# Integrating Gender and Social Inclusion in Nature-Based Solutions

## Guidance Note

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GLOBAL PROGRAM ON
NATURE-BASED SOLUTIONS
FOR CLIMATE RESILIENCE

GFDRR
Global Facility for Disaster Reduction and Recovery

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# List of Abreviations

| | |
|---|---|
| **DRM** | Disaster risk management |
| **GBV** | Gender-based violence |
| **GFDRR** | Global Facility for Disaster Risk Reduction and Recovery |
| **GPNBS** | Global Program on Nature-Based Solutions for Climate Resilience |
| **IPTCs** | Indigenous people and traditional communities |
| **NBS** | Nature-Based Solutions |
| **PWDs** | Persons with disabilities |
| **WBG** | World Bank Group |

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# 1. Introduction

**Nature-based solutions (NBS) have gained traction in recent years because of their potential to promote sustainable development and reduce disaster risks.** In addition to their socioeconomic benefits for people, NBS can be used for up to 37 percent of the climate mitigation actions needed to achieve the emissions goals of the Paris Agreement (IPBES 2019). When formulated along with inclusive capacity-building strategies and project design features, an NBS can play a transformative role in addressing social justice challenges, in addition to providing immediate climate and environmental benefits (European Commission 2020). There is a need for better understanding of gender and social inclusion challenges in the context of NBS and how they can be addressed to have an effective, long-lasting impact on development outcomes.

**The goal of this note is to provide guidance on gender and social inclusion in NBS.** Specifically, the note presents factors for consideration in NBS projects from the early stages of project conceptualization through the project design and implementation process. It is intended to help World Bank staff working on operations involving NBS, as well as governments and other development officials trying to design and implement inclusive NBS. It is also designed to contribute to the literature on NBS, because it provides insights, lessons, and case studies from the World Bank-financed NBS portfolio and other sources.

**The note builds on existing methodologies and information to identify opportunities to integrate gender and social inclusion into NBS operations.** This note is based on desktop research, a portfolio review of the Global Program on Nature-Based Solutions (GPNBS), and a compilation of relevant case studies from the World Bank and other development partners. The note comprises five sections. Section 1 is this introduction, which presents the objectives and methodology. Section 2 provides an overview of the concept of socially inclusive NBS and their contributions to climate and disaster resilience. Section 3 discusses gender and social inclusion in the World Bank Group (WBG) NBS portfolio. Section 4 describes a four-step approach to integrating gender and social inclusion into NBS. Section 5 outlines entry points with case study examples on gender and social inclusion in urban, coastal, and forest and farmland NBS.

# 2. Socially Inclusive NBS for Climate and Disaster Risk Management

**Gender equality and social inclusion are essential components of disaster risk management (DRM).** Ultimately, social inclusion in DRM is about promoting opportunities for, abilities of, and dignity of marginalized groups in all aspects and stages of DRM. DRM will not effectively reduce disaster risks for everyone if the needs of vulnerable or marginalized groups are not considered. Although the underlying patterns driving disaster vulnerability are sometimes difficult to assess and quantify, failure to address them is likely to result in enormous social and economic costs. Inclusive DRM approaches are not just about supporting marginalized groups that suffer disproportionately from the effects of disasters, but also about empowering marginalized people to help increase the resilience of their communities. As such, global development frameworks that support NBS for DRM strongly call for the need to address barriers to inclusion of women and diverse social groups.

**NBS is an umbrella concept that covers a range of ecosystem-based approaches and natural processes designed to protect, restore, or modify natural ecosystems to meet socioeconomic needs and build long-term environmental resilience.** These solutions can reduce the impacts of hazards such as storm surges, urban heat, droughts, and coastal erosion while addressing social and economic challenges and contributing to well-being. Projects with NBS components can include structural and nonstructural measures. A structural solution for flood prevention, for example, features an NBS response that relies entirely on nature (e.g., conservation of ecosystems) or a hybrid solution integrating natural elements with hard engineering interventions (e.g., constructing a dike with vegetative surfaces) to support ecosystem restoration (World Bank 2017). Nonstructural solutions include natural resource management activities through individual or community-based engagement to conserve and increase the resilience of natural resources (e.g., soil, trees, water, biodiversity).

**NBS is generally intended to deliver social, economic, and environmental benefits for everyone,** although in some cases, women, persons with disabilities (PWDs), and low-income households may face barriers to taking advantage of these benefits. In urban areas, for example, safety concerns and gender-based violence (GBV) may discourage women and girls from using urban forests and parks for outdoor recreation. Intersectionality of various aspects of a person's identity (e.g., a disabled woman with physical accessibility challenges or a low-income, minority male youth without employment opportunities) may intensify these barriers and risks of exclusion. By acknowledging and addressing these elements of intersectionality early, NBS can provide inclusive benefits and opportunities for all social groups.

**Active participation of local and Indigenous communities is critical for successful NBS.** Most of the world's traditional and Indigenous communities have intricate economic and spiritual connections to nature through their history and culture. In some of these communities, gender roles assign women the responsibility for collecting water and firewood for heating and cooking and gathering and supplying food for their households, so having extensive consultations with Indigenous communities and ensuring maximum participation of women are critical. Most importantly, the needs of all vulnerable groups must be accommodated to prevent or reduce any negative impacts of NBS projects.

**NBS can vary considerably, and appropriate implementation is context specific** to ensure that the proposed NBS suits the region where it is being implemented. For example, an urban farming program providing an opportunity for residents to cultivate vegetables for food security and sustainably create green spaces for flood risk protection should also consider local biodiversity. Such an initiative is recognized as a NBS only if the species planted are endemic to the area and not toxic or destructive to local biodiversity, including weeds, insects, and free-range animals.

**Even more consideration must be given to the contexts of countries and communities in contexts of fragility, conflict, and violence.** Under these circumstances, complex social dynamics that may be closely linked to risk of violence may limit participation of women or other groups. In these cases, risks should be carefully assessed before any interventions are designed. More detail on steps to incorporate gender and social inclusion considerations, including risk mitigation, is provided in Section 4.

**The same concern about tailoring NBS to local contexts applies to the socioeconomic impacts that the solution may have.** NBS can create effective tools for including the social and economic concerns of women, girls, and other vulnerable and marginalized groups. For these additional benefits to be achieved, relevant stakeholders must be given space to participate and contribute to conceptualization, design, and implementation of interventions from an early stage. For the purposes of this guidance note, interventions are organized in three categories: urban, coastal, forest and farmland. Entry points for gender and social inclusion for each are presented in Section 5.

# 3. Gender and Social Inclusion in World Bank–Financed NBS Operations

**Climate and disaster risks often disproportionately affect women, PWDs, elderly adults, and other vulnerable groups.** These impacts result from cultural, economic, physical, and financial constraints that restrict access to resilience-building opportunities for these groups. NBS operations designed and implemented with inclusive considerations can help reduce vulnerabilities and increase the ability of these at-risk groups to manage disaster risk. In particular, actions to enhance women's access to assets and promote their agency and ability to voice their concerns can substantially increase their resilience to disasters. Similarly, customizing DRM to the physical, visual, auditory, and other needs of PWDs increases access to disaster preparedness and reduction services for these groups. Engaging local and Indigenous communities in DRM decision-making also builds trust and encourages collaboration, ultimately leading to better resilience outcomes (GFDRR 2015).

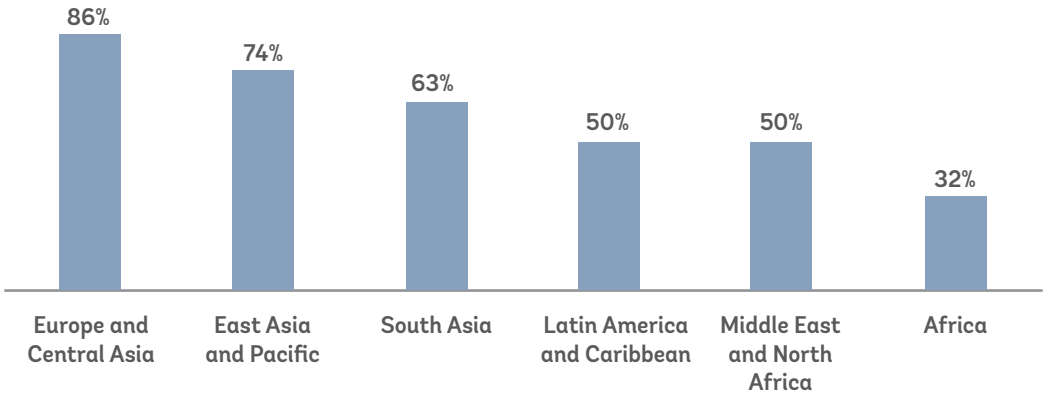
**The World Bank is committed to integrating gender and social inclusion into its projects with NBS components and uses various approaches to ensure inclusion of groups that are often excluded or disadvantaged in society based on gender, disability, and sexual orientation, among other identities or factors (See Appendix A for an overview).** For instance, the Strategic Framework for Mainstreaming Citizen Engagement in World Bank Group Operations and the Disability Inclusion and Accountability Framework have been developed to systematically mainstream citizen engagement and disability considerations into World Bank–financed operations, and the World Bank Group Gender Strategy (2016-2023) (which is being updated) was adopted in the context of the Sustainable Development Goals (specifically Sustainable Development Goal 5, which focuses on gender equality and empowerment of all women and girls). The strategy is centered on four key gender equality objectives for the WBG: improving human endowments, removing constraints on more and better jobs for women, removing barriers to women's ownership of and control over assets, and enhancing women's voice and agency. With support from the GFDRR, the GPNBS (see details in Box 1) seeks to ensure that the World Bank-financed NBS for climate and disaster resilience does not leave anyone behind.

