Unlocking Finance for Nature-based Solutions (NbS) in Indian Cities

Guidebook and Best Practices Repository

CPI | WRI India | CEEW

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INDIA FORUM FOR Nature BASED SOLUTIONS

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SUMMARY

Urban areas are emerging as focal points of environmental and socio-economic stress. They account for approximately 57% of the global population and over 75% of natural resource consumption, while facing mounting pressures from unplanned growth, inequality, climate risks, and pollution. In India, the urban population is projected to increase from around 480 million in 2020 to 951 million by 2050, significantly intensifying exposure to climate hazards such as flooding, heat stress, water scarcity, and air pollution across major cities including Delhi, Chennai, Jaipur, Lucknow, and Mumbai. With more than half of India's future urban infrastructure yet to be built, current investment decisions will have long-term implications for resilience, service delivery, and environmental sustainability.

Urban Nature-based Solutions (NbS) offer a viable pathway to address these challenges by integrating ecological systems into urban planning and infrastructure. When effectively designed and implemented, NbS can deliver climate resilience outcomes alongside co-benefits for public health, livelihoods, and biodiversity, while supporting India's commitments under national urban and climate policies and global frameworks such as the Rio Conventions. However, despite increasing policy recognition, investment in urban NbS remains limited. Financing is largely dependent on public sources, with constrained private sector participation and limited deployment of structured financial instruments—particularly in the Indian context.

This guidebook addresses the financing gap by focusing on how urban NbS can be made more investable and scalable in Indian cities. It presents a structured, three-step guidance framework to support stakeholders in (i) assessing policy and regulatory frameworks relevant to NbS, (ii) identifying and deploying appropriate financial and business mechanisms, and (iii) evaluating projects to strengthen bankability and financing readiness. The framework is complemented by a curated repository of nine global and Indian NbS case studies and stakeholder insights that illustrate practical financing instruments, blended approaches, and implementation models with relevance for Indian urban contexts.

KEY TAKEAWAYS

- Unlocking finance for urban NbS requires a coordinated approach that leverages enabling provisions within existing climate, environmental, and urban policy frameworks at the national, sub-national, and city levels. Such alignment can facilitate public–private partnerships across project stages, governance levels, and geographies, including urban and peri-urban areas.
- Identifying policy and regulatory instruments that explicitly integrate nature and human well-being considerations can strengthen NbS project design, improve alignment with public objectives, and unlock access to public finance and regulatory support mechanisms.
- Financial and business mechanisms play complementary roles in enabling bankability. Clearly defined business mechanisms—anchored in articulated value propositions and cost-recovery pathways—provide the basis for financial mechanisms to mobilise and scale investment.

- There is no single financing mechanism for urban NbS. Financial instruments must be tailored to project-specific needs and aligned with different stages of project development and financing cycles to address capital requirements, risks, and mitigation strategies over time.
- Business mechanisms are critical to long-term sustainability. Urban NbS projects must demonstrate predictable revenue or value-capture streams to manage revenue risk and support replication and scale.
- The nine-factor urban NbS project evaluation framework enables systematic assessment of project definition, performance, diversity, and financing characteristics, supporting the design and delivery of scalable and financially viable NbS interventions.
- The case study repository highlights nine best-practice examples employing diverse financial and business mechanisms—including municipal bonds, debt financing, environmental impact bonds, carbon and blue-carbon markets, parametric insurance, payments for ecosystem services, user-pay models, and fiscal risk management tools—demonstrating replicable approaches that Indian cities can adapt to finance and scale urban NbS.

Directions for Further Research

This report is part of an 18-month research project on urban NbS finance in India, which is being collaboratively anchored by Climate Policy Initiative (CPI), WRI India and Council on Energy, Environment and Water (CEEW). This report titled, 'Unlocking Finance for Nature-based Solutions in Indian cities' is part of a larger ongoing study, who's preliminary results are being published at this stage to share early insights and findings that are particularly relevant to the current urban NbS financing ecosystem. The report is released in 2 parts that can be read separately or together for a more comprehensive understanding- as a *guidebook and best practices repository;* and an *overview and early recommendations* document.

While the guidebook offers an overview of the financial and regulatory frameworks for urban NbS, a further review of market conditions and a geography-specific policy framework that may influence the uptake of instruments needs to be conducted. Additionally, approaches to navigate institutional structures to mobilize financing using the mechanisms shared in this report remain to be identified. This will be crucial to understand how to enable a shift in investment behaviors and increase the share of investments that are directed towards urban NbS in India.

Progress on these fronts, including approaches to navigate institutional structures in Indian cities, will be advanced through the next stage of case study assessments in the study, which is scheduled for release in 2026.

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1. BACKGROUND

1.1 OBJECTIVES OF THE GUIDEBOOK AND REPOSITORY

This guidebook and repository, prepared by the India Forum for NbS, aims at sharing guidance and lessons with various urban NbS stakeholders to access finance and scale solutions. The three-step guidance framework in the guidebook will assist stakeholders in the assessment of India's urban NbS frameworks and provide direction on enhancing project models to unlock finance for NbS in Indian cities.

There is a diverse set of stakeholders that influence or directly engage in financing, designing, or implementing NbS at various scales. The guidebook aims to provide guidance and lessons to the following NbS stakeholders:

Target users of the guidebook and repository

Public sector stakeholders	Private finance actors	Philanthropic foundations, High net worth individuals, Corporate social responsibility units	NGOs, community-based organizations, practitioners

1.2 NAVIGATING THROUGH THE GUIDEBOOK AND REPOSITORY

The guidebook is structured into 4 sections:

1. **Section 1: Overview**
   Provides the context for urban NbS, explores different categories of solutions, emphasizes their importance and need, explains their alignment with global agreements and sustainability targets, and reviews the current state of NbS finance.
2. **Section 2: Three-step guidance framework**
   Elaborates on the enabling policy environment for NbS, the urban NbS finance and business ecosystem, and project evaluation factors for assessing urban NbS projects, while providing a structured three-step framework to strengthen project models.
3. **Section 3: NbS Best Practice Repository**
   Highlights 9 select best practices that showcase global and domestic NbS examples and lessons on financial and business mechanisms that can be adopted in Indian cities.

4. **Section 4: Stakeholder insights**
   Provides insights from diverse stakeholders on urban NbS policies, finance, and financial and business mechanisms that enrich the guidebook with stakeholders' expertise and experiences.

Limitations of the guidebook and repository

- The document shares lessons and guidance on financing approaches and mechanisms for urban NbS. Due to the lack of innovative financing mechanisms, the authors have expanded the scope of research to include successful mechanisms within peri-urban and rural contexts that have the potential to be replicated in urban environments.
- The policy and regulatory framework assessment (enabling environment) also includes examples from rural contexts (or under the term Nature) that can be converged and leveraged for urban NbS projects. The focus is on outcomes (environmental, social, and economic) that are achieved using financial and business mechanisms rather than on the intervention.
- The utilization of public policy and regulatory provisions is dependent on building awareness about the benefits of urban NbS among stakeholders (such as policy makers, private finance actors, philanthropic foundations, business and society leaders, community representatives, and practitioners) and improving their ability/capacity to scale and access finance. The focus of implementation of these policies has been mostly outside of the urban environment. Despite multiple initiatives and programs, coordination between stakeholders and agencies remains critical to navigate an increased share of funding towards urban NbS.

2. SECTION 1: OVERVIEW

This section will set the context by elaborating on key concepts and relevant issues of the urban NbS domain.

Key learning outcomes:

- Understand urban Nature-based Solutions and their categories.
- Recognize the importance and need for NbS in the urban environment.
- Identify how urban NbS align with global agreements and sustainability targets.
- Gain insights into the current state of NbS financing and investment.

2.1 URBAN NBS AND ITS DIFFERENT CATEGORIES

Urban NbS: Actions that protect, restore, and sustainably manage natural or modified ecosystems within cities, using nature and its processes to deliver infrastructure and services. They address societal challenges such as climate resilience, biodiversity loss, and human well-being, while integrating ecological benefits with urban development and community needs (Jongman et al., 2021).

- NbS interventions in urban settings can be broadly grouped into six categories, classified according to the societal objectives (IORA, 2021) they aim to achieve, along with illustrative examples. (See Figure 1).

