collaboratives** pour promouvoir l'engagement, la collaboration et l'action collective des multiples parties prenantes.

En conclusion, la boîte à outils appelle les parties prenantes à prendre des mesures coordonnées et collectives pour intégrer les SfN sensibles au genre dans les programmes de développement, les politiques, les pratiques et les mécanismes de financement. Elle souligne la responsabilité des décideurs politiques, des praticiens, des bailleurs de fonds, des entreprises dirigées par des femmes et des dirigeants communautaires d'intégrer les objectifs environnementaux et sociaux, de lutter contre les inégalités systémiques et de donner aux femmes les moyens d'agir en tant qu'agents du changement. En alignant leurs efforts, les parties prenantes peuvent contribuer à des solutions équitables, résilientes et durables pour relever efficacement les défis mondiaux et locaux complexes d'aujourd'hui.

Spanish

El kit de herramientas de soluciones basadas en la naturaleza con perspectiva de género (SbN) proporciona un marco integral y una guía práctica para integrar estrategias con perspectiva de género en la planificación, implementación y gestión de las SbN. Desarrollado por Arup y Social Development Direct (SDDirect) en colaboración con el Grupo de Trabajo de Crecimiento Verde (GGWG) del Comité de Donantes para el Desarrollo Empresarial (DCED), sirve como un recurso valioso para las partes interesadas clave, incluidos los profesionales, los encargados de formular políticas, el sector privado, las empresas lideradas por mujeres, la comunidad de donantes, las organizaciones filantrópicas y otros que buscan abordar los objetivos climáticos, de biodiversidad y de equidad social a través de intervenciones de SbN más efectivas e inclusivas.

El kit de herramientas enfatiza el potencial transformador de las SbN con perspectiva de género para fortalecer la resiliencia a los impactos climáticos, abordar la pérdida de biodiversidad, promover la equidad social y empoderar a las mujeres en toda su diversidad.⁰¹ Reconoce la creciente frecuencia e intensidad de los eventos relacionados con el clima a nivel mundial y admite que los impactos del cambio climático no son uniformes. Estos impactos varían en función de las dinámicas de género, las estructuras sociales, la ubicación geográfica, la

distribución de los recursos y la vulnerabilidad de los contextos sociales y ambientales. Las mujeres, en particular, enfrentan barreras sistémicas (como la violencia de género, las responsabilidades de cuidado no remuneradas y el acceso desigual a los recursos y a las oportunidades de toma de decisiones) que empeoran las situaciones de vulnerabilidad existentes.⁰² Sin embargo, su resiliencia e ingenio siguen siendo activos fundamentales para abordar los desafíos climáticos.

A pesar del creciente reconocimiento de la necesidad de integrar las consideraciones de género en las políticas climáticas y ambientales por razones de eficiencia y eficacia, y como expresión del compromiso con la equidad de género, sigue habiendo una brecha importante en la orientación disponible para diseñar, implementar y gestionar las soluciones basadas en la naturaleza con perspectiva de género. El kit de herramientas cierra esta brecha al ofrecer información práctica para ayudar a los usuarios a superar estos desafíos y garantizar resultados más inclusivos y efectivos.

Las recomendaciones clave incluyen:

- **Desarrollar políticas y regulaciones de SbN con perspectiva de género**, ya que son fundamentales para apoyar el empoderamiento de las mujeres dentro de las iniciativas de SbN.
- **Reforzar la evidencia y la promoción** para aprovechar plenamente el potencial de las SbN con perspectiva de género y trabajar activamente para mejorar las políticas, los procedimientos y las prácticas.
- **Garantizar la representación de las mujeres en la toma de decisiones para las SbN** a fin de permitir una toma de decisiones más equitativa y sostenible.
- **Avanzar en el apoyo financiero, económico y de implementación** para las mujeres en las SbN, promoviendo asistencia financiera más personalizada y oportunidades de desarrollo profesional.

El conjunto de herramientas proporciona orientación práctica para ayudar a los usuarios a superar las barreras comunes relacionadas con la recopilación de recursos y la orientación personalizada e integrar las consideraciones de género en las iniciativas de SbN, ofreciendo:

- **Terminología y conceptos claros para construir** una comprensión compartida de las SbN con perspectiva de género.
- **Estrategias para influir en las políticas**, los marcos y los compromisos para promover la equidad de género y los objetivos de sostenibilidad.
- **Procesos paso a paso** para integrar estrategias sensibles al género en la planificación y la implementación de las SbN.
- **Roles definidos y enfoques colaborativos para promover la participación de múltiples partes interesadas**, la colaboración y la acción colectiva.

En última instancia, el conjunto de herramientas insta a las partes interesadas a adoptar medidas coordinadas y colectivas para incorporar las SbN sensibles al género en las agendas de desarrollo, políticas, prácticas y mecanismos de financiación. Hace hincapié en la responsabilidad de los encargados de formular políticas, los profesionales, los financiadores, las empresas dirigidas por mujeres y los líderes comunitarios de integrar los objetivos ambientales y sociales, abordar las desigualdades sistémicas y empoderar a las mujeres como agentes de cambio. Al alinear los esfuerzos, las partes interesadas pueden contribuir a soluciones equitativas, resilientes y sostenibles para abordar eficazmente los complejos desafíos globales y locales de la actualidad.

Ambition of the Toolkit

The **Gender-responsive Nature-based Solutions (NbS) Toolkit** seeks to provide a comprehensive framework and practical guidance to integrate gender-responsive strategies into the planning, implementation, and management of NbS. Developed collaboratively by **Arup** and **Social Development Direct (SDDirect)**, in partnership with the **Green Growth Working Group (GGWG)** of the **Donor Committee for Enterprise Development (DCED)**, the toolkit is a valuable resource for practitioners, policymakers, the private sector, women-led enterprises, the donor community, philanthropies and others seeking to promote interconnected goals of climate resilience, biodiversity conservation, and social equity through effective gender-responsive NbS interventions.

The toolkit brings together cutting-edge insights from emerging research, technical design guidelines, policy frameworks, tools, and real-world implementation experiences on NbS and gender-responsive approaches. Its development was informed by the active participation and contributions of **practitioners, policymakers, the private sector, women-led enterprises, and donors**, capturing diverse lived experiences and perspectives.

The development of the toolkit has been supported by a **Technical Advisory Group** formed by a selected group of technical experts from diverse sectors. It included representatives from the private sector, the humanitarian and development sectors, as well as specialists in policy design, women's empowerment strategies, and green growth initiatives. Their expertise and insights were instrumental in shaping the toolkit to ensure its relevance, effectiveness, and alignment with cutting-edge practices.

By integrating these insights, the toolkit ensures **practical relevance and flexibility** across a variety of geographic contexts—urban, peri-urban, and rural—acknowledging that the challenges and opportunities for NbS differ across settings. Its ambition lies in ensuring **inclusive, equitable, and transformative NbS** that leave no community behind while promoting sustainable outcomes for both people and nature.

Why a toolkit?

The frequency and intensity of climate-related events are escalating globally, affecting both urban and rural areas. Heatwaves, erratic climate patterns, and extreme weather conditions and occurrences are increasingly destabilizing food and water supplies, damaging crops and agriculture, causing critical infrastructure failures, and displacing populations.⁰³ These events also exacerbate biodiversity loss, environmental stress, and ecosystem degradation, which not only contribute to climate change but also hinder humanity's ability to adapt to its impacts.⁰⁴ The economic toll is immense. For example, droughts, flooding, and coastal erosion are projected to cost urban communities nearly \$200 billion annually by 2050⁰⁵, impacting millions of people worldwide.⁰⁶

It is widely recognized that the impacts of climate change are not uniform but vary significantly based on gender dynamics, social structures, geographical location, the distribution of resources, and the varying levels of vulnerability within both communities and ecosystems.⁰⁷ These impacts are further compounded by the loss of ecosystems and biodiversity, which are critical for climate regulation and resilience.⁰⁸ Climate-related events manifest both as sudden, short-term shocks like floods and storms, and as gradual, long-term changes like sea-level rise, geographic expansion of disease-bearing insects, and increased water and soil salinity, which degrade ecosystems and amplify vulnerabilities.

Resource-constrained and fragile areas, whether urban or rural, are particularly vulnerable, with the most severe impacts often falling on marginalized groups, including ethnic minorities, children, people with disabilities, the elderly, and displaced persons.⁰⁹ Women, in particular, face heightened vulnerabilities due to systemic barriers such as gender-based violence, unpaid care responsibilities, limited control over assets, restricted access to resources, and unequal participation in decision-making processes and economic opportunities. As primary caregivers responsible for securing water, food, and energy for their families, climate-related disruptions disproportionately affect their lives, regardless of whether they live in rural or urban settings.¹⁰

Despite these challenges, women in vulnerable areas often demonstrate remarkable resourcefulness and resilience. As stewards of household and natural resources, they possess deep knowledge of local contexts and play pivotal roles in diverse social networks. This positions them as critical 'gatekeepers' for community-led climate action, making their involvement essential in both rural and urban resilience strategies.¹¹

NbS offer a powerful means of enhancing the climate resilience of both built and natural environments while simultaneously promoting women's economic empowerment and expanding their opportunities.

NbS have gained traction due to their potential to reduce greenhouse gas emissions (climate change mitigation) and diminish the impact of climate-related shocks and stresses such as flooding and drought (climate change adaptation).¹² Simultaneously, **there is increasing recognition of the need to integrate gender considerations into climate and environmental policies from the outset.** This need is underscored by global commitments and policy frameworks, such as the Sustainable Development Goals (SDGs)—particularly SDG 5 (Gender Equality) and SDG 13 (Climate Action).

As a result, **the international donor community, governments, and climate-related organizations are increasingly mandating the inclusion of gender considerations in their climate and NbS-related funding and project requirements.** This trend is driven by the acknowledgment of pervasive global gender inequalities, exacerbated by climate change, and by evidence showing that gender-responsive approaches to climate action can contribute significantly to economic empowerment and community resilience.

Despite the growing demand for affordable and gender-responsive NbS, there remains a clear gap in guidance on how to design, deliver, and manage these solutions to meet the diverse needs of all communities, whether in rural or urban areas. This toolkit aims to fill this gap by providing practitioners, policymakers, the private sector, women-led enterprises, donors and others with the necessary guidance and tools to implement policies, processes, and practices that better incorporate the roles of women and marginalized groups in NbS across urban and rural settings.

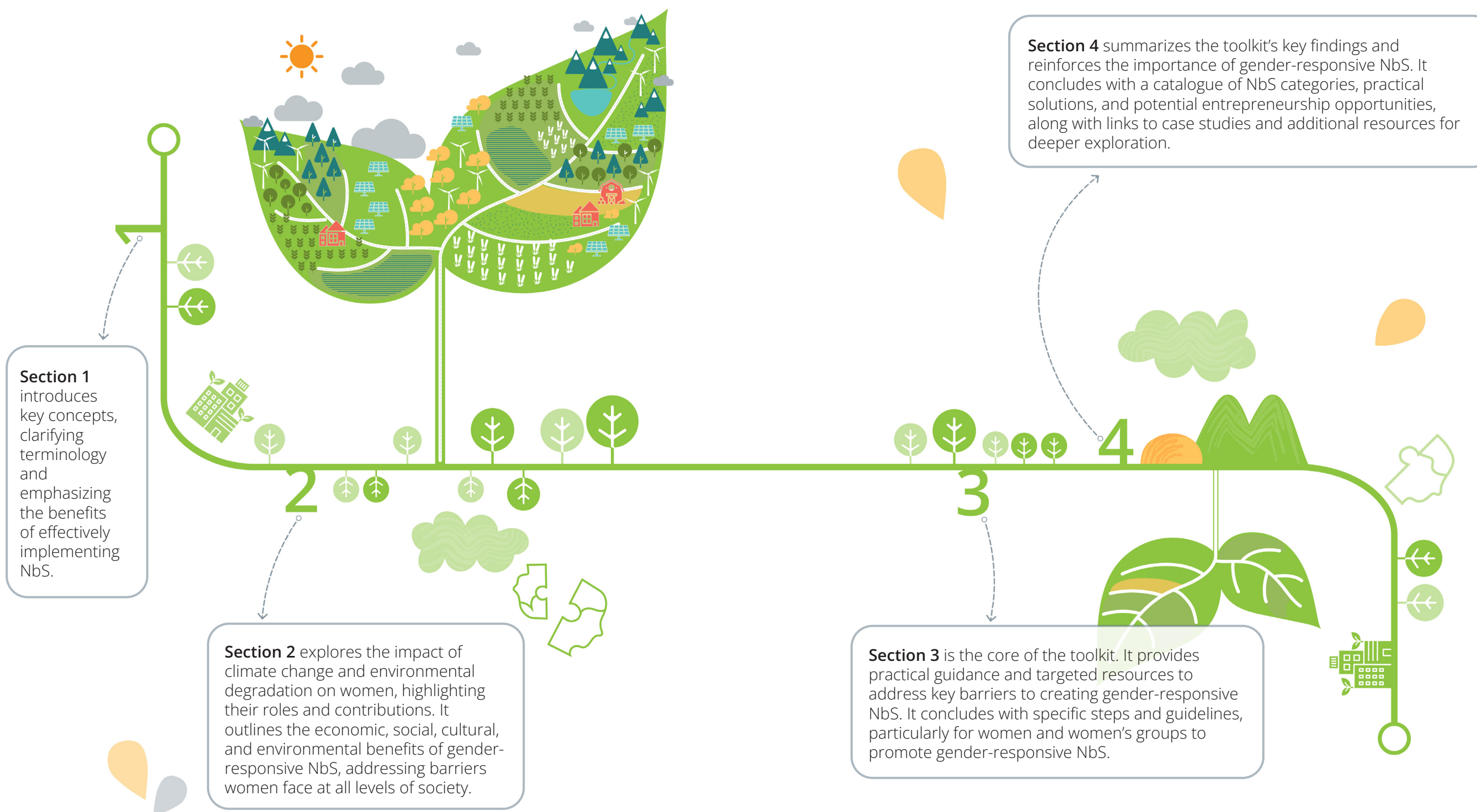
How to use this toolkit

The toolkit is organized into four sections, each serving a specific purpose in advancing gender-responsive Nature-based Solutions.

It is enriched with **hyperlinks** that direct users to additional resources, case studies, and articles for further exploration.

Endnotes provide references throughout the text, with articles and papers accessible via embedded hyperlinks for easy navigation.

Additionally, the toolkit includes **boxed sections** offering **tips** for various stakeholders, and **detailed explanations** with case studies and tools to enhance understanding and practical application.



Section 1: Understanding Nature-based Solutions

Key concepts

While the concept of NbS is as old as nature itself and has long been practiced by local and indigenous communities, it has only recently gained recognition by Western practitioners as a viable alternative to traditional approaches to economic activities related to agriculture, pastoralism, forestry and marine resources, as well as to 'grey' infrastructure in both urban and rural areas.¹³ NbS are often confused with similar and sometimes divergent concepts (e.g., nature inspired solutions, nature derived solutions, engineering with nature, building with nature). To reduce the risk of misrepresentation and/or misappropriation around what NbS are or are not, it is important to become familiar with the appropriate terminology.¹⁴

The International Union for Conservation of Nature (IUCN) defines NbS as “actions to protect, sustainably manage, and restore natural and modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits”. These solutions encompass actions such as protecting, sustainably managing, and restoring natural and modified ecosystems to deliver environmental benefits and tackle social issues.¹⁵

NbS are inherently complex, requiring a deep understanding of the intricate interactions between the environment, society, and the economy. These solutions integrate ecosystem-based approaches (EbA) with strategies to tackle societal challenges, delivering **benefits to both people and the planet** while enhancing well-being and biodiversity.

As illustrated in Fig 1, NbS incorporate a broad range of strategies, including EbA which is one specific approach within NbS, focusing on climate adaptation.

- **Ecosystem-based approaches (EbA):** These approaches holistically manage natural systems, considering the entire ecosystem, including human involvement. Examples include forest landscape restoration, agroecology, and urban green infrastructure. The goal is to restore, conserve, and manage ecosystems to increase resilience, support biodiversity, and provide sustainable benefits to people, ensuring robust and enduring ecosystems that sustain human livelihoods.
- **Societal challenges:** NbS are designed to address a range of societal challenges that are causes and/or exacerbated by climate change and environmental degradation, including food and water security, public health, disaster risk, and economic development. These challenges also encompass deeper systemic issues such as gender inequality, cultural norms, rights and justice, and gender-based violence, which are often intensified by climate impacts. Engaging with local communities, and women in particular, to identify and address these challenges ensures that solutions are relevant, effective, and tailored to the specific needs and contexts of those most affected.



Fig. 1: Nature-based Solutions' Approach (IUCN 2020)¹⁶

As illustrated in Fig 2 and 3, NbS can be applied across various settings and systems—including urban and rural, forestry, agricultural, soil, and water ecosystems—and span multiple dimensions, such as societal impact, landscape management, jurisdictional boundaries, and temporal scales. Achieving success with NbS requires a deep understanding of these interconnected systems and dimensions, and the ability to engage successfully with stakeholders in each of them. Different landscapes require tailored NbS to effectively adapt to climate change hazards and opportunities.¹⁷

To maximise the impact of NbS, it is crucial to identify key vulnerabilities specific to each landscape, establish a coalition of stakeholders in these landscapes, and harness the potential of these solutions to build resilient communities. By aligning NbS with the unique environmental and social contexts of various regions, we can strengthen their ability to mitigate risks and enhance the resilience of both ecosystems and human populations.¹⁸

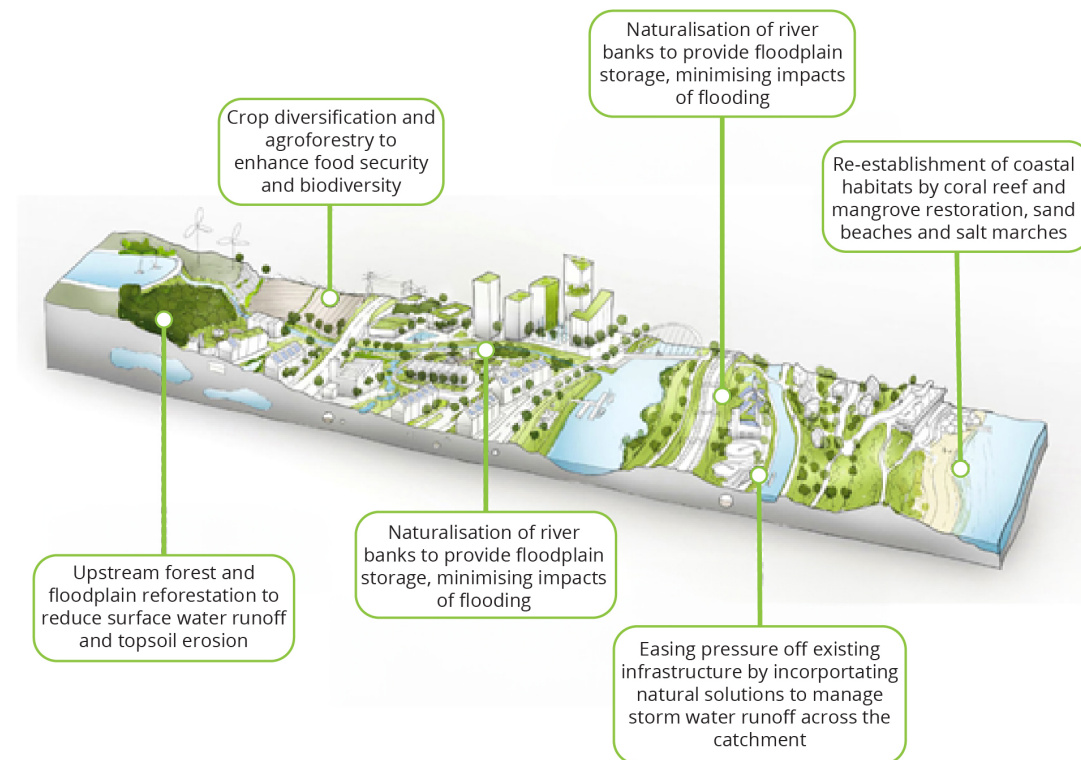


Fig. 2: Nature-based Solutions across different landscapes and hazards¹⁹

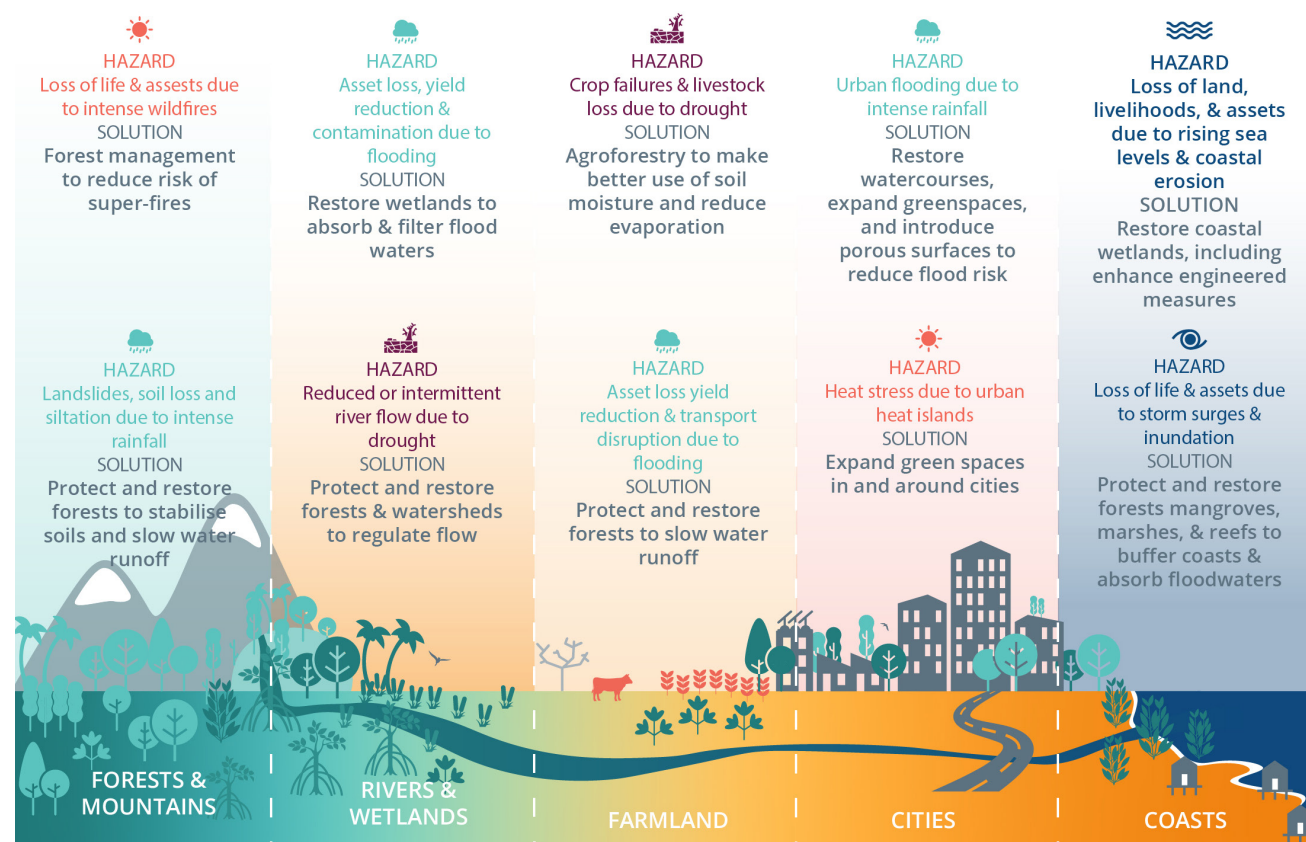


Fig. 3: Nature-based Solutions across different landscapes and hazards – key hazards and possible solutions²⁰

TIP: Incorporating local practices and terminology into Nature-based Solutions

The term "Nature-based Solutions" may not resonate with or be directly translatable in some local contexts. While the term may not be commonly used at the grassroots level, many local practices inherently embody the principles of NbS.