**Box 1: The World Bank Global Program on Nature-Based Solutions (NBS)**

The Global Program on Nature-Based Solutions (GPNBS) for climate resilience is a cross-sectoral effort of the WBG to increase investment of NBS across regions and sectors. The program provides operational support, knowledge, and tools and forges strategic partnerships to lead a shift away from conventional (often gray infrastructure) to natural systems approaches to climate resilience. Through targeted NBS and hybrid approaches, the GPNBS helps WBG teams and client countries identify, design, implement, and mainstream low-cost climate resilience services and expand investment in disaster risk reduction. All approaches that the GPNBS promotes are aligned with WBG strategies, including the Climate Change Action Plan 2021-2025 and the Green, Resilient, and Inclusive Development. The Global Facility for Disaster Risk Reduction and Recovery (GFDRR) co-finances the GPNBS, with support from the Global Water Security and Sanitation Partnership. Aligned with the Bank's commitment and the GFDRR Strategy 2021–2025, the GPNBS ensures that no one is left behind in the design and implementation of NBS projects.

**A portfolio review of the Bank's lending operations from fiscal 2012 to 2021 shows that 67 of the 103 projects (65 percent) with NBS were gender informed**.[1] These 103 projects across various regions and global practices add up to investments of US$12.4 billion, of which US$5.53 billion supported project components containing NBS. Most of the 67 gender-informed projects containing NBS were in Europe and Central Asia (86 percent), followed by East Asia and the Pacific (74 percent) and South Asia (63 percent) (Figure 1). Further disaggregation of data on inclusion according to type of NBS revealed that projects that integrated NBS for ponds, lakes, and small bodies of water (88 percent) and urban green spaces (79 percent) were more likely to address gender inequities than others.

**Figure 1** Proportion of Gender Informed World Bank-financed Nature-Based Solutions Projects by Region



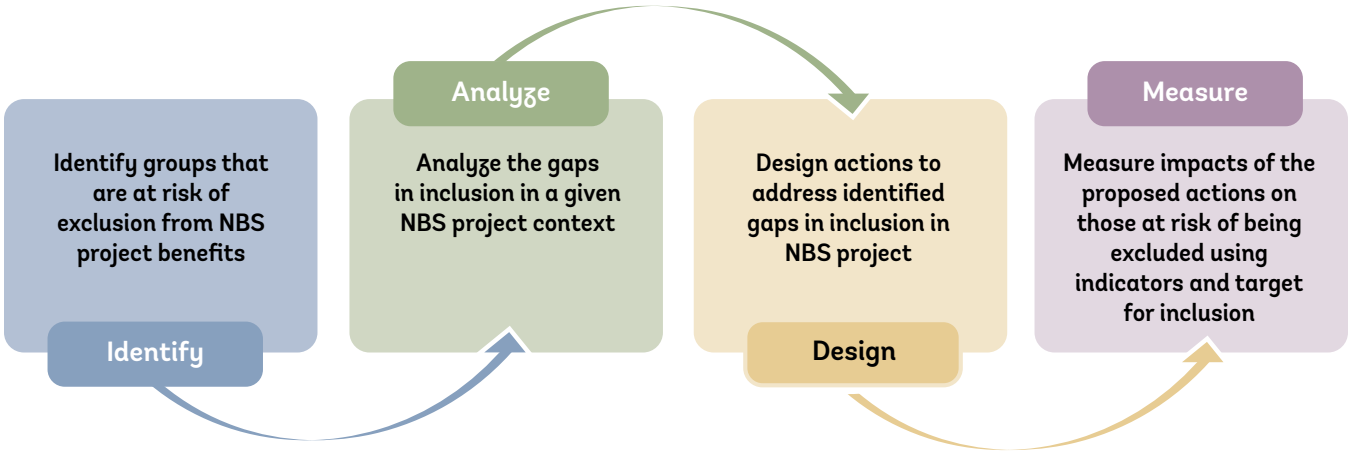

**In addition to addressing gender inequalities, many NBS projects are designed to be socially inclusive.** Several projects integrated the needs of vulnerable groups, including youth, elderly adults, PWDs, and local communities. The portfolio review revealed that about 65 percent of all NBS approved from fiscal 2012 to 2021 engaged local communities in project design and implementation to foster sustainability and ensure that local needs were understood and addressed. Detailed information on how some World Bank–financed projects containing NBS integrate gender and socially inclusive considerations is presented in section 5.

[1] The portfolio review relied on data from the World Bank Operations Portal Database, which contains lists of all investment projects and detailed documentation and used an algorithm with key terms associated with NBSs to search all World Bank projects approved from fiscal 2012 to 2021. The list of projects that the algorithm identified was further reviewed to ensure that the projects contained NBS and then screened for gender equality and social inclusion. The full review is available at https://openknowledge.worldbank.org/entities/publication/d71af35a-0b1d-459b-ab04-b6def0a67f1d.

# 4. Steps to Incorporate Gender and Social Inclusion Considerations into NBS

This section describes four practical steps that can be taken so that nature-based interventions have concrete, positive impacts on all segments of society, including marginalized and underrepresented social groups. The four-step process draws on the WBG Social Inclusion Assessment Tool (World Bank 2018) and the Gender Tag Methodology (World Bank 2021b). Practical examples of how these steps could be integrated into different NBS contexts are provided in Section 5.

**Figure 2** Steps to Incorporate Gender and Social Inclusion Considerations into Nature-Based Solutions




*Source:* Adapted from World Bank Group Social inclusion Assessment Tool (World Bank, 2018) and Gender Tag Methodology (World Bank, 2021b).

- **The first step is to identify groups at risk of exclusion from social, economic, and environmental benefits of NBS.** An individual or a group is considered to be at risk of exclusion when a project is more likely to adversely affect them than others or they are more limited in their ability to take advantage of a project's benefits (World Bank 2021c). For example, Indigenous communities and women who depend on forest ecosystems for their culture and livelihoods are often at risk of exclusion from mangrove and protected area management initiatives because of their consistent lack of a voice in natural resource management decision making from national to global levels. The World Bank's Inclusion Matters report provides a comprehensive list of individuals and groups likely to be excluded from public goods and services, including those related to the environment (World Bank 2013).

- **Individuals and groups at risk of exclusion from NBS can be identified using various participatory mapping and consultation techniques, including interviews, workshops, focus group discussions, public meetings, and social media.** These consultation mechanisms can help achieve optimum outcomes when combined with knowledge tools to increase stakeholders' understanding of the various objectives of NBS and how certain groups or individuals are likely to be adversely affected or excluded from benefits. Per World

Bank guidelines on Citizen Engagement, community power dynamics and time, mobility, and communication constraints that may limit safe participation of the most marginalized groups should be taken into consideration during consultations (World Bank 2014).

- **The second step is to analyze the gaps in inclusion (reasons for exclusion),** which helps explain how and why certain groups of people are likely to be excluded from social, economic, and environmental goods and services in a specific context where NBS will be applied and provides information on potential physical, financial, informational, attitudinal, and institutional barriers to inclusion. For example, analysis of gender-specific inclusion gaps in watershed management projects would help reveal traditional barriers to and time constraints on women's participation in environmental decision making and natural resource governance, as well as any restrictions on their access to and control over natural resources.

- **Gender and social inclusion gap analyses must be substantiated with facts and evidence so that the extent to which exclusion may amplify existing vulnerabilities of marginalized groups and limit their capacity to accrue benefits from NBS can be understood.** Documented evidence and case studies available in institutional reports, and academic research papers or targeted analytical work with inputs from diverse expert groups (including gender, disability, and social development specialists) and partners could be used to support gender and social inclusion analysis.