Figure 1: Six Categories of Urban NbS based on Societal Objectives

Water Security	• Rainwater Harvesting • Afforestation/Reforestation (along natural basins) • Ground Water Recharge • Watershed Development • Soil and water conservation (LBCD, Trenches, Check Dams), • Spring Shed, Wetland, River Basin conservation and rejuvenation • Wetland/Lake rejuvenation
Food Security	• Green Roofs • Urban Gardens
Energy Security	• Green Buildings/infrastructure • Roof-top solar power grids
Forest (Including Land Restoration) & Biodiversity Conservation	• Green Cover and Plantations • Agroforestry • Urban Forests • Mangrove restoration and management • Wetland/Lake rejuvenation • Community mobilization for forest and biodiversity conservation (Van Suraksha Samiti)
Disaster Risk Reduction (DRR)	• Preparation of Land & Water use master plan • Weland/lake development, management, and restoration • Mangrove restoration and management
Sustainable Habitat (Urban and Rural)	• Urban Forestry/Plantation • Efficient Green and grey infrastructure and buildings • Reclamation of degraded land through vegetation • Wetland/Lake rejuvenation

Source: *Adopted from IORA's Nature-based Solutions: A review of key issues in India*

2.2 IMPORTANCE AND NEED OF URBAN NBS

- **Urban areas are at the forefront of global environmental and socio-economic challenges.** With 57% of the global population residing in cities, consuming over 75% of natural resources[1], and facing a variety of problems ranging from unplanned development, poverty, inequality, and livelihood challenges to climate change and pollution (International Union for Conservation of Nature, 2021).

1 The term 'Natural Resources' is generally defined by IUCN as 'materials or substances occurring in nature which can be exploited for economic gain'. Definitions also emphasize that nature and its resources encompass both living components (biodiversity) and non-living components (geodiversity).

- **Indian cities are particularly vulnerable**, with 36% of the population living in urban areas and the urban population projected to increase from 480 million in 2020 to 951 million by 2050 (World Bank, 2025). Cities like Delhi, Chennai, Jaipur, Lucknow, and Mumbai rank high on the global climate index for vulnerable cities that face the combined threat of extreme events, human vulnerability, and the ability of countries to adapt (Firstpost, 2021).
- **Indian cities are facing pressures of flood risk, water stress, water pollution, urban heat island (UHI), and air pollution**. Urban flooding alone will cost the economy between USD 1.1 and 5 billion annually (Sharief & Vangipuram, 2022). The natural drainage systems in most cities are facing threats from encroachment, lack of solid waste management, and inadequately designed stormwater drainage infrastructure.
- **More than half of the new infrastructure, including buildings and urban services, is yet to be developed in Indian cities** (World Bank, 2025). Urban NbS offers the opportunity to build resilience by leveraging natural ecosystems to enhance livability, improve adaptive capacity of communities and infrastructure, and deliver co-benefits for health, economy, and biodiversity.

2.3 NBS ALIGNS WITH GLOBAL AGREEMENTS AND TARGETS

- **Global policy literature shows that NbS efforts have the potential to contribute to multiple sustainability goals and the Rio Conventions** (see Figure 2) (ICLEI, n.d.; United Nations Environment Assembly [UNEA], 2022; International Union for Conservation of Nature [IUCN], 2024). These solutions can address the interlinked global crises of climate change, biodiversity loss, land degradation, and public health (G20 Brazil, 2024), with adequate intervention within institutional structures for local impact.

Figure 2: NbS alignment with Global Conventions and Goals

UN Sustainable Development Goals (SDGs)	Paris Agreement under United Nations Framework Convention on Climate Change (UNFCCC)	Kunming–Montreal Global Biodiversity Framework (GBF) under Convention on Biological Diversity (CBD) & United Nations Convention to Combat Desertification (UNCCD)
• NbS contributes directly to targets on health (SDG3), clean water (SDG6), sustainable cities (SDG11), climate action (SDG13), and life on land (SDG15). • According to the IUCN, well-designed NbS can support over 80% of the SDG targets, with varying degrees of impact.	• NbS as crucial for achieving the 1.5°C target. • Potential to provide up to 30% of the required mitigation through restoration and sustainable management of forests, wetlands, and other ecosystems.	• NbS as a key instrument in halting biodiversity loss and reversing land degradation. • Target 8 (GBF) emphasizes the role of NbS and/or ecosystem-based approaches in minimizing impacts of climate change on biodiversity. • Target 11 (GBF) focuses on restoration and maintenance of nature's contributions to people through NbS.

Source: *IUCN, ICLEI, UNEP*

- **Urban areas are a focal point that are facing global societal challenges and opportunities**, ranging from poverty eradication to tackling climate change, economic growth, pollution, biodiversity, inequality, and employment (G20 Brazil, 2024). Therefore, urban nature-based solutions offer a transformative pathway to Indian cities to integrate nature into sustainable and climate-resilient urban development pathways.

2.4 STATE OF NBS FINANCE

- **Global finance flows:** According to UNEP's State of Finance for Nature 2023, global finance flows in NbS currently stand at just USD 220 billion annually in 2023 (United Nations Environment Programme [UNEP], 2026). The G20 nations invested USD 120 billion in NbS in 2020, as highlighted in UNEP's State of Finance for Nature in G20 report (UNEP, 2022). As of 2023, public funds constituted 90% (USD 197 billion) of the total finance flows in NbS, and private finance 10% (USD 23 billion) (UNEP, 2026). Out of the total private finance flows to nature, 57% of finance was routed through biodiversity credits[2] and offsets[3], and sustainable supply chains[4] (World Bank, 2025). Furthermore, the total volume of finance flows to nature constitutes only 3% of total climate finance flows (Nature4Climate, 2024). Within that, only a limited proportion of NbS finance can be channeled into urban areas.
- **Global finance needs:** NbS finance flow will need to at least triple by 2030 and increase fourfold by 2050 to meet global climate change, biodiversity, and land degradation targets (Jongman et al., 2021). To achieve net-zero targets, the finance flows must rise to over USD 536 billion per year (World Economic Forum [WEF], 2022). According to estimates, G20 countries will need to boost their spending by 140%, that is, adding additional investment of approximately USD 165 billion annually by 2050 (UNEP, 2022). Investment needs for nature are estimated to be the highest in Asia, with an additional USD 167 billion required annually by 2030, rising to USD 203 billion annually by 2050 (United Nations Environment Programme [UNEP], 2024; Teixeira F.M. 2025).
- **India's perspective:** India's climate action is largely financed by domestic resources, with most NbS projects funded through public finance that includes government expenditure or a blend of grants and loans from both domestic and international development finance institutions (DFIs). NbS interventions in India heavily rely on public finance, indicating a significant disparity between government and private sector contributions. Some of the key reasons for low private sector investment and engagement in NbS (See box 1 for details on key challenges and success factors in NbS financing and implementation) include limited long-term visibility on investment outcomes, uncertain time horizons for economic returns to materialize, the lack of standardized approaches for long-term impact evaluation, insufficient clarity and incentive on the policy and regulatory environment, weak risk-adjusted returns, and a limited understanding of successful and viable business and investment models for NbS (Bhan et al., 2024). However, there is growing recognition of and interest in NbS stakeholders, especially from the viewpoint of climate adaptation, carbon emissions reduction, improving organizational reputation, and building supply chain resilience (WEF, 2024; Government of India, 2022).

2 A biodiversity credit is a quantified, verified unit representing positive biodiversity outcomes generated through conservation, restoration, or sustainable management activities.
3 A biodiversity offset is a unit used to compensate for residual, unavoidable biodiversity impacts of a development project, typically to meet regulatory or formal performance requirements.
4 A sustainable supply chain is one that fully integrates ethical and environmentally responsible practices into raw materials sourcing, to last-mile logistics, and even to product returns and recycling processes.

Box 1: Key Challenges and Success Factors in NbS Financing and Implementation

There are multiple challenges in financing of NbS at scale, many of which lie at the intersection of existing market failures, inadequate policy push, and lack of benefit sharing. However, there are certain institutional, financial, and implementation-related success factors that have played a key role in building scalable and sustainable NbS projects (Kleve K.,2025).

