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TECHNICAL NOTE

Nature-Based Solutions in Sub-Saharan Africa for Climate and Water Resilience:

A Methodology for Evaluating the Regional Status of Investments in Nature-Based Solutions from a Scan of Multilateral Development Bank Portfolios

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CONTENTS

Technical notes document the research or analytical methodology underpinning a publication, interactive application, or tool.

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ABSTRACT

Nature-Based Solutions (NBS) are an integral solution to addressing Sub-Saharan Africa's (SSA) growing infrastructure service needs, while maximizing the impact of limited resources to enhance resilience to water and climate risks. For example, restoring watersheds can enhance water security, increasing urban green space can reduce urban heat, and protecting mangroves can reduce coastal flood risk. Recent research has estimated that NBS can provide up to 11 percent of total infrastructure investment needs globally and can provide 28 percent better value for money spent than gray infrastructure.

As major financiers of infrastructure and climate-adaptation projects in the region, multilateral development banks (MDBs) play a critical role in catalyzing finance for NBS in SSA. While MDBs have a track record of investing in NBS, there is an urgent need to analyze the state of play of NBS projects in MDB portfolios and identify the enabling conditions that lead to successful implementation in order to increase the pace and scale of these investments to address growing climate and water risks.

This technical note outlines the methodology used to create a region-wide dataset of 85 direct investment projects from two MDBs—the World Bank and the African Development Bank—that have implemented NBS for climate and water-resilience objectives over a 10-year period (2012–21). This methodology includes processes for tracking project attributes that can be used to evaluate overall trends of MDB-led NBS projects in the region. For instance, the dataset reveals hat 64 percent of NBS projects were integrated green-gray infrastructure projects, whereas 36 percent were focused primarily on green infrastructure and that NBS interventions primarily yielded benefits for the water and sanitation (60 percent) and agriculture (35 percent) sectors. This methodology provides a foundation to make actionable recommendations for MDBs to scale up NBS adoption in the region.

MOTIVATION AND BACKGROUND

Countries in Sub-Saharan Africa (SSA) face significant challenges in adapting to climate change and providing infrastructure services for their populations, with a collective infrastructure financing gap of US$68–108 billion per year and climate adaptation financing needs estimated at $225–354 billion by 2030 (African Development Bank 2018; African Development Bank 2022). Ecosystem degradation exacerbates these challenges. One study estimated that the region could face a 9.7 percent contraction of gross domestic product (GDP) annually by 2030 due to a collapse of ecosystem services (Johnson et al. 2021). Furthermore, a multitude of additional compounding factors—including high population growth, increasing urbanization and migration rates, and economic disruptions from the COVID-19 pandemic and the Russian invasion of Ukraine—further strain structural conditions and limit countries' abilities to financially respond, recover, and grow their economies (IMF 2022).

Given these challenges, it is imperative that limited financing for infrastructure and climate adaptation be deployed in ways that maximize economic, social, and environmental benefits for populations in SSA. NBS—defined as actions to protect, sustainably manage, and restore natural and modified ecosystems to address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits—offer a compelling opportunity for the region to address these challenges (IUCN 2020, UNEP 2022).

Globally, the effectiveness of NBS to provide and enhance infrastructure services and build resilience to climate change has been well-documented (Browder et al. 2019; Seddon et al. 2020a). These solutions can be cost-effective: Recent research has estimated that NBS can provide up to 11 percent of total infrastructure investment needs globally, can be up to 50 percent cheaper than traditional infrastructure, and can provide 28 percent better value for money spent than gray infrastructure (Bassi et al. 2021). Recent studies on NBS in SSA have illustrated the technical effectiveness of NBS to address water and adaptation challenges and have highlighted opportunities to scale up their application across the region (Acreman et al. 2021; Opperman et al. 2021). There has also been a significant number of commitments from national governments to scale up NBS for these issues: Forty-five of 48 countries in SSA have included NBS for adaptation in their Nationally Determined Contributions (NDCs) to the Paris Agreement (Nature-based Solutions Initiative n.d., Seddon 2020b).

Despite the size of the opportunity and demand for NBS, finance directed toward these types of solutions has yet to deploy at scale. It is estimated that on a global level, $133 billion per year of public-sector finance currently flows toward NBS,[1] yet this level of investment needs to triple by 2030—and increase four-fold by 2050—to meet international climate and biodiversity targets (UNEP 2021). Moreover, flows toward NBS for adaptation represent a relatively small portion of overall climate finance. NBS for adaptation were estimated to represent only 1.4-3.4 percent of total international public climate finance flows in 2018 (Swann et al. 2021).

As major financiers of infrastructure and climate-adaptation initiatives in SSA, Multilateral Development Banks (MDBs) play a critical role supporting national governments, infrastructure developers, and utilities in the region to implement NBS by deploying and catalyzing the finance needed to scale NBS for climate and water resilience. Moreover, MDBs play a key role in this agenda by providing technical and analytical support for the design and implementation of NBS and promoting policy and governance reforms needed to create the enabling conditions for NBS investments.

Indeed, MDBs are already supporting NBS adoption by scoping investment opportunities with clients, channeling external donor funds toward NBS projects, integrating NBS into traditional gray infrastructure projects, and working to leverage private finance for NBS. Despite these actions, a knowledge gap currently exists on the extent to which MDBs have collectively invested in NBS and why and where NBS projects are gaining traction for climate and water resilience in the region.

PURPOSE AND OBJECTIVES

To help better understand the current status and trends of MDB investment in NBS for climate and water resilience in SSA, the Cities4Forests Initiative at the World Resources Institute (WRI) partnered with two major MDBs operating in the region—the World Bank and the African Development Bank—to conduct a region-wide inventory of their projects that have incorporated NBS for climate and water resilience objectives over a 10-year period (2012–21).

The methodology and data sources used to create the MDB-led NBS project database inventory are captured in this technical note. In addition, the technical note provides a snapshot of the state of practice of NBS investment by these MDBs over the past 10 years, including the geographic spread of projects, the types of NBS used, their associated climate- and water-resilience objectives, co-benefits, and groups that benefited from

the NBS project investment. The accompanying dataset allows MDBs, their clients, and other development partners to identify, sort, and filter projects according to these attributes. Furthermore, these data can help these groups identify cases where NBS have been used to inspire adoption in future investments, as well as identify gaps where NBS applications are less advanced and may require additional support.

In subsequent stages of research, the methodology detailed in this technical note will be adapted and expanded to scan, catalog, and assess projects led by additional key actors in the region, including bilateral donors, multilateral climate and environment funds, the private sector, governments, and nongovernmental organizations. This expanded inventory of NBS projects for climate and water resilience in SSA seeks to characterize the current state of play of NBS adoption in the region, offering insights on the geographic distribution of NBS projects, types of NBS strategies being used, and the types of financing instruments being deployed to fund NBS implementation. This broader dataset will be used to inform a forthcoming report that analyzes the barriers and enabling conditions throughout the NBS project life-cycle in SSA. The report will shed light on current implementation and financing gaps and areas of opportunity, as well as provide actionable recommendations for key actors to scale up NBS in the region.

METHODOLOGY AND DATA SOURCES

To conduct this inventory, WRI created a transparent methodology that includes selection criteria for the dataset, a process for identifying projects with specific attributes, and finally a replicable method for data collection.

Selection Criteria

NBS—defined 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—is an umbrella term that encompasses a vast array of projects addressing both climate mitigation and adaptation, as well as a host of other societal challenges (IUCN 2020, UNEP 2022). This technical note and accompanying dataset focus on a specific subset of NBS that address specific infrastructure objectives and are focused on increasing climate and water resilience.

WRI established the following criteria to clarify projects' eligibility for inclusion in the dataset:

Box 1. Origin of Methodological Approach

The methodology used for this inventory has been adapted from previous regional, MDB, and sector-wide inventories of NBS projects by WRI, including a region-wide inventory of NBS projects in Latin America and the Caribbean (Ozment et al. 2021), a scan of NBS projects in the Inter-American Development Bank's infrastructure and climate portfolios (Oliver et al. 2021), and a rapid inventory of NBS for the water sector in the World Bank's operations (Ozment et al. forthcoming).These previous inventories were implemented with support from the World Bank, Global Water Security and Sanitation Partnership, Inter-American Development Bank, FEMSA Foundation, and the Pan-American Development Foundation. Data collected for this technical note were sourced from both previous inventories of MDB-led NBS projects, including the World Bank Global Program on Nature Based Solutions' NBS portfolio review, and publicly available project documents on the World Bank and African Development Bank websites (see Appendices A and B for more detail).

- **NBS Objectives and Impacts**
  - Selected projects use NBS to achieve climate- and water-resilience objectives with a strong connection to infrastructure in terms of its functionality and impact (i.e., not restoration for the sake of restoration). These primary climate- and water-resilience objectives are lumped into the following broad categories:
    - improved water quality
    - improved water quantity (encompassing drought prevention, improvement of seasonal flows, and aquifer recharge)
    - urban flood mitigation
    - riverine flood mitigation
    - coastal flood mitigation
    - coastal erosion mitigation
    - landslide/erosion risk reduction
    - fire risk mitigation
    - urban heat mitigation
  - NBS projects that are *solely* focused on addressing objectives outside of the scope of this review (i.e., carbon sequestration, public health, or food security) and do not have objectives or benefits related to resilience that are not included in the dataset. These additional benefits of NBS will be framed as co-benefits of projects for the purposes of this review.

- Eligible projects can include projects that exclusively implement NBS, as well as integrated "green-gray" projects that include funding and financing for both NBS and gray infrastructure investments. This includes projects that have relatively small NBS components, compared to the gray infrastructure investment, as long as there is sufficient detail in the project description about the NBS component and its impact on climate- and water-resilience objectives.
- Projects must either have or are planning to have an element that involves physical protection, restoration, or management of an ecosystem. For example, projects or other initiatives that are focused solely on research or strengthening enabling conditions for NBS are considered out of scope. However, projects that involve implementing and enacting policies to protect and manage existing ecosystems for the purpose of enhancing infrastructure performance (i.e., forest protection for water-quality outcomes) would be considered in scope.