- **The third step is to design actions that can help address gaps in inclusion.** In practical terms, NBS initiatives must break barriers and maximize opportunities for marginalized groups to benefit from activities planned for implementation. Attitudes, social norms, and structural processes tend to exacerbate gender and social exclusion. Thus, actions to promote gender equality in NBS can, for example, address gaps within the four key gender equality objective areas of the WBG Gender Strategy (2016-2023)[2]. With respect to PWDs, Indigenous communities, low-income households, and other vulnerable groups, actions for inclusion in NBS should be designed with strong principles of nondiscrimination, accessibility (including physical, visual, and auditory), active participation, cultural appropriateness, and partnerships with relevant experts and organizations for maximum outcomes on inclusion.

- **Achieving gender and social inclusion is a long-term process.** A key starting point for inclusive actions in NBS is to invest in outreach, education, and training for marginalized groups so that they have a deep understanding of the objective of the interventions and their role in implementation. Appropriate technological innovations are also necessary for these groups to maximize the benefits of NBS. Other actions worth considering for inclusive NBS include setting targets for representation of specific marginalized groups on forest decision-making committees; providing childcare services to enable women to participate in tree planting and maintenance activities; and retrofitting or designing urban parks with universal accessibility infrastructure and service adaptations for persons with physical, visual, auditory, and other disabilities.

- **The fourth step is to measure the impact of the designed inclusive actions**. Project managers should integrate inclusion-specific metrics into the monitoring and evaluation

[2] The four key gender equality objective areas of the WBG Gender Strategy (2016-2023), (which is being updated) are: improving human endowments, removing constraints on more and better jobs for women, removing barriers to women's ownership of and control over assets, and enhancing women's voice and agency.

results framework. Data are crucial at this stage and must be collected throughout the implementation process to track progress on closing gaps in inclusion. Resources should be dedicated to collecting reliable, disaggregated data based on the identity characteristics that are likely to exacerbate people's exclusion in the project context, including sex, ethnicity, religion, sexual orientation, and age. Results framework indicators for gender and social inclusion should be clearly defined. Examples of indicators for tracking inclusion in NBS may include number of consultation meetings held with Indigenous people for a protected forest initiative, percentage of PWDs who are satisfied with accessibility infrastructure in urban parks, and percentage of mangrove resource management committee members who are women. The United Nations Environment Programme identifies 18 gender-specific indicators that project managers can draw on to measure progress on inclusion (UNEP 2019).

**The above steps provide general guidance for inclusion in NBS,** although implementation of these steps will vary in different contexts, including in settings of fragility, conflict, and violence and in under resourced countries. In contexts of fragility, conflict, and violence, for example, additional diagnostics may be required to provide insights into the key drivers of the instabilities and how they may intensify the risk of exclusion of specific groups from benefits of NBS. Similarly, the design of inclusive actions in this context would include additional strategies to prevent existing tensions from escalating, enhance community dialogue, and mitigate spillovers of political and economic insecurities for the most vulnerable groups.

**Additional guidance on the above four-step approach is available in the GFDRR report on** Entry Points for Social Inclusion and Gender in Disaster Risk Management and Climate Resilience Policy Operations (Osman, Escobar Saenz, and Trohanis 2022), which identifies groups disproportionately affected by climate and disaster risks, key gaps in their inclusion in resilience-building, and actions and indicators to promote the integration of their concerns into disaster and climate resilience policy operations. The report is presented along five policy areas (social protection; national DRM framework; health emergency preparedness and response; schools and educational infrastructure; urban, territorial, and physical development planning) and includes country-specific case studies and advice on best practices.

# 5. Entry Points for Gender and Social Inclusion in Different Types of NBS

**This section presents opportunities for gender and social inclusion in NBS projects in employment and income generating activities, capacity building, and design features of interventions for urban, coastal, and forest and farmland NBS,** supported by case study examples of World Bank–financed projects and relevant projects led by other organizations. The World Bank-financed projects featured in this section are listed in Appendix B. Of the 103 NBS projects identified in the portfolio review, those included in this section are examples that integrate gender or social inclusion considerations. The analysis and examples presented are not exhaustive but provide an overview of the types of activities that can serve as a starting point for discussions with relevant stakeholders from the early stages of projects with NBS components.

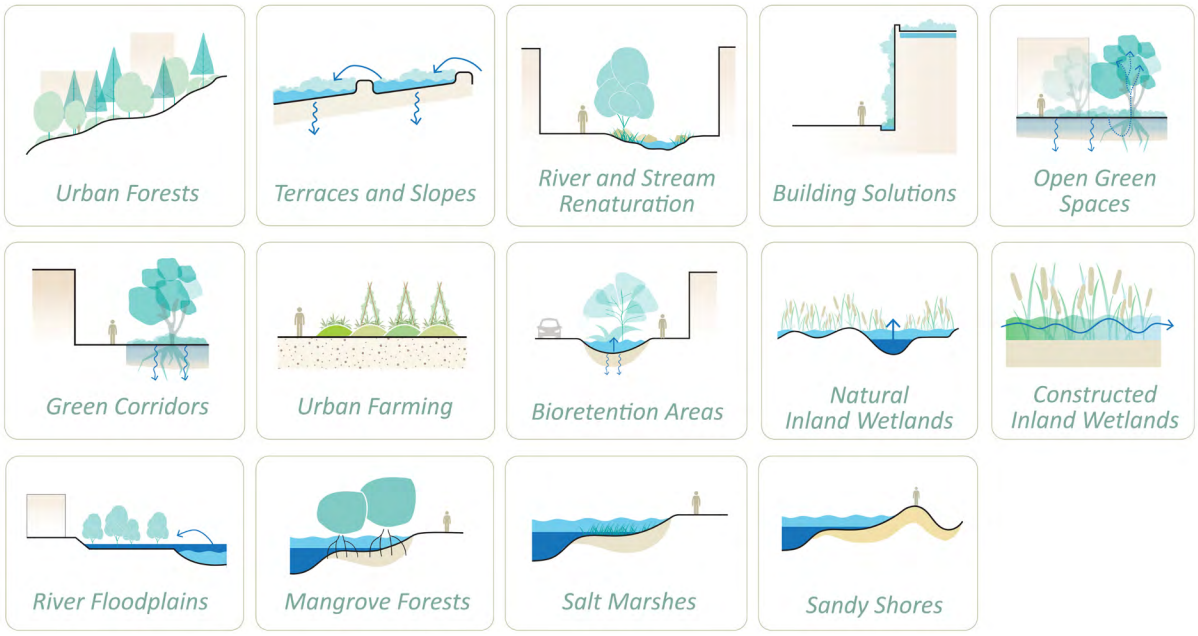
**NBS has good potential to build skillsets and generate income, contributing to the WBG Gender Strategy (2016-2023) objective of "more and better jobs."** NBS often requires new skills and additional human resources for implementation and maintenance, which creates a unique opportunity to address gender and social imbalances in employment opportunities. It is nonetheless important to conduct an early-stage assessment of the types of jobs and technological innovation requirements for NBS and include targeted training to equip marginalized groups with the required skills for the jobs created. Projects should differentiate between short- and long-term employment opportunities and between managerial and technical jobs so that disparities are addressed within different roles (ILO, UNEP, and IUCN 2022).

**Inclusive NBS also require design features that are beneficial and safe for all.** Considerations such as public street lighting, accessibility for PWDs, and where an NBS will be implemented can be critical to ensuring that project benefits reach all groups. These considerations should be discussed in the early stages of project development, as they would be more challenging to address later in the process.

## 5.1 Urban NBS

**Fast and often unplanned urbanization coupled with poor infrastructure; socioeconomic inequality; and increasing climate change–induced extreme events such as flooding, heatwaves, and droughts are transforming urban areas into risk-prone places**. NBS can help address these challenges through cost-effective infrastructure investments and socioeconomic integration. NBS for urban settings can be applied across a whole city, or in much more localized level and must take local urban dynamics into consideration, including human settlements, mobility, and economic activities. The World Bank catalogue of NBS for urban resilience provides a detailed account of the 14 types of NBS that can be applied in city settings (Figure 3), ranging from urban forests and open green spaces to bioretention areas and river floodplains (World Bank 2021a).

**Figure 3** Categories of Nature-Based Solutions in Urban Areas




*Source:* World Bank 2021a.

Urban NBS can target specific groups for employment associated with creation and maintenance of nature-based interventions. Projects should also address accessibility and safe use of public spaces by urban dwellers.

### *5.1.1. Employment Opportunities and Capacity Building*

- **Construction sector:** NBS projects in urban areas can provide opportunities to target marginalized groups for construction jobs, particularly if these groups are not usually favored in the construction sector. For example, women hold only 10.9 percent of construction sector jobs, and even fewer work on the front lines of job sites—approximately 1 in every 100 employees in the field.[3] Several factors, including gender bias, lack of adequate training, and negative perceptions of women in industry-related jobs, explain this enormous disparity. NBS projects can provide opportunities for women to break through barriers to participation in the construction industry. In Madagascar (P159756), the World Bank is reducing flood risk by creating natural retention ponds to mitigate the impacts of urban rainwater runoff. This project prioritized gender-informed design, including female participation in activities and gender targets in recruitment of construction workers.