These practices, developed over generations through close interaction with the environment, often go beyond the institutionalised term, including many grassroots efforts that may be known by different names. However, they align with NbS concepts by leveraging natural processes to address environmental, social, and economic challenges.²¹

It is crucial to recognize and respect the specific terms and concepts used by local communities and indigenous peoples to discuss their climate change solutions. This approach ensures that the principles of NbS are communicated in a simple, relatable and comprehensible manner that is locally owned, facilitating greater acceptance and implementation of these strategies.

Identifying the specific issues the community is facing (such as landslides, rising sea levels, or floods) and referring to the corresponding practical solution (like building natural barriers, depaving areas, or constructing natural or green-grey drainage systems) rather than using the broader term "nature-based solutions" can effectively mobilize the community. This approach directly and clearly links the proposed action to the problem at hand, encouraging a more immediate and targeted response.

When engaging with local communities, avoid imposing the term Nature-based Solutions. Instead, identify and use the community-specific terminology that conveys similar concepts. This practice not only honours local knowledge and traditions but also enhances the relevance and effectiveness of climate change interventions.

By integrating local practices with NbS principles and using community-recognized terminology, we can foster more meaningful and effective collaborations, leading to sustainable and impactful climate solutions.

Benefits of NbS

A comprehensive understanding of the social, economic, and environmental benefits that NbS can deliver is crucial for scaling up their global implementation.

Key benefits include:

- **Net biodiversity gains:** Through the protection, conservation and restoration of ecosystems, NbS contribute to the preservation and enhancement of biodiversity, supporting the resilience of both natural systems and human communities.²²
- **Improvement of water quality and waterbody conditions:** NbS help to purify water, manage stormwater, and restore natural hydrological cycles, leading to healthier water bodies and increased water security.²³
- **Microclimate regulation and air quality improvement:** By integrating green infrastructure and vegetation, NbS can moderate local temperatures, reduce urban heat islands, sequester carbon, and improve air quality, which is particularly important in urban areas.²⁴
- **Enhanced health and well-being:** NbS promote physical and mental health by providing access to green spaces, reducing pollution, and fostering a connection with nature, contributing to overall quality of life.²⁵
- **Increased economic opportunities:** NbS can create jobs in areas such as ecosystem restoration, sustainable agriculture, and eco-tourism, driving economic growth and supporting livelihoods, particularly in vulnerable communities.²⁶
- **Disaster risk reduction:** By restoring natural buffers such as wetlands, mangroves, and forests, NbS can reduce the risk of natural disasters like floods, landslides, and coastal erosion, protecting communities and infrastructure.²⁷
- **Climate change mitigation and adaptation:** NbS contribute to reducing greenhouse gas emissions through carbon sequestration and provide adaptive strategies to cope with the impacts of climate change, such as rising temperatures and changing precipitation patterns.²⁸
- **Sustainable resource management:** NbS promote the sustainable use of natural resources, ensuring their availability for future generations while maintaining ecosystem services that are critical for human well-being.²⁹
- **Cultural and recreational benefits:** NbS can protect and enhance cultural heritage sites, provide spaces for recreation and tourism, and strengthen the cultural identity of communities by preserving natural landscapes and biodiversity.³⁰

These benefits underscore the potential of NbS to address both local and global challenges and improve quality of life, making their widespread adoption essential.^{31 32}



Source: <https://www.naturebasedsolutionsinitiative.org/news/women-key-actors>

Section 2: The nexus between NbS and women's empowerment

Key concepts

The toolkit adopts the UNICEF Gender Continuum as a guiding framework to assess and promote the advancement of gender equality and the empowerment of women and girls. The continuum ranges from "Gender-Unequal" (perpetuates gender inequalities) to "Gender-Transformative" (actively reshaping power dynamics and challenging discriminatory norms), providing a lens to examine and challenge entrenched gender norms and power imbalances that favour boys and men over women and girls.

The continuum goes beyond individual empowerment, aiming to address the root causes of gender inequality and restructure power dynamics that perpetuate these disparities. It moves beyond individual self-improvement among girls and women towards redressing the power dynamics and structures that serve to reinforce gendered inequalities.³³

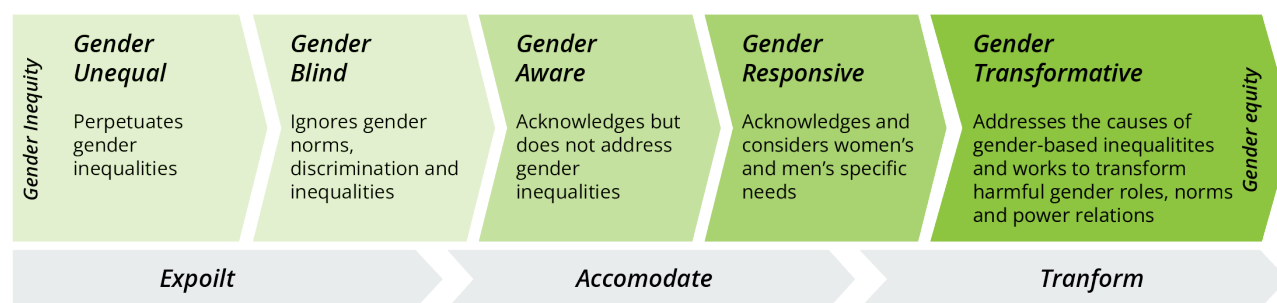


Fig. 4: UNICEF Gender Continuum³⁴

The toolkit specifically focuses on women and girls, acknowledging their diverse identities across age, disability, ethnicity, religion, gender, race, socio-economic status, family roles, and sexual orientation. This focus reflects an understanding that women and girls often face overlapping challenges and vulnerabilities due to gender inequalities. To address these, the toolkit emphasizes the importance of intersectionality, encouraging users to recognize and respond to the unique challenges women and girls encounter, particularly in the context of climate change and NbS. Furthermore, it goes beyond the goal of achieving gender equality, which seeks to provide equal opportunities and treatment for all genders, but it targets gender equity. Gender equity recognizes that systemic inequalities and barriers often require differentiated approaches and tailored interventions to ensure fair outcomes.

By using the UNICEF Gender Continuum, the toolkit aims to support the design and implementation of NbS that not only address environmental and societal challenges, but also actively transform gender relations and power dynamics. Transformative approaches, guided by the continuum, focus on dismantling harmful gender norms and promoting equitable participation.

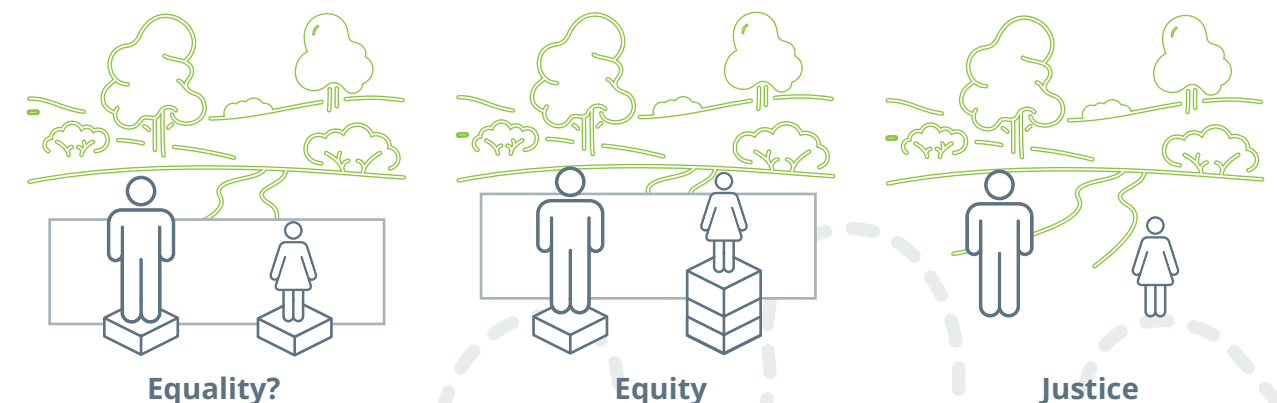
This shift towards more equitable gender roles fosters sustainable outcomes for women, strengthens community resilience, and ensures that the benefits of NbS are socially inclusive, creating lasting social and environmental benefits.

LEARN MORE: Gender equality vs equity

Gender equity is the process of being fair to women and men according to their respective needs. To ensure fairness, strategies and measures are needed to compensate for women's historical and social disadvantages that prevent women and men from otherwise operating on a level playing field. The picture demonstrates the comparison of gender equity with 'equality' (where it has been assumed that everyone benefits equally from the same support).

Gender equity leads to actual gender equality. Actual gender equality means equal outcomes for men and women; equal enjoyment by women and men of goods, opportunities, resources and rewards. Gender justice is the ideal end point, and can be achieved by removing barriers to opportunities and resources through addressing the root causes of gender inequality.

Where gender inequality exists, it is generally women who are excluded or disadvantaged in relation to decision-making and access to economic and social resources. Therefore, the empowerment of women is key in achieving gender equality, with a focus on identifying and redressing power imbalances and ensuring that women have more autonomy to manage their own lives.



Gender equality vs equity, DCED (2022)³⁵

The impact of climate change, biodiversity loss and environmental degradation on women

Climate change, biodiversity loss, and environmental degradation have profound effects on women, exacerbating existing inequalities. Power dynamics, entrenched norms, and disparities in access to resources and information, due to gender and socially ascribed roles, create varied negative impacts. These challenges undermine women's rights, health, and economic stability at personal, family, and community levels.³⁶

Women's ability to adapt to climate hazard is constrained by a range of interconnected barriers, including gender-based violence, time poverty, unpaid care responsibilities, limited control over assets, restricted access to finance, and a lack of voice and agency in decision-making.³⁷ These challenges are often exacerbated by power dynamics within households and communities. For example, time poverty—caused by unpaid care work—disproportionately impacts women due to entrenched social norms and ascribed gender roles, further limiting their capacity to adapt and build resilience.

Women are not a homogeneous group; their experiences with climate change, biodiversity loss, and environmental degradation vary based on age, disability, ethnicity, race, sexuality, and gender identity. Women with disabilities often face more severe impacts due to structural inequalities, making them more likely to live in poverty and encounter barriers to accessing resources and support.³⁸ Indigenous women, in particular, face heightened risks of violence due to intersecting factors of misogyny and racism.^{39 40}

Climate change, biodiversity loss, and environmental degradation worsen existing inequalities and impact women's lives in several ways:

- **Impact on livelihoods and income:** Women, who are often employed in low-paid jobs, the informal economy or in natural-resource dependent sectors (like small-scale agriculture), are disproportionately affected by climate shocks. Economic interventions that fail to address gender equality and social inclusion exacerbate their vulnerability.⁴¹ Loss of income from damaged crops or destroyed stock, coupled with barriers to accessing financial resources, credit, and land rights, significantly limits women's economic agency. Women employed in agriculture and forestry are particularly vulnerable, often facing job and income losses without access to hazard insurance. These circumstances heighten their exposure to exploitation and gender-based violence, compounding their vulnerabilities in already precarious situations. Climate-related disasters, such as floods and hurricanes, further devastate homes, businesses, and farmlands, while biodiversity loss diminishes the productivity of natural resources crucial to women's safety, security and livelihoods.⁴² Additionally, time diverted to recovery efforts impedes women's ability to secure better-paying jobs or advance in their sectors.⁴³

LEARN MORE: After Cyclone Pam affected Vanuatu, approximately 3,600 female micro-entrepreneurs lost an estimated 141,100 workdays, translating to lost earnings of at least Vt432million. Their time was diverted to additional care tasks, such as restoring homes and gardens, fetching food and water, and caring for children while schools were closed.⁴⁴

- **Food security and nutrition:** Climate change and biodiversity loss negatively impact agriculture, food security, and nutrition. Women, who are usually responsible for food preparation, face increased pressure to provide nutritious meals with dwindling resources. This leads to greater risks of malnutrition and food scarcity, which have particularly severe consequences for babies and pregnant and lactating women.⁴⁵

LEARN MORE: In Southeast Asia, women farmers are significantly affected by unpredictable monsoon patterns and soil degradation, which negatively impact crop yields and household food security.⁴⁶ The Sahel region of Africa has experienced prolonged droughts, leading to crop failures and food shortages. Women, responsible for feeding their families, often sacrifice their own nutrition to ensure their children eat, resulting in higher rates of malnutrition and related health issues.⁴⁷

- **Gender based violence:** Environmental degradation and climate change heighten the risk of gender-based violence (GBV) by exacerbating poverty, harmful gender norms, and displacement.⁴⁸ As women and girls need to go further and further away to access water and wood, they are at increasing risk of GBV.⁴⁹ GBV is also used to silence women speaking out on climate issues⁵⁰ and as a means to control natural resources.⁵¹ Women facing multiple forms of discrimination, including racism and ableism, are at even greater risk; nearly two-thirds of women environmental human rights defenders killed in 2021 were indigenous.⁵² Economic hardships from environmental degradation exacerbate household stress and domestic violence, while disasters disrupt social networks, isolating women and increasing their vulnerability to violence.^{53 54 55}

LEARN MORE: In the Horn of Africa, severe droughts have caused widespread food and water shortages, increasing risks of physical and sexual violence for women who travel longer distances to fetch water. In Somalia, women and girls face increased risks of rape and assault at distant water points and refugee camps.⁵⁶

- **Time-poverty and education disruption:** Climate change, biodiversity loss, and environmental degradation reduce the availability and reliability of essential resources like food, water, and fuel, increasing women's domestic and work burdens. This strains their time for income-generating activities, potentially impacting their income.⁵⁷ Additionally, girls are often withdrawn from school to meet increased labour demands, such as fetching water or fuel, which diminishes their educational opportunities and long-term economic prospects, and subjects them to risks of violence, perpetuating a cycle of poverty and limiting their future potential.⁵⁸

LEARN MORE: In India, prolonged droughts in rural areas have led to girls dropping out of school to assist with household chores and water collection, affecting their education and perpetuating poverty and limited opportunities for women.⁵⁹

- **Increased physical and mental strain:** The physical and emotional demands of gathering increasingly scarce resources and working longer hours due to reduced crop yields can cause health issues such as chronic fatigue, musculoskeletal injuries, and pregnancy complications. Environmental degradation also contaminates water sources, exposing women who collect water to waterborne diseases like cholera and dysentery. Additionally, using traditional biomass fuels in poorly ventilated homes increases exposure to indoor air pollutants, leading to respiratory infections and chronic obstructive pulmonary disease. The combined stress of securing basic necessities amidst these challenges can significantly impact mental health, especially for women managing households and caregiving responsibilities.⁶⁰

LEARN MORE: In regions that have been repeatedly affected by climate-related disasters, such as hurricanes in the Caribbean, women report higher levels of stress and anxiety due to the constant threat to their homes and livelihoods, coupled with the responsibility of caring for children and elderly family members.⁶¹

- **Climate change-induced displacement and migration:** Environmental degradation and climate change increasingly compel families to migrate, often to temporary shelters or refugee camps that lack security and privacy. Women disproportionately bear the burden of these migrations, with an estimated 80% of those forcibly displaced due to climate change being women. This places additional physical and mental strain on women, as they often face heightened risks of gender-based violence and exploitation in such insecure environments.⁶² Women, particularly those with children, face limited access to essential services and heightened risks of sexual violence and trafficking.⁶³ In rural areas, women also assume increased caregiving and breadwinning responsibilities when men migrate to urban centres in response to crop or livestock failures caused by climate change.⁶⁴

LEARN MORE: In Madagascar, a violent storm in 2020 displaced many families, leaving them unable to return home. The affected communities are predominantly patriarchal, with men holding power and leaving women with almost no prerogative in decision-making or resource use.⁶⁵

Women's role and contribution to NbS

Despite significant challenges, women in climate-vulnerable areas are exceptionally resourceful and resilient, and they can bring unique perspectives and solutions to climate and environmental initiatives.

Women are often key stewards of household and natural resources, possessing in-depth knowledge of local contexts that is crucial for effective resource management. As central figures in diverse social networks, women act as 'gatekeepers' for community-led climate action. Their active involvement in sustainable livelihoods, however, is frequently undervalued from an economic standpoint.⁶⁶

Women contribute to Nature-based Solutions in several ways:

- **Conservation:** Women, especially indigenous women, are crucial to conservation efforts due to their extensive knowledge of local ecosystems and biodiversity. Their deep-rooted traditional and indigenous ecological knowledge, passed down through generations, is essential for the success of conservation projects.⁶⁷
- **Natural resource management:** As a result of cultural norms, women are central to managing natural resources, including agriculture, water and firewood collection, and forestry. Their involvement ensures that these resources are managed both sustainably and equitably, supporting effective NbS implementation.⁶⁸
- **Sustainable livelihoods:** Women play a vital role in fostering sustainable livelihoods by diversifying income sources and advocating for environmentally friendly economic practices. This not only strengthens their families' economic stability but also enhances community resilience to environmental and economic changes.⁶⁹
- **Climate adaptation and mitigation:** Women often lead community-based climate adaptation and mitigation initiatives. They implement strategies that enhance community resilience, such as building flood defences, restoring degraded lands, and adopting sustainable agricultural practices.⁷⁰
- **Biodiversity preservation:** Women play a key role in preserving biodiversity by maintaining traditional practices that support diverse ecosystems. Historically, women have played a central role in agriculture, especially in managing production activities. They

have been particularly responsible for seed preservation, which ensures – among other things – the sustainability of agricultural resources.⁷¹ They often manage home gardens with a variety of plant species, practice sustainable harvesting, and protect native plant species, all of which contribute to biodiversity conservation.⁷²

- **Environmental education and advocacy:** Despite facing numerous obstacles, women are increasingly influential in climate change activism and policymaking at community, national, regional, and international levels. They organize workshops, educational programmes, and community discussions that empower others to participate in environmental conservation and sustainable practices.⁷³
- **Research and innovation:** Women involved in research and innovation related to NbS, contribute new knowledge and solutions. They conduct research on local environmental issues, develop innovative practices for resource management, and share their findings with broader audiences, influencing NbS strategies and policies.⁷⁴
- **Cultural and spiritual values:** Women often uphold and transmit traditional knowledge, cultural and spiritual values related to nature and conservation. These values play a significant role in fostering a sense of stewardship and respect for natural resources, including inter-generational knowledge transfer, which is crucial for the long-term success of NbS.⁷⁵

Benefits of gender responsive NbS

NbS offer powerful means to address environmental and social challenges, providing a range of benefits such as managing and reducing flooding, preventing erosion, improving water quality, enhancing food security, and fostering biodiversity. Additionally, NbS can strengthen community well-being by preserving cultural heritage, supporting traditional practices, and creating spaces for social cohesion and interaction.

Gender-responsive NbS, when thoughtfully designed, implemented, and monitored, can amplify these benefits. By actively addressing gender dynamics, such approaches contribute to women's economic empowerment, support their leadership in community resilience efforts, and increase the sustainability and inclusiveness of NbS initiatives. They can also generate environmental benefits, such as greater ecosystem restoration and climate adaptation, by leveraging diverse perspectives and knowledge systems, including those of women and marginalized groups.⁷⁶

However, the effectiveness of NbS in achieving these outcomes depends on a deep understanding of gender roles, power imbalances, and the unique needs of different groups within a community. Continuous assessment and participatory processes are essential to ensure that NbS deliver equitable, sustainable, and transformative outcomes for people and the planet.