- **Geography**: Projects must be implemented in a country in SSA. (See Appendix D for countries in the scope of this review.) Projects in North Africa are not included in the scope of this review.
- **Time frame:** Projects must have secured finance and started implementation in the last 10 years (2012). This includes projects that have since been completed or closed.

Project Identification

For MDBs operating in SSA—the World Bank and the AfDB—WRI worked with partners at each bank to develop a system to scan their project portfolios for projects that were likely to meet the project selection criteria just outlined. MDBs currently do not have a common system for tracking and tagging projects that include NBS and are at varying stages of inventorying projects with NBS in their own portfolios. Moreover, each MDB organizes publicly available project information differently and uses a unique internal tagging system. To accommodate these differences, an individualized approach for each MDB was used to scan and identify projects for this review, detailed in Appendix B. Broadly, these processes included

- the creation of keywords to search for in relevant project documents;
- the use of search algorithms to filter for and rank likely relevant NBS projects based on keywords in project documents; and/or
- the use of already established project tags to filter for relevant projects.

Data Collection

For each project identified in the screening processes just outlined, WRI evaluated publicly available data and documents to ensure that projects meet selection criteria for this review. (See Appendix A for a list of databases consulted to obtain project data.) For those that met selection criteria, WRI then conducted a close review of project documents to catalog and tag projects with the attributes outlined in Table 1 and described below.[2]

Table 1 | **Project Attributes for Each Project**

BASIC PROJECT INFO	PROJECT OBJECTIVES	NBS DATA	FUNDING AND FINANCING DATA
Project name	Climate or water resilience objectives of NBS (up to 3)	Intervention type (green/green-gray)	Financial Instruments (up to 3)
Start and end years	Sectors benefiting from NBS (up to 2)	NBS Type (up to 3)	Total Secured Funding ($ millions)
Implementing agency	Beneficiary types (up to 3)	Types of support for NBS enabling conditions (up to 3)	Total Secured NBS Funding ($ millions)
Implementing agency (type)		Co-benefits (up to 3)	
Country		Community involvement	
Region		Gender equality promotion	

Note: Options for all categorical attributes are listed in Appendix D of this document. Working definitions of all attributes listed in this table, as well as the drop-down options for categorical data listed in Appendix D, can be found in the definitions sheet of the initial project dataset.

Source: Authors.

The majority of documents reviewed were ex-ante project documents that were published at the time of project approval (including appraisal documents, project information documents, and project summaries). These ex-ante project documents contained the most detailed and comprehensive project descriptions and the most data regarding NBS components, as there was limited information available concerning project implementation due to the fact that implementation is often managed by MDB clients. Where possible, project implementation reports were also reviewed to fill data gaps.

It is important to note, however, that because this review centered on ex-ante project documents, it may have failed to capture projects that incorporated NBS later on in the design phase. In addition, some of the NBS components included at the time of project approval may have been cut and/or modified in later implementation phases. In future stages of research, interviews and/or surveys with a selection of project task teams and clients will help shed light on the projects' status after the time of project approval and how NBS components were implemented.

Climate and Water Resilience Objectives of NBS

Each project was assigned at least one primary climate- or water-resilience objective that an NBS strategy was implemented to address, and, where appropriate, secondary and tertiary objectives. For instance, a project focused on mangrove restoration could have objectives of both coastal erosion mitigation and coastal flooding mitigation. The full list of these objectives is listed both in the Project Identification selection criteria section earlier and in Appendix D. The distinctions between primary, secondary, and tertiary objectives were based on a qualitative analysis of project documents.

This qualitative analysis was influenced primarily by three factors: (1) the level of detail included in project documents that highlighted the link between the NBS intervention and each objective, (2) the level of funding dedicated to NBS strategies to achieve that objective (if available), and (3) the number and types of indicators that were included to measure success toward the objective. For example, if a project included detailed plans and designs for implementing wetland restoration for the purpose of reducing urban flood risk and dedicated significant funding toward this objective, but also indicated that the wetlands will contribute to enhanced water quality, urban flood risk would be assigned as the primary objective, and water quality would be designated as the secondary objective.

It is important to note that although these were assigned as primary, secondary, and tertiary objectives related to climate or water resilience, they were not necessarily the official project development objectives for the projects, which were often more related to broader development goals.

Sectors Benefiting from NBS

This review focused on five primary sectors that benefited from an NBS intervention: water and sanitation, housing and urban development, transportation, energy, and agriculture.[3] These sectors were selected because of their high opportunity to leverage benefits from NBS related to increasing resilience and delivering cost-saving benefits (Browder et. al 2019; Ozment et. al 2021). Because NBS interventions in these projects often yielded benefits for more than one sector, projects were tagged with up to two sectors that benefited most prominently from the NBS strategies in the project.

Distinctions between primary and secondary sectors were made qualitatively based on the emphasis and detail of design related to the sectors' benefit from the NBS intervention in project documents, the share of funding that was dedicated toward achieving objectives for those sectors (if available), and the number of indicators measuring the impact of NBS interventions on those sectors. For example, a project focused on implementing NBS to reduce flood risk in an urban area that also had resilience benefits for roads and transit systems could have primarily benefited the housing and urban development sector, but also could include transportation as a secondary benefiting sector.

It is important to note that these sectors should not be interpreted as the MDB sectors or divisions that led the development of each project. Each MDB highlighted in this review names, classifies, and organizes its sectors and divisions uniquely in its respective organizational structures. Relevant sectors and divisions for each MDB covered in this scan are detailed in Appendix B. Due to the fact that each MDB has unique classifications for these sectors and there is often overlap between them, the five sectors selected for this analysis were chosen so that the analysis could be streamlined across multiple MDB portfolios.

Beneficiary Types

Each project was tagged with up to three main types of beneficiaries. Project beneficiaries were grouped in the following categories:

- agrarian stakeholders/landowners
- urban residents
- rural residents
- private businesses
- local government
- regional government
- national government
- water and/or energy utilities

In most cases, project documents stated explicitly the targeted direct and indirect beneficiaries of projects. For the purposes of this review, direct beneficiaries were tagged first when assigning primary, secondary, and tertiary beneficiary types; and then indirect beneficiaries were tagged if there were more than one or two distinct groups listed in project documents. Project documents were reviewed to verify linkages between the NBS components of the project and the beneficiary groups that were tagged.

Intervention Type

All projects were classified as either green or green-gray. Green projects included funding and financing for only NBS interventions to achieve the desired climate- and water-resilience objective, whereas green-gray projects included financing for both NBS components and traditional gray infrastructure components to achieve that objective. Green-gray projects included a spectrum of levels of integration between green and gray components, including both hybridized solutions with a high level of integration between green and gray components and those that had a less clear level of integration.

NBS Types

A variety of NBS strategies can be implemented to achieve the water- and climate-resilience objectives listed earlier; however, these strategies can vary widely depending on geographic context, land use, and desired project objective(s) and could involve the restoration, conservation, or improved management of a variety of ecosystems. In order to streamline the analysis, the typology presented in Table 2 was used to categorize NBS interventions.

Table 2 | **Types of NBS for Priority Water- and Climate-Resilience Objectives in Sub-Saharan Africa**

NBS TYPE	PROTECT, RESTORE, MANAGE, OR CREATE NEW...	WATER QUALITY	WATER QUANTITY	URBAN FLOOD MITIGATION	RIVER FLOOD MITIGATION	COASTAL FLOOD MITIGATION	COASTAL EROSION MITIGATION	LANDSLIDE/ EROSION RISK MITIGATION	FIRE RISK MITIGATION	URBAN HEAT MITIGATION
Upland and Rural	Forests									
	Agroforestry /silvopasture									
	Farmland best practices									
	Floodplains and bypasses									
	Riverbeds and riparian areas									
	Grasslands and other vegetation									
	Sand dams									
	Inland wetlands									
Coastal	Mangroves									
	Salt marshes									
	Coral reefs									
	Seagrasses									
	Sandy beaches and dunes									
Urban	Bioretention areas/rain gardens									
	Urban canopy									
	Urban parks									
	Constructed and urban wetlands									
	Green roofs and other green building space									

Note: Dark green denotes common NBS applications, while light green indicates that NBS are sometimes used to address the objective, and white indicates that the given NBS do not apply to the corresponding objective.

Source: Authors; Adapted from Browder et al. 2019, Ozment et al. 2021, Watkins et al. 2019, and World Bank et al. 2021.

Often, projects implement more than one type of NBS to achieve one or multiple objectives. For example, a project with a primary climate and water resilience objective of enhancing water quality could implement forest conservation, as well as implement enhanced agricultural practices. In all cases, at least one NBS intervention was assigned to each project per the selection criteria outlined earlier. In cases where there is more than one NBS intervention implemented, a secondary and/or tertiary type of NBS was also assigned. Distinctions among primary, secondary, and tertiary NBS were made qualitatively, taking into account the detail of project design, share of funding dedicated to the NBS intervention, and number of indicators measuring the NBS success.

Support for NBS Enabling Conditions

In all cases, projects selected for this review funded physical implementation of NBS per the selection criteria described earlier. In many cases, however, projects also included support for nonstructural interventions that enabled NBS implementation and/or increased the sustainability of NBS projects. In these cases, projects were tagged with up to three types of support to improve NBS enabling conditions listed in Table 3 below. Rankings of primary, secondary, and tertiary types of support were determined by a qualitative analysis informed by the level of emphasis and detail in project documents, the share of funding dedicated to the support type, and the number and depth of indicators tracking the outcomes of the support provided.

Table 3 | **Types of Support for NBS Enabling Conditions**

SUPPORT FOR NBS ENABLING CONDITIONS	CRITERIA
Capacity building/training	Project includes a component that funds capacity building and/or training for individuals and institutions that enables the sustained implementation of NBS.
Strategic/regional planning	Project includes a component that supports strategic planning processes at a national, regional, or municipal level that either embeds NBS into development plans and/or supports enabling conditions for NBS.
Policy formation/reform	Project includes a component that supports the creation or reform of a policy that enables NBS implementation.
Institutional strengthening	Project includes a component that supports the strengthening of institutions responsible for implementing NBS, conducting operations and maintenance of NBS, and/or monitoring NBS.
New institutional partnerships	Project creates new institutional partnerships to support the creation and implementation of NBS.
Research/technical studies	Project includes support for research and/or technical studies that support the identification of NBS strategies, inform the design and placement of NBS, and/or conduct NBS or green-gray feasibility assessments.
Awareness raising	Project includes a component that supports public communications related to NBS to gain community buy-in and/or support behavior changes that supports NBS implementation.