- **Ongoing maintenance:** From the initial stages, teams developing an intervention with NBS features should discuss how NBS assets would be maintained and who will be responsible for them with the responsible stakeholders and beneficiaries. Such activities may include pruning trees and bushes, watering plants, cleaning public spaces, signposting the area, and controlling pests. Asset maintenance and management responsibilities can be assigned to a women's or elderly adults' group, cooperative, or organization, providing an opportunity for these groups to earn income and gain decision-making responsibilities regarding their

[3] See Labor Force Statistics from the Current Population Survey (database), U.S. Bureau of Labor Statistics, Washington, DC (accessed April 25th, 2023 ), https://www.bls.gov/cps/cpsaat18.htm

common assets. In Benin, a World Bank-financed project (P167359) using retention ponds to decrease urban flooding, for example, engages women and other vulnerable groups in maintaining the community flood management infrastructure.

- **Social protection:** Short-term public works focusing on tree planting (or other actions) for cash or food can be integrated into urban NBS projects to create safety net solutions for the most economically vulnerable groups. The Resilient Urban Sierra Leone Project (P168608), for example, created short-term employment for more than 500 youth and vulnerable individuals to plant 225,000 trees to increase local biodiversity and manage the short-term economic impacts of the COVID-19 pandemic. (See Box 2 for further details.) Also, the Stormwater Management and Climate Change Adaptation Project (P175830) in Senegal was implemented NBS through short-term labor-intensive public works (specifically in green public space enhancement and tree planting activities) and safety net solutions for youth, women, and other vulnerable individuals to manage economic hardships. GFDRR's (n.d.) Stocktaking of Adaptive Social Protection and Disaster Risk Management provides guidance on how social protection programs can be integrated into climate and disaster resilience operations, including those focusing on NBS.

- **Specialized training:** Training and job opportunities can also be used to close employment gaps in sectors that have a noticeable gender imbalance. In the Green National Highways Corridor Project in India (P167350) (WBG 2020), women were prioritized to increase their participation as employers in the transport sector. In cases like this, in which there are technical requirements that these groups may not meet, provision of jobs should be accompanied by training opportunities so that these groups can acquire the necessary skills to fill the existing roles. In this case in India, this was done by encouraging technical skills training of 2,500 women in specialized areas, including bio-engineering solutions for road upgrading and maintenance.

**Box 2: Tree Planting and Job Creation for Urban Youth—the Resilient Urban Sierra Leone Project (P168608)**

Sierra Leone is going through a rapid urbanization process, with more than 40 percent of its population living in urban areas. In the capital city, Freetown, expansion of settlements in unsuitable areas is increasing deforestation, which in turn affects watersheds and aggravates risks such as flooding, urban heat, and landslides. The Resilient Urban Sierra Leone Project was established to plant and grow 1 million trees in the city to address these challenges. The project focuses on restoring degraded forest along upstream water catchment areas, greening urban spaces, reforesting mangrove forests to reduce landslide risks, and planting native species such as mangroves and local fruit tree species to provide biodiversity. Beyond its disaster risk reduction and environmental benefits, the project was designed with a strong focus on job creation through training and engaging local communities. Its main socioeconomic focus is on creating learning and employment opportunities for young urban dwellers to reduce unemployment among youth in a post-conflict country.

Local youth are targeted to work in different stages of the tree planting process, including as planting team leaders, tree stewards, tree planters, tree planting support workers, community climate action ambassadors, and plant nursery suppliers. Tree planting is organized using a mobile app for long-term monitoring to track the growth of the trees. The system also allows for third-party verification of tree growth and a payment to participants. The project has generated 898 jobs, of which youth hold an estimated 887, and the system has recorded 567,000 trees, including 66,000 mangroves in the city's coastal areas.

Although most work opportunities are short term or temporary, it is expected that some will become permanent because workers are needed for extended maintenance of these areas. Moreover, there has been significant interest from tree growers to continue being employed in tree planting activities, even beyond the scope of this project, creating the prospect of further employment in similar projects in the future.

### *5.1.2. Project Design Features*

- **Accessibility in urban public spaces:** PWDs, women, and children face physical accessibility challenges that limit their ability to use or navigate public spaces. NBS such as urban green spaces, including green corridors and parks, should be designed with accessibility considerations, including ramps, universal washrooms, areas for appropriate physical activities for all (e.g., children and elderly adults) and streetlights. Restoring or repurposing urban NBS facilities with universal accessibility considerations creates several benefits for marginalized groups, including social and physical well-being for elderly adults and cognitive and mental development for children (EEA 2022). Other benefits include contributions to the physical and psychological health of women and PWDs and as a connector for migrants and asylum seekers (Rishbeth et al. 2019).

- **Construction and rehabilitation of social infrastructure:** Adding features such as seats, accessible toilets, and drinking fountains in the NBS design, financing, and maintenance plans can help overcome social exclusion. These interventions can be best implemented when partnered with or validated by organizations, groups, or networks representing PWDs and other marginalized groups. For example, through the Scaling-up Urban Upgrading Project (P159397) in Vietnam, the World Bank plans to engage elderly persons and PWDs in constructing and rehabilitating social infrastructure, including green spaces, to ensure that designs are accessible to the country's increasingly elderly population, such as repaving and widening walkways.

- **Inclusive green spaces:** Different socioeconomic groups may have unequal access to open green areas, which can be addressed through informed design of the NBS project. Likewise, communities with a higher proportion of immigrants and ethnic minorities tend to have less access to green spaces (EEA 2022). To address this, efforts should be made so that, whenever feasible, green spaces are created where there is an absence of public green areas.

- **Addressing safety concerns:** Keeping urban NBS sites safe for users is also important, especially for women and girls. Urban green spaces can often be unsafe, especially late in the day. Some design features, including public street lighting, trimming bushes, and having security guards after certain hours, can help address safety concerns.

Table 1 outlines selected gaps in inclusion of identified marginalized groups in urban-based NBS, along with actions to address these gaps and indicators for tracking progress.

**Table 1** Gender and Social Inclusion Entry Points for Urban NBS

| Gaps | Actions | Indicators |
|---|---|---|
| **Employment Opportunities and Capacity Building** | | |
| ○ Greater time poverty that women face because they spend more time with domestic and care responsibilities, which constrains their ability to participate in training and employment opportunities, especially in infrastructure construction and maintenance activities | ○ *Set up childcare facilities and community centers to reduce women's time burden and enhance participation in economic and community development opportunities*<br>○ *Provide training and apprenticeship opportunities so that women can acquire skills in construction and maintenance projects*<br>○ Adjust apprenticeship training schedules to facilitate women's participation<br>○ Set targets for recruitment of women in urban green construction, rehabilitation, and maintenance activities | ○ *Share of women using childcare services during technical education, certificate training, and work hours*<br>○ *Percentage of time women spend on unpaid childcare and household work*<br>○ Percentage of women employed in construction and urban green maintenance works<br>○ Share of young women in construction sector receiving apprenticeship opportunities to improve their skills |
| ○ Lack of involvement of women in urban green development planning and management processes, which limits their capacity to influence and inform decision-making processes | ○ Provide leadership training and mentorship for young women to leverage opportunities to participate in public decision making<br>○ Encourage women's placement in leadership roles and set quotas for their representation so that urban NBS project planning decisions will prioritize their needs | ○ *Percentage of women participating in or holding leadership positions on urban development management committees*<br>○ *Percentage of women consulted and involved in urban development and green policies, strategies, and plans at local and national levels* |
| **Project Design Features** | | |
| ○ Limited safety features in urban green spaces, especially at later hours of the day, which increase women's risk of harassment | ○ *Integrate safety-enhancing infrastructure (e.g., street lighting, security patrols) into urban NBS projects, especially those focusing on green spaces, to protect women*<br>○ Include secure, universally accessible toilet facilities with space for changing children's diapers and disposal options for menstrual products in urban green spaces | ○ *Percentage of women who report feeling safe in public spaces in selected neighborhood locations*<br>○ Number of care services available for women and lactating mothers using urban parks and other green spaces |

**Table 1** Gender and Social Inclusion Entry Points for Urban NBS (cont.)

| Gaps | Actions | Indicators |
|---|---|---|
| ○ Lack of accessibility features in green spaces and other urban NBS, which makes it difficult for elderly adults and PWDs to use and benefit from these initiatives | ○ Include accessible features such as ramps and accessible toilets in design of urban parks, riverbanks, seashores, and other green spaces<br>○ Create plans and leverage funding to retrofit spaces for ramps, elevators, and other physical accessibility features in green spaces | ○ Percentage of users satisfied with accessibility features of green infrastructure constructed (disaggregated according to percentage of PWDs, elderly adults, etc.)<br>○ Percentage of funding available for retrofitting spaces to meet accessibility needs |
| ○ Neglect of low-income and racialized inner-city communities in broader regional land-use planning goals, including those focused on NBS and green planning | ○ Create a broad mix of green spaces (including pocket parks and regional parks) close to racialized and low-income neighborhoods to provide recreation, exercise, and exchanges between diverse user groups<br>○ Budget for maintenance and upgrade of urban green spaces in racialized, minority, and low-income communities – especially through public works and social safety net programs | ○ Number of people in low-income and racialized inner-city communities with access to green spaces (within specific-meter range)<br>○ Percentage of city development budget allocated for maintenance and upgrade of green spaces in low-income and racialized communities |

*Note:* Italicized actions and indicators are examples from World Bank NBS projects that received the Gender Tag.