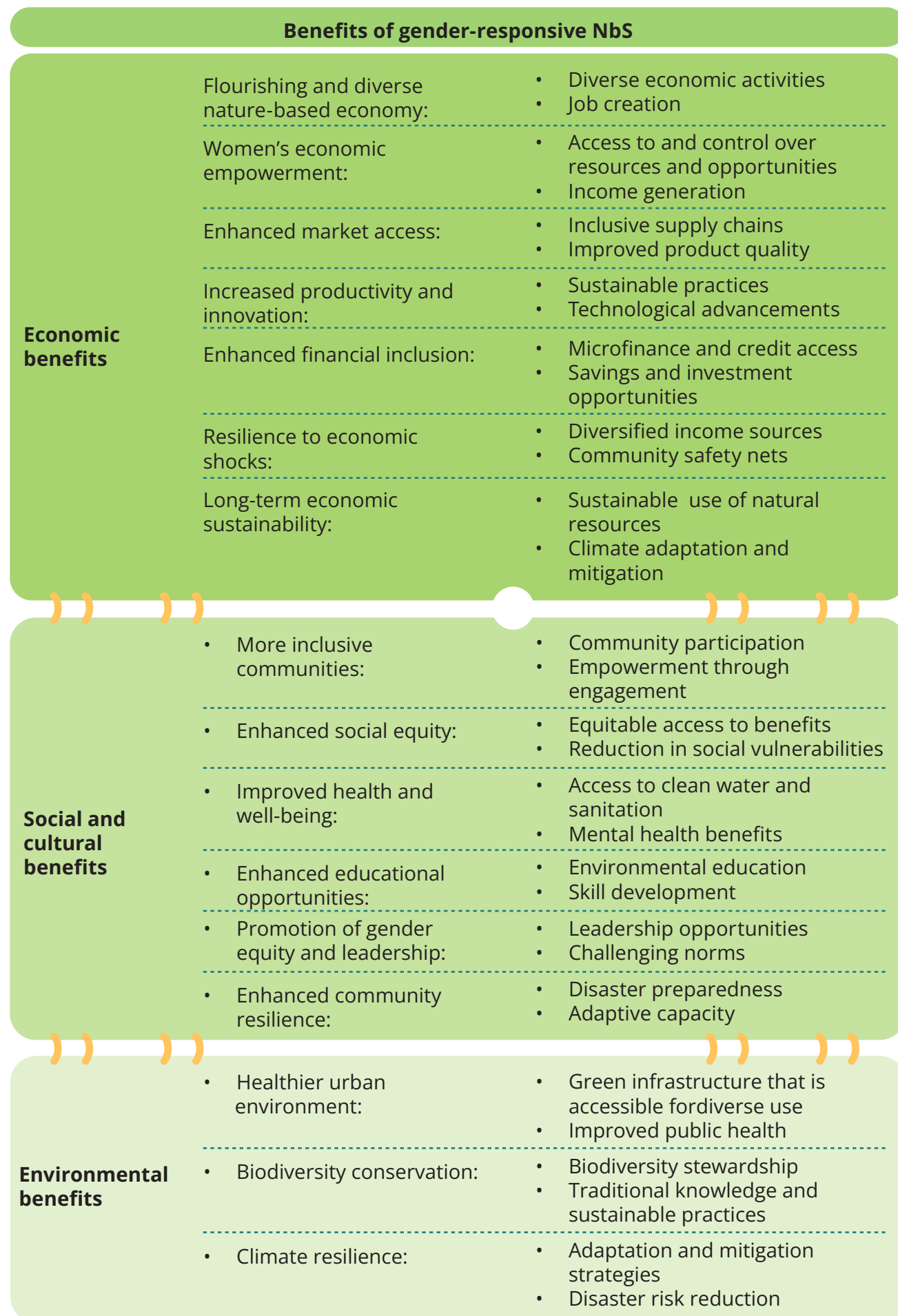


Fig. 5: Benefits of gender responsive NbS

Economic benefits

Gender-responsive NbS can help overcome existing gender barriers to women's economic agency and drive more inclusive and sustainable economic growth while supporting resilient and thriving communities by balancing ecological health with social inclusion and economic growth. The following key benefits were identified.

Flourishing and diverse nature-based economy

- **Diverse economic activities:** Gender-responsive NbS stimulate a range of economic activities that rely on natural resources and ecosystems, such as sustainable agriculture, eco-tourism, fisheries and seaweed production, and the production of non-timber and other natural products (for example honey, local herbs, medicinal plants, etc.), leading to a more diverse and resilient economy.
- **Job creation:** Implementation of NbS creates job opportunities in sectors like environmental management, conservation, fisheries and sustainable agriculture, which can benefit women in rural and marginalized communities if a gender-responsive approach is taken.⁷⁷

Women's economic empowerment

- **Access to and control over resources and opportunities:** Ensuring women have equal access to and control over resources, training, and decision-making processes in NbS projects enhances their economic participation, self-worth, and independence, improving the overall well-being of the women themselves, their families and their communities. It can also reduce barriers to expanding businesses and making them more profitable.⁷⁸
- **Income generation:** Gender-responsive NbS can provide women with new income-generating opportunities in areas like sustainable farming and fishing, handicrafts, and eco-tourism, supporting both women's and their households' incomes, while promoting economic equality and growth.⁷⁹

Enhanced market access

- **Inclusive supply chains:** Gender-responsive NbS can create more inclusive supply chains by integrating women-led businesses and cooperatives. This integration allows women entrepreneurs to reach broader markets and benefit from fair trade practices, while also providing buyers with more sustainable and reliable providers.⁸⁰
- **Improved product quality:** The focus on sustainability and local knowledge in NbS projects often leads to higher quality and more diverse products, which can command premium prices in national and international markets.⁸¹

Increased productivity and innovation

- **Sustainable practices:** Adoption of sustainable agricultural and food system practices under NbS can lead to increased crop, livestock and fishery yields and productivity, benefiting local economies. Women's involvement in these practices ensures that diverse and innovative methods are utilized.
- **Technological advancements:** Encouraging women's participation in NbS projects can foster innovation, as women often bring unique perspectives and solutions to environmental challenges, particularly as they may have to be creative to address patriarchal barriers. This can lead to the development of new technologies and practices that enhance productivity.⁸²

Enhanced financial inclusion

- **Microfinance and credit access:** NbS projects often include microfinance components that provide women with access to credit and financial services. This financial inclusion empowers women to invest in their businesses and improve their economic status.⁸³

- **Savings and investment opportunities:** Through participation in NbS projects, women can engage in savings groups and investment clubs, promoting financial literacy and stability.⁸⁴

Resilience to economic shocks

- **Diversified income sources:** By diversifying income sources through NbS activities such as sustainable farming, eco-tourism, and natural product crafts, both women and their communities become more resilient to economic shocks and market fluctuations.
- **Community safety nets:** Gender-responsive NbS foster community cohesion and create informal support networks that can act as safety nets during economic downturns, ensuring that all members, especially women, have access to essential resources.⁸⁵

Long-term economic sustainability

- **Sustainable use of natural resources:** NbS promote the sustainable management of natural ecosystems, ensuring long-term economic sustainability by preserving and/or enhancing the natural capital (forests, land, lakes, flora and fauna, etc.) that women and communities depend on for their livelihoods.
- **Climate adaptation and mitigation:** NbS contribute to climate adaptation, mitigation and resilience, reducing the economic impact of climate-related disasters and improving the long-term viability of local economies.⁸⁶

Social and cultural benefits

Gender-responsive NbS offer numerous social and cultural benefits that contribute to creating more resilient, adaptable, equitable, and thriving communities capable of addressing climate, environment and social challenges effectively. The following key benefits were identified.

More inclusive communities

- **Community participation, exchange and shared learning:** Gender-responsive NbS encourage the active involvement of all community members in planning and implementation, fostering a sense of ownership, responsibility, solidarity and mutual support. Also, by integrating traditional knowledge and cultural practices, inclusive NbS projects can foster a sense of identity and belonging.
- **Building confidence, trust and cooperation:** Involving women and other excluded groups in NbS projects empowers individuals, boosts their confidence, and increases their influence in community decisions. Also, inclusive processes build trust and cooperation within communities. This can lead to stronger social ties and more effective collective action that can provide mutual support and enhance resilience in the face of social and environmental challenges.⁸⁷

Enhanced social equity

- **Equitable access for all:** Gender-responsive NbS increases the chance that all individuals, regardless of gender, have fair access to resources, opportunities, and decision-making processes, leading to more inclusive and just outcomes in NbS initiatives. Also, this ensures that the benefits of ecosystem services, such as clean water, food, and recreational spaces, are distributed equitably among all community members.
- **Reduction in social vulnerabilities:** Responsive NbS can help address social vulnerabilities by providing excluded and vulnerable groups with the resources and opportunities needed to improve their livelihoods and resilience to environmental changes.⁸⁸

Improved health and well-being

- **Access to clean water and sanitation:** NbS projects that focus on restoring natural water cycles and improving sanitation can lead to significant health benefits, particularly for women and children who are often responsible for water collection and household hygiene.⁸⁹
- **Mental health benefits:** Increased green spaces and restored natural environments provide areas for recreation and relaxation, reducing stress and improving overall mental health for community members.⁹⁰

Enhanced educational opportunities

- **Environmental education:** Gender-responsive NbS projects that include educational components provide opportunities for increased awareness and understanding of environmental issues and sustainable practices, as well as hands-on learning experiences.
- **Skill development:** Participation in NbS projects provides opportunities for community members, and women in particular, to develop new skills in areas such as conservation, sustainable agriculture, and eco-tourism.⁹¹

Promotion of gender equity and leadership

- **Leadership opportunities:** Gender-responsive NbS projects create pathways for women to take on leadership roles, enhancing their visibility and influence in the community.
- **Challenging norms:** By actively involving women and promoting their contributions, NbS projects can challenge and change traditional gender norms and stereotypes, leading to more progressive and equitable societies.⁹²

Enhanced community resilience

- **Disaster preparedness:** Gender-responsive and inclusive NbS projects often incorporate disaster risk reduction strategies, increasing the ability of communities to withstand and recover from social and environmental shocks.
- **Adaptive capacity:** By engaging diverse community members and integrating traditional knowledge, NbS projects can enhance the adaptive capacity of communities to respond to changing environmental conditions.⁹³

Environmental benefits

Gender-responsive NbS provide a wide range of environmental benefits that contribute to the overall sustainability and resilience of communities and ecosystems, addressing both environmental and social challenges effectively. The following key benefits were identified.

Efficient biodiversity conservation

- **Enhanced biodiversity conservation:** Women often possess traditional knowledge about local ecosystems, medicinal plants, and sustainable agricultural practices. Their involvement in NbS can lead to more effective conservation of biodiversity by guiding habitat restoration projects that are culturally appropriate and sustainable. This ensures the preservation of diverse plant and animal species and helps maintain ecosystem balance.
- **Sustainable use of natural resources:** Gender-responsive NbS emphasise sustainable resource management practices. Women's active participation often leads to better management of natural resources such as water, soil, and biodiversity. Practices such as agroecology and integrated pest management promoted by women can enhance resource efficiency, reduce waste, and promote sustainable agriculture.⁹⁴

Effective community-based adaptation

- **Community-based climate adaptation strategies:** NbS contribute to climate resilience by restoring degraded lands, managing water resources, and enhancing natural infrastructure like wetlands and forests. Women’s traditional and indigenous knowledge and practices are crucial in implementing adaptation and mitigation strategies that increase ecosystem and community resilience to climate change impacts such as floods, droughts, and storms. Also, women’s involvement can lead to community-based adaptation strategies, including the diversification of livelihoods to withstand climate impacts like droughts or changing agricultural conditions.⁹⁵
- **Disaster risk reduction:** NbS can reduce the risk of climate-related disasters such as floods and landslides by stabilizing soils, restoring vegetation, and enhancing natural drainage systems. As a result, NbS mitigate disaster risks, benefiting women and socially excluded groups who often face heightened vulnerabilities during disasters.⁹⁶
- **Reduction of harmful practices in agriculture and forestry:** NbS can reduce harmful practices in agriculture related to the use of toxic and/or excessive chemicals, pesticides, and insecticides. These can reduce soil biodiversity, pollute water sources and have severe health impacts on farm workers.

Barriers to gender-responsive NbS

Despite the growing recognition of the importance of gender-responsive NbS and their multiple benefits, women continue to face significant barriers to participation, leadership, and equitable benefits in these initiatives. These barriers not only hinder women’s capacity to contribute to NbS but also prevent their needs, knowledge, and perspectives from shaping decision-making processes. Moreover, gender inequality undermines efforts to address climate change and environmental degradation by restricting women’s involvement in designing, implementing, and managing NbS.

As illustrated in Fig 6 (Problem Tree), based on the literature review and stakeholder consultations, **four main groups of barriers** were identified:

1. Gender blind or unequal policies and regulatory frameworks
2. Evidence and advocacy gaps
3. Limited women’s empowerment and participation
4. Finance, economic and implementation constraint

Problem Tree

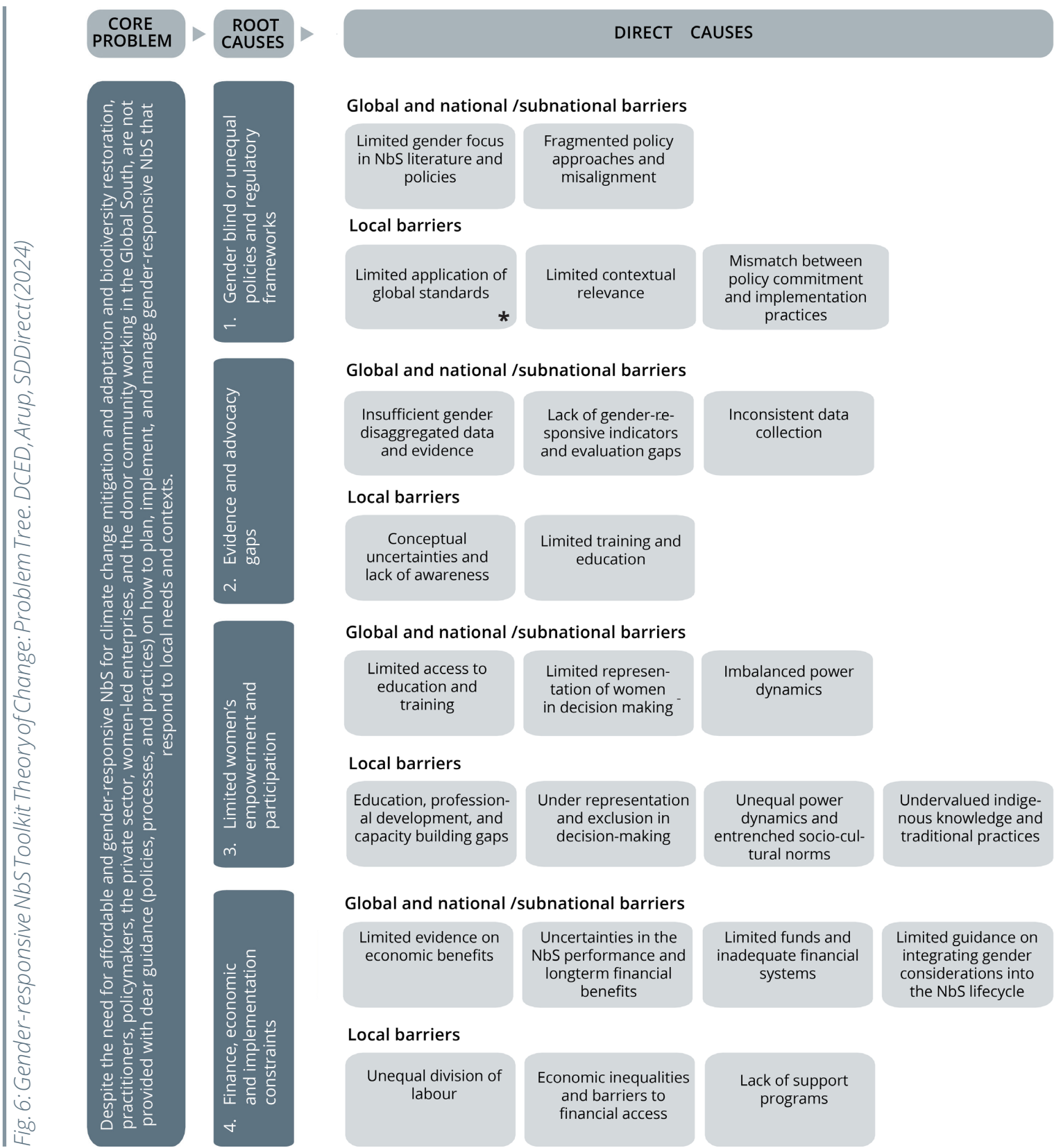


Fig. 6: Gender-responsive NbS Toolkit Theory of Change: Problem Tree. DCED, Arup, SDDirect(2024)

* The IUCN Global Standard for NbS is currently the only globally recognized standard on the topic. However, this does not preclude future updates or the development of additional standards.

1. Gender blind or unequal policies and regulatory frameworks

Policies and regulatory frameworks are essential for driving effective and equitable NbS. However, the gender dimensions of NbS remain significantly underexplored in existing literature and policy frameworks. This oversight results in gaps and misalignments that fail to address the distinct roles, needs, and contributions of women in environmental management and climate action. Consequently, these gaps hinder the development and implementation of gender-responsive NbS, limiting their potential to deliver inclusive and transformative outcomes.

Global and National/Subnational barriers

- **Limited gender focus in NbS literature and policies:** Existing NbS literature and policies often fail to account for gender inequalities, and can overlook the distinct needs, roles, and contributions of women in environmental management and climate action. These gaps weaken the inclusivity and effectiveness of NbS initiatives, limiting their potential to address social and environmental challenges comprehensively.⁹⁷
- **Fragmented policy approaches and misalignment:** There is limited coordination between global, national, and subnational policies, leading to fragmented and inconsistent approaches to integrating gender considerations into NbS initiatives. Also, global policy priorities do not always align with the needs and realities at the of national and local levels, making implementation inconsistent and less effective for addressing gender equity.⁹⁸

Local barriers

- **Limited application of global standards:** Global NbS standards often do not account for the gender dynamics and contextual realities of local communities. Without necessary adaptations, these standards can result in unsustainable or ineffective solutions that fail to meet local needs, especially those of women and marginalized groups.⁹⁹
- **Limited contextual relevance:** Effective implementation of NbS requires tailoring practices to the specific environmental, social, and cultural contexts of each community. This includes incorporating gender-responsive approaches from the outset, integrating local knowledge, and addressing the unique needs and conditions of the community. However, many NbS initiatives fail to adapt global standards to local realities, often overlooking women's knowledge, needs, and practices. This lack of contextual relevance not only reduces the effectiveness and equity of projects but can also inadvertently exacerbate existing inequalities.¹⁰⁰
- **Mismatch between policy commitments and implementation practices:** Although gender equality is widely endorsed in policies, it is not consistently reflected in NbS implementation. This gap is largely due to weak accountability mechanisms that fail to enforce the integration of gender considerations by practitioners and donors. Without these mechanisms, gender commitments remain aspirational rather than actionable, preventing the realization of the full benefits of gender-responsive approaches.¹⁰¹

2. Evidence and advocacy gaps

Despite the growing recognition of the importance of gender-responsive NbS, there remains a significant lack of evidence and advocacy surrounding the benefits of these approaches. These barriers are exacerbated by gaps in data collection, insufficient gender-responsive evaluation mechanisms, and a lack of awareness and education at both global and local levels. Without a solid evidence base and sufficient understanding of gender-specific needs and contributions, the potential of NbS to promote social equity and environmental resilience remains limited. Lack of evidence and awareness of NbS is also limiting the ability of various stakeholders in

advocating for more gender-responsive NbS policies, processes and practices.

Global and National/Subnational barriers

- **Insufficient gender-disaggregated data and evidence:** A key barrier to the effectiveness of NbS is the lack of gender-disaggregated data, as well as gaps in the application of existing data. This prevents a clear understanding of how women are specifically impacted by, or benefit from, these initiatives. Without this data, it is challenging to design targeted interventions that address the unique needs of women and maximize the social and environmental benefits of NbS.¹⁰²
- **Lack of gender-responsive indicators and evaluation gaps:** There is a lack of gender-sensitive indicators to monitor and assess the impact of NbS projects on women. This oversight makes it difficult to track progress, identify challenges, and make necessary adjustments. Moreover, evaluations that integrate gender perspectives are often missing, which limits the capacity to learn from past NbS projects and improve future ones, ultimately reducing the effectiveness of gender-responsive approaches.¹⁰³
- **Inconsistent data collection:** The absence of standardized data collection methods across different regions and NbS projects leads to unreliable and fragmented information. This inconsistency hinders the ability to assess the true impact of NbS initiatives on women and limits the capacity to adjust strategies to meet the needs of diverse communities.¹⁰⁴

Local barriers

- **Conceptual uncertainties and lack of awareness:** At the local level, communities and stakeholders may not always recognise approaches aligned with NbS principles due to differing terminologies or a lack of explicit framing around NbS. This can create a gap in understanding how such solutions, particularly those with gender-responsive elements, can address both environmental challenges and social equity issues.¹⁰⁵ Bridging this gap requires acknowledging and building upon local knowledge and practices while raising awareness about the broader benefits of NbS.
- **Limited training and education:** There is a significant gap in formal education and training opportunities related to NbS and gender-responsive practices. As a result, local practitioners and policymakers are not equipped with the necessary knowledge and skills to design and implement gender-responsive NbS. Women, in particular, face additional barriers to accessing training and education opportunities due to socio-economic and cultural constraints, which further limits their ability to participate in and benefit from these initiatives.¹⁰⁶

3. Limited women's empowerment and participation

The barriers to women's empowerment and participation in NbS are deeply rooted in inadequate representation, discriminatory socio-economic and cultural norms, and limited consideration for traditional and indigenous knowledge. These barriers hinder women's ability to actively contribute to and benefit from NbS, as well as their capacity to influence decision-making processes that affect their lives and communities.

Global and National/Subnational barriers

- **Limited access to education and training:** A lack of targeted education and training on gender issues at the governmental level often prevents effective integration of gender perspectives into NbS policies, programs, and investments. This gap results in policies that

fail to address the unique needs and contributions of women, diminishing the potential for inclusive, gender-responsive NbS.¹⁰⁷

- **Limited representation of women in decision-making:** Women continue to be under-represented in decision-making processes at global, national, and subnational levels, as well as within the donor community. This lack of representation reduces their ability to influence policies, shape priorities, and ensure that NbS projects reflect their specific needs and concerns.¹⁰⁸
- **Imbalanced power dynamics:** Power imbalances within organizations often marginalize women's participation in NbS initiatives, limiting their ability to influence decision-making processes. These disparities typically stem from gendered norms and structural inequalities that prioritize male voices, particularly in leadership and technical roles. This exclusion not only diminishes the overall effectiveness of NbS solutions but also overlooks women's unique knowledge, lived experiences, and skills, which are vital for developing inclusive, equitable, and sustainable approaches.¹⁰⁹

Local barriers

- **Education, professional development, and capacity building gaps:** Limited access to education, professional development opportunities, and platforms for knowledge exchange, particularly in rural areas, restricts the ability of local professionals and communities to apply best practices in NbS and gender-responsive approaches. Women often face additional barriers to accessing training, technical knowledge, and leadership development, restricting their meaningful participation and reducing the potential for innovation and effective project implementation.¹¹⁰
- **Underrepresentation and exclusion in decision-making:** At the local level, women are often excluded from decision-making processes due to discriminatory socio-cultural norms, time poverty, and logistical barriers like inaccessible meeting schedules. This exclusion prevents them from contributing to and influencing decisions about NbS that directly affect their well-being and livelihoods.¹¹¹
- **Unequal power dynamics and entrenched socio-cultural norms:** Power imbalances within communities and organizations often prevent women from having an equal voice in NbS initiatives. Socio-cultural norms that undervalue women's contributions to environmental governance further constrain their participation and leadership. These norms frequently limit women's roles in decision-making, despite their crucial knowledge and experiences related to resource management, agriculture, and sustainability.¹¹² The lack of representation reduces the potential for equitable solutions and hinders efforts to address gendered impacts of climate change.¹¹³
- **Undervalued indigenous knowledge and traditional practices:** Indigenous knowledge systems and traditional practices, which often encompass gender-specific roles and deep ecological insights, are frequently overlooked or undervalued in the planning and implementation of NbS. This neglect prevents the integration of valuable local knowledge that could lead to more effective, culturally relevant, and contextually appropriate solutions. Recognizing and incorporating these diverse knowledge systems is essential for fostering sustainable environmental management and strengthening community resilience.¹¹⁴

4. Finance, economic and implementation constraints

The barriers related to economic opportunities and finance in NbS initiatives range from limited access to financial resources and business opportunities to the lack of support for gender mainstreaming in funding and investment decisions. Women, particularly in the Global South, face compounded challenges due to socio-economic and cultural norms that restrict

their financial autonomy and participation in economic activities. These barriers are further exacerbated by a lack of practical tools and guidance to embed gender considerations throughout the NbS lifecycle, from design to implementation.