Source: Authors.

Co-Benefits

Most, if not all, projects had additional co-benefits beyond the climate and water resilience objectives listed earlier. Projects were tagged with zero to three of the co-benefits listed in Table 4. These co-benefits were ranked as primary, secondary, or tertiary qualitatively, informed by the amount of detail provided on the link between the NBS intervention and the co-benefit, the share of funding dedicated to achieving each co-benefit, and the number of indicators included to measure progress related to each co-benefit.

To avoid the risk of over-valuing projects' impact on generation of co-benefits, a conservative approach to assigning co-benefits was taken: co-benefits were only tagged if project documents explicitly illustrated them as an objective or expected outcomes of an NBS intervention. For this reason, it is likely that not all co-benefits that resulted from the NBS intervention were captured in this review. For example, a project with an objective of reducing coastal flood risk by restoring mangrove forests may have listed biodiversity protection and carbon sequestration as expected co-benefits. However, additional co-benefits that may have been generated as a result of the mangrove restoration but were not mentioned in the project documents—such as enhanced food security due to increased fish yields, or increased ecotourism value that resulted from the restoration–were not captured in this scan. Moreover, if a project had more than three co-benefits, only the three most prominent were captured in this dataset.

Gender Equity and Community Involvement

For each project, WRI screened project documents to track whether or not NBS components of projects included explicit elements that directly related to gender equity and community involvement.

Where projects included specific reference to promoting gender equity through NBS planning or implementation, the project was tagged "yes" under the gender and social equity column and "no" if it did not. It is important that projects marked "no" did not necessarily exclude gender equity considerations in NBS design but, rather, that it was not found in publicly available project documentation. In addition, it is possible that projects tagged "no" included gender equity considerations in project components, but they were not explicitly linked to the NBS intervention.

Table 4 | **Co-Benefits of NBS Projects**

CO-BENEFIT	CRITERIA
Biodiversity protection/ habitat protection	Project includes protection of ecosystems for biodiversity and/or habitat protection or significant benefits for biodiversity generally and/or the habitat of one or more species.
Carbon sequestration	Carbon is sequestered in biomass or soil as a result of project implementation.
Enhanced food security	Project enhances the agricultural and/or fisheries sectors and/or increases the affordability or access to food.
Recreation/ecotourism	Project increases access and enhances recreational areas, including urban parks, and/or enhances the ecotourism sector.
Job creation/ livelihood enhancement	Projects create sustainable jobs or other economic opportunities in the process of their implementation. Projects could also enhance existing jobs and economic opportunities through increasing salaries or earnings, longevity of jobs, or some other benefit.
Public health enhancement and quality of life	Project creates public health benefits beyond those already captured in the primary objective categories (i.e., water quality enhancement, urban heat reduction). Examples may include reducing chances of zoonotic disease transmission, increasing accessibility to green spaces, and improving air quality.

Source: Authors.

Similarly, where projects included specific reference to community participation in NBS planning or implementation processes, the project was tagged "yes" under the community involvement column and "no" if it did not. Projects tagged "no" did not necessarily exclude local communities in NBS design but, rather, that references to these processes were not found in publicly available project documentation or were not explicitly linked to NBS interventions.

These elements were chosen to be tracked, although in a limited way, for several reasons. First, community involvement in NBS is often a key enabling condition for successful long-term operations and maintenance of NBS interventions, as communities are often the managers and stewards of ecosystems where NBS interventions take place (Pérez-Cirera et al. 2021). Second, active community involvement can better inform project design and help ensure that benefits and co-benefits of NBS are maximized to enhance local livelihoods. Improved tracking and reporting of community involvement in the design and implementation of NBS components could reveal key insights on the long-term sustainability of projects. Similarly, tracking of gender equity elements could allow MDBs to better evaluate the impacts of a gender-inclusive project design and enhance gender mainstreaming efforts in NBS implementation.

Funding and Financing Information

For each project, WRI collected the pieces of quantifiable funding information detailed in Table 5 below, as well as the types of financial instruments used to fund projects. All projects covered in this review were financed by either debt (in the form of either market-rate or concessional loans), grants, or a combination of the two.

Table 5 | **Funding Amounts and Definitions**

CATEGORY		DEFINITION
Financial Instrument Types	**Loans**	Market-rate or concessional loan from either MDB, partner agency, or both.
	Grants	Grant funding from MDB, partner agency, or both.
	Loans and Grants	Financing that included both loans and grants.
Total Secured Funding		Total secured project funding or finance. This includes both the amount of the loan, grant, or other type of investment as well as any contributions made by the borrower/grantee/project developer. It does not include any amount of desired or future projections of funding that has yet to be obtained.
Total Secured NBS Funding		For large **green-gray projects** that are broken down into multiple components, this amount represents the amount of already secured funding/financing that was or is dedicated to NBS-informed project components. This amount serves to better represent the amount of funding that is being invested in NBS-informed components in multicomponent green-gray projects. This should not, however, be interpreted to mean that all the funding represented in this column was dedicated solely to NBS, but rather that NBS was integrated in some shape. For projects that are **wholly focused on NBS** and do not include components for gray infrastructure, this funding amount may be identical to the "total secured funding" column.

Source: Authors' typology.

MAIN FINDINGS

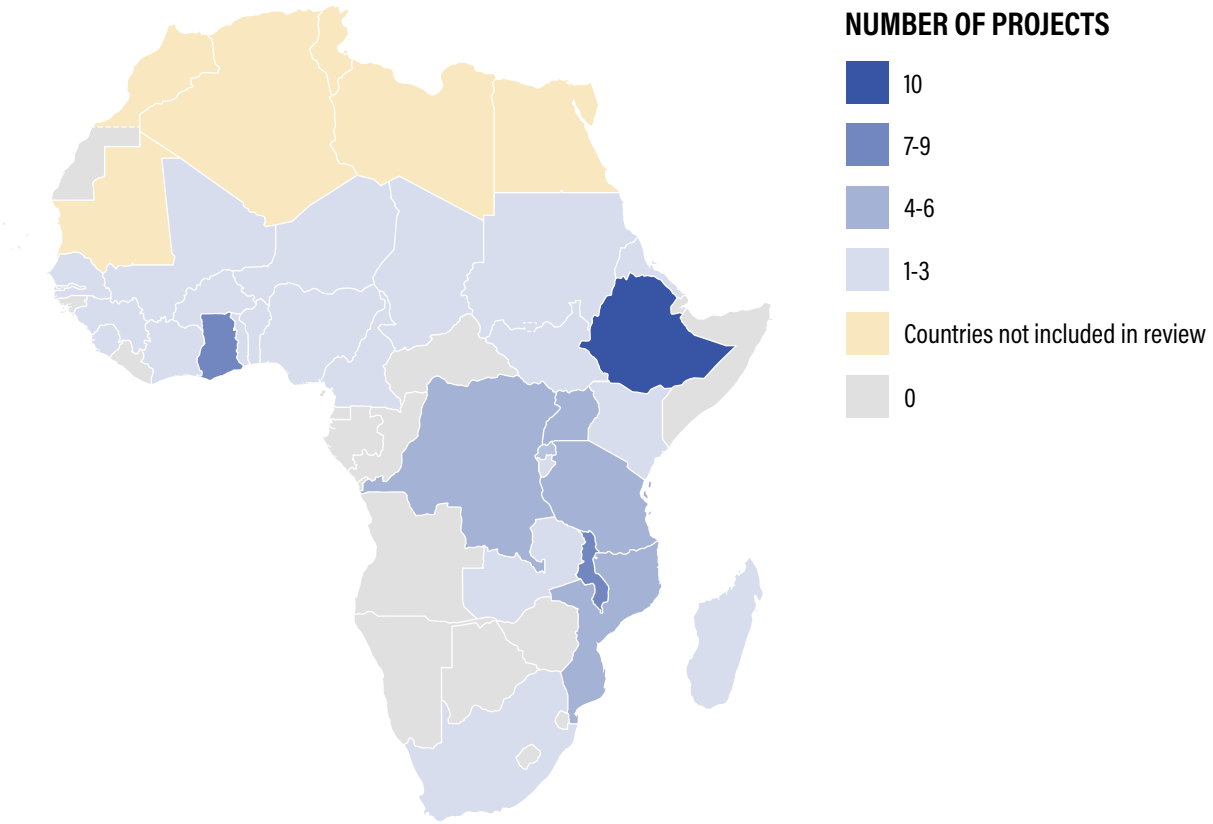
Using the methodology outlined above and project identification processes in Appendix B, a dataset for projects financed by the World Bank and African Development Bank was created. We identified 85 projects financed by these MDBs—including 46 projects amounting to approximately $7.9 billion from the World Bank and 39 amounting to approximately $4.2 billion from the African Development Bank—from approval years 2012 to 2021. This list is not meant to be a comprehensive list of all projects that incorporated NBS by these MDBs in SSA in this 10-year period, but rather the result of this preliminary scanning process, which can be iterated and improved upon in future research. The budgets for components that integrated NBS amounted to approximately $2.5 billion for World Bank projects and approximately $2 billion for African Development Bank projects.

Geographic Distribution of Projects

A first step to a regional assessment of NBS for climate and water-resilience projects in SSA is determining the regional distribution of projects. This dataset identifies projects by country, which allows for a country-by-country comparison of MDB-led investment trends and enables users to identify countries with high concentrations of established NBS projects and, conversely, where NBS projects have yet to be established.

East Africa had the highest number of projects identified in this review (36), followed by West Africa (25) (see Appendix D for full list of countries and their respective regions). The countries with the largest number of projects were Ethiopia (10), Ghana (7), Malawi (7), Tanzania (6), Uganda (6), and Democratic Republic of the Congo (5). Follow-on analysis will explore the barriers to scaling MDB-led projects in Central and Southern Africa and the enabling conditions that led to higher concentrations of NBS projects in East and West Africa.