### *5.1.3. Additional Resources on Gender and Social Inclusion in Urban NBS*

- The Catalogue of Nature-Based Solutions for Urban Resilience is an overarching guidance document that the World Bank's GPNBS prepared to support growing demand for NBS by enabling initial identification of potential investments in NBS in urban areas. It organizes NBS into 14 main categories and describes technical considerations for integrating them into urban environments, along with the social, economic and environmental co-benefits of each category.

- The Handbook for Gender-Inclusive Urban Planning and Design describes the relationships between gender inequality, the built environment, and urban planning and design. It lays out a menu of practicable processes and best practices for urban planners seeking to build more-inclusive cities for women, PWDs, and other marginalized groups.

- The Gender and Sustainable Cities Guidance Note is intended to help World Bank task teams and municipal and national governments consider the gendered impacts of green city interventions. It presents a set of questions to be asked when conducting gender analysis in cities and a matrix of gender gaps, gender actions, and gender indicators for urban infrastructure, transport, water and sanitation, energy, housing, and other urban subsectors.

- The Global Platform for Sustainable Cities—Gender and Cities webpage includes several resources on gender and urban areas, including reports on gender-informed urban planning and design, e-courses on gender and disaster risk management, and gender guidance for sector-specific interventions.

## 5.2. Coastal NBS

**Climate change and sea-level rise are exacerbating disasters in coastal areas, including wetland flooding, erosion, salt intrusion, and loss of habitat.** NBS can help mitigate these disaster risks in coastal areas by providing a mix of natural systems to trap sediment, regulate wave height and velocity, and stop waves and surges from reaching inland areas (World Bank and WRI 2021). Coastal NBS includes coastal wetlands, ecosystem conservation, and restoration of coral reefs, seagrass beds, dunes, beaches, and mangroves (World Bank 2019). These initiatives serve an important role in protecting lives and livelihoods because more than half of the world's megacities are located in coastal areas. Also, indigenous coastal communities are strengthening their longstanding connections to surrounding ecosystems, so in addition to mitigating disaster risks, coastal NBS can protect traditional cultures and generate income for local communities by underpinning fisheries, tourism, and recreation.

Specific actions can be taken in coastal areas to integrate marginalized groups into sustainable resource management and livelihood activities. Likewise, installing accessibility and safety features can make coastal areas more inclusive for women, persons with reduced mobility, and other socially marginalized groups.

### *5.2.1. Employment Opportunities and Capacity Building*

- **Sustainable resource management activities in coastal areas:** These interventions include protecting areas from encroachment, removing and disposing of debris and invasive species, and replanting natural barriers (World Bank 2021a). One example of a coastal NBS that adopted an inclusive approach is the Forest Sector Modernization and Coastal Resilience Enhancement Project in Vietnam (P157127), in which inclusion of women in coastal forest resources management was promoted to reduce coastal risks and provide livelihood opportunities. See Box 3 for additional details.

- **Small-scale infrastructure projects:** NBS projects can address local communities' needs, including infrastructure deficits. In São Tomé e Príncipe (P161842), the World Bank is training road maintenance community groups to use innovative techniques, including NBS, for climate-resilient roads and coastal protection. The project promotes women's employment in the road sector, providing an opportunity to earn an income and become economically empowered. Another project with NBS component in India (P167804) is conserving environmentally sensitive coastal areas and protecting local populations from natural hazards through green infrastructure, including restoration and rehabilitation of coral, wetlands, and seagrass. Women were assigned technical positions in coastal management institutions to give them a voice in decision-making processes.

- **Protecting coastal ecosystems through mangroves and sea walls:** NBS can be not only a solution to coastal flooding and other disaster risk events, but also a source of social and economic inclusion for marginalized groups. NBS designed to protect the rich biodiversity of coastal communities can also generate incomes and provide education through ecotourism. In Kenya, the Gazi Women Boardwalk project promoted conservation of mangroves through ecotourism activities led by women to educate students in community schools on the importance of ecosystem conservation (IUCN 2017).

- **Seafood sourcing and production:** Overfishing and unmanaged use of resources results in serious environmental imbalances, with economic consequences for coastal communities.

Promoting sustainable fisheries and aquaculture through NBS can provide a source of income for women and, more broadly, for traditional coastal communities. In Bangladesh (P161568), the World Bank is improving management of coastal and marine fisheries and aquaculture through green infrastructure technologies for seafood production and activities that provide broader ecosystem services and coastal defenses, including restoration of mangroves, seagrass, and oyster beds. This project addresses gender gaps by facilitating leadership training for women in fisheries management and relying on community-based skills development programs to create alternative livelihoods for households.

**Box 3: Mangrove Protection and Women's Livelihood Enhancement—A Case Study of the Forest Sector Modernization and Coastal Resilience Enhancement Project in Vietnam (P157127)**

Climate change is increasingly affecting Vietnam's development. With 3,260 kilometers of coastline, the country is highly exposed to sea-level rise. Climate change impacts on the Vietnamese economy and national welfare are already significant—about 3.2 percent of gross domestic product in 2020. To strengthen the resilience of coastal communities, the World Bank approved the Forest Sector Modernization and Coastal Resilience Enhancement Project, which addresses the gender gaps in coastal communities, including generally lower incomes for women than men, women's heavier workload in agricultural work and housekeeping chores, and women's limited access to vocational training and extension services in farming and aquaculture—despite their overrepresentation in these activities.

Several components of the project include actions to reduce gender inequalities in a manner tailored to the local context. One component focuses on interventions for coastal forest development and rehabilitation; another seeks to increase generation of sustainable benefits and livelihoods from coastal forests. For both components, a series of gender-specific actions was identified to create opportunities for women, including supporting women-led microenterprises (e.g., tree seedling nurseries, ecotourism), providing targeted capacity building on tree planting for women, improving rural road networks to address women's needs, and supporting women's membership and leadership roles in community forestry groups. Women have been prioritized for mangrove planting and management activities. As a result, female workers account for up to 80 percent of the labor mobilized for coastal forest planting in some provinces.

With respect to livelihood enhancement opportunities, women were involved from the early consultation stage to the design of interventions that could benefit them directly with consideration of the local context and the role of women in income-generating activities. Specifically, livelihood grants were provided to local cooperatives that engage with women to support demand-driven livelihood activities such as organic agriculture, animal husbandry, aquaculture, apiculture, and handicraft manufacturing. The results framework tracks beneficiaries' satisfaction with project interventions disaggregated according to sex.

### *5.2.2. Project Design Features*

- **Addressing accessibility challenges in coastal areas:** Slippery paths, natural obstructions, steep riverbanks, muddy springs, and rugged terrain are common features in coastal areas (World Bank and WRI 2021). These features can create challenges, especially for elderly adults and PWDs, to access coastal resources and services. When a project is coupled with ecotourism activities, access ramps should be included to address accessibility needs, although specific accessibility needs are likely to vary depending on the location. These universal accessibility approaches are best implemented with the active participation of PWDs, including participatory audits of investments in NBS and of infrastructure to test how accessible it is in practice and adjust as needed.

- **Integrating safety features:** Addressing safety concerns in the design of coastal NBS can make interventions more inclusive, especially for girls and women. Women have been forced to exchange sex for access to fisheries and resources for their livelihoods in vulnerable

coastal communities (Béné and Merten 2008). Traditional roles and norms restricting women's access to assets often increase the likelihood that women will be exposed to transactional sex and harassment and subsequent risk of contracting sexually transmitted diseases. In the World Bank financed São Tomé e Príncipe Transport Sector Development and Coastal Protection Project (P161842), which was designed to integrate NBS into road projects in vulnerable coastal communities, several features were implemented to reduce women's risks of GBV, including lighting, safe pedestrian crossings, round table discussions on GBV, training for project staff and information for communities to mitigate risks of GBV, and procedures for confidential reporting and safe documentation of cases.