Global and National/Subnational barriers

- **Limited evidence on economic benefits:** A lack of comprehensive research on the economic advantages of gender-responsive NbS makes it difficult to demonstrate the value of these approaches to stakeholders, including investors; policymakers, and financial institutions.¹¹⁵ Currently, most NbS projects are financed by public and philanthropic funds, while only 14% of capital is provided by the private sector. Within the private sector, banking institutions are key to promoting investment, since their practices and standards contribute to positioning NbS as attractive and economically viable alternatives within the sector.¹¹⁶
- **Uncertainties in the NbS performance and long-term financial benefits:** Quantifying the financial returns of NbS can be challenging due to unpredictable factors like climate variability, ongoing maintenance costs, and evolving regulatory frameworks. These uncertainties make it difficult to provide reliable forecasts of return on investment, especially when the benefits are long-term. As a result, NbS projects may appear less attractive to investors seeking short-term results. Private sector investment remains limited, with only 17% of the total financing for NbS coming from private sources. This funding gap underscores the broader reluctance of the private sector to invest in NbS, primarily due to perceived risks such as uncertain financial outcomes and regulatory complexities.¹¹⁷ This hesitation restricts the amount of funding available for scaling NbS projects and impedes their full potential, despite their long-term environmental and social benefits.¹¹⁸
- **Limited funds and inadequate financial systems:** Donors often fail to provide sufficient, flexible funding for NbS initiatives in the Global South, particularly for gender-responsive initiatives. This lack in targeted funding, combined with inadequate financial systems and mechanisms, limits the ability of these projects to develop, scale, and effectively integrate gender dimensions. Women-led businesses in sectors like agriculture and forestry, which are essential for NbS implementation, face additional barriers such as limited access to capital, insufficient technical support, and a lack of networks to navigate financing opportunities. In contrast, male-led businesses often have more access to traditional financial institutions and resources, which creates a significant disparity in the ability to drive inclusive and sustainable NbS initiatives.¹¹⁹
- **Limited guidance on integrating gender considerations into the NbS lifecycle:** From design and planning to implementation and monitoring, the lack of structured frameworks and tools makes it difficult for stakeholders to systematically address the unique needs and contributions of women. This gap hinders the development of truly inclusive, gender-responsive NbS that can effectively empower women and other marginalized groups while also addressing environmental challenges.¹²⁰

Local barriers

- **Unequal division of labour:** Patriarchal norms often assign women primary responsibility for unpaid household and caregiving work, restricting their time and opportunities for professional development or economic participation, including as entrepreneurs. This unequal distribution of labour significantly undermines women's ability to contribute to and benefit from NbS projects, whether in leadership roles, professional development, or in running women-led NbS businesses.¹²¹
- **Economic inequalities and barriers to financial access:** Women often face significant economic inequalities and barriers to accessing essential resources such as land, credit, and financial capital, due to discriminatory norms and practices. These challenges include

restrictive lending practices, stringent collateral requirements, and limited financial literacy, all of which hinder their ability to invest in or benefit from NbS projects. As a result, women are excluded from owning, managing, or benefiting from resources linked to these initiatives, limiting their potential contributions to and empowerment through NbS.¹²²

- **Lack of support programs:** There is a significant gap in financial programs and institutional support aimed at empowering women to engage in NbS. This includes the absence of microfinance schemes, grants, and legislative reforms that promote gender equality in land and property rights, as well as capacity-building programs that could enhance women's leadership in NbS initiatives.¹²³



Source: [A group of villagers of Gasi bay planting mangroves](#)

Section 3: Resources and guidance for gender-responsive NbS

Actions for gender-responsive NbS

To effectively design and implement gender-responsive NbS, it is crucial to address the various barriers that hinder the integration of gender considerations across the full lifecycle of NbS projects. As outlined in Section 2, these barriers include policy and regulations, evidence and advocacy, empowerment and participation, and economic opportunities and finance.

As illustrated in Fig. 7 (Theory of Change: Solution Tree), this section of the toolkit provides recommended strategies and actions, as well as supporting tools and guidance to overcoming these barriers.

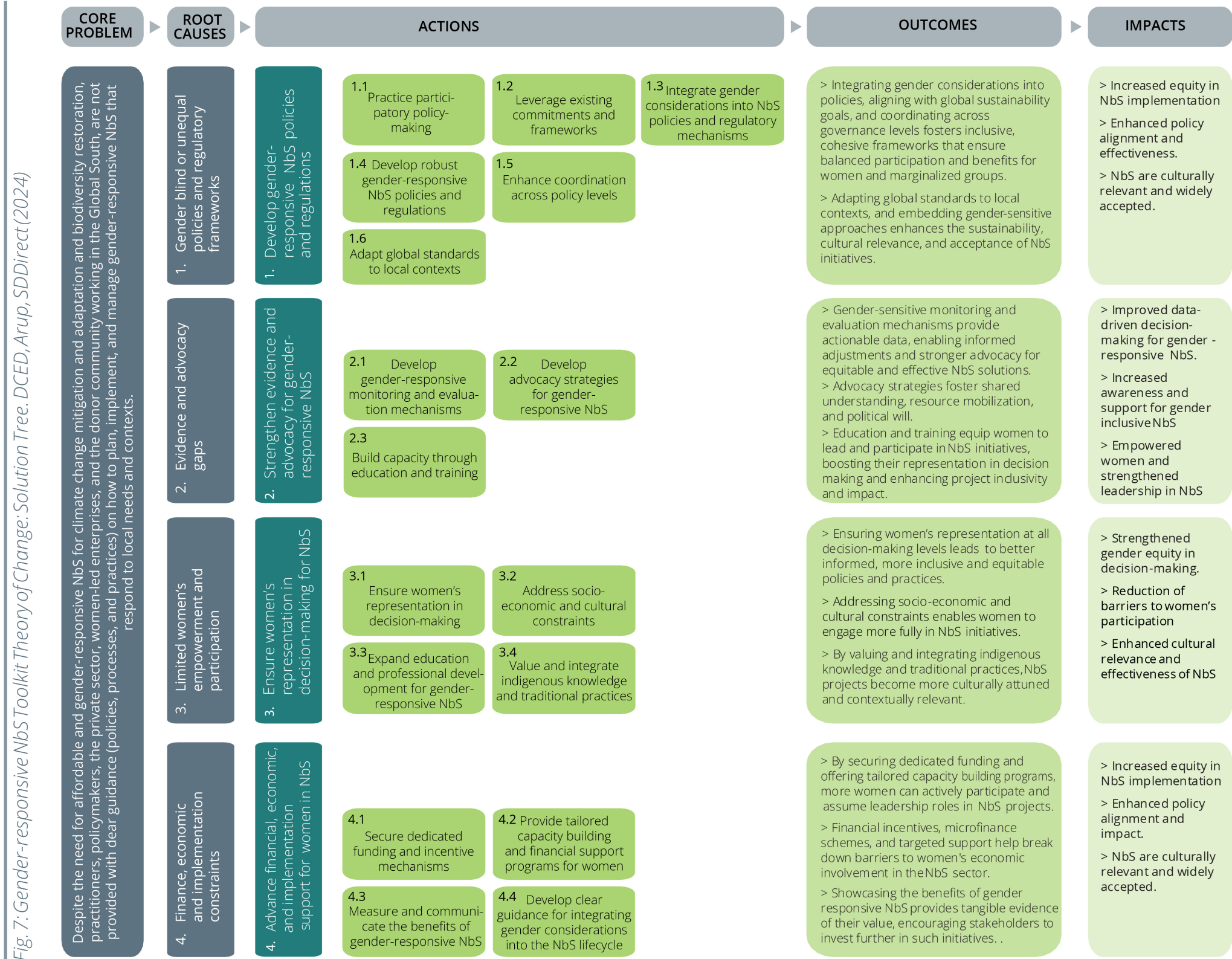
Based on the literature review and stakeholder consultation, four main areas of action were identified to ensure that NbS are not only effective in addressing environmental issues but also in advancing gender equity and social inclusion. These include:

- 1) Develop gender-responsive NbS policies and regulations
- 2) Strengthen evidence and advocacy for gender-responsive NbS
- 3) Ensure women's representation in decision-making for NbS
- 4) Advance financial, economic, and implementation support for women in NbS

1. Developing gender-responsive NbS policies and regulations

To achieve gender equity and empower women within NbS initiatives, it is essential to develop robust, gender-responsive policy frameworks and regulatory mechanisms that effectively integrate gender considerations at all levels. These frameworks must be tailored to local contexts to ensure their relevance, address gaps in gender integration, and minimize ambiguity during implementation.

Solution Tree



The following actions are critical to overcome key barriers—such as the fragmented integration of gender considerations into existing policies—and ensure that women’s empowerment and active participation are fully supported, creating more inclusive and effective NbS initiatives:

- 1.1 Practicing participatory policymaking:** Promoting the participation of women and other disadvantaged groups at all steps in the NbS policymaking process, will ensure that the needs, insights and conditions of women when it comes to NbS can be captured accurately and fairly. This measure would also support other actions towards overcoming barriers by providing a critical mass of women participants that can provide inputs to the process.
- 1.2 Leveraging existing commitments and frameworks:** Expanding the body of knowledge on gender-responsive NbS involves integrating gender analysis into NbS policy frameworks and literature, as well as embedding NbS considerations into gender-responsive commitments. This dual approach ensures inclusivity in both the design and implementation of NbS initiatives.
- 1.3 Integrating gender considerations into NbS policies and regulatory mechanisms:** Explicitly include gender considerations in NbS policies and regulatory mechanisms such as mandates for gender impact assessments, quotas for women’s participation in decision-making, and targeted actions to promote women’s economic empowerment within NbS initiatives.
- 1.4 Developing robust gender-responsive NbS policies and regulations:** It is critical to craft comprehensive policies and regulations that explicitly address gender considerations at all governance levels while aligning with global sustainability goals. Strengthening coordination across global, national, and local policies is equally important to ensure efforts are aligned and mutually reinforcing.
- 1.5 Enhancing coordination across policy levels:** Enhancing coordination across policy levels is essential to ensure that gender-responsive NbS initiatives are effectively implemented. By strengthening the alignment between global, national, and local policies, it is possible to create a cohesive framework that facilitates the integration of gender considerations at all governance levels, ensuring consistent and impactful outcomes.
- 1.6 Adapting global standards to local contexts:** Adapting global standards to local contexts is equally critical for the success of gender-responsive NbS. Global NbS guidelines must be flexible enough to accommodate the unique cultural, social, and ecological characteristics of local communities, enabling the integration of gender-sensitive approaches and the use of indigenous knowledge to address specific community needs.

In line with these actions, the toolkit provides here below an overview of existing NbS and gender-responsive commitments and frameworks, as well as practical strategies for embedding gender considerations into NbS policies and regulatory mechanisms.

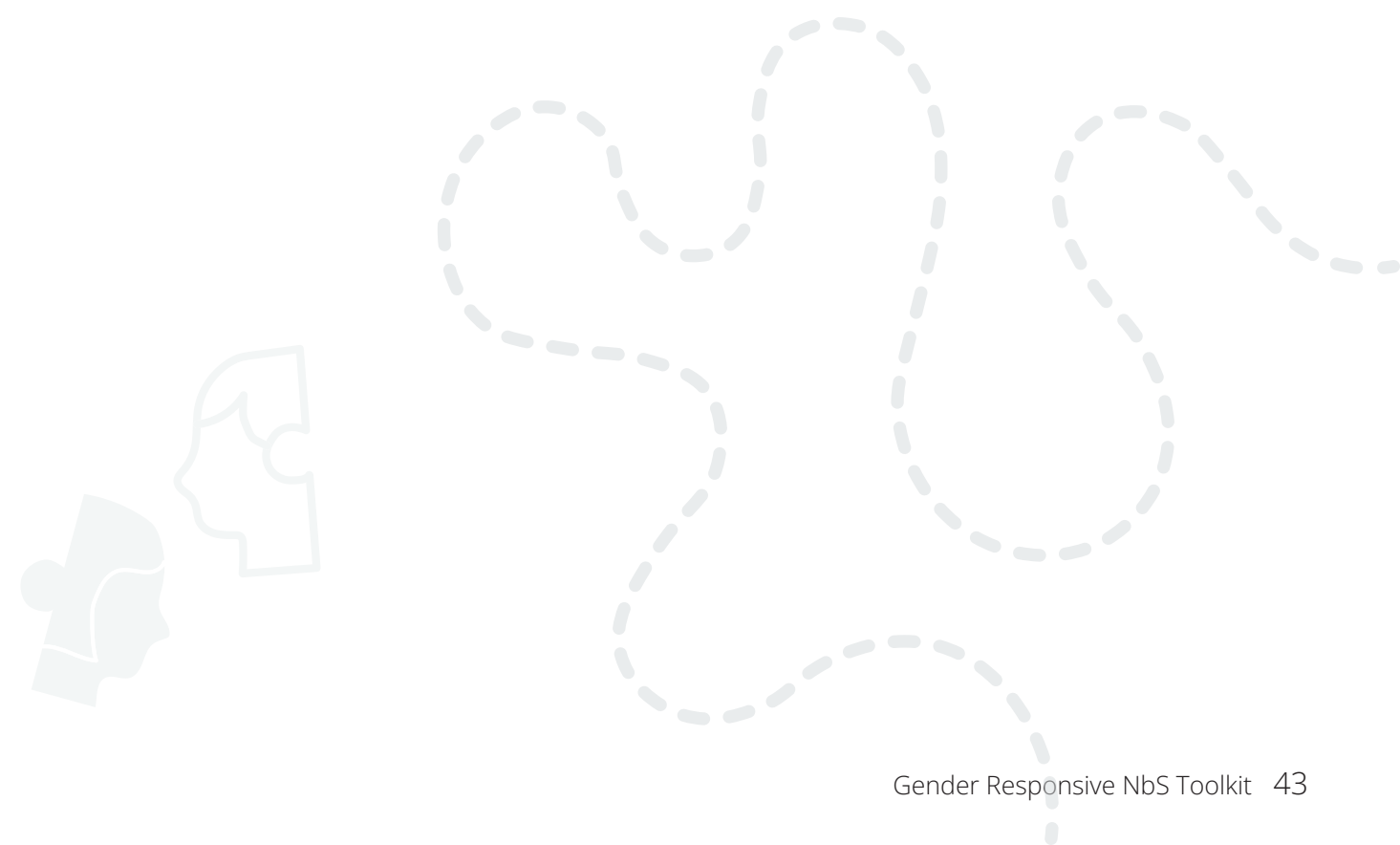
Leveraging existing commitments and frameworks

Although there are existing commitments, policies, and strategies governing both NbS and gender-responsive frameworks, they often operate in isolation, failing to complement or reinforce one another. This disconnect leads to fragmented approaches that diminish their collective impact. Addressing these challenges requires a concerted effort to bridge the gap between NbS and gender-sensitive policies. Expanding the body of knowledge on gender-

responsive NbS is a key step, achieved by integrating gender analysis into NbS policy frameworks and literature while embedding NbS considerations into gender-focused commitments. This integrated approach fosters inclusivity and strengthens the design and implementation of NbS initiatives.

NbS Commitments, Policies and Strategies

NbS are becoming widely recognised globally as a path to pursue sustainable development and tackle the challenges of our time. As a result, organisations worldwide have come together to define nature-driven commitments, policies and strategies at a global and regional scale. The progress of these commitments is tracked by Nature 4 Climate on the NbS Commitment Tracker Platform.¹²⁴



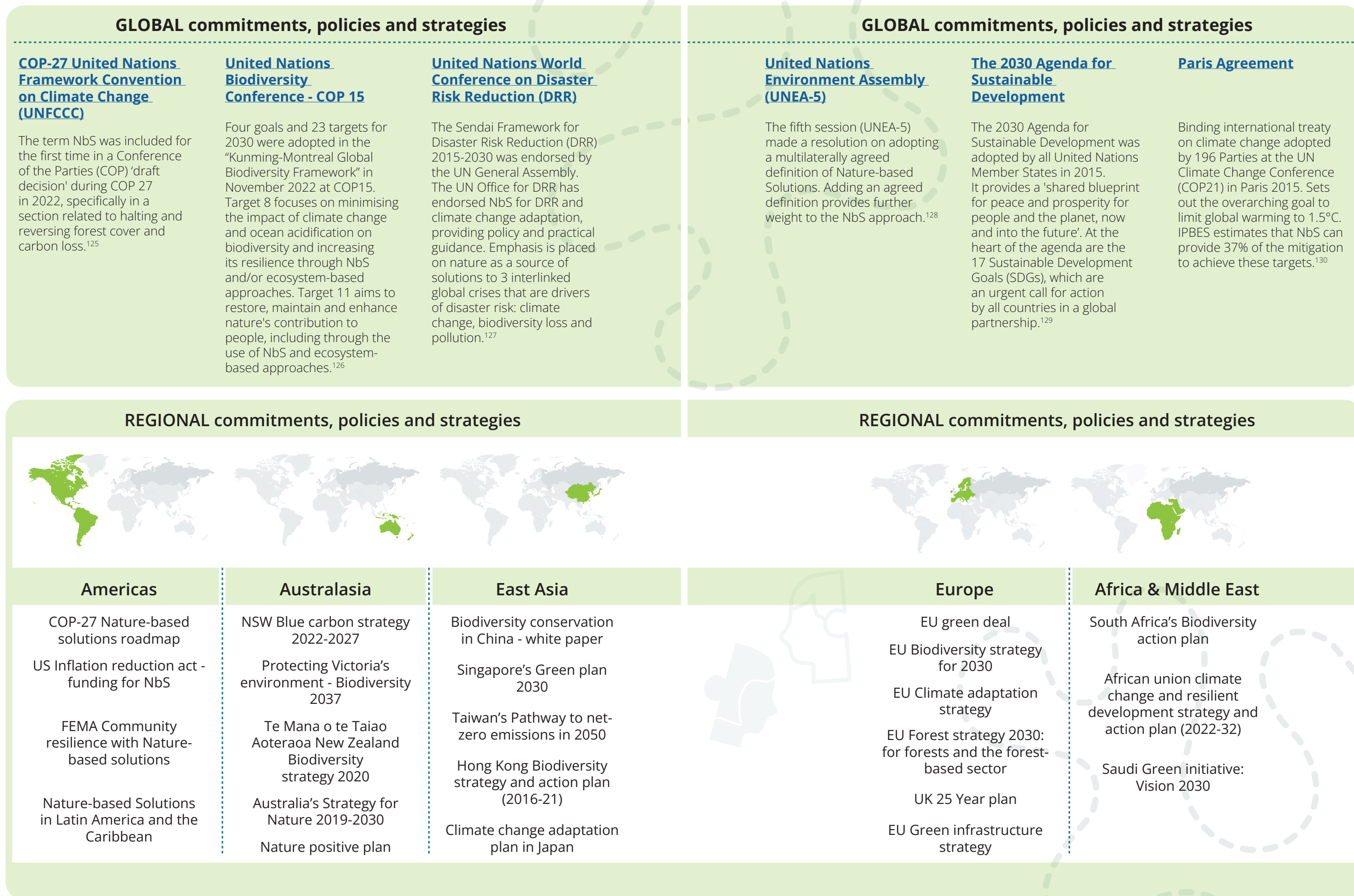


Fig. 8: Global commitments, policies and strategies. Nature4Climate (2022)¹³¹

Fig. 8: Global commitments, policies and strategies. Nature4Climate (2022)¹³¹

Gender equity priorities in relevant frameworks and policies

Currently there are no specific global commitments, policies, and regulations that focus exclusively on gender-responsive NbS. However, several international frameworks and policies incorporate elements that address gender, climate change, and nature-based approaches.

Here are some of the key global commitments and policies that indirectly support gender-responsive NbS through their broader focus on gender equality, climate action, and sustainable development:

- **United Nations Framework Convention on Climate Change (UNFCCC):** within this convention, the Gender Action Plan promotes gender-responsive climate policies, which can include nature-based solutions. It emphasizes the importance of gender equality in climate action, encouraging parties to integrate gender considerations into their climate strategies, including NbS.
- **Convention on Biological Diversity (CBD):** within this convention, the Gender Plan of Action aims to ensure that gender considerations are integrated into biodiversity conservation efforts, which often include NbS. It highlights the role of women in biodiversity conservation and sustainable use of natural resources. Also, the Global Biodiversity Framework's Target 23 urges governments to ensure gender equality and adopt a gender-responsive approach in biodiversity action.
- **Paris Agreement (2015):** Although not exclusively focused on NbS, the Paris Agreement emphasizes gender equality and women's empowerment in climate action, which can be applied to NbS initiatives. It calls for gender-responsive adaptation and mitigation efforts.
- **Sustainable Development Goals (SDGs):** Goal 5 (Gender Equality) and Goal 13 (Climate Action) are interconnected and support gender-responsive approaches to sustainable development, which can include NbS. Additionally, Goal 15 (Life on Land) focuses on sustainable management of forests, combating desertification, and halting biodiversity loss, which are integral to NbS.
- **UN Women Guidance Document:** This organization provides guidelines and toolkits on integrating gender into environmental policies and practices, which encompass NbS. Their resources aim to ensure that environmental sustainability initiatives, including NbS, are gender-responsive.
- **IUCN Global Gender Office:** The International Union for Conservation of Nature (IUCN) develops resources and tools to promote gender equality in conservation and environmental projects. Their work supports the inclusion of gender-responsive NbS in conservation strategies.

Integrating gender considerations into NbS policies and regulatory mechanisms

To ensure that NbS are gender-responsive, it is critical to embed gender considerations into NbS policies and regulatory mechanisms. This integration should not only address the inclusion of women but also consider the systemic barriers that prevent their full participation and benefit from NbS initiatives.

A **policy framework** serves as a structured set of guidelines and principles that provides a systematic approach for developing, implementing, and evaluating policies within an organization or government. To ensure that NbS are gender-responsive, it is critical to embed gender considerations into these frameworks. This integration should not only address the

inclusion of women but also consider the systemic barriers that prevent their full participation and benefit from NbS initiatives.