Figure 1 | **Geographic Distribution of NBS Projects**



Source: Authors.

Sectors Benefiting from NBS Interventions

This dataset captures which sectors benefited from NBS interventions, revealing examples of relevant NBS techniques used to increase infrastructure service delivery and/or resilience. The dataset also helps to identify which sectors have had relatively more examples of integrating NBS in the region and, conversely, to identify sectors where there has been relatively little NBS integration.

Most projects in this review emerged from the water and sanitation sector: Fifty-four of the total 85 projects were tagged in this sector as either the primary (26) or secondary (28) beneficiary (Figure 2). Projects in the water and sanitation sector included investments in forests, wetlands, and floodplain restoration to improve water security and/or quality. This was followed by the agriculture sector, with a total of 38 projects tagged (29 primary and 8 secondary). NBS benefiting the agriculture sector primarily focused on improving land-management activities to increase water availability. Housing and urban development had 23 total projects (14 primary and 9 secondary). Projects in this sector focused primarily on greening urban areas to reduce flood risk. Future analysis of the sectors benefiting from NBS implementation will help unveil the conditions that have accelerated the adoption of NBS in the water and sanitation and agriculture sectors.

Beneficiary Types

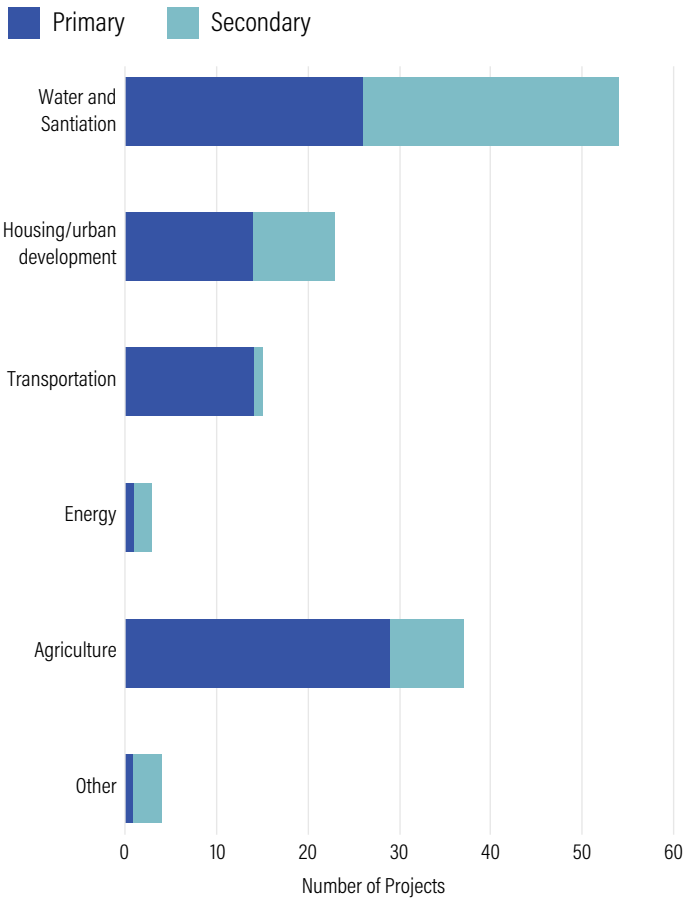
This dataset captures key beneficiaries of NBS projects, which can reveal common beneficiary groups of MDB-financed projects across the region, as well as groups that have been relatively less emphasized as targeted beneficiaries of projects. This information can be used to identify stakeholder groups that are commonly involved in and benefit from NBS when considering integrating NBS into infrastructure projects and can help support more inclusive policies, practices, and planning protocols.

NBS interventions benefited a variety of groups of beneficiaries, including both groups of individuals, (such as rural and urban residents and agrarian stakeholders) and institutions (including governments, utilities, and businesses) (Figure 3). The most common beneficiary groups were rural residents, with 70 of the projects listing rural residents as beneficiaries. Agrarian stakeholders/landowners and urban residents were also common beneficiary groups of NBS interventions, with 50 and 42 total projects respectively.

Projects often had groupings of beneficiaries that gained from the implementation of NBS interventions directly or indirectly as participants. For example, a project that implemented agroforestry programs and/or farmland best practices in a watershed with smallholders could directly benefit those upstream landholders through providing enhanced livelihoods but also indirectly benefit downstream water users through reducing erosion and nutrient pollution in water supplies.

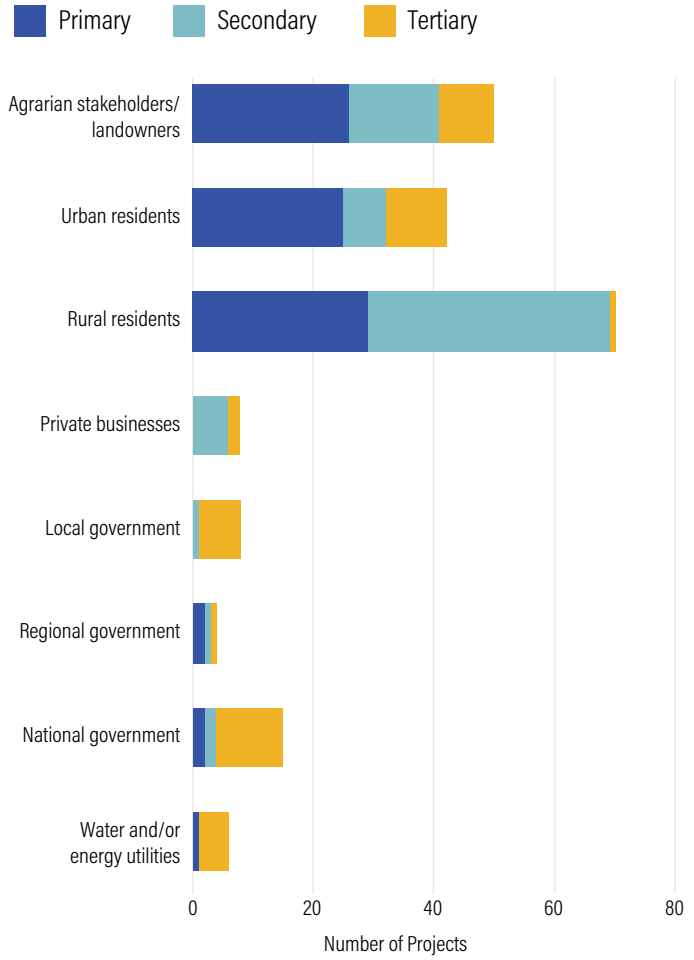
Moreover, some projects implemented separate NBS strategies with different beneficiary groupings: For example, a project could include a component that funds NBS strategies to reduce urban flooding (directly benefiting urban residents) and another component that benefited local government through providing additional capacity building and training for NBS maintenance and management to local government employees.

Figure 2 | **Sectors Benefiting from NBS Interventions**



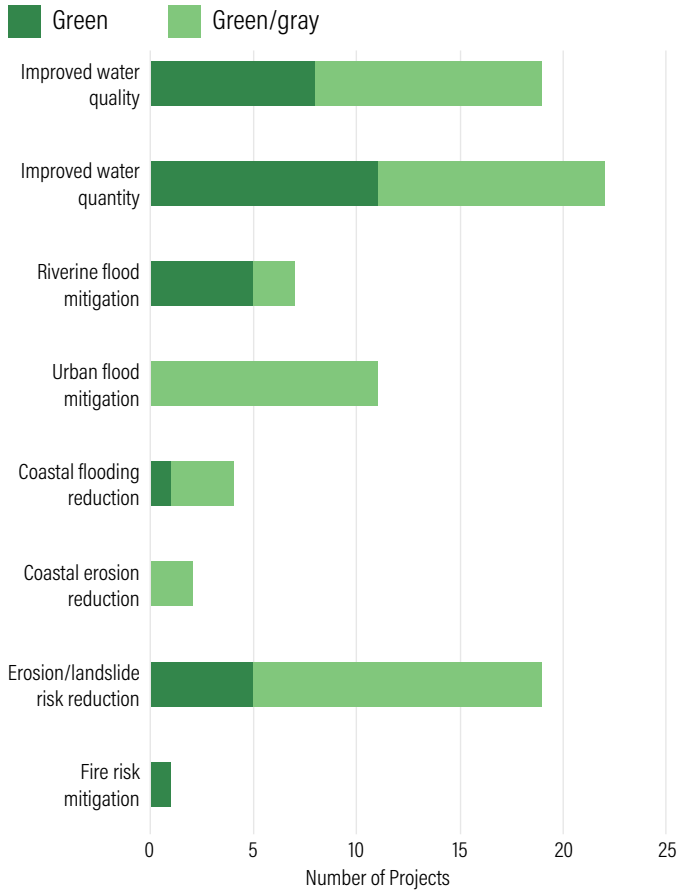
Source: Authors.

Figure 3 | **Beneficiary Types of NBS Interventions**



Source: Authors.

Figure 4 | **Number of Projects That Used Green and Green-Gray Intervention Types, per Primary Climate- and Water-Resilience Objective**



Source: Authors.

Intervention Types

By recording projects' approaches of using either green or green-gray intervention types, this dataset identifies the dominant approaches that MDB project developers are using to achieve specific climate or water resilience objectives.

The review identified 31 projects being entirely focused on green NBS interventions and 54 projects that had NBS integrated in components with gray infrastructure. Notably, all projects that focused on urban flooding and coastal erosion reduction (as either a primary, secondary, or tertiary objective) were integrated green-gray projects, and all projects focused on fire risk mitigation were green projects, while projects with all other objectives consisted of both green and green-gray projects (Figure 4).

Climate- and Water-Resilience Objectives and Associated NBS Strategies

As described earlier, various types of NBS strategies can be implemented to achieve the climate and water resilience objectives profiled in this study, depending on local ecological, economic, and social contexts. This dataset tags projects with climate- and water-resilience objectives and the associated NBS strategies used to meet the objective(s). Figure 5 shows the percentage of projects that use each NBS strategy, per climate- and water-resilience objective. Forests were the most common NBS strategy used for projects with water quality and quantity objectives, as well as riverine flooding and fire risk reduction, whereas urban parks were most associated with urban flooding projects. Mangroves were the most common NBS strategy for both coastal flooding and erosion projects. Interestingly, most projects included more than one NBS intervention to achieve each objective.