Table 2 lists selected inclusion gaps for identified marginalized groups in coastal NBS, actions to address the gaps, and indicators for tracking progress.

**Table 2** Gender and Social Inclusion Entry Points for Coastal NBS

| Gaps | Actions | Indicators |
|---|---|---|
| **Employment Opportunities and Capacity Building** | | |
| ○ Heavy reliance of women in coastal communities on collecting food, herbs, and fuel for income and household needs from wetlands; failure to integrate women's livelihood needs into coastal NBS leading to income loss and increasing time burden | ○ Train and mentor women for leadership and decision-making roles in coastal resource management<br>○ Support access to finance (e.g., through revolving grants and credit facilities) for investment in sustainable and alternative livelihoods activities managed by women | ○ Share of coastal resource management or leadership positions held by women<br>○ Number of women with skills or experience needed to pursue alternative livelihood activity<br>○ *Percentage of women-led businesses that receive project-related grant or credit support* |
| ○ Heavy reliance of Indigenous communities on fisheries and other marine resources without economic opportunities to pursue sustainable options | ○ Provide skills training and business development for Indigenous communities to diversify their livelihood base at the local level<br>○ Establish village- and community-level institutions with shared authority for sustainable use, access, and management of coastal resources<br>○ Establish community-based grants to help households diversify their livelihoods into other locally appropriate, sustainable alternatives such as weaving, pottery, and hospitality services | ○ Number of new sustainable livelihoods and job opportunities created or promoted by a project<br>○ Number of village-level institutions established with action plans for sustainable coastal resources management<br>○ Availability of budget to support village-level institutions in leading efforts to diversify livelihoods |
| **Project Design Features** | | |
| ○ Lack of institutional and legal safeguards to protect interests of Indigenous peoples in coastal areas | ○ Implement procedures to register collective titles and individual access rights to coastal lands and resources that have long served as a source of culture, ancestry, and history for Indigenous communities | ○ Number of Indigenous land rights registered and titled (collectively or individually)<br>○ Number of new projects supporting small community enterprises and collective land ownership and management |

**Table 2** Gender and Social Inclusion Entry Points for Coastal NBS (cont.)

| Gaps | Actions | Indicators |
|---|---|---|
| ○ Lack of physical accessibility in eco-tourism infrastructural facilities, services, and products in coastal areas for PWDs | ○ Integrate universal design standards into eco-tourism to increase accessibility for PWDs<br>○ Ensure that retrofitted and new construction involves consultations with PWDs | ○ Availability of care and accessible infrastructure<br>○ User satisfaction with accessible infrastructural services provided (disaggregated according to age and disability) |
| ○ Limited access of Indigenous communities along protected coastal areas to marine resources that are critical to their livelihoods and food security | ○ Initiate co-management mechanisms for protected areas that have been created in ancestral territories<br>○ Ensure Indigenous people's representation on protected areas management committees | ○ Number of consultation meetings held in preparation of protected area co-management activities<br>○ Percentage of national protected area management committee members who are Indigenous |
| ○ Women's risk of being exposed to sexually transmitted diseases and physical abuse because of pervasive sexual harassment and GBV in many fishing communities | ○ Institutionalize education and sensitization interventions to mitigate behaviors and norms that perpetuate unwanted sexual harassment in coastal communities and fish markets<br>○ Initiate behavioral change campaigns and create awareness of the prevalence of GBV, targeting men with messaging about the collective responsibility of communities to create safe spaces using TV, radio, and social media<br>○ Implement a system for reporting and documenting sexual harassment and violence<br>○ *Educate women and young girls and raise awareness of strategies (e.g., psychosocial counselling, legal support) to respond to and mitigate risks* | ○ Percentage of women with knowledge of their rights and mechanisms for reporting sexual abuse and unwanted sexual behaviors<br>○ Share of women willing to report sexual harassment |

*Note:* Italicized actions and indicators are examples from World Bank NBS projects that received the Gender Tag.

### *5.2.3. Additional Resources on Gender and Social Inclusion in Coastal NBS*

- UNEP Gender Mainstreaming in Coastal and Marine Ecosystems Management—Principles, Case Studies and Lessons Learned introduces 10 principles to follow to integrate gender considerations into coastal projects, all tested strategies, accompanied by case studies to illustrate their applicability in various contexts and locations.

- Gender Integration in the Blue Economy Portfolio—Review of Experiences and Future Opportunities uses the World Bank's blue economy portfolio to discuss best practices in gender integration and lessons learned to engage project participants, strengthen teams' capacities, and reach more women with coastal and blue economy projects.

## 5.3. Forest and Farmland NBS

**Forests and farmlands have enormous potential for NBS that can mitigate climate change and reduce disaster risks**. NBS in forests and farmlands are most seamlessly applied through sustainable management practices that maintain, restore, and protect soil, trees, water, and other biological resources. Agriculture is one of the main human activities driving ecosystem degradation; clearing land for crop production and monocultural farming systems diminish biodiversity, soil quality, and water resources. Farming practices that incorporate NBS often provide sustainable alternatives to protect trees and invest in crop production practices that safeguard the livelihoods of local agriculture-dependent communities. Forest management and agricultural practices that can be counted as NBS increase resilience and reduce risk of events such as flooding, drought, soil erosion, and windstorms. Examples include establishing natural, protected, and managed forests; agroforestry; conservation agriculture; and climate-smart agricultural practices. These ecosystem-based practices significantly reduce nutrient runoff into adjacent watercourses, enhance carbon sequestration and water storage, and serve as windbreaks to strengthen natural system adaptation and resilience to disasters (World Bank, FAO, and IFAD 2015).

Below are entry points for employment and capacity building and project design features for potentially inclusive forest and farmland NBS.

### *5.3.1. Employment Opportunities and Capacity Building*

- **Inclusive adaptation-related livelihood support activities:** NBS can be used to deliver supporting activities for vulnerable groups to adjust or modify their livelihoods when faced with climate and disaster risks. The Transforming Landscapes for Resilience and Development project (P164764) in Zambia, for example, uses natural regeneration activities to help poor farmers improve soil protective cover to decrease water runoff and maximize rain infiltration. This project integrates gender considerations by increasing women's participation in the planning, identification, and implementation processes for various adaptation-related livelihood support activities that the subgrants fund and ensures that each subproject maintains 50 percent female representation.

- **Women's participation in project-supported alternative livelihood training activities:** Agroforestry and climate-smart agricultural practices can be tailored to improve rural livelihoods and reduce gaps in gender and social inclusion. The Turkey Resilient Landscape Integration Project (P172562) is an example of investment in NBS that promote climate-smart agricultural practices and livelihood diversification. In addition to focusing directly on NBS, the project included actions to increase women's participation in income opportunities and ownership and control of productive assets, such as providing technical and financial support to women-owned or -led enterprises. Measures were also adopted to support women's active participation in project-supported training activities, including selecting service providers with proven capacity to work with women, organizing separate training sessions for women to ascertain their opinions and needs, and providing access to childcare during training hours.

- **Sustainable landscape management:** NBS have the potential to enhance women's livelihoods through sustainable landscape management activities that provide jobs or opportunities for women to secure livelihoods, achieve food security, and perform household-related chores such as collecting water and firewood more easily. In Malawi, for

example, through the Shire Valley Transformation Program (P158805), the World Bank is aiming to improve sustainable landscape management by funding investments in natural reserves, which hold key biodiversity and wetlands, to strengthen ecosystem services and flood protection benefits. Sustainable management in this project relies on community-based strategies and emphasizes participation of women, female-headed households, and youth.

- **Capacity building of local communities:** When applied in natural forests, farmland, or other agricultural landscapes, NBS must account for the characteristics of local communities. For example, the World Bank–financed Dedicated Grant Mechanism for Indigenous People and Traditional Communities Project in Brazil (P143492) provided subgrants for community initiatives, training, technical assistance, and capacity building on finance and institutional strengthening for Indigenous people and traditional communities (Box 4). These support systems helped Indigenous communities improve land use, manage forests sustainably, reduce deforestation, and improve local livelihoods.

**Box 4: Increasing Indigenous People's Involvement in Sustainable Forest Management: The Brazil Dedicated Grant Mechanism Project (P143492)**

In Brazil, expansion of modern agriculture in forested regions has degraded land and increased risk of drought and soil erosion, with significant consequences for the survival of Indigenous people and traditional communities (IPTCs). As part of the Forest Investment Program's special window to provide grants to IPTCs, the World Bank approved the Dedicated Grant Mechanism for Indigenous People's Project in Brazil (P143492). The design of this project focused on IPTCs integrates inclusive actions to create opportunities, including small grants for community-based sustainable livelihood activities and targeted training to strengthen IPTCs' voice in natural resource decisions. In addition, the project's results framework set several gender and socially inclusive indicators such as percentage of female beneficiaries of community-based subprojects satisfied with technical assistance provided, number of organizations representative of IPTCs provided with capacity-building support to improve management of forest and land uses and share of trained forest users that are ethnic minorities and women.