Regulatory frameworks comprise the formal rules, procedures, and guidelines designed to ensure that gender considerations are systematically incorporated into the planning, implementation, and evaluation of gender-responsive NbS. These mechanisms are essential for translating policy aspirations into actionable outcomes.

The **public sector, private sector, and donor community** have a critical role in structuring policy frameworks and regulatory systems to enhance gender responsiveness, establishing standards that inspire practitioners, civil society, and policymakers at both global and subnational levels.

Effective gender-responsive NbS policy and regulatory frameworks require **three key components**:

1. Alignment of Environmental and Gender Policies:

- **Environmental Policies:** Gender considerations should be mainstreamed into all environmental policies and programs. This includes implementing mandates for gender impact assessments, setting gender-specific goals in conservation and climate resilience strategies, and ensuring that these policies explicitly address the differentiated impacts of environmental challenges on women and marginalized groups.
- **National Gender Equality Policies:** Broader national policies on gender equality should include specific provisions related to the environment and NbS. These provisions should outline clear objectives, actionable steps, and roles for promoting gender equality within NbS initiatives, ensuring that gender is not treated as an isolated or secondary consideration.

2. Empowering Women Through Strategic Policy Design:

- **Economic Empowerment Programs:** Policies should facilitate economic opportunities for women in NbS-related sectors such as agriculture, forestry, eco-tourism, and renewable energy. This includes tailored support for women entrepreneurs, improved access to credit and financial services, and capacity-building initiatives to enhance technical and managerial skills.
- **Leadership and Participation:** Policies should actively promote women's leadership and participation in decision-making processes related to NbS. This can be achieved through the establishment of quotas or targets for women's representation in governance bodies, advisory committees, and project management teams; through the provision of inclusive policy dialogue processes in which women are represented and have a voice; as well as through mentoring and training programs designed to build their capacity as leaders.

3. Environmental Regulations and Compliance Mechanisms:

- **Environmental and Social Impact Assessments (ESIA):** Regulatory frameworks should mandate the inclusion of gender impact assessments as a standard component of ESIA processes. This ensures that NbS projects are evaluated for their gender-specific impacts and designed to address the needs of women and marginalized groups.
- **Compliance and Enforcement:** Mechanisms to monitor and enforce adherence to gender-inclusive policies are crucial. These mechanisms could include penalties for non-compliance and incentives for implementing gender-responsive standards, ensuring accountability throughout the lifecycle of NbS projects.

TIP: How to enhance gender-responsive NbS policies and regulatory mechanisms: the role of different stakeholders

Incorporate gender equity objectives within environmental and national gender equity policies, ensuring that NbS strategies address gender disparities and promote women's inclusion. The **public sector** is critical in this regard by embedding gender equality into national policy frameworks. It can also initiate cross-sectoral collaborations that incorporate gender considerations into NbS initiatives.

Encourage women's leadership in environmental decision-making by creating pathways for their involvement in policymaking processes. The **public sector and donor community** can establish leadership training and capacity-building programs to encourage women's leadership, while the **private sector** can create mentorship programs and support gender-balanced decision-making in environmental governance.

Support women's economic empowerment in NbS sectors such as agriculture, forestry, and eco-tourism, promoting access to resources and capacity-building. The **private sector** can provide employment opportunities, promote women's entrepreneurship, and integrate gender-responsive practices into corporate strategies. The **donor community** can fund initiatives that focus on empowering women economically in NbS-related sectors.

Implement funding criteria and provide incentives to promote gender equity in NbS initiatives. The **donor community** plays a significant role in providing funding to gender-responsive NbS projects, while the **private sector** can prioritize gender equality in their investments and business models. The **public sector** can create policies that direct financial support to gender-equitable initiatives.

Mandate gender impact assessments within environmental regulations to evaluate the potential gendered effects of NbS projects and policies. The **public sector** can lead in implementing regulatory frameworks requiring gender assessments. The **private sector** can incorporate these assessments into their project development processes, while **donors** can fund gender-inclusive regulatory initiatives.

Establish gender-sensitive monitoring and evaluation systems that track the outcomes of NbS projects in terms of gender equity. Utilize gender-disaggregated data to assess the impact of NbS policies and adjust strategies as needed. The **public sector** can create frameworks and standards for monitoring gender outcomes in NbS projects. The **private sector** can implement these systems within their own projects and share data on gender impacts. The **donor community** can finance the implementation of gender-responsive monitoring tools.

2. Strengthening evidence and advocacy for gender-responsive NbS

To unlock the full potential of NbS for gender equity and social inclusion, it is crucial to build a strong evidence base and advocacy framework. Understanding gender-specific needs, contributions, and impacts of NbS initiatives allows for more inclusive, effective approaches. Advocacy, in turn, amplifies the importance of integrating gender perspectives into NbS, fostering broader awareness, and mobilizing support across global, national, and local levels.

The following actions are critical to addressing key barriers, such as gaps in data collection, the absence of gender-sensitive evaluation mechanisms, and limited awareness of the intersection between gender and NbS:

- 2.1 Developing gender-responsive monitoring and evaluation mechanisms:** Establish comprehensive monitoring and evaluation frameworks that include gender-sensitive indicators to track the impact of NbS on women. This will enable better-informed decision-making, facilitate adjustments to improve outcomes, and provide data to advocate for gender-responsive policies.
- 2.2 Developing advocacy strategies for gender-responsive NbS:** Raise awareness and improve education on the benefits and implementation of gender-responsive NbS at local and national levels. This includes educating stakeholders such as policymakers, local government officials, environmental NGOs, businesses (especially those involved in NbS-related industries), community leaders, and financial institutions, about the importance of integrating gender perspectives into NbS.
- 2.3 Building capacity through education and training:** Expand educational and training opportunities focused on gender-responsive NbS, particularly for local practitioners and policymakers. Special attention should be given to increasing women's access to training, empowering them to take an active role in NbS initiatives and enhancing their capacity to lead and participate in decision-making processes.

In line with these actions, the toolkit focuses below on how to create monitoring and evaluation systems with gender-responsive indicators, and how to translate this evidence into targeted advocacy strategies and campaigns.

Developing gender-responsive monitoring and evaluation mechanisms

To effectively track the impacts of NbS initiatives on gender equality, it is essential to establish gender-sensitive monitoring and evaluation (M&E) frameworks. These frameworks should be designed to capture the social, economic, and environmental outcomes of NbS projects, with a particular focus on gender-responsive indicators.

One key aspect is the integration of **gender-responsive indicators** into regulatory frameworks. These indicators should monitor and evaluate various dimensions of NbS initiatives, such as women's participation in decision-making processes, the outcomes of gender-specific interventions, and the differentiated impacts on diverse gender groups. By using these indicators, stakeholders can gain a clearer understanding of how NbS projects contribute -or don't - to gender equality and women's empowerment, ensuring that gender considerations are embedded throughout the project lifecycle.

Additionally, **gender-disaggregated data** is crucial for understanding the specific needs and impacts on different gender groups. The collection of this data should be a foundational element of M&E systems, with further disaggregation where possible by age, ethnicity, and disability status. This ensures that NbS initiatives address not only gender disparities but also intersectional inequities that might otherwise go unrecognized. Collecting such data enables more precise targeting of interventions and informs the development of strategies that better meet the diverse needs of all community members.

Finally, **reporting requirements** should be put in place to ensure that gender impacts are regularly assessed and communicated. These reports should include gender-disaggregated data and be made publicly available to promote transparency and accountability. Public access to these reports allows for the ongoing review of NbS initiatives and ensures that policies can be adjusted based on evidence of their effectiveness in promoting gender equality. By incorporating these mechanisms, NbS projects can be more responsive to gender-specific needs, fostering greater inclusivity and impact.

TIP: Strategies for hearing women's voices in participatory methods

To truly hear and incorporate women's voices in participatory methods, it is essential to adopt inclusive and structured approaches, while also prioritizing robust safeguarding measures.

One effective strategy involves organizing workshops with different participants separated in groups based on gender and age, such as groups for women, youths, men, and, if relevant, children. This approach allows for diverse perspectives to be heard and ensures that each group can express their specific priorities and concerns. For instance, it is often observed that women's priorities, particularly regarding issues like climate change, may differ significantly from those of men.

Additionally, facilitating sessions in smaller groups before bringing everyone together in a plenary session helps to ensure that all voices are heard. Women may feel more comfortable sharing their views in a smaller, gender-specific group rather than in a larger, mixed-gender setting where men might dominate the conversation. This method not only enhances the quality of the discussions but also empowers women to speak up and participate actively.

When framing gender inclusion from the outset, it is crucial to understand and address existing gender inequalities in society. This involves building capacity among all participants, including men, to recognize and understand these inequalities. Engaging men in this capacity-building process is crucial, as it helps them become aware of the disparities and supports the creation of a more inclusive environment.

Developing advocacy strategies for gender-responsive NbS

Advocacy strategies are essential for raising awareness, influencing decision-making, and driving systemic change to ensure the active participation and empowerment of women in NbS. These strategies aim to shape laws, policies, and regulatory frameworks, as well as change societal perceptions and drive the adoption of gender-sensitive approaches within NbS initiatives.

Key actors such as women's organisations, NGOs, the donor community, the private sector, and the public sector play a pivotal role in promoting and advancing advocacy efforts that support gender-responsive NbS. These actors need to collaborate to influence legislative processes, policy development, and public opinion, ensuring that gender equality is firmly embedded in environmental and sustainability agendas.

Influence and awareness

Effective advocacy starts with **policy engagement**, where it is crucial to work with policymakers and influential leaders, including women in leadership positions, to advocate for integrating gender considerations into environmental policies and NbS strategies. By presenting research, success stories, and evidence-based arguments, advocates can highlight the tangible benefits of gender mainstreaming, emphasizing how inclusive NbS policies improve outcomes for women, the environment and communities at large.

In parallel, public **awareness campaigns** are vital to raising awareness about the importance of gender equity in environmental sustainability. These campaigns should target areas

with low representation of women, using diverse media platforms (including radio in rural/remote areas) to reach a broad audience. Campaigns should be designed with accessible and inclusive language to engage different demographic groups, including women with disabilities, ensuring the message resonates widely and promotes collective action for gender-responsive NbS.

TIP: Raising awareness about NbS and climate change

Within NbS awareness campaigns, it is crucial to first raise awareness about the impacts of climate change, explain the underlying causes, illustrate how it works, and demonstrate how it affects lives and livelihoods. People often perceive climate change as extreme weather events, sometimes interpreting them through the lens of religious beliefs, without understanding the long-term impacts of human activities. Adding to this challenge is the spread of misinformation, which can distort perceptions and hinder informed action. There is a growing need for knowledge and resources to address this. Local leaders, NGOs or local media, supported by experts, can support raise awareness about NbS and climate change, and work with the community to co-develop solutions. By building shared ownership of these initiatives, they can enhance resilience and inspire meaningful action. Evidence-based information and knowledge are essential to facilitate this shift in understanding and action.

Women's leadership groups are well-positioned to effectively communicate project goals and benefits to the community, ensuring widespread understanding and engagement. Additionally, they can serve as channels for gathering feedback and addressing concerns, particularly from other women, ensuring that the project adapts to the community's needs and expectations.

Grassroots engagement to foster advocacy strategies

To ensure advocacy strategies are effective, **empowerment initiatives** are essential. Programs that support the active involvement of women in NbS initiatives and decision-making processes can include leadership training, capacity-building workshops, and backing for women-led environmental projects. These initiatives help women develop the skills, confidence, and networks needed to play an active role in shaping NbS solutions that benefit their communities.

Furthermore, **community-based approaches** are crucial for fostering a deeper connection to NbS strategies. Engaging local communities and ensuring women's voices are integral to the design and implementation of these solutions is key. Advocacy efforts must focus on facilitating inclusive and accessible community consultations, empowering women to share their perspectives, and supporting local women's groups in taking leadership roles. These grassroots approaches ensure that NbS initiatives reflect the diverse needs of the community and are grounded in local contexts.

TIP: How to enhance gender-responsive NbS advocacy strategies: the role of different stakeholders

Public awareness campaigns: All stakeholders, including the **public sector, private sector, donor community, women's groups, and NGOs**, can lead or support campaigns that highlight the importance of gender equity in environmental sustainability. These efforts ensure that NbS initiatives are inclusive and address the specific needs of women.

Policy advocacy for gender integration: **Public sector, private sector, donor community, and NGOs** should collaborate on policy advocacy to integrate gender considerations into NbS strategies. This involves promoting gender-responsive policies at different governance levels to guarantee equitable representation and decision-making.

Leadership development and capacity building: The **public sector, private sector, donor community, and NGOs** can offer training programs and leadership development opportunities to increase women's participation in decision-making processes and their capacity to lead NbS initiatives.

Community-based approaches: **Women's groups and NGOs** can lead community-based initiatives that integrate women's perspectives into NbS projects, while the **public sector and private sector** can collaborate to ensure these solutions are effectively implemented at the local level.

Research and evidence building: The **donor community and NGOs** can fund and support research that highlights the benefits of gender-responsive NbS, providing essential evidence for policy advocacy. The **private sector** can contribute by conducting research on the technical and financial viability of gender-responsive NbS.

Platforms for dialogue: **Women's groups, NGOs, and the donor community** can organize platforms for dialogue, creating spaces where stakeholders engage in discussions and advocacy around gender equity in NbS. These platforms facilitate collaboration and the exchange of knowledge across sectors.

3. Ensuring women's representation in decision-making for NbS

To fully harness the transformative power of NbS for gender equity and social inclusion, it is essential to ensure women's active participation and representation in decision-making processes. Women's perspectives, contributions, and leadership are critical to the success and sustainability of NbS initiatives, yet they are often overlooked or underrepresented. By empowering women to contribute meaningfully to the planning, design, and implementation of NbS, we can create solutions that are more inclusive, effective, and responsive to the needs of communities.

Achieving this requires more than just creating opportunities for women to participate—it requires a systemic commitment to ensuring that women's voices are central to decision-making processes. It requires addressing the barriers that prevent women from engaging in decision-making, such as socio-economic constraints, cultural norms, and limited access to resources. It also involves creating inclusive, supportive structures that foster women's leadership and encourage their active involvement at all levels of governance.

The following actions are critical to ensure that women's voices are central in shaping NbS initiatives and that decision-making processes are equitable, inclusive, and responsive to

gender-specific needs.

- 3.1 Ensuring women's representation in decision-making:** Actively promote women's participation in decision-making processes at all levels, from local community forums to national policy discussions and donor initiatives. This includes implementing gender quotas or targets, fostering leadership development, and creating inclusive decision-making structures.
- 3.2 Addressing socio-economic and cultural constraints:** Tackle the socio-economic and cultural barriers that prevent women from engaging in NbS, such as care responsibilities, discriminatory norms, and limited access to resources. This can be achieved by ensuring that policies and practices are designed to be inclusive, flexible, and responsive to the needs of women, particularly in contexts where gender inequality is pronounced.
- 3.3 Expanding education and professional development for gender-responsive NbS:** Provide targeted training for policymakers and local professionals to integrate gender perspectives into NbS policies and programs. Focus on accessible, context-specific education, particularly in rural areas, to enhance local expertise, foster innovation, and ensure effective, inclusive NbS implementation.
- 3.4 Valuing and integrating indigenous knowledge and traditional practices:** Acknowledge and integrate traditional and indigenous knowledge systems into NbS planning and implementation. By respecting and leveraging local knowledge, which often includes gender-specific insights, stakeholders can ensure that NbS solutions are more culturally relevant, sustainable, and effective in addressing the needs of women and marginalized groups.

In line with these actions, the toolkit focuses below on how various stakeholders can support and empower women-led NbS initiatives, while also highlighting how women themselves can take proactive roles in advancing gender-responsive NbS.

How can we support and empower women-led NbS?

The private sector, donors, and the public sector each play a crucial role in supporting and fostering women-led NbS initiatives. By providing financial resources, capacity building, market access, policy support, and advocacy, these stakeholders can create an environment where women can thrive as key providers of sustainable and equitable NbS.

Private Sector

- **Funding and investment:** The private sector, including banks and financiers, can provide financial investments specifically targeted at women-led NbS solutions. This includes venture capital, grants, and low-interest loans designed to support women entrepreneurs and organizations focusing on environmental sustainability. These funding opportunities align with broader goals of promoting gender equality and environmental stewardship, which can be integrated into companies' Corporate Social Responsibility (CSR) initiatives or Environmental, Social, and Governance (ESG) strategies. By doing so, companies contribute to sustainable development while enhancing long-term value creation, demonstrating a commitment to empowering women and supporting green initiatives.
- **Capacity building:** Private companies can offer comprehensive training programs to enhance the technical and business skills of women involved in NbS. These programs can include workshops on sustainable practices, leadership development, and financial

management, all crucial for running successful NbS initiatives. Additionally, offering technical training not only equips women with the necessary skills but also creates a pool of skilled personnel for companies to hire from, promoting gender diversity and enhancing the effectiveness of their NbS projects. Investing in such training aligns with corporate goals of fostering inclusive growth and positively impact the ESG company framework.

- **Market access:** By integrating women-led NbS products and services into their supply chains, private companies can create stable markets for these products. This can include sourcing sustainable materials, promoting eco-friendly products, and providing platforms for women to showcase their innovations.
- **Mentorship and networking:** Establishing mentorship programs where experienced professionals in the private sector provide guidance and support to women NbS providers can help them navigate challenges and scale their operations. Networking opportunities can also be facilitated to connect women with potential partners and customers.

Public Sector

- **Policy and regulatory support:** Governments can support the creation of policies and regulations that promote gender equality in NbS initiatives. This includes ensuring that national and local environmental policies explicitly address gender issues, provide incentives for women-led projects, and consultation with women's groups.
- **Institutional support:** Public sector agencies can establish support structures such as women's networks and councils focused on NbS. These institutions can provide ongoing support, advocacy, and coordination for women's involvement in environmental initiatives.
- **Access to resources:** The public sector can facilitate, protect and guarantee women's access to land, water, and other natural resources necessary for NbS projects. This includes legal reforms to secure land tenure for women and providing resources for sustainable management practices.
- **Public procurement:** Governments can prioritize the procurement of goods and services from women-led NbS providers. By including gender criteria in public procurement policies, the public sector can create significant market opportunities for women entrepreneurs.

Donors

- **Dedicated funding streams:** Donors can establish dedicated funding streams for gender-responsive NbS projects. These funds should prioritize initiatives that actively involve and benefit women, ensuring that resources are allocated to projects with clear gender equity goals, and ensure that all projects are mainstreaming gender equality and social inclusion at a minimum. It is recommended to use accessible language and to cooperate with local governments and NGOs to assess the current needs and opportunity to positively impact the community and adequately manage the risk of friction within existing social and economic dynamics.
- **Technical assistance and advisory services:** Providing technical assistance to women-led NbS projects can help improve their design and implementation. Donors can offer advisory services on best practices, project management, and impact measurement, ensuring that projects are both effective and sustainable.
- **Research and data collection:** Donors can support research to gather gender-disaggregated data and shared monitoring and evaluation approaches on the impacts of NbS projects. This data can help identify gaps and opportunities for enhancing women's participation and benefits, guiding future funding and policy decisions.
- **Advocacy and awareness campaigns:** By funding advocacy and awareness campaigns,

donors can highlight the importance of women's roles in NbS. These campaigns can influence public opinion and policy, creating a more supportive environment for women-led initiatives and inspiring other women to get involved.

TIP: How to make it easier for women to participate

Women often face challenges that hinder participation, such as childcare, household duties, and limited mobility.

To address these barriers and encourage their involvement, the following measures should be implemented:

- **Provide compensation:** Offer financial or material compensation for the time women spend in interviews and focus groups.
- **Clear communication:** Clearly explain the scope of their engagement, manage expectations, and outline realistic outcomes.
- **Childcare services:** Provide childcare services to enable women's participation.
- **Accessible venues:** Meet women where they are, such as at home or community centres, or provide transportation to facilitate attendance.
- **Refreshments and meals:** Provide food during the event or to take home, depending on the session length.
- **Recognition:** Offer certificates of participation as a form of recognition and appreciation.
- **Inclusive communication:** Use accessible language and respect local knowledge to ensure meaningful engagement for all women.

How can women take proactive action in gender responsive NbS?

Women and women's groups can be proactive in gender-responsive NbS by building their capacity, engaging in advocacy, participating in planning and decision-making, forming alliances, managing resources sustainably, and being involved in monitoring and evaluation. These steps can ensure that NbS initiatives are inclusive, equitable and effective, ultimately contributing to sustainable development and resilience.

Capacity building and skill development

- **Training programs:** Women's groups can organize and participate in training programs that focus on technical skills related to NbS, such as sustainable agriculture, forestry management, and water conservation techniques. These programs can enhance their capabilities and knowledge, enabling them to contribute effectively to NbS projects.
- **Leadership development:** Women can seek leadership training to build their confidence and skills in project management, negotiation, and decision-making. Empowered leaders can advocate for women's participation and influence NbS project designs.

Advocacy and policy engagement

- **Advocacy campaigns:** Women's groups can initiate advocacy campaigns to raise awareness about the importance of gender-responsive NbS. They can engage with policymakers, stakeholders, and the community to highlight gender disparities and promote inclusive policies.
- **Policy dialogues:** Actively participating in policy dialogues and forums allows women to voice their concerns and contribute to the development of policies that support gender equality in NbS initiatives.

Participatory planning and implementation

- **Community mobilization:** Women can mobilize their communities to participate in NbS projects. By involving community members, especially other women, they can ensure that projects better address local needs and priorities.
- **Participatory decision-making:** Women should strive to be part of decision-making bodies and committees that oversee NbS projects. Their involvement can ensure that gender perspectives are integrated into project planning and implementation.

Networking and collaboration

- **Form alliances:** Building alliances with other women's and civil society groups, NGOs, and international organizations can strengthen their efforts. Collaborative networks can provide support, share resources, and amplify their voices.
- **Knowledge exchange:** Engaging in knowledge exchange with other regions and countries can help women's groups learn from successful gender-responsive NbS projects and apply best practices in their contexts.

Resource access and management

- **Access to resources:** Women can advocate for equitable access to natural resources such as land, water, and economic resources, including funding and financial support. Ensuring that women have the necessary resources to participate in NbS projects—both material and financial—is crucial for their success and for fostering sustainable economic opportunities within these initiatives.
- **Sustainable practices:** Promoting and practicing sustainable resource management within their communities can demonstrate the benefits of NbS to others and encourage broader adoption.