Figure 5 | **Climate- and Water- Resilience Objectives of NBS**

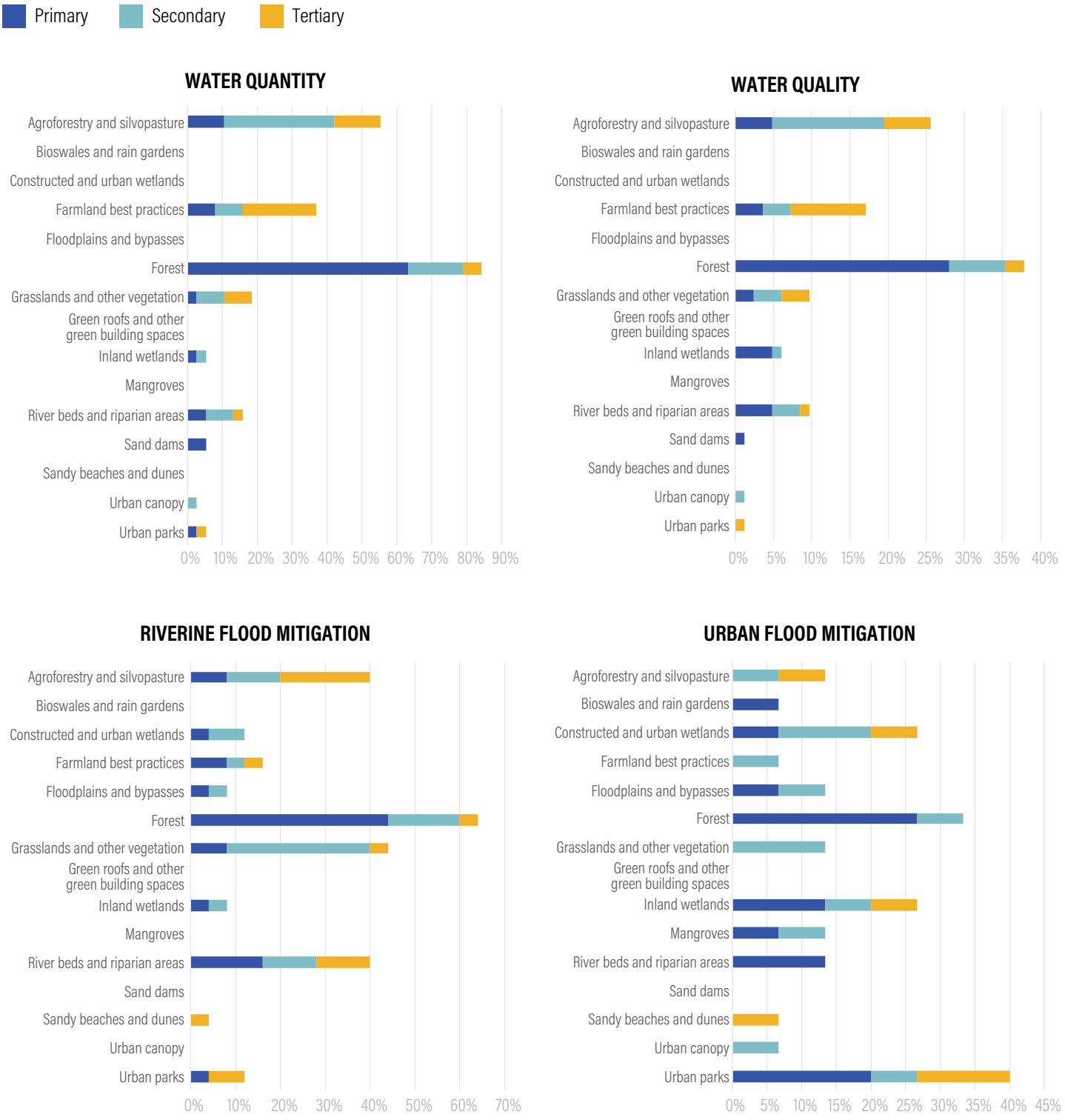
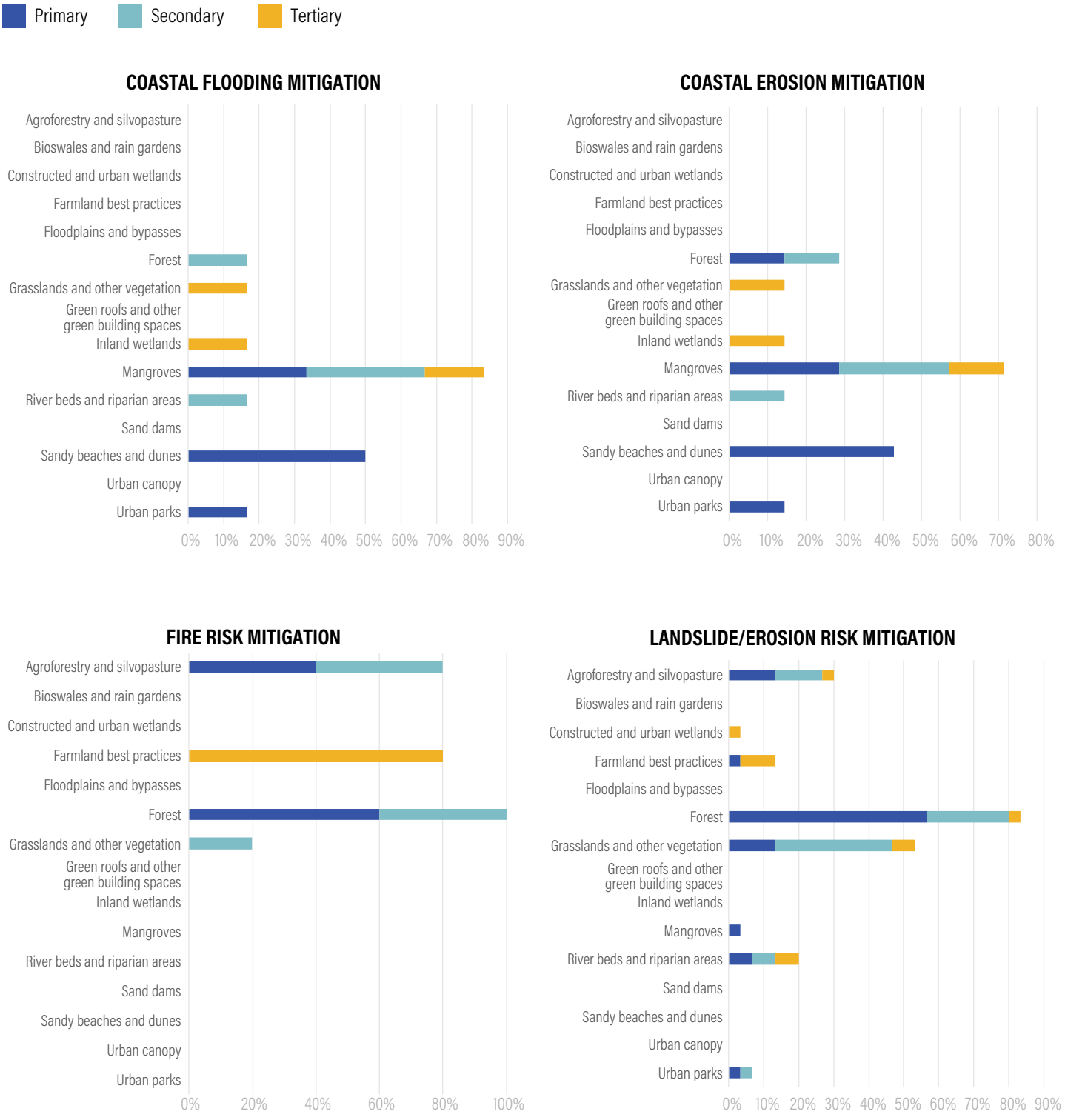


Figure 5 | **Climate- and Water- Resilience Objectives of NBS (Cont'd)**



Note: A limitation of this dataset and corresponding figures is that it does not disaggregate NBS strategies and their associated objectives beyond the project level. In some large, multi-component projects, multiple NBS strategies (up to three) were used to achieve distinct objectives (up to three), and sometimes in different types of geographies. For example, this figure displays that a project with an objective of coastal flooding used "inland wetlands" as an NBS strategy. In this case, the project had both inland and coastal components. While inland wetlands were used to address one objective of the project (urban flooding), the same project used another NBS strategy (mangroves) to address coastal flooding. A more disaggregated dataset that is focused on project components rather than projects as a whole could achieve a more nuanced description of specific interventions and could be a consideration for future MDB tracking and tagging processes.

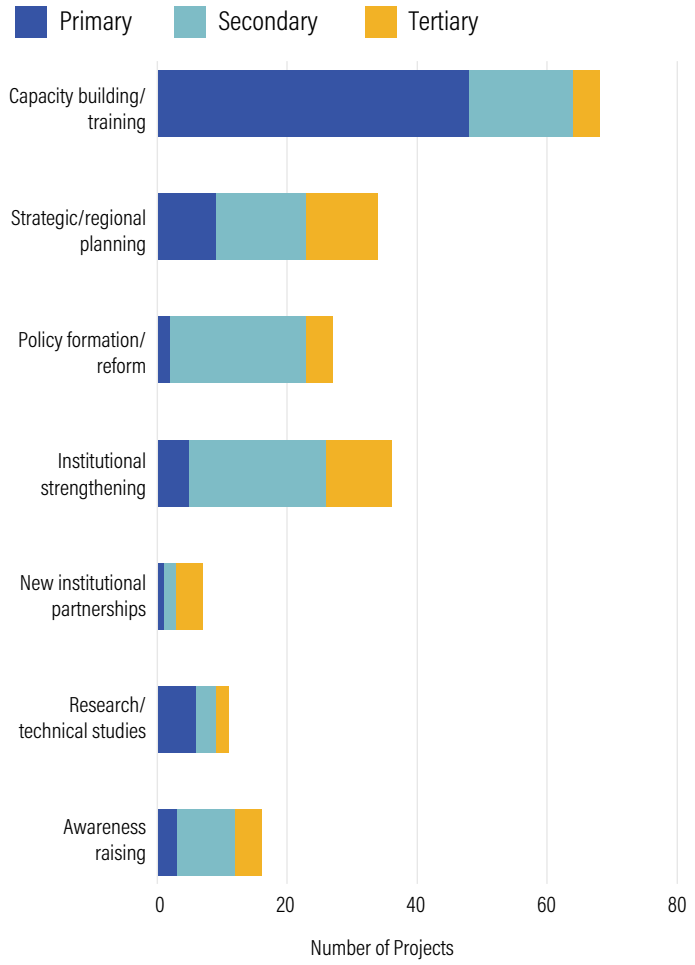
Source: Authors.