Themes	Challenges	Success Factors
Market and Finance	▪ Higher investor return expectations (8–12%+) ▪ Small, fragmented projects across sectors ▪ Limited financing tools and weak incentives for household NbS ▪ Shortage of interdisciplinary technical expertise ▪ Poor design, weak site selection, reliance on hard infrastructure ▪ Immature carbon markets and NbS credits; low credibility ▪ Poor data availability for planning and monitoring ▪ Long gestation periods vs. short-term financial norms ▪ Difficulty scaling pilots and unclear investor exit strategies	▪ Innovative and blended financing with long-term capital ▪ Strong data, evidence-based implementation, and capacity building ▪ Scalable models aligned with national strategies and long-term horizons ▪ Clear bankability with at least two years of commercial track record.
Regulatory and Policy	▪ Lack of guidelines, incentives, and policy integration for NbS ▪ No common definitions or standards to measure benefits ▪ Fragmented institutional roles and unclear leadership	▪ Strong governance commitment, policy integration, legal clarity, institutional reforms, and long-term ownership
Social and Community Engagement	▪ Need for active community involvement, predominantly indigenous and vulnerable groups ▪ Unclear land tenure and complex ownership rights ▪ Equity concerns and social conflicts affecting benefit-sharing	▪ Inclusive community participation, co-management, education, and awareness ▪ Sustainable livelihoods, conservation-linked income, bio-rights, and value chains

Source: *2024 G20 Sustainable Finance Report, Financing Nature 2020, State of Finance for Nature in Cities 2023, RMI- Unlocking Nature-based Solutions, Accelerating Investments for Nature-based Solutions in the Global South: A Unified Framework for Mapping and Estimating Benefits, Evaluation of Nature-Based Solutions Projects in South and Southeast Asia: A Study on Long-Term Impact and Effectiveness, Financing Nature-based Solutions in Southeast Asia*

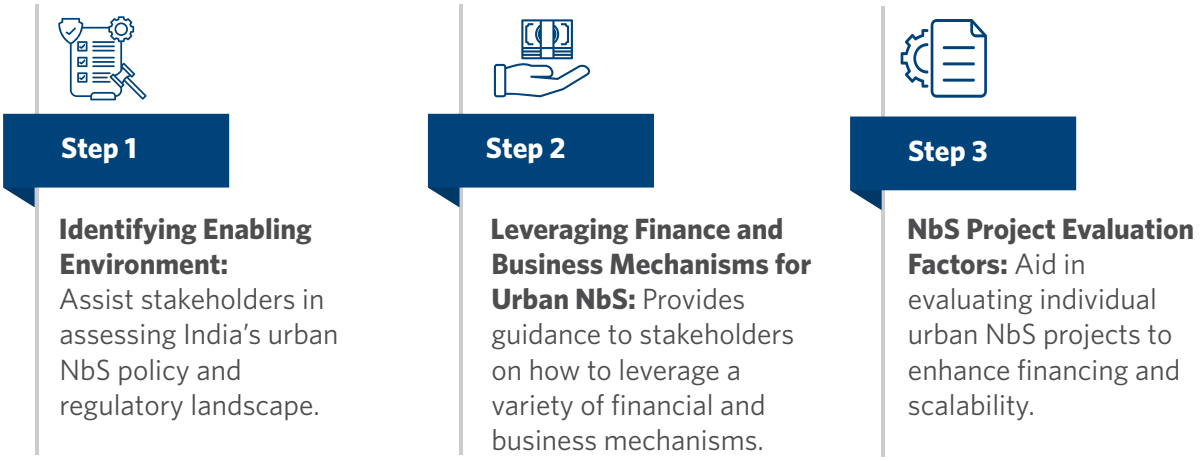
Key Takeaway

While the benefits of NbS are established, the NbS financing gap remains substantial. Increasing urban NbS funding would require the strengthening of the project's financial and business mechanisms that leverage urban NbS policy and regulatory frameworks to support projects at various stages.

3. SECTION 2: THREE-STEP GUIDANCE FRAMEWORK

This section details the guidance framework for stakeholders to strengthen project models to improve the financing and scalability of individual urban NbS projects.

Figure 3: Three-Step Guidance Framework



Key learning outcomes:

Step 1: Identifying Enabling Environment

- Understand nature and NbS alignments with India's international policy commitments.
- Analyze India's national policy frameworks supporting nature and NbS.
- Examine sub-national (state and city-level) policies relevant to nature and NbS.
- Assess the regulatory frameworks shaping nature and NbS implementation in India.

Step 2: Leveraging Finance and Business Mechanisms for Urban NbS

- Identify key stakeholders involved in financing NbS.
- Explore India's NbS financing and business ecosystem functions.
- Evaluate diverse financial mechanisms available for NbS projects.
- Understand the financing cycle for urban NbS initiatives.
- Examine business mechanisms that can support NbS scalability and sustainability.

Step 3: NbS Project Evaluation Factors

- Apply the 4-themes and 9-factor framework to assess NbS projects to evaluate project viability, scalability, and financing potential.
- Strengthen capacity to integrate evaluation insights into decision-making for urban resilience

3.1 STEP 1: IDENTIFYING ENABLING ENVIRONMENT

- **This step is for urban NbS stakeholders for understanding the enabling environment to improve financing and scaling projects.** This involves assessing India's policy and regulatory frameworks, which can provide direction and be leveraged to strengthen project proposals seeking government support, ensuring policy alignment with various nature policy goals, and accessing public finance or regulatory provisions that open new sources of funding.
- It is important to acknowledge that the term nature-based solutions remains relatively nascent within current enabling environment frameworks. While the practice of NbS has long existed in the country, it has traditionally been articulated more prominently under the broader concept of "Nature". **Therefore, this step identifies the enabling environment from a "nature" and urban NbS lens.**

3.1.1 NATURE AND URBAN NBS IN INDIA'S GLOBAL POLICY COMMITMENT

- **India is a signatory of all the major international conventions/commitments related to nature,** such as the UN Framework Convention on Climate Change (1992), Convention on Biological Diversity (CBD, 1992), Convention to Combat Desertification (CCD, 1994), UN 2030 Agenda for Sustainable Development (2015), and the Sendai Framework for Disaster Risk Reduction (2015). These international policy commitments and agreements need domestic plans and targets for meeting those commitments.
- India's national targets and plans have several nature/NbS components to meet these international policy commitments (See Table 1). **Stakeholders can use these components to create an NbS project proposal that aligns with international policy priorities of the government of India**.

Table 1: Nature in India's National Plans aligned with Global Agreements

International Agreement	Nature/NbS Components
Paris Climate Deal under the United Nations Framework Convention on Climate Change (UNFCCC)	• India's Nationally Determined Contributions aim tocreate an additional (cumulative) carbon sink of 2.5-3 GtCO2-eq through additional afforestation by 2030 (Government of India, 2022). • To better adapt to climate change by enhancing investments in development programmes in sectors vulnerable to climate change, particularly water resources, the Himalayan region, coastal regions, health and disaster management, and agriculture (Government of India, 2022). • Establishment of the National Mission on Biodiversity and Human Well-Being (Bawa et al., 2021), including the Biodiversity, Climate Change, and Disaster Risk Reduction programme, which seeks to develop and mainstream nature-based solutions (Government of India, 2023). • The National Action Plan on Climate Change (NAPCC) (Press Information Bureau, 2021) has Green India, Sustainable Habitat, Water, and Sustaining the Himalayan Ecosystem to promote nature-focused and urban-oriented solutions to enhance climate resilience and ecological sustainability.
National Biodiversity Strategy and Action Plan (NBSAP) submitted to the Global Biodiversity Framework of the UN Convention on Biological Diversity (UNCBD)	• India's National Biodiversity Targets focus on valuing biodiversity and ecosystem services in integrated planning, safeguarding, and measurement by 2030. Ensuring the human development programmes support the needs of women, local communities, and vulnerable groups, which indicates using the NbS approach for meeting these commitments (Convention on Biological Diversity [CBD], 2025).

International Agreement	Nature/NbS Components
National Action Programme to Combat Desertification for the UN Convention to Combat Desertification (UNCCD)	▪ Commitments for the restoration of 26 million hectares of degraded land by 2030. It highlights the need for synergistic, efficient planning and implementation of the eco-restoration initiatives in the country by converging all afforestation schemes (PIB, 2024).
Sendai Framework for Disaster Risk Reduction 2015 - 2030	▪ As part of the framework, India has committed to investing in disaster reduction for resilience and "Build Back Better" in recovery, rehabilitation, and reconstruction. NbS can be seen as an integrative and cost-effective solution to reduce disaster risk and create resilience (United Nations Office for Disaster Risk Reduction, 2016).