Monitoring and evaluation

- **Participatory monitoring:** Women's groups can be involved in monitoring and evaluating NbS projects to ensure they meet gender equity goals. Participatory monitoring ensures that women's voices are heard, and their contributions recognized.
- **Feedback mechanisms:** Women actively reporting on project impacts and suggesting improvement ensures that NbS projects remain responsive to their needs and to those of the community.

TIP: How to build trust and legitimacy by leveraging community leaders

To build mechanisms and identify influential women such as elders and landowners, engage in respectful dialogue rooted in existing community trust.

Women's groups and leaders play a vital role in fostering community trust and legitimacy for NbS initiatives. Their involvement can help ensure marginalized and underrepresented women participate in decision-making processes, promoting inclusivity and diverse perspectives.

Capacity-building efforts should prioritize grassroots leaders, empowering them to lead activities and advocacy. Their involvement is pivotal for driving change due to the trust they command within the community. Additionally, when establishing community outreach centres or empowerment hubs, employing local women enhances trust and ensures these centres effectively serve and connect with community members.

4. Advancing financial, economic, and implementation support for women in NbS

To overcome the financial, economic, and implementation barriers in NbS, it is crucial to establish targeted financial support structures and enhance opportunities for women's professional development. This includes prioritizing resources and capacity-building programs for women's groups, whose collective action has proven effective in driving environmental solutions. Ensuring women's access to resources, leadership roles, and essential skills is key to fostering their success in NbS initiatives. Targeted support for women-led groups can amplify their impact, as evidenced by studies demonstrating the effectiveness of women's collective action in advancing environmental outcomes.¹³²

The following actions are critical to ensure dedicated funding for gender-responsive NbS projects, as well as to create an enabling environment for women's active participation and leadership in NbS projects:

- 4.1 Securing dedicated funding and incentive mechanisms:** Ensure funding mechanisms prioritize gender-responsive NbS, enabling women's active involvement and leadership. Regulatory bodies should require funding programs to include gender equality criteria, with projects demonstrating how they promote gender equity and women's empowerment. Additionally, financial incentives such as grants, subsidies, or tax benefits should be provided to projects that integrate gender considerations, driving innovation and normalizing gender-responsive practices in NbS implementation.
- 4.2 Providing tailored capacity building and financial support programs for women:** Invest in education, training, and networking platforms that allow women, particularly in underserved areas, to acquire the skills and knowledge needed to succeed in NbS projects. At the same time, develop microfinance schemes, grants, and financial services that specifically cater to the needs of women entrepreneurs and professionals in the NbS sector, helping to overcome barriers such as collateral requirements and discriminatory lending practices.
- 4.3 Measuring and communicating the benefits of gender-responsive NbS:** Develop systems for measuring and communicating the social, economic, and environmental benefits of gender-responsive NbS. This involves documenting the multiple benefits generated, such as enhanced community resilience, improved gender equity, and increased economic opportunities for women. By quantifying and showcasing these benefits, stakeholders can demonstrate the value of integrating gender considerations, helping to build a stronger case for continued investment and scaling of gender-responsive NbS initiatives.
- 4.4 Developing clear guidance for integrating gender considerations into the NbS lifecycle:** Establish frameworks that provide clear, accessible guidelines and tools for integrating gender considerations throughout the entire NbS lifecycle. This includes offering training and capacity-building opportunities for local stakeholders, such as practitioners, community leaders, and decision-makers, to ensure they have the knowledge and resources needed to design, implement, and evaluate gender-responsive NbS projects.

In line with these actions, the toolkit focusses below on a comprehensive framework for embedding gender-responsive practices across the entire NbS lifecycle, from design and implementation to monitoring and evaluation. This ensures that gender considerations are fully integrated into every stage of the process.

How to design and deliver gender-responsive NbS

To effectively design and implement gender-responsive NbS, it is essential to systematically integrate gender considerations at every stage of the NbS lifecycle—from planning and design to implementation, monitoring, and long-term management. This approach ensures that NbS initiatives not only address environmental challenges but also promote social equity and empower women as key agents of change.

Figure 9 outlines the key stages of the NbS lifecycle, and recommended gender-responsive actions. In the following sections, each stage will be explained in detail with supporting tools and examples.

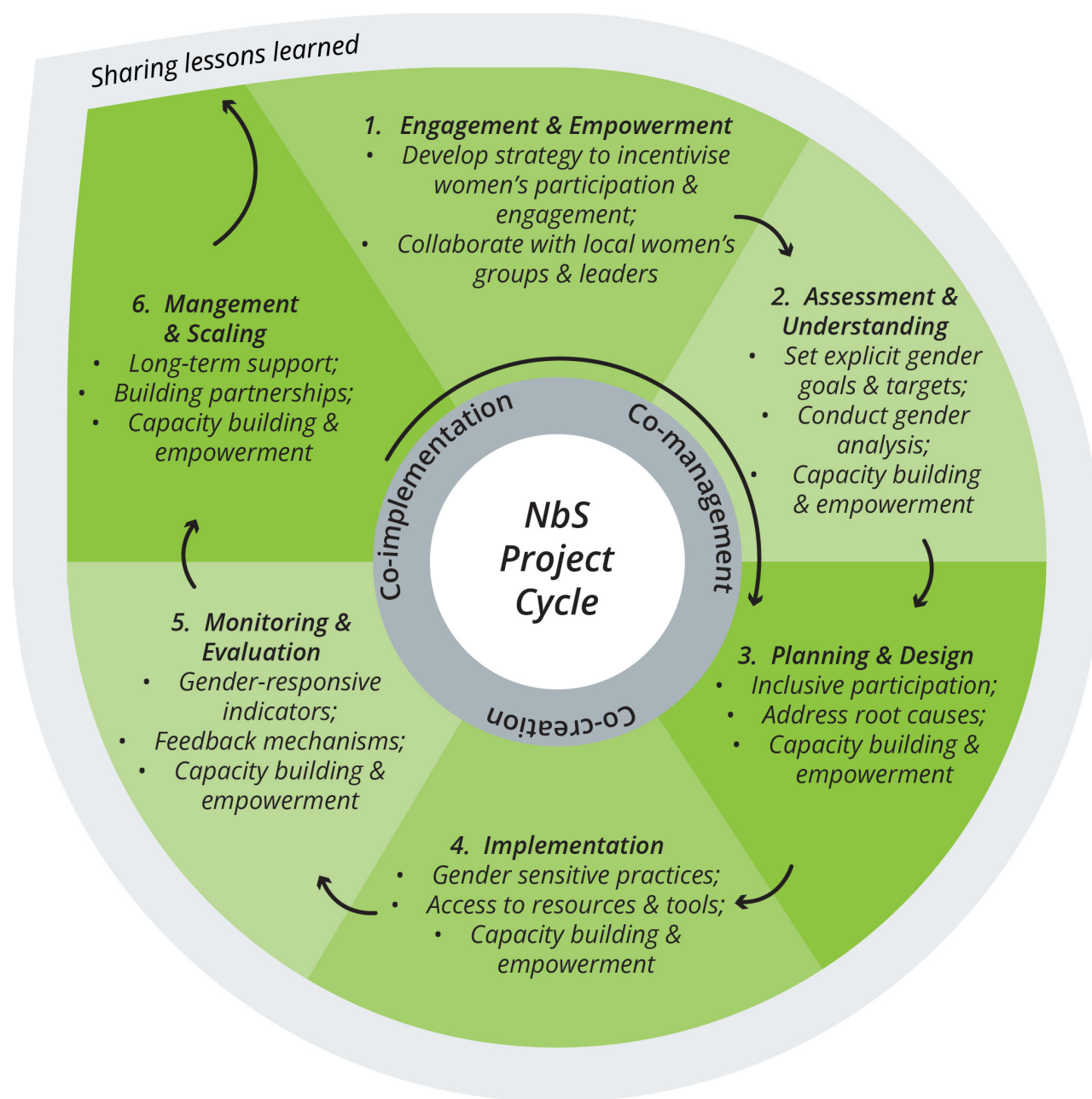


Fig. 9: NbS Project Cycle. DCED, Arup. SDDirect (2024) ¹³³

TIP: The importance of working with gender specialists

The role of gender specialists is often overlooked in NbS initiatives in favour of technical environmental expertise. However, gender specialists are crucial for ensuring that NbS initiatives are inclusive, equitable, and effective in the long run. Their inclusion is vital for several reasons:

- **Critical expertise in gender dynamics:** Gender specialists provide essential knowledge about how gender roles and relations influence and are influenced by environmental changes, ensuring that projects address the specific needs and contributions of all genders.
- **Inclusive participation:** They design and facilitate processes that guarantee meaningful participation from women and marginalized groups, ensuring that diverse voices are heard and considered in decision-making.
- **Integrate gender perspectives:** By integrating gender considerations from the outset, gender specialists help create projects that respond to the different impacts on men, women and people of all genders, leading to more effective and sustainable solutions.
- **Gender-sensitive monitoring:** They establish gender-responsive indicators and metrics to monitor and evaluate project impacts, ensuring that progress toward gender equality is tracked and achieved.
- **Enhanced project outcomes:** Gender specialists identify the ways to improve the overall effectiveness of NbS projects, ensuring they deliver equitable benefits and contribute to long-term community resilience.

Stage 1: Engagement and empowerment

Engagement and empowerment are crucial for effective NbS initiatives. Women contribute unique perspectives and traditional knowledge that can significantly enhance environmental projects. Therefore, ensuring their meaningful participation in decision-making processes is essential. This involvement not only leverages their insights but also fosters a supportive environment that values their contributions.

Recommended gender-responsive actions:

- **Develop strategy to incentivise women's participation and engagement:** At the beginning of a project, it is essential to develop a comprehensive strategy for inclusive engagement and empowerment practices that extend throughout all project stages. This strategy should focus on actively involving diverse women to enhance their technical skills and leadership capabilities.
- **Collaborate with local women's groups and leaders:** Collaborating with local women's groups and leaders is crucial to strengthen women's agency by leveraging established social structures and networks within communities. This ensures that women's voices are heard and valued for their contributions. Engaging a diverse range of women's groups, including those led by women, particularly those representing persons with disabilities, is essential. These groups possess deep cultural and environmental insights, ensuring initiatives are culturally relevant and likely to succeed. Their knowledge of traditional and indigenous practices in agriculture, water management, and resource conservation can enhance the effectiveness and sustainability of NbS initiatives.
- **Develop a capacity building and empowerment programme:** Develop a comprehensive capacity building and empowerment programme to equip women with necessary skills for effective participation in NbS initiatives.

This can include courses, seminars, and conferences that keep them updated on best practices and emerging trends. Also, offering scholarships, apprenticeships, and grants specifically for women to pursue further education or specialized training relevant to NbS initiatives helps build a skilled and diverse workforce. These initiatives can be done in collaboration with universities and training institutes. Establishing mentorship programs where experienced professionals guide and support women is crucial for developing their technical proficiency and advancing their careers within NbS projects.

LEARN MORE:

An inclusive and collaborative approach has the following benefits:

- **Skill enhancement:** Providing targeted training and development opportunities helps women build the technical skills necessary for effective participation in NbS projects. This includes training in environmental management, sustainable practices, and the use of advanced tools and technologies.
- **Leadership development:** Encouraging and supporting women to take on leadership roles within the project promotes gender equity and strengthens the overall impact of the initiatives. Leadership training programs can empower women to influence project directions and outcomes positively.
- **Meaningful participation:** By involving women from diverse backgrounds in all stages of the project—from planning and design to implementation and evaluation—their unique perspectives and knowledge can shape more effective and sustainable solutions. This participatory approach ensures that the needs and priorities of all community members are considered.
- **Supportive environment:** Creating an environment that actively supports and values women's contributions helps to build trust and ensures long-term engagement. This includes providing necessary resources, facilitating open communication, and recognizing and addressing any barriers to participation.

Stage 2: Assessment and understanding

This phase involves a comprehensive analysis to establish a baseline understanding of the current environmental and social conditions. It includes gathering data, assessing vulnerabilities, and identifying key challenges and opportunities specific to the local context.¹³⁴ Engaging stakeholders, particularly women and other excluded groups, is essential during this phase to ensure that their needs and contributions are considered.

Recommended gender-responsive actions:

- **Set explicit gender goals and targets:** Establish a robust framework that includes gender-specific indicators and targets to highlight existing disparities and inform targeted interventions. This is crucial for setting a comprehensive baseline that captures the current situation and identifies areas for improvement. These goals should be realistic to manage expectations, build trust, and minimize potential frustrations.
- **Conduct a gender analysis:** Conduct a thorough gender analysis to understand the different roles, needs, and contributions of women and men in relation to natural resources and ecosystems. This includes gathering gender-disaggregated data and engaging women from diverse backgrounds to capture their specific challenges and knowledge.

This analysis highlights gender disparities and the need for targeted interventions, as well as uncovers power dynamics and mitigate potential harm.

- **Capacity building and empowerment:** Conduct workshops aimed at building technical skills among women in data collection methodologies, including gender-disaggregated data gathering techniques. Also, offer leadership training and mentorship programs to empower women to take on active roles in community consultations and decision-making processes related to NbS initiatives.

LEARN MORE:

Tools for setting explicit gender goals and targets:

- **Gender analysis frameworks:** These systematic methodologies examine the differences in roles, norms, and power levels between women and men, as well as their distinct needs, constraints, and opportunities. These frameworks help understand how men and women are differently affected by and contribute to environmental initiatives and NbS.¹³⁵
- **Participatory Rural Appraisal (PRA):** PRA engages community members, particularly women, in participatory mapping, resource flow diagrams, and seasonal calendars to visualize and analyze gendered patterns of resource use and decision-making. It aims to achieve change through collective action, with local communities taking responsibility for implementing activities.¹³⁶
- **Social Impact Assessment (SIA):** SIA involves analyzing, monitoring, and managing the social consequences of planned interventions. Its primary objective is to create a more sustainable and equitable biophysical and human environment. Including gender-specific indicators in SIA evaluations of NbS initiatives helps identify potential challenges and opportunities, ensuring that the benefits and burdens of projects are equitably distributed.¹³⁷

Methods for conducting gender analysis:

- **Surveys and questionnaires:** Design surveys to capture gender-specific information on resource use, access, and control of natural resources and NbS. Ensure questions address the roles, responsibilities, and challenges faced by women and men in managing natural resources. These surveys should be informed by a deep understanding of the socio-economic and cultural context and be supervised by a gender specialist.
- **Interviews and focus groups:** Conduct gender-specific interviews and focus group discussions to gather qualitative data on the experiences, needs, and perspectives of women and men regarding NbS projects. Collaborate with local women's groups and leaders to enhance women's agency. Engage with local organizations to foster connections and build trust and mutual respect.

Stage 3: Planning and design

Based on the assessment, this stage focuses on developing detailed plans and designs for the NbS interventions. It involves setting clear, realistic goals and objectives, and creating strategies that incorporate social equity considerations.¹³⁸ Ensuring that women and other excluded groups are actively involved in the planning process is crucial for creating inclusive and effective solutions.

Recommended gender-responsive actions:

- **Inclusive participation:** Ensure equal opportunities for women and men to participate

- in the design and planning stages of NbS projects. Create spaces where women feel safe, respected, and empowered to share their ideas and contribute actively to decision-making processes.
- **Address root causes:** Define explicit, realistic gender goals and targets that address the root causes of gender inequalities, such as limited access to resources, education, and decision-making power within environmental contexts. These should inform the planning and design of the interventions, and set the foundation for equitable outcomes.
- **Capacity building and empowerment:** Conduct workshops to raise awareness among women about the importance of their participation in environmental planning and management. Empowerment activities also encompass promoting women's participation in decision-making forums related to NbS, ensuring their voices are heard and valued in shaping environmental outcomes.

TIP: How to support participatory decision-making processes

Establishing decision-making committees with equal representation of men and women ensures that women's voices are heard and considered in all key project and initiative decisions.

The involvement of training facilitators in gender-sensitive approaches ensures that the discussions are inclusive and respectful, encouraging active participation from all members. Additionally, implementing regular feedback mechanisms where all the members of the community, especially women, can voice their opinions and suggestions - anonymously if needed - helps inform project decisions and improvements, making the initiatives more effective and inclusive.

Many communities already engage in practices aligned with NbS principles without labelling them as such. To ensure women are empowered through grassroots initiatives, it is essential to recognize and support these local practices while fostering an environment that encourages women's active participation and leadership in these projects.

Many communities already engage in practices aligned with NbS principles without labelling them as such. To ensure women are empowered through grassroots initiatives, it is essential to recognize and support these local practices while fostering an environment that encourages women's active participation and leadership in these projects.

Stage 4: Implementation

This phase marks the actual execution of the NbS projects. It involves deploying the planned interventions, such as restoration activities, sustainable management practices, or infrastructure enhancements.¹³⁹ Capacity-building and providing necessary resources to local communities, especially women, are vital to empower them and ensure their active participation in the implementation process.

Recommended gender-responsive actions:

- **Gender responsive practices:** Implement practices that acknowledge and respond to the diverse needs and contributions of women and men. For example, introduce sustainable agricultural methods that reduce women's workload, increase productivity, and enhance their economic opportunities.
- **Access to resources and tools:** Implement initiatives that support women within NbS

implementation processes. This includes facilitating access to resources, tools, and technologies that enhance their capacity to manage natural resources sustainably, reducing their labour burden and improving their economic opportunities.

- **Capacity building and empowerment:** Provide training to women to enhance their skills in NbS theory and practices, as well as in climate adaptation strategies, and other relevant skills that enhance knowledge in environmental management, economic development, and leadership.

TIP: How to address stereotypes in women's involvement in NbS

Before starting any NbS project, it is crucial to address stereotypes that suggest women should not be involved in specific types of work. Empowering women and creating safe spaces for their participation can help challenge and overcome these biases. Engaging the broader community to raise awareness about gender inequalities is essential for fostering support and understanding.

However, efforts to change gender roles and societal norms that constrain women often require sustained, long-term engagement. These norms are deeply entrenched in many communities, and meaningful progress takes time. Therefore, NbS projects should be complemented with ongoing initiatives and capacity-building activities that address these structural barriers beyond the project's immediate scope.

During the implementation process, regular inclusive meetings involving both men and women provide opportunities to surface and address issues collaboratively. Appointing a designated contact person, preferably a woman, offers a confidential avenue for women to voice their concerns and experiences.

Stage 5: Monitoring and evaluation

Continuous monitoring and evaluation are essential to track the progress and impact of the NbS initiatives. This stage involves establishing gender-sensitive indicators, collecting data, and analysing outcomes to ensure that the interventions are meeting their objectives. Regular reviews and feedback loops help in making necessary adjustments to improve the effectiveness and inclusivity of the projects.¹⁴⁰

Recommended gender-responsive actions:

- **Gender-responsive indicators:** Establish a robust Monitoring, Evaluation & Learning (MEL) strategy with gender-sensitive indicators. These may track women's participation in decision-making, access to resources, benefits accrued, changes in gender norms and relations, and empowerment outcomes throughout NbS projects. Systematically collect and analyse data, ensuring outcomes align with gender equity goals.
- **Feedback mechanisms:** Establish mechanisms for ongoing feedback from women and men involved in NbS initiatives, and adapting NbS initiatives to ensure they remain responsive to gender-specific needs and priorities. These may involve setting up regular review sessions to assess the impact of gender-sensitive practices, capacity building efforts, and empowerment activities. Systematically collect and analyse data, making regular adjustments to enhance project effectiveness and inclusivity.
- **Capacity building on MEL:** Provide training on MEL frameworks that incorporate gender

-sensitive indicators and data collection methods. Build skills among women to analyse gender-disaggregated data collected during NbS implementation, enabling them to interpret outcomes and contribute to evidence-based decision-making.

TIP: How to apply Monitoring, Evaluation, and Learning (MEL) mechanisms for the success and scalability of gender-responsive NbS initiatives.

- **Dedicated budget allocation and access to advanced tools and technologies:** Allocating a specific portion of the overall project budget to MEL activities is essential for ensuring that resources are available for all necessary processes, from baseline data collection to final evaluations. This dedicated funding allows for the implementation of effective MEL mechanisms, maintaining project accountability, transparency, and responsiveness to community needs. Additionally, securing long-term funding commitments that extend beyond the initial project phases is crucial for ongoing monitoring and iterative learning, facilitating continuous improvement and adaptation. Moreover, providing funds for advanced data collection and analysis tools, such as Geographic Information Systems (GIS), remote sensing technologies, and mobile data collection apps, can enhance the accuracy and efficiency of MEL activities. These technologies streamline data collection processes, build a robust database for further research, and support comprehensive analysis, thereby improving the overall quality and impact of NbS projects.
- **Use of MEL specialists and engagement with local experts:** Investing in skilled MEL specialists with expertise in gender-responsive approaches is crucial for designing robust MEL frameworks, conducting thorough evaluations, and providing insights that drive project success. Collaborating with local experts and community members who possess contextual knowledge and experience ensures that MEL activities are culturally relevant and sensitive to local dynamics. Additionally, allocating resources for training staff in the use of advanced tools and technologies enhances their ability to gather and analyse data effectively.

For the **donor community**, MEL mechanisms provide accountability, impact assessment, informed decision-making, and learning opportunities. For the **private sector**, they validate business investments, manage risks, engage stakeholders, and drive innovation. For the **public sector**, they help enhance accountability and transparency, inform policy and decision-making, improve project effectiveness and impact, promote equity and inclusivity, build institutional capacity, and ensure efficient resource allocation. For **women's groups**, they help empower group members, ensure voice and representation, promote sustainable outcomes, and support advocacy efforts.

Stage 6: Management and scaling

Ensuring the long-term sustainability of NbS initiatives requires integrating them into broader policy frameworks and securing ongoing support and funding. This stage also explores opportunities for scaling successful interventions to larger areas or replicating them in different contexts. Building local capacities and fostering partnerships with various stakeholders are key to achieving sustainable and scalable NbS.

Recommended gender-responsive actions:

- **Long-term support:** Secure ongoing support and funding to sustain the benefits of NbS initiatives. Integrate successful gender-responsive strategies into broader policy frame

works and explore opportunities for scaling and replicating these interventions.

- **Building partnerships:** Foster partnerships with local organizations, including women's groups, to ensure continued engagement and empowerment of women in NbS projects.
- **Capacity building and empowerment:** Facilitate access to resources such as land tenure, financial support, and technology that empower women to participate effectively in natural resource management. Also, empower women to advocate for inclusive policies and practices based on the findings of MEL activities, ensuring that their voices influence future NbS planning and implementation.

TIP: How to grow women's leadership within communities

Raise consciousness: it is crucial to increase awareness among women about their roles as economic agents. Some women may not recognize themselves as workers who contribute financially and drive economic activity.