Types of Support for NBS Enabling Conditions

In addition to tracking NBS interventions, this review identified types of support that MDBs provided to increase project success. The results shed light on types of support that MDBs are providing to clients to create enabling conditions for physical implementation of NBS.

All projects covered in this review included at least one form of support for NBS enabling conditions in addition to supporting physical NBS interventions (Figure 6). The most common of these were capacity building and training (68 projects), institutional strengthening (36 projects), and strategic and regional planning (34 projects). Future analysis will examine the connection between the amount and type of support offered and the number of NBS projects implemented.

Figure 6 | **Types of Support for NBS Enabling Conditions**



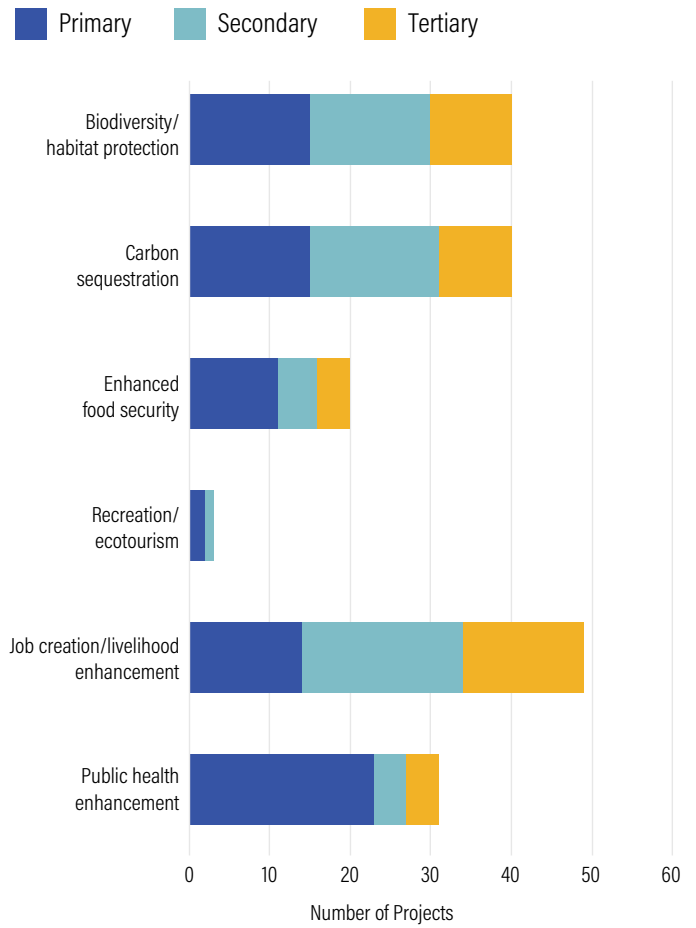
Source: Authors.

Co-Benefits of NBS Projects

This dataset tracks intended co-benefits of NBS projects at project appraisal stages; however, as mentioned earlier, it falls short of assessing the actual benefits and impacts of these NBS projects on the ground, thus representing an area for future research.

All projects in this review included at least one intended co-benefit in addition to the targeted climate- or water-resilience objective (Figure 7). The most common co-benefits were job creation and livelihood enhancement (49 projects), biodiversity and habitat protection (40 projects), and carbon sequestration (40 projects).

Figure 7 | **Primary, Secondary, and Tertiary Co-benefits of NBS Projects in This Review**



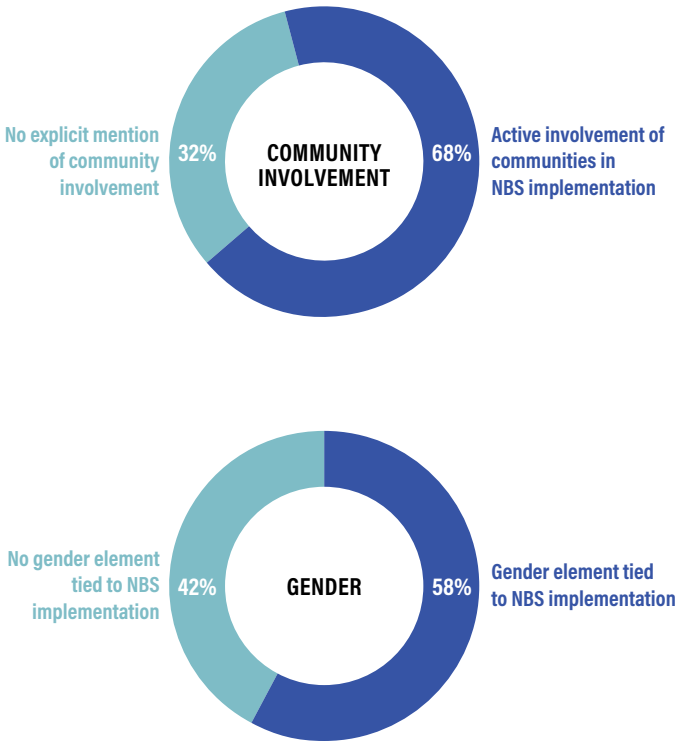
Source: Authors.

Gender Equity and Community Involvement

This dataset tagged projects that made specific references to gender equity promotion or community involvement related to the NBS components in the project documentation. As stated in the methods section, this dataset may exclude projects that included elements that related to each of these objectives but did not explicitly state so in publicly available project documents. Moreover, this dataset falls short of measuring the on-the-ground results or implementation of these intended impacts.

In the projects surveyed, 49 of the 85 (58 percent) included a gender equity component tied to NBS implementation, and 58 (68 percent) noted active involvement of communities in NBS implementation (Figure 8).

Figure 8 | **Elements of Gender Equity and Community Involvement**



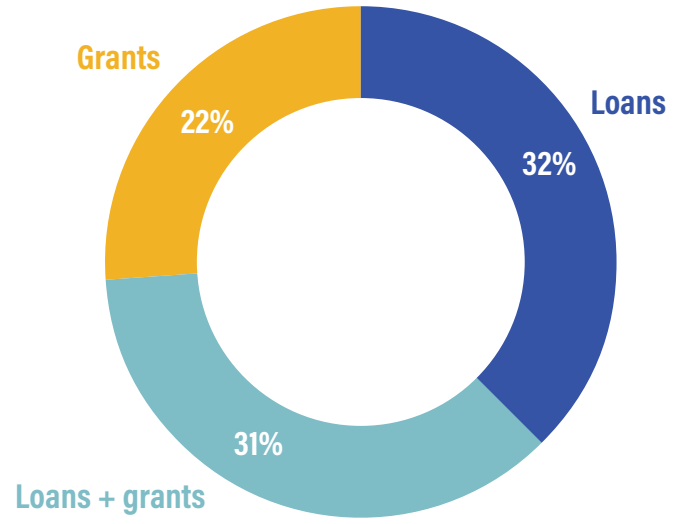
Source: Authors.

Funding and Financing Information

By tracking the total amount of financing, estimates of the share of funding allocated to project components that included NBS, and the types of financing mechanisms used to fund projects, this dataset identifies the relative share spent on NBS-informed components versus total project budgets, as well as the types and combinations of financing mechanisms used for each project. The dataset also sorts projects by total budget amount and NBS-informed component budget amount. Finally, this dataset marks MDB investments in NBS projects for climate and water resilience over time, tracking investment levels by year.

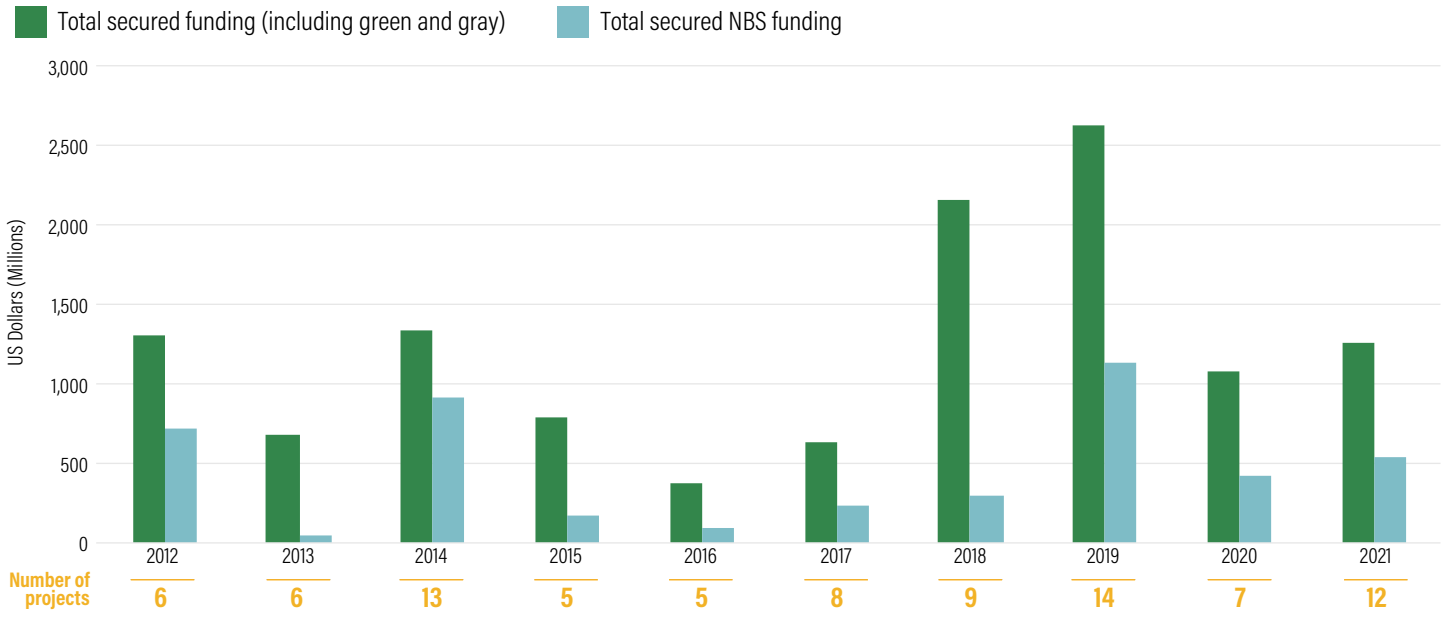
Of the 85 projects covered in this review, 22 (26 percent) were funded solely with grant funding, 32 (38 percent) were financed through loans, and 31 (36 percent) were financed through a combination of both grants and loans (Figure 9). Total funding for projects that included NBS in at least one component was highest in 2019, with over $2.6 billion dollars allocated toward 14 projects across the region (Figure 10). Total funding for NBS components was also highest in this same year; only approximately $1.1 billion was dedicated to NBS-informed components of these project. Other relatively large amounts dedicated to NBS-related components were in 2014 (at over $900 million for 13 projects) and 2012 (at just under $718 million for 6 projects). East Africa had both the highest amount of funding and number of projects over the 10-year period of the study, with a total of $5.7 billion dollars, including $1.7 billion for NBS-related components, allocated across 36 projects (Figure 11).