3.1.2 NATIONAL POLICY FRAMEWORK FOR NATURE AND NBS IN INDIA

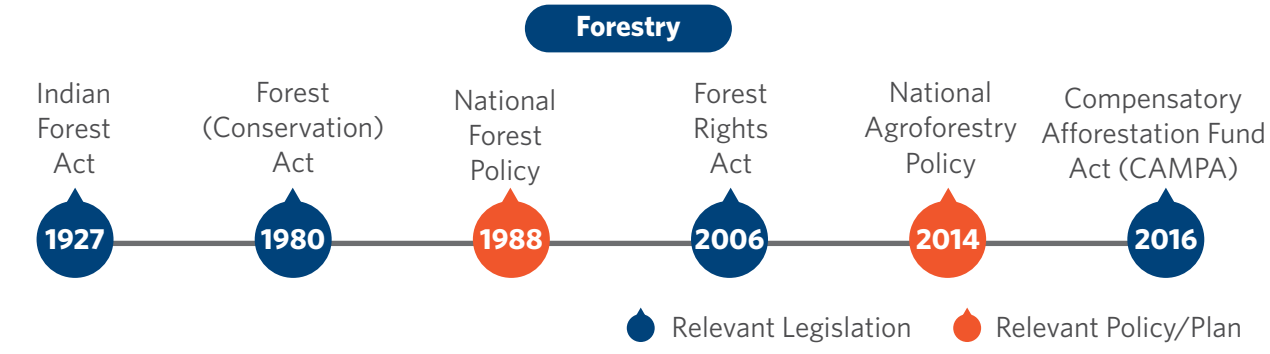
- India's nature policy framework spans interconnected policy subsystems that include, namely, air, land, water, forests, biodiversity, disaster risk reduction and resilience, and infrastructure. **By analyzing these policy subsystems[5] through the NbS lens, projects can be designed that have the potential to unlock opportunities and provide direction to urban NbS action in Indian cities.**
- In combination with improved knowledge and capacity, leveraging NbS enabling provisions of existing legislation, policies, and schemes within these policy subsystems can enable stakeholders to effectively target and implement NbS across multiple levels of governance- union, state, or cities, and across diverse geographies- urban, peri-urban, or rural.

FORESTRY

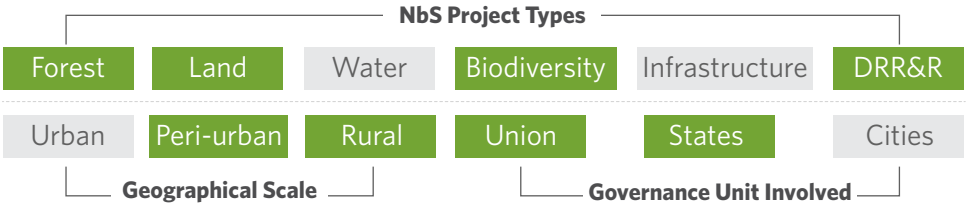
- **Legislation and policy/plan:** India's forestry framework is governed by key Indian Forest Act (1927), Forest (Conservation) Act (1980), Forest Rights Act (2006), and CAMPA Act (2016) and supported by policies like the National Forest Policy (1988) and National Agroforestry Policy (2014) to balance conservation, community rights, and sustainable forest management.
- **Schemes:** Initiatives like the National Mission for a Green India, Sub-Mission on Agroforestry, and Nagar Van Yojana integrate forest, land, and biodiversity conservation with rural, urban, and state-level governance to promote sustainable ecosystem management.

5 The review of policy subsystems is not exhaustive, but the legislation, policies, and schemes examined provide a useful overview of frameworks that can support NbS projects.

Figure 4: Legislations, Policies, and Schemes of Forestry Policy Sub-system



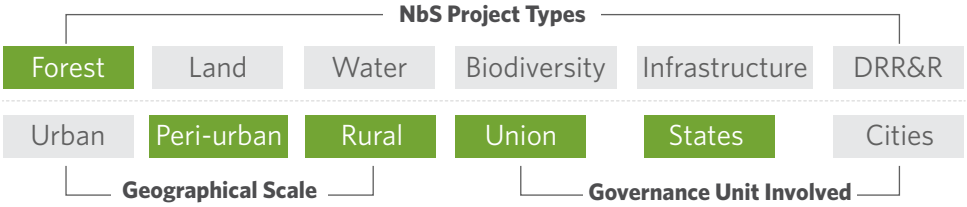
National Mission for a Green India (Under NAPCC)



NbS Potential

Leveraged indirectly as it focuses on restoring and enhancing India's forest cover and responding to climate change through restoring degraded forests and developing forest resources with community participation and livelihoods, which aligns well with NbS principles.

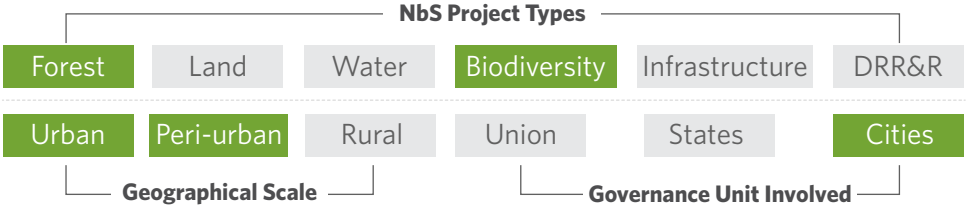
National Mission Sustainable Agriculture - Sub-Mission on Agroforestry



NbS Potential

Leveraged indirectly as it focuses on integrating trees with agricultural systems to enhance productivity, livelihoods, and environmental sustainability.

Nagar Van Yojana



NbS Potential

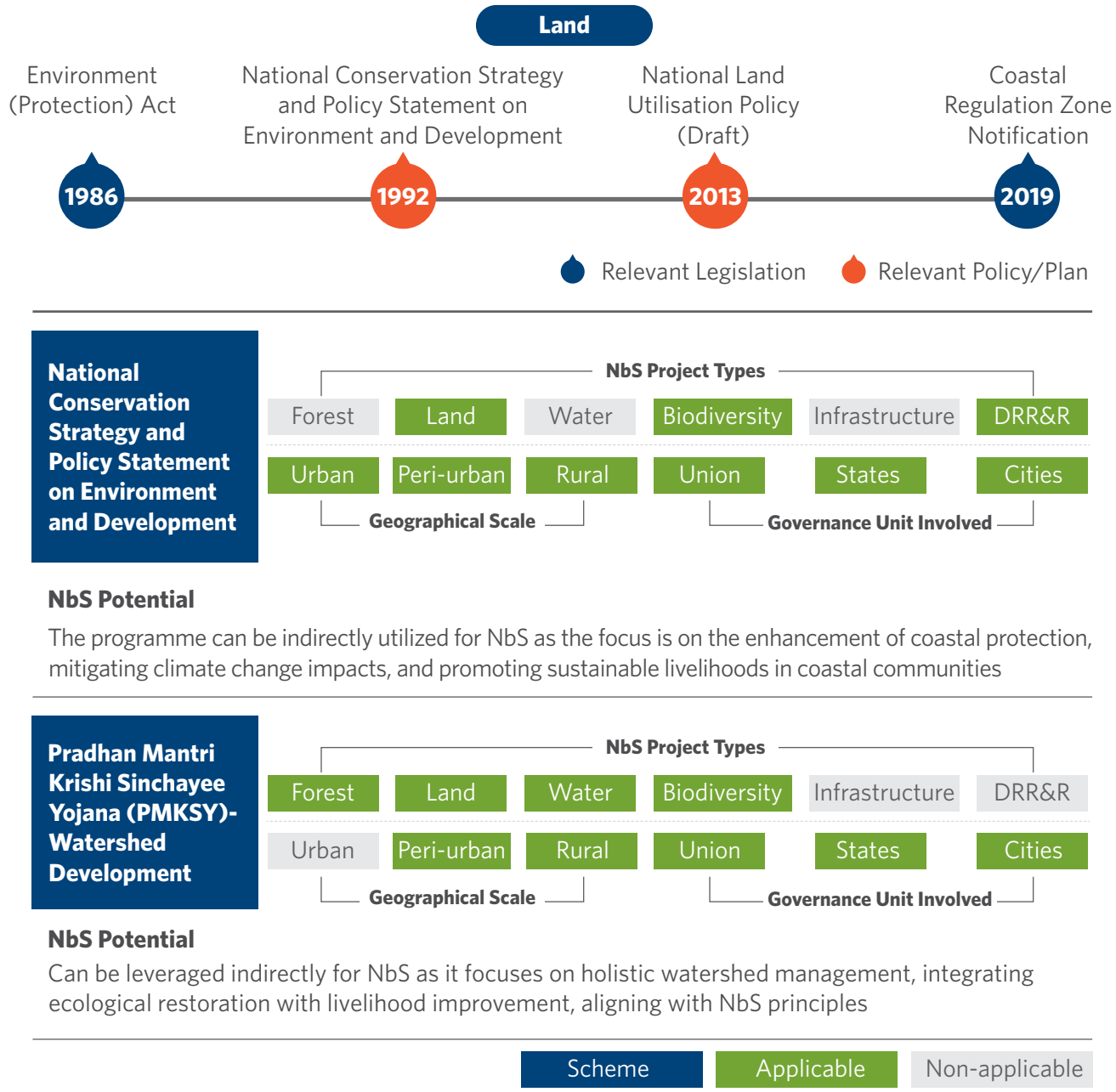
Directly utilized for NbS implementation, as the objective is to significantly enhance the tree cover outside forests and green cover in cities, leading to a better environment, enhancement of biodiversity, and ecological benefits to the urban and peri-urban areas, apart from improving the quality of life of city dwellers.