Foster community: help women realize they are not alone by building a sense of community. Highlight that many others share similar challenges and opportunities. This shared understanding can inspire women to take leadership roles and guide other women.

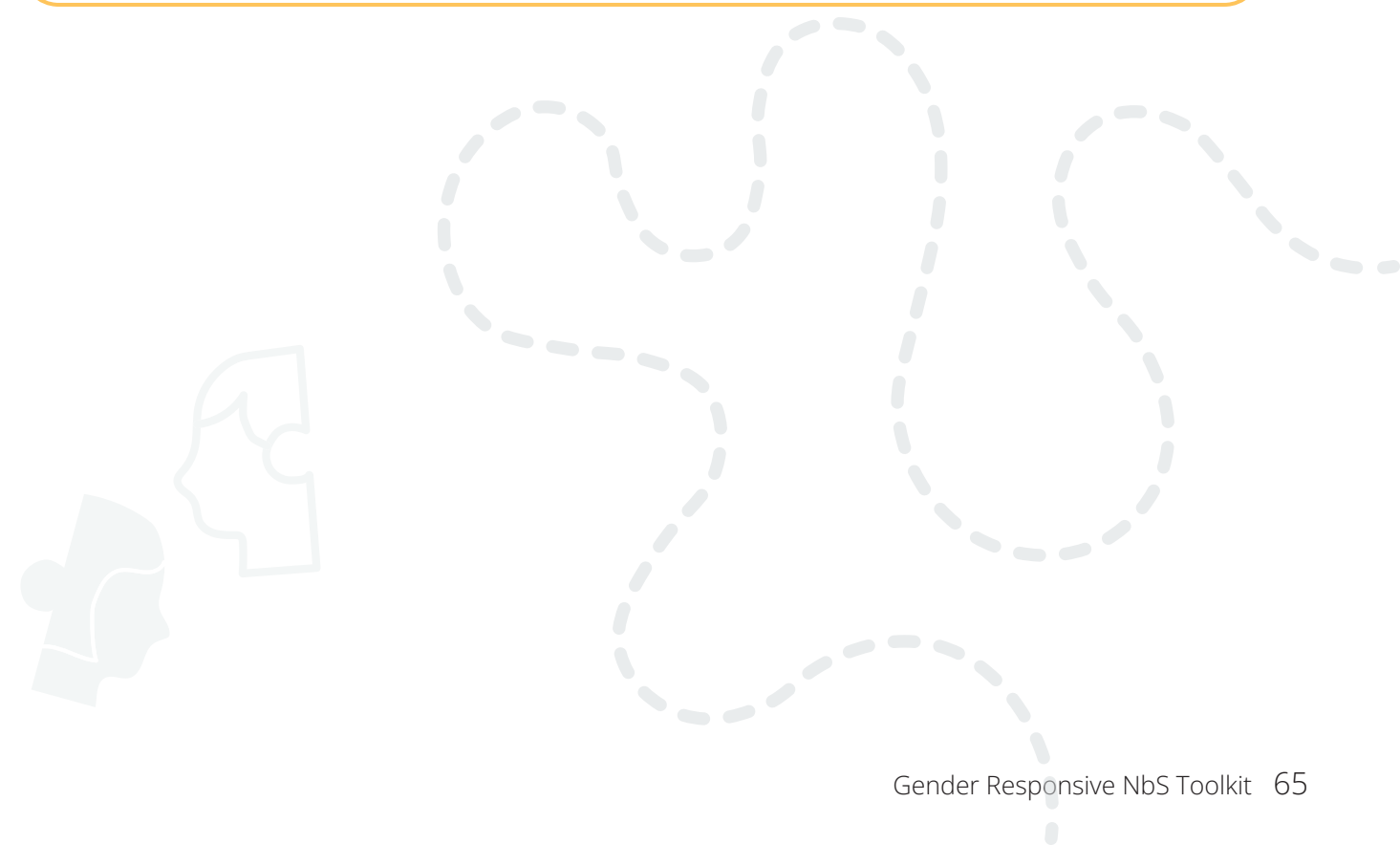
Digital literacy: provide training in digital skills to enhance women's abilities to navigate and utilize technology effectively for personal, professional, and community development.

Governance structures: educate women about governance structures and encourage their active participation in local decision-making processes.

Workers' rights: inform women about their rights as workers, including fair wages, safe working conditions, and the right to organize.

Identify natural leadership roles: recognize and foster each woman's natural leadership potential, whether it be in business, marketing, communication, or other areas. Tailor support and training to develop these skills further.

Ensuring that women take the lead in local climate justice actions and that their opinions and experiences are included in decision-making processes can result in positive systemic changes. Therefore, it is necessary to increase women's agency, through the recognition of their work, and their understanding of climate issues.



This toolkit highlights the critical role of gender-responsive Nature-based Solutions (NbS) in addressing urgent environmental and social challenges. By integrating gender considerations, NbS not only strengthen environmental resilience but also foster greater inclusivity, promoting more sustainable outcomes that benefit both ecosystems and communities.

The analysis reveals significant untapped potential in the active involvement of women in gender-responsive NbS. Despite their pivotal contributions, women's roles remain underexplored and marginalized due to barriers that limit their full participation. These barriers—ranging from regulatory gaps to socio-economic constraints—underscore the need for systemic changes to maximize the impact of NbS for both women and the environment. Shifting from traditional, often exclusionary practices is essential, as it can unlock the unique benefits that gender-responsive NbS offer, both socially and ecologically.

The toolkit aims to outline strategic actions that stakeholders can adopt to expand the scope of gender-responsive NbS, driving women's economic empowerment and leadership in sustainable development. As the research demonstrates, the low participation of women in NbS initiatives is not due to a lack of support from public and private sectors or donors, but rather reflects entrenched practices that must change at all levels of governance.

The toolkit identifies four critical areas for advancing gender-responsive NbS:

- **Developing gender-responsive NbS policies and regulations:**

Robust, gender-responsive policy frameworks and regulatory mechanisms are essential for supporting women's empowerment in NbS initiatives. Key actions include integrating gender considerations into NbS policies at all levels of governance, leveraging existing gender-responsive frameworks, and establishing mandates for gender impact assessments and quotas for women's participation. Coordinating across global, national, and local policy levels will ensure alignment and enhance the effectiveness of NbS initiatives. Furthermore, adapting global NbS standards to local contexts will enable the integration of gender-sensitive approaches, drawing on local knowledge and ensuring that NbS are culturally and contextually relevant.

- **Strengthening evidence and advocacy for gender-responsive NbS**

Building a strong evidence base and advocacy framework is necessary to unlock the full potential of gender-responsive NbS. This includes developing gender-sensitive monitoring and evaluation mechanisms to track the impact of NbS on women, as well as raising awareness of the benefits of gender-responsive approaches. Education and training programs aimed at local practitioners and policymakers can build capacity and empower women to lead and participate in NbS projects. Advocacy efforts should focus on educating stakeholders about the importance of gender perspectives in NbS, facilitating better-informed decision-making, and garnering broader support for gender-responsive initiatives.

- **Ensuring women's representation in decision-making for NbS**

Women's participation in decision-making is critical to the success and sustainability of NbS. To ensure equitable decision-making, it is essential to promote women's leadership through quotas, targets, and inclusive decision-making structures. Addressing socio-economic and cultural constraints that prevent women from engaging in NbS, such as discriminatory norms or care responsibilities, is equally important. Expanding education and professional development programs, particularly in rural areas, will also enhance local expertise and foster more inclusive NbS initiatives. Beyond women involvement in decision-making, it is crucial to ensure that women's diverse perspectives and lived experiences are captured at all stages of the policy-making process. Finally, recognizing and integrating indigenous knowledge systems into NbS planning can help ensure that solutions are culturally relevant and more responsive to gender-specific needs.

- **Advancing financial, economic, and implementation support for women in NbS**

To overcome financial, economic, and implementation barriers, targeted financial support structures and professional development opportunities for women are essential. Key actions include securing dedicated funding for gender-responsive NbS projects, creating incentives such as grants and subsidies, and investing in capacity-building programs for women. Additionally, it is important to measure and communicate the benefits of gender-responsive NbS, including social, economic, and environmental outcomes, to encourage further investment and scale. Clear frameworks and guidelines should also be developed to integrate gender considerations throughout the NbS lifecycle, ensuring women's active participation and leadership.

By focusing on these four critical areas—policy and regulatory development, evidence and advocacy, decision-making representation, and financial and economic support—stakeholders can unlock the full potential of gender-responsive NbS. These actions will support women's economic empowerment, leadership, and social inclusion in sustainable development. The toolkit emphasizes the need for a systemic, inclusive approach that ensures gender considerations are integrated into NbS projects from design through implementation and evaluation.

The section concludes with a catalogue of NbS practices and inspirational ideas, showcasing successful examples and innovative approaches to integrating gender-responsive solutions. This catalogue serves as a valuable resource for stakeholders, offering concrete, adaptable ideas for implementing impactful, gender-responsive NbS. The aim is to inspire and empower practitioners and decision-makers to realize the transformative potential of gender-responsive NbS, advancing both environmental and social goals.

NbS catalogue and ideas

The table below offers a non-exhaustive catalogue of NbS practices and inspirational ideas.

	Type of NbS	Potential solutions and entrepreneurship opportunities	Case studies and resources
Macro Categories 1 Ecosystem restoration	Reforestation and afforestation <i>Planting trees in deforested areas (reforestation) or in new areas (afforestation) to restore habitats, enhance biodiversity, and sequester carbon.</i>	Tree planting services: Business that offers reforestation services, and carbon credits for companies looking to offset their carbon emissions.	Women's Empowerment Fund for Reforestation : OneTreePlanted initiative in Rwanda, India, Dominican Republic. Green Belt Movement, Kenya : Founded by Wangari Maathai, this movement has empowered women to plant millions of trees, combating deforestation and promoting biodiversity. The FORM, Ghana : Reforestation project that sustainably managed forest plantation to deliver carbon certified credits to companies. Sri Lanka : Replanting the forests onewild mushroom at a time by UNDP Sri Lanka - Exposure.
		Sustainable timber production: Establishment of plantations that sustainably manage forest resources for timber, providing a renewable source of wood.	International Tropical Timber Organization : Intergovernmental organization promoting the sustainable management and conservation of tropical forests and the expansion and diversification of international trade in tropical timber from sustainably managed and legally harvested forests. Since 2018 advocates to foster the role of women in forestry.
	Wetland restoration <i>Restoring degraded wetlands to improve water quality, enhance biodiversity, and provide flood protection.</i>	Eco-torism development : Creation of reserves or parks in restored wetlands, offering guided tours and educational programs.	Anzali Wetland Ecotourism, Iran : Examples of sustainable tourism in wetlands Destination wetlands : supporting sustainable tourism. ¹⁴¹

Fig. 10: The table offers a catalogue of NbS practices and inspirational ideas.

	Type of NbS	Potential solutions and entrepreneurship opportunities	Case studies and resources
Macro Categories 1 Ecosystem restoration		Wetland-based water treatment: Development of natural wastewater treatment systems that utilize wetlands for water purification.	Constructed Wetlands: A promising wastewater treatment system for small localities: Experiences from Latin America. ¹⁴²
	Mangrove restoration <i>Rehabilitating mangrove forests to protect coastal areas from erosion, support fisheries, and sequester carbon.</i>	Coastal protection services: Mangrove restoration services to coastal communities vulnerable to erosion and storm surges.	Mangoro Market Meri, Papua New Guinea : It supports the economic and cultural empowerment and realization of benefits from mangrove conservation for women. ¹⁴³
		Sustainable aquaculture: Develop mangrove-friendly aquaculture systems that support fish and shellfish production while preserving ecosystems.	Ghana and The Gambia women-led Estuarine and Mangrove Ecosystem-Based Shellfisheries Co-Management . ¹⁴⁴
Macro Categories 2 Sustainable land management	Agroforestry <i>Integrating trees and shrubs into agricultural landscapes to improve soil health, increase biodiversity, and enhance crop productivity.</i>	Sustainable product: Production from sustainable agroforestry systems, such as fruits, nuts, or honey.	Disability inclusive agroforestry that can generate income through poultry and bee keeping, mushroom harvesting and food processing. ¹⁴⁵

Fig. 10: The table offers a catalogue of NbS practices and inspirational ideas.

Macro Categories	Type of NbS	Potential solutions and entrepreneurship opportunities	Case studies and resources
	2 Sustainable land management		
	Sustainable agriculture <i>Implementing practices such as crop rotation, conservation tillage, and organic farming to maintain soil health, reduce chemical use, and increase resilience to climate change</i>	Organic farming: Produce vegetables, fruits, or grains, marketed to health-conscious consumers.	Women adopting organic farming methods, India: Karnataka Madhupur Ancestral knowledge to transform the Sicaola River Basin, Costa Rica: Woman associations that promotes organic farming.
	Grassland management <i>Managing and restoring grasslands to support livestock, improve soil health, and sequester carbon.</i>	Soil health products: Develop biofertilizers, compost, and soil amendments that enhance soil and reverse soil degradation. Sustainable grazing: Sustainable management of grazing lands, improving productivity and ecosystem health.	Rice straw mulching of vegetables in homegardens to reverse soil degradation in Lao People's Democratic Republic. ¹⁴⁶ IKI Growing Greener, Southern Africa Region: Restoration and sustainable management of agropastoral systems in open arid landscapes across Southern Africa. National Center for Appropriate Technology (NCAT), USA: Research hub helping people build resilient communities through local and sustainable solutions that reduce poverty, strengthen self-reliance, and protect natural resources. Sierra Club, USA: Grassroots network that advocate for equitable, sustainable, regenerative organic agriculture and food policies and practices at the national level.

Fig. 10: The table offers a catalogue of NbS practices and inspirational ideas.

Macro Categories	Type of NbS	Potential solutions and entrepreneurship opportunities	Case studies and resources
	3 Green infrastructure		
	Green roofs and walls <i>Installing vegetation on roofs and walls to reduce urban heat islands, improve air quality, and manage stormwater</i>	Native seed production: Protect and preserve native grass seeds for restoration projects.	Semillas Nativas, Paraguay: Women led initiative that encourages control, production, post-harvest care, storage, use, exchange, and marketing of native and creole seed varieties.
	Urban green spaces <i>Creating and maintaining parks, gardens, and urban forests to provide recreational spaces, enhance biodiversity, and mitigate urban heat.</i>	Urban farming solutions and maintenance services: Development of rooftop gardens that produce vegetables or herbs, which can be sold to local restaurants or markets. Community garden initiatives: Develop community gardens in urban areas, offering plots to residents for a fee and selling excess produce. Urban green space management: Offer management and maintenance services for urban parks, focusing on sustainability and biodiversity.	Resources: Circular model to produce food and compost on the rooftops of Hanoi. ¹⁴⁷ That'Ezakho Women's Gardening Project, South Africa: Community garden started by 10 unemployed women to help improve food security and environmental protection.

Fig. 10: The table offers a catalogue of NbS practices and inspirational ideas.

Macro Categories	Type of NbS	Potential solutions and entrepreneurship opportunities	Case studies and resources
3 Green infrastructure	Eco-friendly construction materials <i>Using natural and eco-friendly materials for building and constructions to promote indoor and outdoor wellbeing.</i>	Eco-friendly construction materials: Employ natural materials for sustainable constructions.	Traditional building practice, Burkina Faso: Example of sustainable architecture for a public school. Construction Skills for Fijian Woman: Women in Fiji developed carpentry skills to better engage with decision-making and practical modifications for shelter-preparedness to build resilience to climate-related disasters. These skills helped them access job opportunities in a typically male-dominated industry. Resources: Assessing local building culture for resilience and development. ¹⁴⁸
	Natural water retention measures <i>Using natural features such as ponds, wetlands, and riparian buffers to manage water flow and improve water quality.</i>	Eco-engineering services: Co-designs and build natural water retention systems for urban and rural areas. Sustainable water technologies: Development of technologies that enhance water retention, such as bioengineering solutions for water conservation.	Soil-cement water collection pond for supplemental irrigation to reduce water degradation, Nepal: Community project to manage water flow and store rainwater for irrigation purposes during dry seasons. Green Watech, Morocco: One of the top African start-ups in cleantech and sanitation as the national winner of the 2018 GCIP Morocco. Resources: Women entrepreneurs catalyzing change in wastewater treatment sector in Morocco. ¹⁴⁹

Fig. 10: The table offers a catalogue of NbS practices and inspirational ideas.

Macro Categories	Type of NbS	Potential solutions and entrepreneurship opportunities	Case studies and resources
4 Water management system	Integrated watershed management <i>Coordinating the management of water, land, and related resources across a watershed to balance environmental, social, and economic needs.</i>	Water resource monitoring: Develop monitoring tools and technologies to help manage water resources in a watershed effectively.	Central Asia Knowledge Network: Aims to raise awareness and promote research and knowledge exchange on gender issues in the water sector. Resources: Water research management in central Asia ¹⁵⁰ Water User Association, India: Women-led associations in Gujarat manage water resources, improving water access and agricultural productivity. ¹⁵¹
	Restoration of riparian zones <i>Restoring vegetation along riverbanks to stabilize banks, improve water quality, and provide habitat for wildlife.</i>	Erosion control solutions: Co-create solution aimed at controlling erosion and stabilizing riparian zones.	Terra Preta raises garden beds in Haiti create pockets of permaculture garden that improve soil fertility while diminishing soil erosion.
5 Coastal and marine solutions	Living shorelines <i>Using natural elements such as plants, sand, and rocks to protect coastlines from erosion and storms while enhancing habitat.</i>	Coastal protection services: Design and installation of living shorelines for coastal protection.	Eagle Shoreline Protection LCC, USA: Woman-owned small business assessing and restoration shorelines, including wetlands, rivers and forests. MedProgramme, Empowering women for sustainable coastal management, Mediterranean Sea Area: “Invest in women: Accelerate progress” programme to promote gender participation and activation of coastal communities in the Mediterranean Sea.

Fig. 10: The table offers a catalogue of NbS practices and inspirational ideas.

Macro Categories 5 Coastal and marine solutions	Type of NbS	Potential solutions and entrepreneurship opportunities	Case studies and resources
		Habitat Enhancement Products: Create products that enhance coastal habitats, such as oyster reef structures or planting kits for coastal vegetation.	Native Oyster Reef Restoration, Ireland: Community driven initiative to restore the historic beds and establish the native oyster reef restoration. Hong Kong Oyster reef, Hong Kong
	Coral reef restoration <i>Rebuilding and protecting coral reefs to support marine biodiversity, fisheries, and coastal protection.</i>	Coral Propagation Services: Coral propagation and transplantation to restore damaged reefs. Rebuilding and protecting coral reefs to support marine biodiversity, fisheries, and coastal protection.	Coral Vita, The Bahamas: Reef restoration plans and management services.
	Marine protected areas <i>Designating areas of the ocean for conservation to protect marine biodiversity and support sustainable fisheries.</i>	Marine Protected Area management services: Management and consulting services for establishing and maintaining Marine Protected Areas	CTI-CFF Women Leaders' Forum to highlight the role of women leaders in marine biodiversity , Indonesia, Malaysia, Philippines, Papua New Guinea, Solomon Islands and Timor-Leste: Platform functions as a peer-learning network for women who are playing key leadership roles and leading programs and projects that promote marine and coastal resource management. ¹⁵² Resource: Women at the heart of sustainable fisheries, Ghana. ¹⁵³
Macro Categories 6 Climate adaptation & resilience	Ecosystem-based adaptation <i>Using biodiversity and ecosystem services to help communities adapt to climate change.</i>	Climate Adaptation Consulting: Integrate ecosystem-based adaptation into climate resilience strategies for communities or businesses.	Adaptation Learning Program, sub-Saharan Africa: UN project to empower women to develop community-based adaptation against the impacts of climate change. ¹⁵⁴

Macro Categories 6 Climate adaptation and resilience	Type of NbS	Potential solutions and entrepreneurship opportunities	Case studies and resources
	Climate-smart agriculture <i>Implementing agricultural practices that increase productivity, resilience, and reduce emissions, such as crop diversification and water-efficient irrigation.</i>	Climate-Smart Farming Solutions: Develop and sell products or services that help farmers adopt climate-smart practices, such as drought-resistant seeds or precision irrigation systems. ¹⁵⁵	CGIAR Climate Research for Africa Project: Western and Central Africa: focuses on how climate-smart agriculture can contribute to women's resilience and empowerment in the context of climate change.
Macro Categories 7 Biodiversity conservation	Protected areas <i>Establishing and managing protected areas to conserve wildlife and natural habitats.</i>	Wildlife friendly practices: Promote the sustainable use of natural resources within or near protected areas to benefit local communities while preserving wildlife and natural habitats.	Traditional native beekeeping in Colombia to protect native stingless bee and forest and savannah. Ecotourism and wildlife and protected areas program, Bosnia and Herzegovina: Investing in women to move to the mountains to sustainably develop remote mountain regions. Seeds of Change, Kenya: Women-led eco-friendly clothing line (among other ventures highlighted) tackling deforestation through innovation.
	Habitat corridors <i>Creating or maintaining corridors to connect fragmented habitats, allowing species to migrate and maintain genetic diversity.</i>	Wildlife friendly infrastructures: Co-design infrastructure that allows wildlife to safely cross human-made barriers and allowing species to migrate.	Resources: Regeneration , aims at maintaining wildlife corridors on land, water and in the air to protect wildlife, reconnect fragmented habitats and help animals to adapt to climate change. Wildlife crossing help avoid roadway collisions. ¹⁵⁶

Fig. 10: The table offers a catalogue of NbS practices and inspirational ideas.

*Additional resources and case studies can be found at the website: Nature-Based Solutions Initiative.

Endnotes

01 Women in all their diversity: Considering all backgrounds and intersectional identities of women and girls. Hence, we specify women and girls from different age, sex, gender identities, disability, class, caste, ethnicity, indigenous identity, religion, socio-economic-political contexts, geographical contexts, etc..

02 Katz, A. S., Hardy, B. J., Firestone, M., Lofters, A., and Morton-Ninomiya, M. E. (2019). [Vagueness, power and public health: use of 'vulnerable' in public health literature](#). *Critical Public Health*, 30(5), 601–611.

03 IPCC (2022) [Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change](#). Cambridge University Press

04 UNDP (2024) [Nature for development](#). New York, USA

05 George, S. (2022) [Water risks to cost cities \\$194bn each year by 2050 – but which places will be worst affected?](#). Edie, 22nd June.

06 Urban Climate Change Research Network (2018) [The Future We Don't Want: How Climate Change Could Impact the World's Greatest Cities](#). UCCRN Technical Report, February.