Evidence from the project's evaluation shows that the subgrants enabled 25 IPTCs to implement 60 initiatives; women designed and managed 13 of these subprojects. Similarly, the capacity-building activities helped 190 IPTC organizations acquire the necessary leadership and negotiation skills to participate actively in local, national, and global natural resources and climate change–related decision-making bodies and programs. It also facilitated their representation National Steering Committee for Dedicated Grant Mechanism in Brazil, including three women who have been successively chosen to head the National Steering Committee.

Overall, the community-focused approach to implementing this project provided several opportunities for IPTCs, especially women in these communities, to counteract the challenges they face in sustainable livelihoods, forestry management, and climate change–related decision-making processes.

### *5.3.2. Project Design Features*

- **Increase access to productive resources:** Land tenure and control of productive assets are a key feature for inclusion in forests and agricultural landscapes. Women account for 43 percent of the agricultural labor force globally (FAO 2018), yet many female farmers face barriers to securing land rights, which hinders their access to productive resources such as tools, training, and finance. Projects using NBS in rural areas, whether focused on forest conservation or sustainable extraction of resources using climate-smart practices, can include considerations of land tenure for women and related implications for access to loans, tools, and appropriate technologies.

- **Increase access to markets:** Investing in NBS can also increase socioeconomic mobility in rural areas. For example, the Timor-Leste Branch Roads Project (P155203), which involves planting trees and grasses as a key component of project activities, seeks to stabilize slopes along transportation corridors. By taking this NBS approach, the project increases women's access to markets and social services because better roads enable more-frequent, safer public transportation options.

- **Increase use of assistive technologies for PWDs:** Forest and agricultural landscape NBSs must consider populations such as elderly adults and PWDs. The World Bank–financed Agro-Processing, Productivity Enhancement and Livelihood Improvement Support Project (P148616) in Nigeria has NBS component that supports the adoption of agroforestry along with assistive technologies for farmers with disabilities. A similar concern was addressed in the U.S. Agency for International Development–funded Send a Cow Uganda project, which promoted actions to ensure maximum benefits to PWDs, including adaptive tools and farm layouts such as raised beds for easier weeding and wide crop rows to fit a wheelchair (Ripple Effect 2020).

Table 3 lists selected inclusion gaps for identified marginalized groups in coastal NBS, with actions to address the gaps, and indicators for tracking progress.

**Table 3** Gender and Social Inclusion Entry Points for Forest and Farmland NBS

| Gaps | Actions | Indicators |
|---|---|---|
| **Employment Opportunities and Capacity Building** | | |
| • Low adoption rate of agroforestry and conservation agricultural practices among women because of their limited knowledge and finance for investment in sustainable forestry livelihoods | • *Provide training and awareness activities to increase women's technical knowledge of agroforestry and other sustainable land management activities*<br>• Establish targeted loans, credit, and grants to support women-led enterprise | • Number of vulnerable farmers willing to participate in or adopt agroforestry practices<br>• *Number of female-owned businesses and associations that the project supports (grants, loans) for livelihood improvement* |
| • Because of deforestation and increasing scarcity of wood fuel, women travel further to collect these supplies as part of their primary responsibility in the household, increasing their risk of exposure to GBV | • Provide financing mechanisms targeting women for adoption of cleaner cooking technologies, appliances, and fuels<br>• Support community tree nurseries with seeds and seedlings targeted for women's need (e.g., trees for fodder and fuel)<br>• *Raise awareness of prevalence of GBV and prioritize strategies to prevent, respond to, and mitigate risky behavior through campaigns educating men about collective responsibility to create safe spaces for women* | • Biomass energy consumption or reliance<br>• Percentage of time spent searching for firewood<br>• Availability of financing mechanisms (or percentage increase in budget) for cleaner energy |

**Table 3** Gender and Social Inclusion Entry Points for Forest and Farmland NBS (cont.)

| Gaps | Actions | Indicators |
|---|---|---|
| ○ Lack of participation of women and PWDs in forest resource management and small number of women and PWDs in management positions and technical roles—often because of social stereotypes and stigmatization | ○ Partner with disability organizations to implement awareness activities to change social perceptions of and attitudes toward PWDs<br>○ Support existing (or formation of) community-based women-only forest user groups and equip them with management skills<br>○ Work with women's organizations and groups to deliver capacity-development activities that can improve women's leadership in forestry management<br>○ *Support development of participatory community forest management plans that include women in leadership positions on all committees* | ○ Number of community awareness activities implemented<br>○ Number of women-only forest user and manager groups formed<br>○ *Percentage of women on community-level forestry management committees*<br>○ Percentage of female-led community forest management groups<br>○ Quota system for women in management roles in forest committees established |
| **Project Design Features** | | |
| ○ Limited access to, ownership of, and control over land of women, constraining their ability to adopt regenerative and climate-smart agricultural practices | ○ *Implement processes for smooth approval of women's land rights, ownership, and tenure security to lessen the barriers to their adoption of sustainable forestry and farmland management practices*<br>○ Help women-led organizations deliver capacity-building activities to increase female farmers' knowledge of climate-smart agriculture (and other NBS) practices | ○ *Number of women with land title (individual or joint property titles)*<br>○ Percentage of female farmers who have adopted agroforestry and other regenerative activities |
| ○ Limited ownership rights of Indigenous people and local communities over smaller proportion of forested lands than what they customarily claim | ○ Support institutional processes and arrangements to recognize and increase land ownership rights for Indigenous groups<br>○ Ensure representation of Indigenous people in land use and land ownership discussions<br>○ Partner with civil society organizations promoting awareness of land rights and helping Indigenous people navigate administrative hurdles and legal remedies regarding land ownership | ○ Availability of established institutional arrangement for indigenous land ownership<br>○ Number of consultation meetings held with indigenous communities<br>○ Number of partnerships established with civil societies or Indigenous groups |

**Table 3** Gender and Social Inclusion Entry Points for Forest and Farmland NBS (cont.)

| Gaps | Actions | Indicators |
|---|---|---|
| ○ Misalignment between conservation and regeneration projects and cultural values of Indigenous people (e.g., hunting, fishing, logging) | ○ Prioritize membership of community leaders and Indigenous representatives in conservation and regeneration project planning and management committees<br>○ Co-design project activities with local communities through partnerships and consultations to identify concerns that can help shape project objectives | ○ Share of Indigenous people on regeneration planning and management committees<br>○ Number of local or Indigenous community groups consulted that contribute to project activities<br>○ Share of Indigenous staff in project implementation activities |

*Note:* Italicized actions and indicators are examples from World Bank NBS projects that received the Gender Tag. GBV, gender-based violence; PWD, person with disability.

### *5.3.3. Additional Resources on Gender and Social Inclusion in Forest and Farmland NBS*

- Integrating Gender in Land Projects: A Toolkit is a blueprint for building strategies and good practices to overcome legal, social, and structural barriers preventing women from exercising their land rights in rural, peri-urban, and urban spaces.

- The Gender in Climate Smart Agriculture Sourcebook provides guidance and a set of practical tools for integrating gender into the planning, design, implementation, and evaluation of projects and investments in climate-smart agriculture.

- Gender and Sustainable Forest Management (Entry Points for Design and Implementation) focuses on women's livelihoods and employment in the forest sector, highlighting key challenges of access to and ownership of forest resources and land and practical guidelines, including a checklist and indicators, to mainstream gender in the sustainable forest management project cycle.

# 6. Conclusion

**This note illustrates the importance of integrating gender and social inclusion concerns into NBS to guide World Bank task teams, development practitioners, governments, and experts in designing and implementing inclusive NBS.** Although the processes and entry points indicated provide a range of options for incorporating gender and socially inclusive considerations into NBS, it is important to keep the following things in mind.

- **Gender and socially inclusive considerations in NBS should be adapted to local contexts.** Design and implementation of NBS can be highly contextual, based on the location, resources, objectives, and fragility situation of a country. As such, teams seeking to consider gender and social inclusion should understand the local contexts of the project. In some projects that include NBS, marginalized groups may face overlapping identities that exclude them from benefits on many fronts; for example, disabled women may be unable to access an urban park not only because of accessibility challenges, but also the likely risk of violence. Similarly, in settings of fragility, violence, and conflict, instabilities or risks of escalating tensions may require additional actions and approaches for inclusive NBS, as highlighted in Section 4.