Figure 9 | **Number of NBS Projects Using Types and Combinations of Financing Instruments**



Source: Authors.

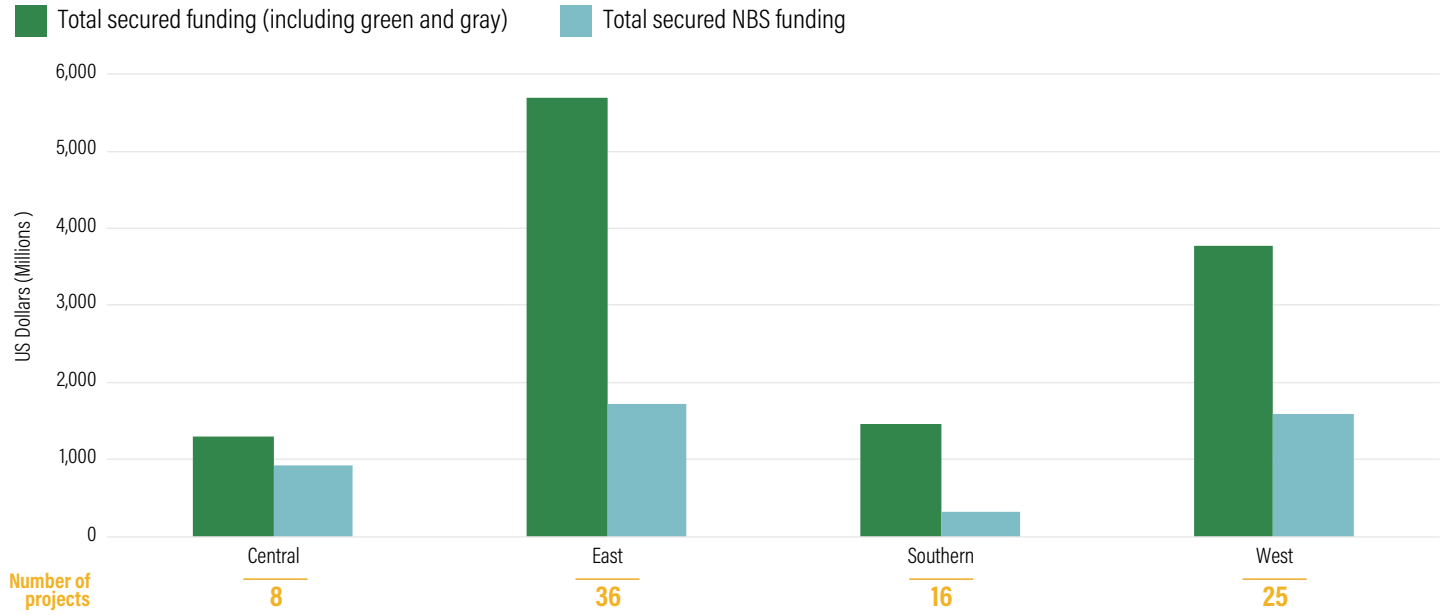
Figure 10 | **Total Secured Funding and Total Secured Funding for NBS Components in These Projects, by Approval Year in USD Millions**



Note: See "funding and financing information" section of the "data collection" section for the methodology to calculate estimates for these figures.

Source: Authors.

Figure 11 | **Total Secured Funding and Total Secured Funding for NBS Components in These Projects, by Region, from 2012 to 2021, in USD Millions**



Note: See "funding and financing information" section of the "data collection" section for the methodology to calculate estimates for these figures.

Source: Authors.

LIMITATIONS

Lack of NBS Tracking and Tagging in MDB Portfolios

The dataset represents a sample of NBS investments led by these MDBs from 2012 to 2021, but it is not exhaustive, due to limited screening processes. (See Appendix B for detailed screening processes.) As stated in the motivation and background section jointly, the MDBs covered in this study do not currently have coordinated systems to systematically and publicly tag, track, and report use of NBS in projects, whether they are being implemented to support climate adaptation and/or mitigation, deliver infrastructure services, or address other types of societal challenges. Limited time and resources available for this study inhibited a thorough review of all documents for projects in relevant sectors that were implemented in SSA over the last 10 years. As such, the screening processes to identify NBS projects in MDB portfolios is an undercount of total projects in MDB portfolios that meet the selection criteria.

For example, the use of keyword searches to screen for projects that met the selection criteria may have resulted in screening out projects that had implemented NBS but used different terminology to describe the NBS intervention. Similarly, the method of using existing filters and tags to search MDB databases to screen for projects and then conducting rapid screens for NBS in summary project descriptions could have screened out projects that included details of NBS components but were less prominently featured in project summaries.

Limited Data Availability on NBS Components in Projects

Lack of Data on NBS Attributes

This review was limited to information that could be collected in publicly accessible project documents, which provided varying levels of detail in describing attributes of NBS components. For some projects, a high level of detail was included describing the NBS components, allowing for thorough tagging of attributes outlined in the project taxonomy described earlier. However, some projects were relatively limited in the information provided on NBS components. As a conservative approach was taken to assigning NBS attributes (projects were only tagged when there was explicit reference to attributes in written project documents), there are potential NBS attributes (including co-benefits, nonstructural NBS interventions, NBS types, and climate- and water-resilience objectives, among others) that were not captured in this review.

In addition, project documents often did not isolate the attributes of NBS components from attributes of gray infrastructure components. For example, a project that implemented both gray infrastructure and NBS elements to mitigate urban flooding, and reported co-benefits of job creation and improved public health as outcomes of the project as a whole may not have explicitly linked NBS to achieving those co-benefits. These types of attributes were only tagged for projects where there were explicit links between the NBS and the corresponding outcome.

Lack of Data on NBS Financing

Budget information for the NBS elements of projects was not clearly or consistently reported in publicly available project documents. For most integrated green-gray projects that included financing for both NBS and traditional gray infrastructure components, isolated budgets for NBS were not reported. As described in the data taxonomy earlier, estimates of total secured NBS financing for large green-gray projects were generated by isolating budget project components that included NBS but might not have been entirely dedicated to NBS. Therefore, estimates for total NBS funding likely represent an overestimate of the true amount dedicated to NBS. Additionally, project documents most often did not delineate budgets for different project stages (i.e., preparation, design, feasibility analyses, implementation, operations and maintenance, and monitoring and evaluation), preventing an analysis of budgets over time. Moreover, details of financial benefits of NBS (either revenue generation or cost savings) were not consistently reported.

Lack of Up-to-Date Data on NBS Implementation

This dataset reflects project information that may not be up to date. Often, the most detailed project documents available were early-stage project appraisal documents prepared before the start of project implementation. When available, WRI consulted project documents published after implementation, such as implementation status reports, but detailed information on NBS implementation status was not universally available.

Lack of Comprehensiveness in Project Attributes and Categories

The project attributes outlined in the data taxonomy do not represent a comprehensive list of data that could be tracked for each project. Rather, these attributes were selected as the most relevant to assessing the types of investments made in NBS in the region with the limited amount of data available. Additional attributes that could be tracked in future studies, pending availability of data, could include information on social, economic,

and environmental benefits of NBS interventions; potential trade-offs or unintended consequences of NBS, preexisting enabling conditions that supported NBS; challenges faced by project developers during NBS preparation and implementation; more specific budget and financial information related to NBS components; operations and maintenance information; and monitoring and evaluation data related to NBS.

Further research on these attributes could be enabled by enhanced tracking and reporting of NBS by MDBs in project documents, and/or more extensive qualitative research methods, such as field visits and/or interviews with project developers, implementing agencies, and MDB staff. However, both methods would take additional time and capacity, whether by MDB staff conducting tagging processes for projects or third-party researchers conducting deeper dives into research.

Project categories for each attribute (a full list of categories for each attribute is listed in Appendix D) are also not comprehensive. A more granular division of these categories (i.e., dividing the "forest" NBS type into different forest treatments or forest types) could reveal a more detailed landscape of NBS activities across the region. However, broader groupings of these categories were selected to better enable comparison and quantification of attributes across projects.

Project Scanning Processes

This project did not comprehensively scan all sectors, divisions, or global practices of MDB portfolios. Rather, it focused on a limited number of relevant MDB sectors, divisions, or global practices that had particular relevance to delivering the water- and climate-resilience objectives outlined in this report for each MDB (detailed in Appendix B). A broader review of additional sectors, divisions, or global practices could result in additional projects not captured in this review.