Scheme | Applicable | Non-applicable

LAND

- **Legislation and policy/plan:** India's land governance framework has legislations such as the Environment (Protection) Act, 1986 and the Coastal Regulation Zone Notification, 2019, and is guided by policy, namely the National Land Utilisation Policy (Draft), 2013 and the National Conservation Strategy, 1992 to balance ecological protection and integrate environmental considerations into land-use planning and development.
- **Schemes:** The National Coastal Management Programme focuses on coastal ecosystems. At the same time, the Pradhan Mantri Krishi Sinchayee Yojana (Watershed Development) strengthens land and water productivity in rural areas, and the Soil Health Mission under NMSA.

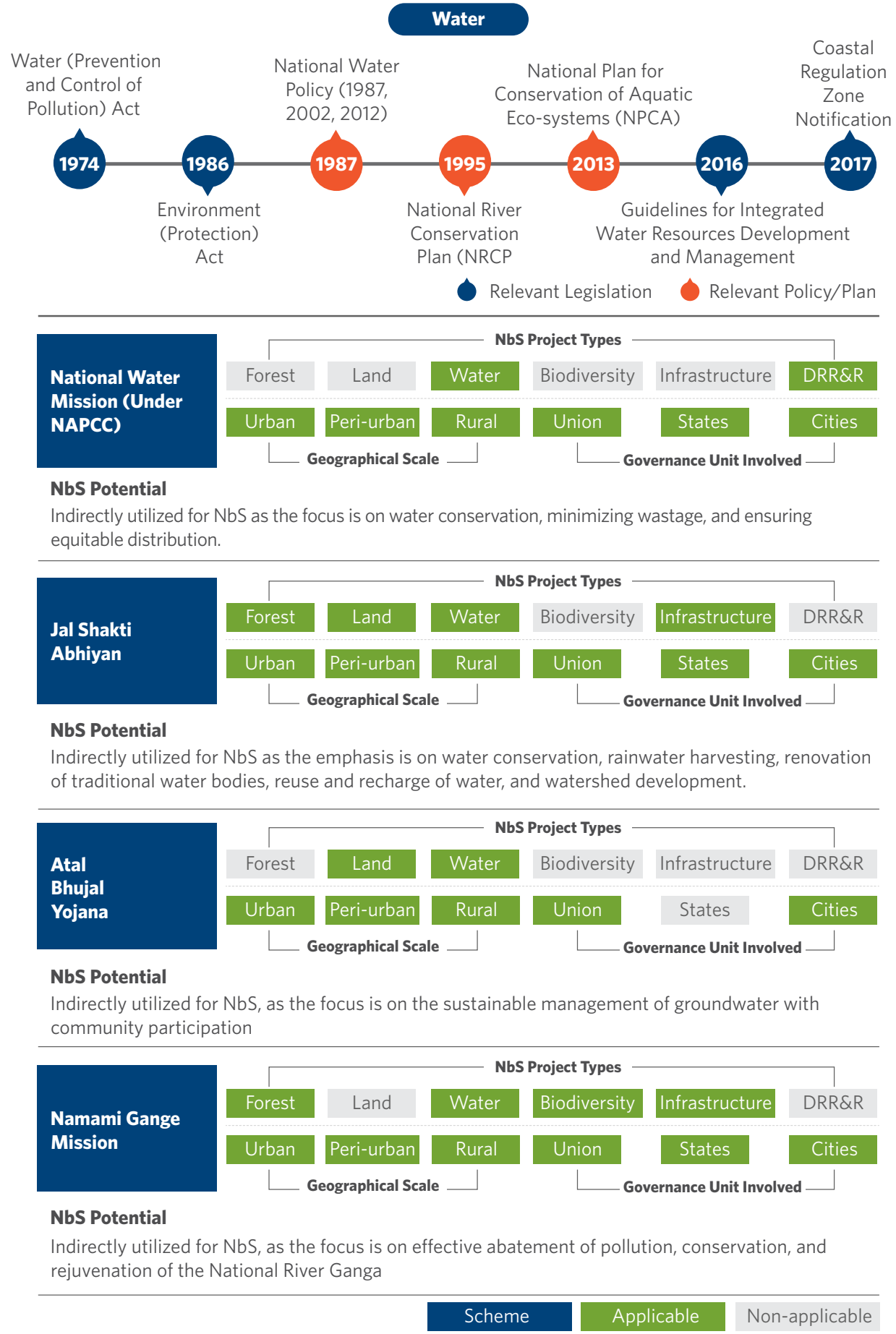
Figure 5: Legislation, Policy and Schemes for Land Sub-systems



WATER

- **Legislation and policy/plan:** India's water governance framework has key legislations such as the Water (Prevention and Control of Pollution) Act, 1974 and the Environment (Protection) Act, 1986, complemented by the Guidelines for Integrated Water Resources Development and Management, 2016 and the Wetlands (Conservation and Management) Rules, 2017, which together provide the legal basis for pollution control, environmental protection, integrated water resources management, and wetland conservation. This framework is further guided by policy, including the National Water Policy (1987, 2002, 2012), the National River Conservation Plan (NRCP), 1995, and the National Plan for Conservation of Aquatic Eco-systems (NPCA), which steer sustainable water use, river rejuvenation, and aquatic ecosystem conservation.
- **Schemes:** The National Water Mission (Under NAPCC), Jal Shakti Abhiyan, Atal Bhujal Yojana, and Namami Gange Mission collectively aim to enhance water use efficiency, promote conservation, improve groundwater management, and rejuvenate major rivers.