07 Arup (2022) [Cities Alive: Designing Cities that work for women](#). London: Arup.

08 UNDP (2024) [Nature for development](#). New York, USA.

09 UNDP (2016) [Overview of linkages between gender and climate change](#). Global Gender and Climate Alliance.

10 UN Women (No Date) [Take urgent action to combat climate change and its impacts](#).

11 Carvajal-Escobar, Y., Quintero-Angel, M., & Garcia-Vargas, M. (2008). [Women's role in adapting to climate change and variability](#). *Advances in Geosciences*, 14, 277-280

12 International Coalition for Sustainable Infrastructure, The Resilience Shift, Arup (2022), [Nature-based Solution Use Case Pathway](#)

13 International Coalition for Sustainable Infrastructure, The Resilience Shift, Arup (2022), [Nature-based Solution Use Case Pathway](#)

14 WRI (2023) [What are Nature-based Solutions?](#) Online

15 Cohen-Shacham, E., Walters, G., Janzen, C. and Maginnis, S. (eds.) (2016) [Nature-based Solutions to address global societal challenges](#). Gland, Switzerland: IUCN. xiii + 97pp.

16 IUCN (2020) [Global Standard for Nature-based Solutions: first edition](#). Gland Switzerland: IUCN

17 While climate change adaptation is often seen as a response to a negative shock, it can also include taking advantage of impacts of climate change that create new opportunities. For example, see [Africa's businesses are its secret weapon against climate change | World Economic Forum](#)

18 International Coalition for Sustainable Infrastructure, The Resilience Shift, Arup (2022), [Nature-based Solution Use Case Pathway](#).

19 International Coalition for Sustainable Infrastructure, The Resilience Shift, Arup (2022), [Nature-based Solution Use Case Pathway](#).

20 Global Commission on Adaptation (2019) [Adapt Now: A Global Call for Leadership on Climate Resilience](#). Rotterdam and Washington DC: Global Commission on Adaptation.

21 Arup (2024), Consultations with grassroot organisations to develop the toolkit.

22 Lo, V. and Rawluk, A. (2023) [Enhancing Biodiversity Co-Benefits From Nature-Based Solutions](#). International Institute for Sustainable Development

23 European Commission: Directorate-General for Research and Innovation and Wild, T. (2020) [Nature-based solutions improving water quality & waterbody conditions](#) – Analysis of EU-funded projects. Publications Office of the European Union.

24 Kumar, P et al (2024) Urban heat mitigation by green and blue infrastructure: drivers, effectiveness, and future needs. *The Innovation* – Vol. 5, Issue 2.

25 Kolokotsa, D. (2020) On the impact of nature-based solutions on citizens' health and wellbeing. *Energy and Buildings* - Vol. 229, dec 2020.

26 Raes, L., Mittempergher, D., Piaggio, M. and Siikamäki, J. (2021) Nature-based Recovery can create jobs, deliver growth and provide value for nature. Technical Paper No. 3, IUCN Nature-based Recovery Initiative. Gland, Switzerland: IUCN.

27 United Nations Educational, Scientific and Cultural Organization and G20 Working Group on DRR (2024) [Good Practices for Increasing the Application of Ecosystem-based Adaptation and Nature-based Solutions for Disaster Risk Reduction Volume II](#)

28 [United Nations Environment Programme and International Union for Conservation of Nature \(2021\) Nature-based solutions for climate change mitigation](#). Nairobi

29 Bansard, J. And Schröder, M. (2021) [The sustainable use of natural resource: the governance challenge](#). International Institute for Sustainable Development.

30 Da Rocha, S.M., Almassy D., Pinter, L. (2017) [Social and cultural values and impacts of nature-based solutions and natural areas](#). Naturvation.

31 European Commission (2020) [Nature-based solutions – State of the art in EU-funded projects](#), Publications Office of the European Union

32 Lo, V. and Rawluk, A (2023) [Enhancing Biodiversity Co-Benefits From Nature-Based Solutions](#). International Institute for Sustainable Development

33 UNICEF (2020) [Gender Dimensions of Violence Against Children and Adolescents](#)

34 UNICEF (2022) Gender Equality Marker and Gender Tag Guidance Note

35 Gender equality vs equity (2022). DCED

36 Booker, F. et al. (2022) [Women, girls and biodiversity loss: an evidence and policy review](#). IIED

37 Booker, F. et al. (2022) [Women, girls and biodiversity loss: an evidence and policy review](#). IIED

38 Martin, R. (2022) Key barriers affecting access to and uptake of family planning for people with disabilities. Disability Inclusion Helpdesk Evidence Digest

39 Clugston, N. (2024) [Gender Based Violence against climate change activists](#). Violence against Women and Children Helpdesk.

40 Hines, A (2022) [Decade of Defiance](#). Global Witness.

41 Livingstone, D., Jenkins, O., and Cardinal, I. (2021). [Women's Economic Empowerment and Climate Change: A Primer](#). WOW Helpdesk Guidance Note No. 3. UK Aid.

42 Booker, F. et al. (2022) [Women, girls and biodiversity loss: an evidence and policy review](#). IIED

43 Stevenson, B. (2021) [Women, work, and families: recovering from the pandemic-induced recession](#). The Hamilton project.

44 Asian Development Bank (2023) [Women's Economic Empowerment in the Pacific Region. A comprehensive analysis of existing research and data](#). Asian Development Bank, Manila.

45 FAO (2018) [Food security and nutrition in the age of climate change](#). Rome

46 Fernando, G. and Gunawardana, S. (2024) [Women bear the burnt of Asia's climate failures](#). Monash University.

47 World Bank Group (2024) [Enhancing food and nutrition security in the Sahel and Horn of Africa](#). World Bank Group.

48 GBV AoR Helpdesk (2021) [Climate Change and Gender-Based Violence: What are the links?](#) London: GBV AoR Helpdesk.

49 [Water insecurity and gender based violence: A global review of the evidence - Tallman - 2023 - WIREs Water - Wiley Online Library](#)

50 Clugston and Stevens (2024) Understanding Patterns of Stigmatisation for Male and

- Female Survivors and Associates of Non-State Armed Groups in North East Nigeria: Lessons Learned and Implications for 4DR Processes. Plan International, "Lake Chad Programme Strategy 2018-2023."
51. Carney, C. et al (2020) [Gender-based violence and environmental linkages](#). IUCN.
 52. Hines, A (2022) [Decade of Defiance](#). Global Witness.
 53. Ward, J. (2022) [GBV Risks, food insecurity, and the integrated food security classification. What are the basics that food security and GBV actors need to know?](#) London: GBV AoR Helpdesk.
 54. Thurston, A.M et al (2021) [Natural hazards, disaster and violence against women and girls: a global mixed-methods systematic review](#). BMJ Global Health.
 55. GBV AoR Helpdesk (2019) [Prevention of, and response to Gender-Based Violence in setting affected by natural disaster](#). London: GBV AoR Helpdesk.
 56. UNFPA (2023) [Crisis in the Horn of Africa](#). UNFPA
 57. Booker, F. et al. (2022) [Women, girls and biodiversity loss: an evidence and policy review](#). IIED.
 58. FAO, IFAD, ILO (2010) [Breaking the rural poverty cycle: getting girls and boys out of work and into school](#). Gender and rural employment, Policy brief n7.
 59. World Bank Group (2024) [Enhancing food and nutrition security in the Sahel and Horn of Africa](#). World Bank Group.
 60. Booker, F. et al. (2022) [Women, girls and biodiversity loss: an evidence and policy review](#). IIED.
 61. UN Women Caribbean (2022) [Disasters affect us all, differently](#). UN Women.
 62. UNHCR (2024) [Climate change and disaster displacement](#). Online
 63. GBV AoR Helpdesk (2019) [Prevention of, and response to Gender-Based Violence in setting affected by natural disaster](#). London: GBV AoR Helpdesk.
 64. IOM UN Migration (2024) Gender, migration, environment and climate change. Online
 65. CARE (2020) [Evicted by climate change. Confronting the gendered impacts of climate-induced displacement](#). CARE, The Netherlands.
 66. United Nation (2024) [Why women are key to climate action](#). Online
 67. FAO (2020) [Mainstreaming gender for sustainable soil management](#). Report of Activity 161. Rome: Global Forum on Food Security and Nutrition, FAO.
 68. Salcedo-La Vina, C., Trivedi, A. and Grace, K (2023) [Enabling rural women as key actors in nature-based solutions. Working Paper](#). Washington, DC: World Resources Institute.
 69. Dhir, R. K. (2017) [Gender, labour and a just transition towards environmentally sustainable economies and societies for all](#). ILO, Geneva.
 70. Shammin, Md.R, Enamul Haque. A.K. and Faisal, I.M. (2021) [A framework for climate resilient community-based adaptation](#). Climate change and community resilience - pp11-20. Springer.
 71. <https://alliancebioiversityciat.org/stories/women-key-seed-sector-success-africa>
 72. UNEP (2013) [Biodiversity for the wellbeing of women](#). Online
 73. Deininger, F., Woodhouse, A., Kuriakose, A., Gren, A. Liaquat, S. (2023) [Placing gender equality at the centre of climate action](#). World Bank Group.
 74. Salcedo-La Vina, C., Trivedi, A. and Grace, K (2023) [Enabling rural women as key actors in nature-based solutions](#). Working Paper. Washington, DC: World Resources Institute.
 75. Verschuuren, B. et al (2021) [Cultural and spiritual significance of nature](#). Guidance for protected and conserved area governance and management. Best Practice Protected Area Guidelines Series No. 32, Gland, Switzerland: IUCN. XVI + 88pp.
 76. Caswell, C. and Jang, N. (2024) [Mainstreaming gender equality and social inclusion in nature-based solutions for climate change adaptation](#). IISD
 77. Salcedo-La Vina, C., Trivedi, A. and Grace, K (2023) [Enabling rural women as key actors in nature-based solutions](#). Working Paper. Washington, DC: World Resources Institute.
 78. Ma, S, and Aloysius, J. A. (2021) [Women are an advantage in supply chain collaboration and efficiency](#). Sage Journals V30 Issue 5
 79. Caswell, C. and Jang, N. (2024) [Mainstreaming gender equality and social inclusion in nature-based solutions for climate change adaptation](#). IISD.
 80. Ma, S, and Aloysius, J. A. (2021) [Women are an advantage in supply chain collaboration and efficiency](#). Sage Journals V30 Issue 5.
 81. Xie, L. et al (2020) [Pathways for systemic integration of nature-based solutions](#). Naturvation, Online
 82. Salcedo-La Vina, C., Trivedi, A. and Grace, K (2023) [Enabling rural women as key actors in nature-based solutions](#). Working Paper. Washington, DC: World Resources Institute.
 83. Mayoux, L. (2024) [Micro-finance and the empowerment of women: a review of the key issues](#). Digital Frontiers Institute.
 84. Kuhn, L. (2024) [Magnifying the power of women's savings group](#). FinDev Gateway, Online.
 85. Kuhn, L. (2024) [Magnifying the power of women's savings group](#). FinDev Gateway, Online.
 86. Woroniecki, S. et al (2023) [Contributions of NbS to reducing people's vulnerabilities to climate change across the rural Global South](#). Climate and Development. Taylor and Francis Group.
 87. Naumann, S., Burgos Cuevas, N., Davies, C., Bradley, S., Mahmoud. I.H., Arlati, A. (2023). [Harnessing the power of collaboration for nature-based solutions: New ideas and insights for local decision-makers](#). Publications Office of the European Union.
 88. Salcedo-La Vina, C., Trivedi, A. and Grace, K (2023) [Enabling rural women as key actors in nature-based solutions](#). Working Paper. Washington, DC: World Resources Institute.
 89. Coates, D. and Connor, R. (2018) [Nature-based solutions for water](#). UNESCO.
 90. Barton, J. and Rogerson, M. (2017) [The importance of greenspace for mental health](#). Cambridge University press.
 91. Naumann, S., Burgos Cuevas, N., Davies, C., Bradley, S., Mahmoud. I.H., Arlati, A. (2023). [Harnessing the power of collaboration for nature-based solutions: New ideas and insights for local decision-makers](#). Publications Office of the European Union.
 92. Salcedo-La Vina, C., Trivedi, A. and Grace, K (2023) [Enabling rural women as key actors in nature-based solutions](#). Working Paper. Washington, DC: World Resources Institute
 93. Drew, R. (2023) [Accelerating action on gender equality in disaster risk reduction by 2030: a cross-cutting analysis of reports to the midterm review of the Sendai framework highlighting good practices and areas to strengthen for gender-responsive and socially inclusive disaster risk reduction](#). UNDRR: Geneva, Switzerland.
 94. Caswell, C. and Jang, N. (2024) [Mainstreaming gender equality and social inclusion in nature-based solutions for climate change adaptation](#). IISD.
 95. Salcedo-La Vina, C., Trivedi, A. and Grace, K (2023) [Enabling rural women as key actors in nature-based solutions](#). Working Paper. Washington, DC: World Resources Institute
 96. Drew, R. (2023) [Accelerating action on gender equality in disaster risk reduction by 2030: a cross-cutting analysis of reports to the midterm review of the Sendai framework highlighting good practices and areas to strengthen for gender-responsive and](#)

- socially inclusive disaster risk reduction. UNDRR: Geneva, Switzerland.
97. Woroniecki, S., Wamsler, C. & Boyd, E. (2019) [The promises and pitfalls of ecosystem-based adaptation to climate change as a vehicle for social empowerment](#). Ecology and Society, 24.
 98. UNWomen (2024) [Gaps and challenges to gender mainstreaming in national policies and plans](#). Engendering CCDRR policies and national plans training manual. Online.
 99. Caswell, C. and Jang, N. (2024) [Mainstreaming gender equality and social inclusion in nature-based solutions for climate change adaptation](#). IISD.
 100. Caswell, C. and Jang, N. (2024) [Mainstreaming gender equality and social inclusion in nature-based solutions for climate change adaptation](#). IISD.
 101. Tallent, T. and Zabala, A. (2024) [Social equity and pluralism in Nature-based solutions: practitioners' perspectives on implementation](#). Environmental Science and Policy.
 102. Kalin, A (2022) Research paper on the interplay between NbS and gender equality. Multisource, Online.
 103. Salcedo-La Vina, C., Trivedi, A. and Grace, K (2023) [Enabling rural women as key actors in nature-based solutions](#). Working Paper. Washington, DC: World Resources Institute
 104. Salcedo-La Vina, C., Trivedi, A. and Grace, K (2023) [Enabling rural women as key actors in nature-based solutions](#). Working Paper. Washington, DC: World Resources Institute
 105. Woroniecki, S. et all (2023) [Contributions of NbS to reducing people's vulnerabilities to climate change across the rural Global South](#). Climate and Development. Taylor and Francis Group.
 106. Caswell, C. and Jang, N. (2024) [Mainstreaming gender equality and social inclusion in nature-based solutions for climate change adaptation](#). IISD.
 107. Caswell, C. and Jang, N. (2024) [Mainstreaming gender equality and social inclusion in nature-based solutions for climate change adaptation](#). IISD.
 108. Mathieu, A. (2020) [Women face limited representation and participation in decision-making space](#). OXFAM FACT n.5, Online.
 109. Salcedo-La Vina, C., Trivedi, A. and Grace, K (2023) [Enabling rural women as key actors in nature-based solutions](#). Working Paper. Washington, DC: World Resources Institute
 110. Mulvik, I., Stojilovska, A., Berndt, J., Coles, N.A. (2023) [Nature-based solutions education network](#). NbS Edu World, Online.
 111. Salcedo-La Vina, C., Trivedi, A. and Grace, K (2023) [Enabling rural women as key actors in nature-based solutions](#). Working Paper. Washington, DC: World Resources Institute
 112. UN Women (2020) [The world for women and girls. Annual report 2019-2020](#). New York, USA.
 113. World Bank. (2021b). [World Bank Group Gender Strategy Mid-Term Review: An Assessment by the Independent Evaluation Group](#) (Independent Evaluation Group). World Bank.
 114. Williams, P.A., Sikutshwa, L. and Shackleton, S. (2020) [Acknowledging indigenous and local knowledge to facilitate collaboration in landscape approaches – lessons from a systematic review](#). LAND, online.
 115. Lo, V. and Rawluk, A (2023) [Enhancing Biodiversity Co-Benefits From Nature-Based Solutions](#). International Institute for Sustainable Development.
 116. Gomez, S., Portillo Purata, V.L. and Rodriguez, S.E. (2023) [Pathways to unblocking private financing for Nature-based solutions](#). WRI.
 117. UNEP (2022) [State of Finance for Nature. Time to act: Doubling investment by 2025 and eliminating nature-negative finance flows](#). Nairobi.
 118. Chausson, A. et all (2024) [Harnessing nature-based solutions for economic recovery: a systematic review](#). PLOS Clim 3(10)
 119. Portillo Purata, V.L., Gomez, S. and Rodriguez, S.E. (2022) [5 Barriers that hinder green financing](#). World Resources Institute.
 120. Caswell, C. and Jang, N. (2024) [Mainstreaming gender equality and social inclusion in nature-based solutions for climate change adaptation](#). IISD.
 121. UNICEF (2023) [Gender norms and unpaid work](#). Online.
 122. IOM (2016) [Barriers to women's land and property access and ownership in Nepal](#). IOM, Nepal.
 123. Mayoux, L. (2024) [Micro-finance and the empowerment of women: a review of the key issues](#). Digital Frontiers Institute.
 124. Nature4Climate (2022) [Nature4Climate: New NbS Commitment Tracker analyses pledges' progress made since 2019](#).
 125. [UNFCCC \(2022\) COP27](#). Online
 126. [UNEP\(2022\) COP15](#). Online
 127. UNDRR (2021) Words into action. Engaging for resilience in support of the Sendai Framework for Disaster Risk Reduction 2015-2030 (<https://zcralliance.org/resources/item/sendai-framework-nature-based-solutions-for-disaster-risk-reduction/>). Geneva
 128. UNEP (2022) UNEA-5 Resolution (<https://www.unep.org/news-and-stories/press-release/un-environment-assembly-concludes-14-resolutions-curb-pollution>). Online
 129. UN (2022) Transforming our world. the 2030 agenda for sustainable development (<https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf>). Online
 130. [UNCC \(2015\) The Paris Agreement](#). Online
 131. Nature4Climate (2022) [Nature4Climate: New NbS Commitment Tracker analyses pledges' progress made since 2019](#).
 132. United Nations Development Programme. 2018. [Women as Environmental Stewards: The experience of the Global Environment Facility Small Grants Programme](#). UNDP, New York.
 133. NbS Project Cycle. DECD, Arup. SDDirect (2024).
 134. Tye, S., J.R. Pool, and L. Gallardo Lomeli (2022). [The Potential for Nature-Based Solutions Initiatives to Incorporate and Scale Climate Adaptation](#). Working Paper. Washington, DC: World Resources Institute.
 135. March, C., Smyth, I., Mukhopadhyay, M. (2025), [A guide to gender-analysis frameworks](#), Oxfam Publication
 136. FAO, [Participatory Rural Appraisal](#), Online
 137. International Association for Impact Assessment (2009) [Social Impact Assessment](#), Online
 138. Tye, S., J.R. Pool, and L. Gallardo Lomeli (2022). [The Potential for Nature-Based Solutions Initiatives to Incorporate and Scale Climate Adaptation](#). Working Paper. Washington, DC: World Resources Institute.
 139. Tye, S., J.R. Pool, and L. Gallardo Lomeli (2022). [The Potential for Nature-Based Solutions Initiatives to Incorporate and Scale Climate Adaptation](#). Working Paper. Washington, DC: World Resources Institute.
 140. Tye, S., J.R. Pool, and L. Gallardo Lomeli (2022). [The Potential for Nature-Based Solutions Initiatives to Incorporate and Scale Climate Adaptation](#). Working Paper. Washington, DC: World Resources Institute.
 141. Secretariat of the Ramsar Convention on Wetlands, Gland, Switzerland, & World Tourism Organization (UNWTO) (2012), [Destination wetlands: supporting sustainable tourism](#), Spain.
 142. Water and Sanitation Program (2008) [Constructed Wetlands: A promising waste-](#)

- [water treatment system for small localities: Experiences from Latin America](#). WSP-LAC, Perú
143. Jenkins, O. and Brown, G. (2023) [Women's Economic Empowerment in the blue economy in Small Island Developing States](#), WOW Helpdesk Query No.73, London, UK: WOW Helpdesk.
 144. Chuku, Effah, Adotey, Abrokwah, Adade, Okyere I, Aheto, Kent, Osei, Omogbemi, Adité, Ahoedo, Sankoh, Soro, Wélé, Saine, Crawford (2022) [Women-Led Fisheries Livelihoods Toward Sustainable Coastal Governance: The Estuarine and Mangrove Ecosystem Shellfisheries of West Africa](#). Frontiers in Marine Science, V9 Year 2022
 145. Muntha, P. and Rourke C. (2023) [Disability-Inclusive Climate Justice Through Agro-forestry](#). Harvard Law Edu.
 146. Phanvongsa, K (2019) [Rice straw mulching in vegetable home gardens](#). WOCAT
 147. Turner, S., Pham, T., Ngô H., Zuberek, C. (2022) [Rooftop gardening complexities in the Global South: Motivations, practices and politics](#). Geographical Research, December 2023.
 148. CRAterre, LabEx AE&CC, Caritas France, IFRC (2015) [Assessing Local Building Cultures for resilience and development. A practical guide for community based assessment](#). CRAterre Editions.
 149. Shumilova, D. and Mordaszewska, K. (2023) [Women entrepreneurs catalyzing change in wastewater treatment sector in Morocco](#), UNIDO
 150. Komagaeva J. (2021) [Promoting Women's Participation in Water Resource Management in Central Asia](#), World Bank Online
 151. Institute of Rural Management (2007) [Women's Collective Action and Sustainable Water Management: Case of SEWA's Water Campaign in Gujarat, India](#). International Research Workshop on 'Gender and Collective Action', Chiang Mai, Thailand.
 152. Jenkins, O. and Brown, G. (2023) [Women's Economic Empowerment in the blue economy in Small Island Developing States](#), WOW Helpdesk Query No.73, London, UK: WOW Helpdesk.
 153. Environmental Justice Foundation (no date) [Women at the heart of sustainable fishery](#). Online
 154. Wagner, R., Ward, N. and Percy, F. (2025) [ALP Adaptation Strategies Compendium](#). Care International. Kenya.
 155. Van Nieuwkoop, M., Van De Velde, P., Huyer, S., and Kennedy Freeman, K. (2022) [Gender-Smart Agriculture: The only way forward for women and climate](#). World Bank Blogs
 156. WWF (2023) [Wildlife crossing help avoid roadway collisions](#). Online