MOVING FORWARD

There is both the opportunity and need to inspire and scale up NBS adoption across the region to assure inclusive economic growth, increase climate and water resilience, and enhance livelihoods. The methodology outlined in this technical note and the resulting dataset offer a first step toward tracking actions and progress being made toward these goals in SSA by providing a baseline overview of MDBs' existing activities on NBS for climate and water resilience in the region. Although the inventory is not comprehensive, the broad trends highlighted in this dataset shed light on where and how NBS have been implemented by MDBs throughout the region over the last decade, offering insights on progress made thus far and opportunities for expansion.

In subsequent stages of research, these trends will be complemented by interviews with MDB task team leaders and clients for a sample of projects included in this inventory. These interviews will add qualitative insights by revealing further details regarding implementation of NBS in these projects after project approval, enabling conditions that allowed for NBS inclusion, and strategies for integrating NBS into project preparation processes. These insights, in combination with the trends revealed in this project inventory, can help MDBs to identify current gaps and opportunities for expansion; where, how, and in what sectors to most effectively target technical assistance for NBS integration; and strategies to promote enabling conditions for NBS inclusion and overcome current challenges to scaling further investments.

Moving forward, the adoption of more thorough tracking systems that provide more detailed information on NBS integration in projects (including tagging processes for projects that include NBS, more detailed information on finance committed toward NBS interventions, and a taxonomy and classification system for types of NBS implemented and the objectives toward which they are directed, among others) is needed for MDBs to more effectively chart trends across their portfolios and manage successful expansion of NBS. These tracking methods should also be complemented with rigorous monitoring and evaluation frameworks to measure the impact and outcomes of NBS after implementation, which can help build technical knowledge of NBS performance and build more effective economic and business cases for NBS.

APPENDIX A. DATABASES CONSULTED FOR PROJECT INFORMATION

African Development Bank: Projects and Operations
https://www.afdb.org/en/projects-and-operation
https://mapafrica.afdb.org/

World Bank: Projects and Operations Database
https://projects.worldbank.org/en/projects-operations/projects-home

World Bank and GFDRR: Nature-based Solutions Projects
https://naturebasedsolutions.org/projects

APPENDIX B. PROJECT IDENTIFICATION PROCESSES FOR EACH MDB

Project Identification Process: African Development Bank

The African Development Bank (AfDB) hosts a public database of projects in which the bank has invested. In partnership with Aid Data, AfDB developed an interactive platform called MapAfrica (linked in Appendix A) to provide stakeholders easy access to project information. Using MapAfrica, users can populate a map with AfDB projects by filtering for country, sector, and project approval year, or by zooming into a specific region or country.

To identify the AfDB projects that fit the selection criteria, first filters for year and sector were applied in the MapAfrica tool. The project's year range was filtered to show projects from 2012 to 2021, and only the following sectors were selected due to their relevance to the study criteria: agriculture and rural development, environment, power, transportation, urban development, and water and sanitation.

Next, a single country was selected at a time, and all projects in that country were rapidly reviewed to evaluate if they met the project selection criteria. For each project, its description, objectives, and beneficiary information were reviewed, as well as publicly available project documents, such as the project appraisal report. During this rapid review, the project was deemed either "in," "out," or "to be determined." This initial review resulted in 56 AfDB projects that were found to be either "in" or "to be determined." These 56 projects were then reviewed in more detail in a second, deep-dive assessment of project documents. The projects were added to an internal WRI database where attributes listed in Appendix C were recorded for each project. In this assessment, the 56 "in" or "to be determined" projects were tagged either as in or out, based on if they met the NBS selection criteria after the deep-dive review. This left 39 AfDB projects that were categorized as "in."

Project Identification Process: World Bank

Before the start of this project scan and inventory, the World Bank had initiated a process to identify projects from across the globe that incorporate NBS to achieve disaster risk management (DRM) and water and sanitation objectives, led by the Global Facility for Disaster Risk Reduction (GFDRR) and the Water Global Practice, respectively. The World Bank conducted these inventories using keyword searches of project documents hosted on the World Bank's Projects and Operations Portal, (a list of keywords and terms used for these searches is listed in Appendix C) and an algorithm that sorted and scored projects based on the appearance and frequency of key words and phrases.

Projects with high word-search scores were then reviewed and inventoried. In the case of the DRM portfolio, projects with high word search scores were first reviewed and inventoried by World Bank staff to confirm the project documents included NBS to achieve DRM outcomes. The projects were then tagged internally to indicate a range of characteristics, such as the hazards that NBS were used to address, types of NBS interventions, and estimates of funding directed toward NBS-informed components of projects. Alternatively, the Global Water Practice review was co-led by WRI and the Bank, where the partners conducted a rapid review and inventory of projects with high word-search scores.

To create a dataset of projects that met the selection criteria for this review, the World Bank provided WRI with these lists. Projects were then filtered to fit the geographic and time scopes of this study. Duplicate projects were removed to avoid redundancy. WRI reviewed publicly available project documents on the World Bank's Projects and Operations Portal to ensure that the submitted list of NBS interventions fit the definitions and criteria outlined in the selection criteria above. This review resulted in a total of 46 projects with funding approval years ranging from 2012 to 2021.

APPENDIX C. KEYWORDS FOR NBS PROJECT SCANS FOR WORLD BANK PROJECTS

The following list of keywords and phrases were used in portfolio review exercises conducted by the World Bank Global Water Practices and the Global Facility for Disaster Risk Reduction to screen for projects that used NBS to enhance water quality, address water security issues, control flooding, or address other environmental hazards. Projects were ranked based on the number of occurrences of each term and how often they were used in combination with one another.

KEYWORDS USED FOR NBS SCAN PROCESSES IN DRM AND WATER PORTFOLIOS	
Natural infrastructure	Bioengineering
Nature-based infrastructure	Ecosystem-based
Green infrastructure	Ecosystem-based adaptation
Nature-based solutions	Building with nature
Nature-based	Engineering with nature
Bio-engineering	Green space

For the review of NBS for water projects, the keyword list was more targeted to favor water-related projects. The word search expanded upon the list above to also include any documents that included the terms above in combination with the following terms:

ADDITIONAL KEYWORDS USED TO SCAN FOR NBS FOR WATER PROJECTS	
Watershed management	Aquifer storage
Wetlands	Discharge regulation
Reservoirs	Erosion reduction
Forestation	Natural resource-based
Payment for ecosystem services	Integrated planning
Watershed investments	Nature restoration
Land use	Nature regeneration
Water quality	Ecosystem recovery
Flood	Discharge regulation
Drought	Co-benefits
Retention	Storage
Ecosystem management	

APPENDIX D. DROPDOWN OPTIONS FOR DATABASE—CATEGORICAL DATA

COUNTRIES AND REGIONS IN SUB-SAHARAN AFRICA			
West	**East**	**Central**	**Southern**
Benin	Burundi	Cameroon	Angola
Burkina Faso	Comoros	Central African Republic	Botswana
Cabo Verde	Eritrea	Chad	Lesotho
Côte d'Ivoire	Ethiopia	Congo	Madagascar
Gambia	Kenya	Democratic Republic of Congo	Malawi
Ghana	Rwanda	Equatorial Guinea	Mauritius
Guinea	Seychelles	Gabon	Mozambique
Guinea-Bissau	Seychelles		Namibia
Liberia	South Sudan		South Africa
Mali	Sudan		São Tomé and Príncipe
Niger	Tanzania		Zambia
Nigeria	Uganda		Zimbabwe
Senegal			Eswatini
Sierra Leone			
Togo			

Note: Sub-regions and their respective countries are defined by World Bank definitions.
https://openknowledge.worldbank.org/pages/focus-sub-saharan-africa

CLIMATE OR WATER RESILIENCE OBJECTIVE OF NBS (UP TO 3)	
Improved water quality	Coastal erosion reduction
Improved water quantity	Landslide risk/erosion reduction
Urban flood mitigation	Fire risk mitigation
Riverine flood mitigation	Urban heat mitigation
Coastal flooding reduction	

SECTOR BENEFITING FROM NBS (UP TO 2)	
Housing/urban development	Agriculture
Transportation	Other
Energy	
Water/sanitation	

BENEFICIARY TYPE (UP TO 3)	
Agrarian stakeholders/landowners	Local government
Urban residents	Regional governments
Rural residents	National governments
Private businesses	Water and/or energy utility

INTERVENTION TYPE	
Green	Green-Gray

NBS TYPE (UP TO 3)		
Forest	Inland wetlands	Urban parks
Agroforestry and silvopasture	Mangroves	Constructed and urban wetlands
Farmland best practices	Salt marshes	Green roofs and other green building spaces
Floodplains and bypasses	Coral reefs	Bioswales and rain gardens
River beds and riparian areas	Seagrasses	Other
Grasslands and other vegetation	Sandy beaches and dunes	N/A
Sand dams	Urban canopy	Unknown

NON-STRUCTURAL NBS INTERVENTION (UP TO 3)	
Capacity building/training	New institutional partnerships
Strategic/regional planning	Research/technical studies
Policy formation/reform	Awareness raising
Institutional strengthening	

CO-BENEFITS (UP TO 3)	
Biodiversity/Habitat protection	Job creation/Livelihood enhancement
Carbon sequestration	Public health enhancement
Community involvement/participation	Enhanced food security

FINANCIAL INSTRUMENT COMBINATION		
Loans	Grants	Loans + Grants

ENDNOTES

1. Of the $133 billion, the report highlights that only approximately $5 billion was invested in Africa, with Asia, North America, and Europe dominating public-sector investment in NBS. However, the report also notes that there are disparities in data availability and coverage across regions, so this estimate may be low and incomplete.

2. In subsequent stages of research that captures projects led and financed by additional actors (i.e., governments, multilateral climate funds, NGOs) a larger number of attributes will be included, including project maturity, types of funders, and monitoring and evaluation frameworks. This initial set of attributes was selected to demonstrate the most relevant and readily accessible information regarding MDB projects.

3. Projects benefiting the agriculture sector were limited to those that did so through at least one of the climate- and water-resilience objectives listed (e.g water quantity) and did not include those that solely delivered benefits related to other objectives (e.g pollination, soil enhancement).

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