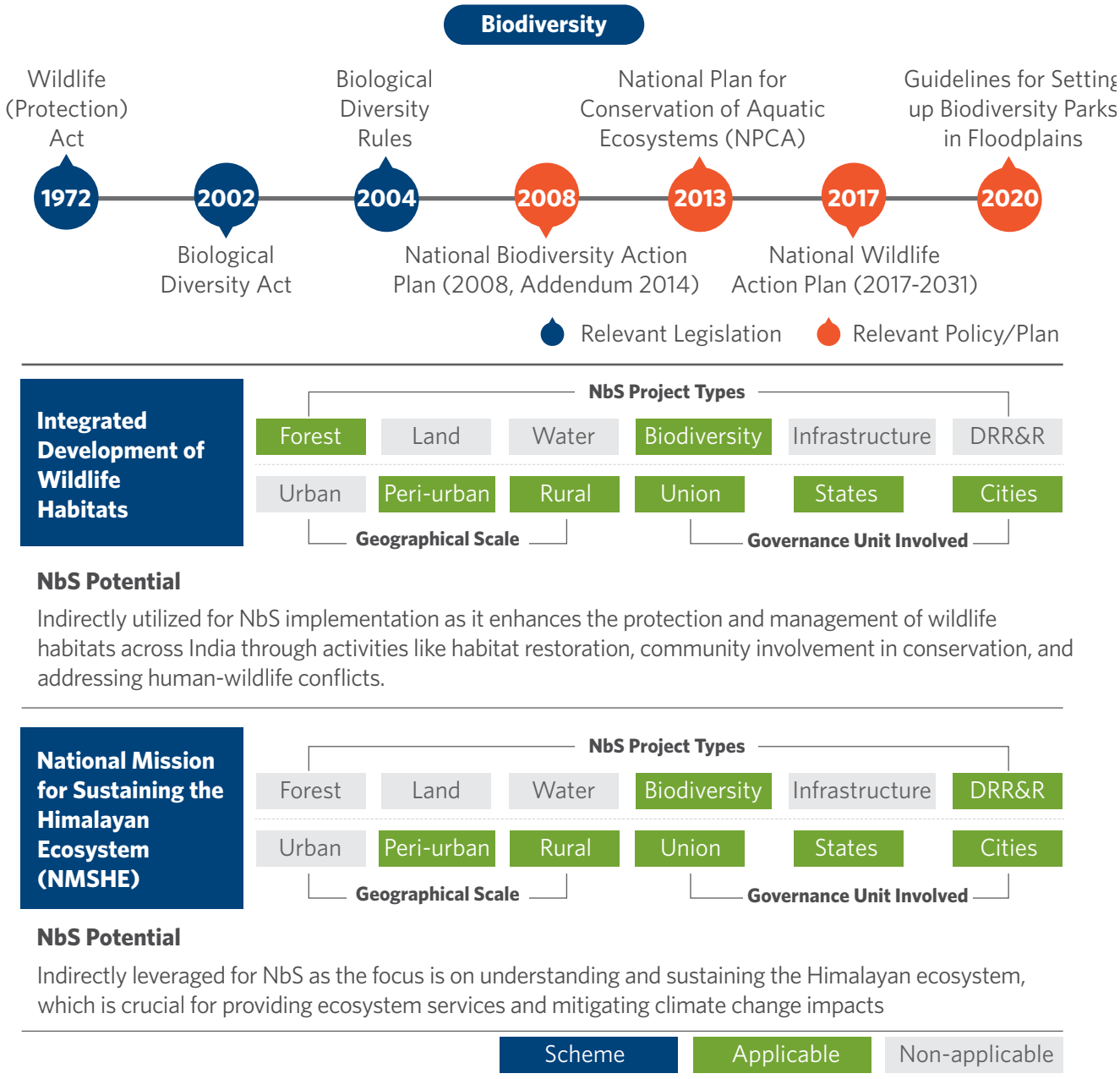
Figure 6: Legislation, Policy and Schemes for Water Sub-systems



BIODIVERSITY

- **Legislation and policy/plan:** India's biodiversity governance framework has key legislations such as the Biological Diversity Act, 2002, the Biological Diversity Rules, 2004, and the Wildlife (Protection) Act, 1972. This is guided by strategic policy and planning instruments including the National Biodiversity Action Plan (2008, 2014), National Biodiversity Strategy and Action Plan, 2024, the Guidelines for Setting up Biodiversity Parks in Floodplains, 2020, the National Wildlife Action Plan (2017–2031), and the National Plan for Conservation of Aquatic Ecosystems (2013), which support ecosystem restoration, habitat conservation, and the integration of biodiversity considerations into planning and development.
- **Schemes:** Schemes related to biodiversity include the Integrated Development of Wildlife Habitats and the National Mission for Sustaining the Himalayan Ecosystem (NMSHE).

Figure 7: Legislation, Policy and Schemes for Biodiversity Sub-system



NbS Potential

Indirectly utilized for NbS implementation as it enhances the protection and management of wildlife habitats across India through activities like habitat restoration, community involvement in conservation, and addressing human-wildlife conflicts.

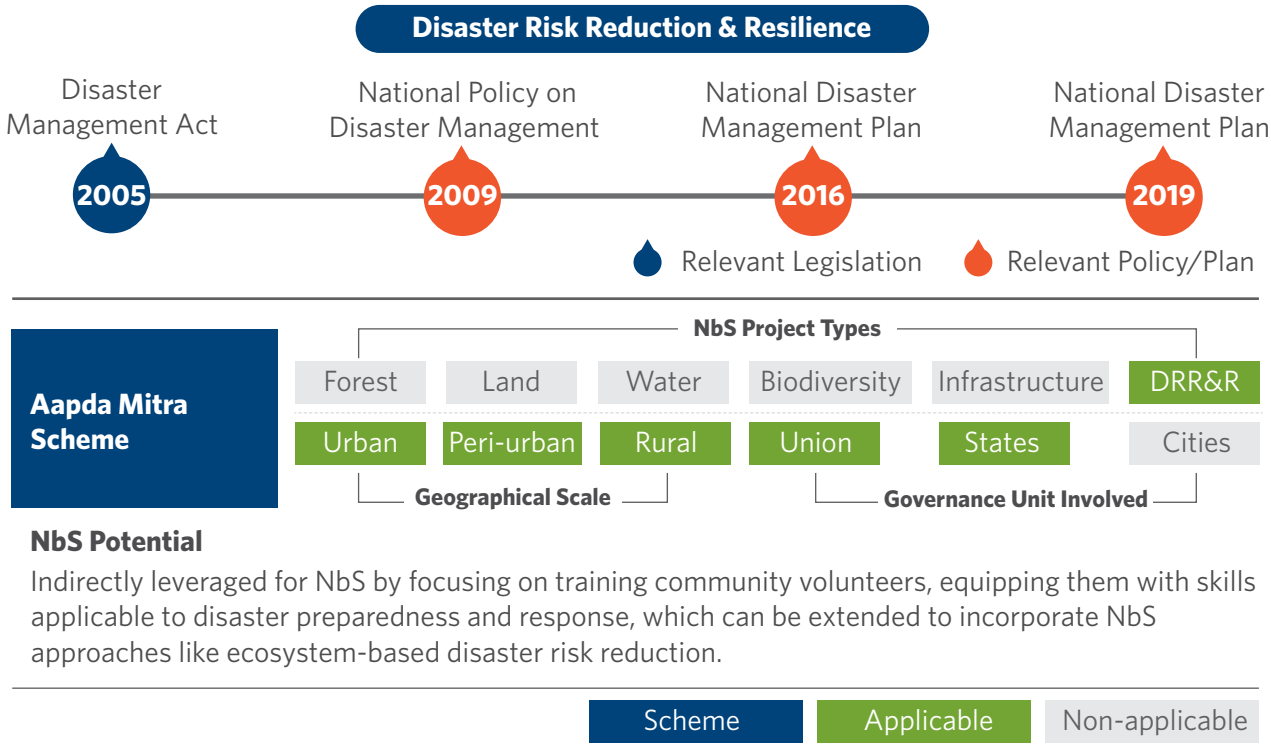
NbS Potential

Indirectly leveraged for NbS as the focus is on understanding and sustaining the Himalayan ecosystem, which is crucial for providing ecosystem services and mitigating climate change impacts

DISASTER RISK REDUCTION AND RESILIENCE (DRR&R)

- **Legislation and policy/plan:** India's disaster risk governance framework is anchored in the Disaster Management Act, 2005 and supported by policy including the National Policy on Disaster Management, 2009 and the National Disaster Management Plans (2016, 2019), which together strengthen disaster risk reduction, preparedness, and resilience, and can be leveraged for the implementation and scaling of NbS.[6]
- **Schemes:** Schemes like the Aapda Mitra Scheme are initiatives for DRR&R.