- **The quality of data disaggregation for differentiated approaches in NBS should be improved.** Marginalized and vulnerable groups are often excluded from accessing services or resources from nature-based initiatives such urban parks and mangroves. To better understand how different groups are affected, collection, dissemination, and analysis of risk, disaster, and recovery data is critical, particularly data disaggregated according to sex, age, and disability, and other identity characteristics. Project teams can better address the needs of these groups when there are reliable disaggregated data to strengthen identification, inclusion gap analysis, and progress monitoring processes. Specifically, for World Bank teams, collecting disaggregated data could help the NBS portfolio review presented in Section 3 track inclusion commitments in addition to gender.

- **Stakeholder consultations are an important component of program design.** In advancing a whole-of-society approach, interventions should focus on strengthening not only communities, but also the quality of their engagement through meaningful informed consultations. Early, sustained engagement with marginalized and vulnerable groups helps identify locally relevant solutions, contributing to holistic integration of socioeconomic considerations and enabling long-term benefits. As indicated in Section 4, consultations should be open, transparent, accessible, and free of power dynamics regardless of format, type, scope, or duration. These principles would increase the likelihood of diverse social groups participating, expressing their grievances, and having their concerns integrated into project design and implementation.

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# Appendix A: Frameworks and Approaches to Enable Gender and Social Inclusion in Programs Using Nature-Based Solutions

Global development frameworks that help governments harness nature-based solutions (NBS) for climate resilience and disaster risk management (DRM) also strongly call for the need to eliminate barriers and ensure equal access for all. The 2030 Agenda for Sustainable Development and the Sendai Framework for Disaster Risk Reduction 2015–2030 set targets and identify concrete actions for countries to manage climate and disaster risks. Each framework concurrently recognizes NBS as a critical pathway to climate and disaster resilience and the need for meaningful, inclusive DRM. The 2030 Agenda is designed to provide universal access to safe green and public spaces for women, children, older persons, and persons with disabilities (PWDs), and the Sendai Framework emphasizes participation and empowerment of PWDs and the importance of collecting sex-disaggregated data.

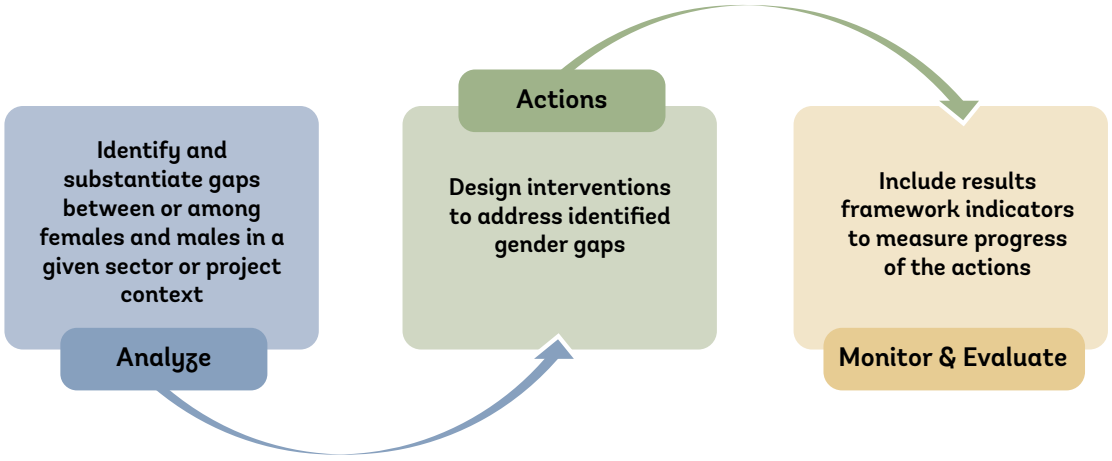
Likewise, the World Bank has taken concrete steps to integrate commitments to gender and social inclusion into its operations involving NBS. The 20th Restructuring of the International Development Association emphasizes green, resilient, inclusive development that identifies NBS; inclusion of women, PWDs, and other marginalized groups; and community-driven service delivery as key transformational actions to achieve positive outcomes. The Bank's Environmental and Social Framework also highlights the importance of integrating social inclusion elements into its investment project financing and the need for Bank staff and government counterparts to mitigate discrimination against any project-affected individuals and groups. Aligned with the Bank's commitment, the GFDRR Strategy 2021–2025 supports efforts to expand investments in NBS for disaster risk reduction. It identifies inclusive DRM and gender equality as cross-cutting activities to ensure that no one is left behind when delivering, mainstreaming, and expanding DRM and climate-resilience programs, including those focusing on NBS.

Several practical approaches and tools of the World Bank help development officials deliver results on gender and social inclusion. One example is the World Bank Social Inclusion Assessment Tool, which provides guidelines for policy makers and development officials to assess and address problems related to the broad challenges of exclusion in project operations. The tool presents a methodology that asks four questions: Are excluded groups identified? Is there an ex-ante analysis of social inclusion? Are there actions intended to advance social inclusion? Are there indicators to monitor social inclusion?

More specifically on gender, the World Bank introduced its Gender Tag in 2017 to help practitioners track operations that meaningfully narrow gender gaps in the four pillars of the World Bank Group's Gender Strategy (2016-2023). The four pillars of the strategy are improving human endowments, removing constraints on providing more and better jobs, removing barriers to women's ownership of and control of assets, and enhancing women's voice and agency. According to the Gender Tag process, a project meets the required criteria to

promote gender equality if its final operation or program document articulates a logical results chain comprising gender gap analysis, identification of concrete actions to close this gender gap, and proposed indicators to monitor related progress (Figure A.1).

**Figure A.1** Gender Tag Components




*Source:* World Bank 2021c.

Meeting the Gender Tag criteria means that a project proposes specific actions with expected results that will last beyond the project period. Therefore, activities related to the project's monitoring component or implementation arrangements (e.g., hiring gender specialists for the project implementation unit or increasing women's representation on a project oversight committee) and those establishing the project's due diligence, citizen engagement, and social safeguards requirements (e.g., project consultations with women and women's groups, mitigation of sexual exploitation and abuse, establishing grievance redress mechanisms for project-induced risks) are also insufficient for meeting the Gender Tag criteria, although they represent good practices and should be considered for inclusion in project design.

Inclusion is also about promoting maximum participation of citizens and integrating their concerns into the development process. The Bank's Strategic Framework for Mainstreaming Citizen Engagement outlines various methods and entry points to mainstream citizen engagement into World Bank Group operations. According to this framework, all investment project financing operations financed with International Bank for Reconstruction and Development loans, or International Development Agency credits, must meet three requirements: include mechanisms to engage with beneficiaries in the context of the project, use beneficiary feedback indicators to monitor citizen engagement throughout project implementation, and report on beneficiary feedback indicators. In 2018, the Bank launched the Disability Inclusion and Accountability Framework to provide guiding principles, key steps, and a roadmap for building internal capacity to support clients in implementing disability-inclusive project operations.

# Appendix B: List of World Bank–Financed Projects Featured in Case Studies

| Project title | Project identification | Country | Approval date |
|---|---|---|---|
| Kinshasa Multisector Development and Urban Resilience Project | P171141 | Democratic Republic of Congo | March 30, 2021 |
| Integrated Urban Development and Resilience Project for Greater Antananarivo | P159756 | Madagascar | May 17, 2018 |
| Stormwater Management and Urban Resilience Project | P167359 | Benin | May 23, 2019 |
| Green National Highways Corridor | P167350 | India | March 27, 2020 |
| Resilient Urban Sierra Leone Project | P169608 | Sierra Leone | June 25, 2021 |
| Stormwater Management and Climate Change Adaptation | P175830 | Senegal | May 28, 2021 |
| Scaling Up Urban Upgrading Project | P159397 | Vietnam | May 30, 2017 |
| Forest Sector Modernization and Coastal Resilience Enhancement Project | P157127 | Vietnam | June 22, 2017 |
| Enhancing Coastal and Ocean Resource Efficiency Project | P167804 | India | April 28, 2020 |
| Sustainable Coastal and Marine Fisheries | P161568 | Bangladesh | October 5, 2018 |
| Transport Sector Development and Coastal Protection Project | P161842 | São Tomé e Príncipe | March 22, 2019 |
| Dedicated Grant Mechanism for Indigenous Peoples and Traditional Communities Project | P143492 | Brazil | March 3, 2015 |
| Transforming Landscapes for Resilience and Development Project | P164764 | Zambia | May 15, 2019 |
| Resilient Landscape Transformation Project | P172562 | Turkey | June 9, 2021 |
| Shire Valley Transformation Program | P158805 | Malawi | October 18, 2017 |
| Branch Roads Project | P155203 | Timor-Leste | November 26, 2019 |
| Agro-Processing, Productivity Enhancement, and Livelihood Improvement Support Project | P148616 | Nigeria | March 23, 2017 |

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