Figure 8: Legislation, Policy and Schemes for DRR&R Sub-system



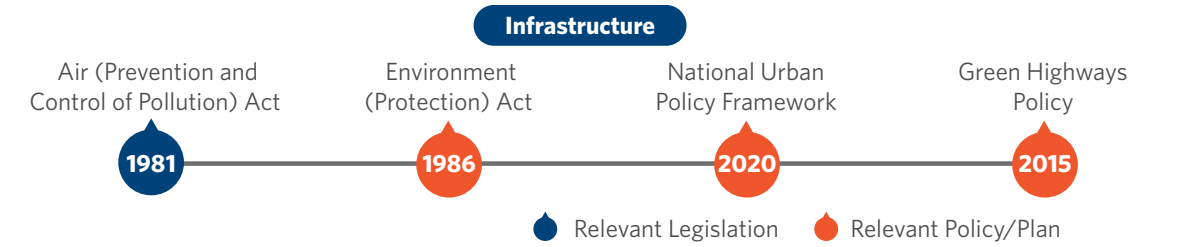
INFRASTRUCTURE

- **Legislation and policy/plan:** India's urban environment and infrastructure governance framework has key legislations such as the Air (Prevention and Control of Pollution) Act, 1981 and the Environment (Protection) Act, 1986, and is further guided by policy, namely the National Urban Policy Framework, 2020 and the Green Highways Policy, 2015, which together enable pollution control, promote sustainable and eco-friendly urban development, and support the integration of green and nature-based infrastructure within transport and urban systems.
- **Schemes:** Infrastructure schemes such as National Mission for Sustainable Habitat, Smart Cities Mission, AMRUT, Swachh Bharat Mission–Urban, and MGNREGA[7] can collectively advance NbS by promoting sustainable habitats, resilient urban development, improved sanitation, and community-driven green infrastructure. These schemes have created a strong potential to weave nature back into Indian cities, whether through greener neighborhoods, restored water systems, or cleaner, cooler urban spaces that make everyday life healthier and more livable. (See Box 2)

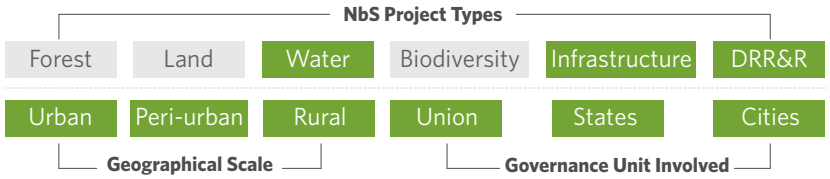
6 The National Institute of Disaster Management has started to integrate nature and NbS within its training programme for disaster risk reduction. Program details can be found here: https://nidm.gov.in/PDF/TrgReports/2023/May/Trg_09-11May2023sg.pdf

7 Government has proposed the Viksit Bharat- Guarantee for Rozgar and Ajeevika Mission (Gramin) Bill, 2025, also referred to as Viksit Bharat- G RAM G Bill, 2025, which is a comprehensive statutory overhaul of MGNREGA.

Figure 9: Legislation, Policy and Schemes for Infrastructure Sub-system



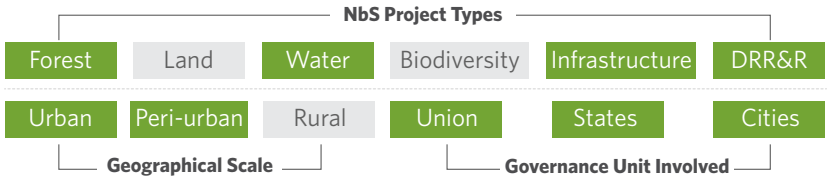
National Mission for Sustainable Habitat (NMSH)



NbS Potential

Directly leverages NbS for sustainable habitats through five thematic areas: Energy and Green Building, Urban Planning, Green Cover and Biodiversity, Mobility and Air Quality, Water Management, and Waste Management, each with targeted mitigation and adaptation strategies.

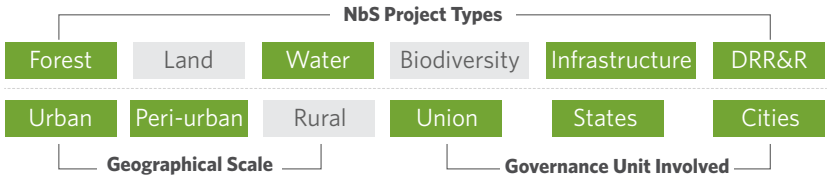
Smart Cities Mission



NbS Potential

Indirectly leveraged for NbS, focusing on green infrastructure for stormwater management, creating urban forests for biodiversity and climate resilience, and implementing water-sensitive urban design.

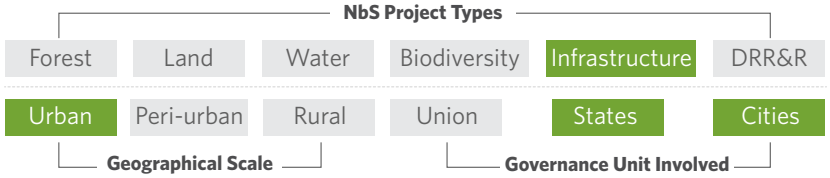
Atal Mission for Rejuvenation and Urban Transformation (AMRUT)



NbS Potential

Indirectly leveraged for NbS with the focus on increasing green spaces, development of disaster-resilient infrastructure, rainwater harvesting, waste management, electric mobility, promoting urban green cover, and directly and indirectly supporting India's mitigation and adaptation goals.

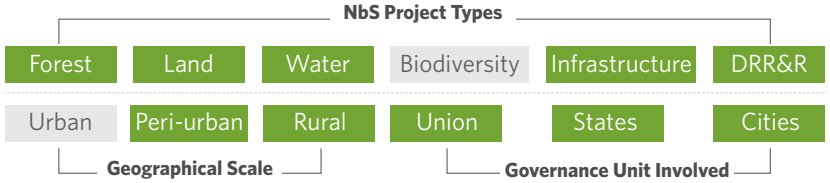
Swachh Bharat Mission- Urban



NbS Potential

Indirectly utilized for NbS by focusing on sanitation, waste management, and community-level engagement.

Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)



NbS Potential

Indirectly utilized for NbS by focusing on restoring water bodies and land through afforestation, providing employment, and enhancing livelihood security.

Scheme | Applicable | Non-applicable

Box 2: Leveraging India's Urban Challenge Fund to finance and implement NbS

The INR 100 billion Urban Challenge Fund (UCF) was announced in India's 2025-26 Union Budget to promote performance-driven urban development addressing pressing city challenges. The fund targets three key focus areas: 'Cities as Growth Hubs', 'Creative Redevelopment of Cities', and 'Water and Sanitation' (PIB, 2025). The fund incentivizes cities to meet specific reform benchmarks to qualify for financial support, which will cover up to 25% of project costs, provided at least 50% of the cost is funded from bonds, bank loans, and public-private partnerships (PPPs). The fund is governed by the Ministry of Housing and Urban Affairs (MoHUA) along with relevant stakeholders such as state governments and urban local bodies.

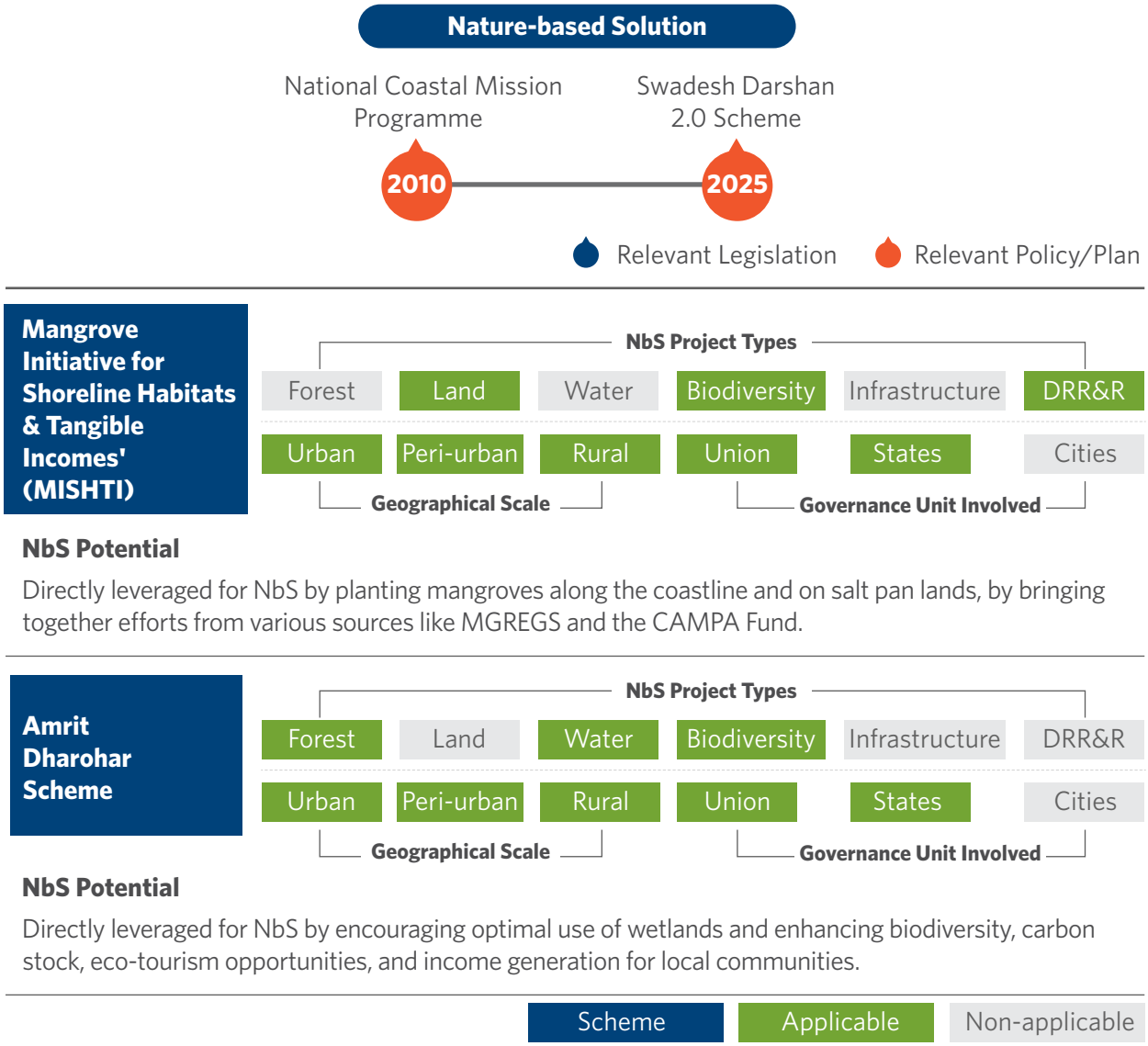
The Fund, which focuses on Tier 2 and Tier 3 cities as future hubs of growth, provides the opportunity to effectively integrate NbS across existing and new infrastructure and urban development initiatives across the three areas through solutions such as integrated blue-green-grey infrastructure, watershed restoration to improve drainage, and urban greening.

Source: *PIB*

NATURE-BASED SOLUTIONS

- **Legislation and policy/plan:** India's NbS framework can be supported by programmes such as the National Coastal Mission Programme, 2010, and Swadesh Darshan 2.0, 2025, which promote coastal ecosystem restoration and sustainable tourism development, thereby creating enabling conditions for the adoption and scaling of NbS.
- **Schemes:** The MISHTI and Amrit Dharohar schemes advance NbS by restoring mangroves, conserving wetlands, and supporting community livelihoods through biodiversity protection and sustainable use.

Figure 10: Legislation, Policy and Schemes for NbS Sub-system



3.1.3 SUB-NATIONAL POLICY FRAMEWORKS ON NATURE AND NBS: STATES AND CITIES

STATE-LEVEL

- **State governments have launched various flagship schemes that can be leveraged for NbS actions.** For example, Telangana's Vana Mahotsavam restores ecosystems, greens urban spaces, and enhances biodiversity, while Jharkhand's Mukhyamantri Jan-Van Scheme integrates afforestation with community participation, livelihoods, and groundwater recharge.
- Tamil Nadu is advancing NbS through flagship initiatives like Tamil Nadu Wetland Mission and Tamil Nadu Coastal Restoration Mission, which can unlock opportunities and drive synergetic urban NbS actions to strengthen biodiversity, livelihoods, pollution reduction, and community participation. Furthermore, Tamil Nadu's State Planning Commission has developed a dedicated NbS framework to integrate natural ecosystems into urban planning (See Box 3) (State Planning Commission, 2025).

Box 3: Tamil Nadu's NbS Framework for Urban Resilience

The State Planning Commission of Tamil Nadu has developed a dedicated NbS framework that provides cities with a clear, context-sensitive roadmap for integrating natural ecosystems into urban planning. The framework also focuses explicitly on tier 2 cities, strategically looking to embed resilience early on in their urbanization journey.

This NbS framework is structured around key drivers:

- **Guidance on the full lifecycle of NbS projects** from early planning and design to long-term monitoring and adaptive management.
- **Acknowledges that nature is not just a backdrop to city life but a powerful, cost-effective tool for addressing climate risks, managing water, protecting biodiversity, and improving the everyday lives of people.** Whether it is cooling cities, reducing flood risk, or creating healthier neighborhoods, these initiatives have multiple benefits.

Tamil Nadu's approach shows how state-level leadership can play a crucial role in embedding NbS into urban development in ways that are both scalable and locally relevant.

CITY-LEVEL

- **At the city level, urban local bodies are increasingly integrating nature and ecological principles into formal urban planning and implementation tools,** including Urban River Management Plans[8] City Development Plans (CDPs), Zonal Development Plans (ZDPs), Climate Action Plans, and Green Building Regulations.
- NbS stakeholders can incorporate NbS, mentioned in formal planning and implementation tools, to build institutional pathways to scale and mainstream NbS across urban landscapes. The following table (See Table 2) summarizes the NbS mentioned in formal city-level planning and implementation tools in a few Indian cities:

8 National Mission for Clean Ganga (NMCG) and the National. Institute of Urban Affairs (NIUA) have developed a common URMP framework for all Ganga towns: http://urbanrivers.niua.org/themes/contrib/corporate_blue/pdf/URMP-Guidance-Document.pdf

Table 2: City-level Plans and Regulations for NbS[9]

City	Plans and Regulations	NbS Solutions
Delhi	▪ Master Plan Delhi (MPD) 2041 (Joshi, 2025) ▪ Delhi Energy Conservation Building Code 2018 (Department of Power, Government of NCT of Delhi, 2018)	▪ **Green-blue infrastructure:** Parks, wetlands, and waterbodies, green patches. ▪ **Green and energy-efficient buildings:** Green roofs, solar integration, daylight optimization, and rainwater harvesting.
Mumbai	▪ Mumbai Climate Action Plan (MCAP) 2022 (Jain & Takle, 2022) ▪ Mumbai's Master Plan 2034 (Times Property, 2025)	▪ **Urban greening and biodiversity**: Increase vegetation cover and permeable surfaces, reduce urban heat island effect, promote equitable access to green spaces, and restore and enhance biodiversity. ▪ **Urban flooding and water resource management**: Build flood-resilient infrastructure, localize water conservation, reduce water pollution, manage wastewater, and flood risks. ▪ **Sustainable waste management**: Decentralized waste management, expedite scientific management and remediation of landfills. ▪ **Environmental sustainability elements in the master plan**: Green buildings, rainwater harvesting, pollution control, and creating sustainable living environments.
Chennai	▪ Chennai Climate Action Plan 2022 (Draft) (Greater Chennai Corporation, 2022) ▪ Blue-Green Infrastructure in Urban Planning (Draft) (Chennai Metropolitan Development Authority, n.d.)	▪ **Water balance by 2050** ▪ **Managing urban floods and water scarcity**: Efficient stormwater management, conservation of natural water ecosystems, and improved disaster risk reduction.
Bengaluru	▪ Revised Master Plan 2031-Planning District and Zoning Regulations (Bangalore Development Authority, 2001a; Bangalore Development Authority, 2001b) ▪ Bengaluru Climate Action and Resilience Plan 2023 (Bruhat Bengaluru Mahanagara Palike, 2023)	▪ **Environmental sustainability in urban planning and zoning:** Protecting and conserving the lake and streams, Access to large green open spaces, and decreasing air and noise pollution. ▪ **Air quality**: Promotes green infrastructure and better land-use planning to minimize ambient air pollution. ▪ **Water, wastewater, and stormwater**: Integrated Urban Water Management, water conservation, recycling, and reuse, sponge spaces, wetlands, and lakes. ▪ **Urban planning with greening and biodiversity**: Promotes the use of nature-based solutions in planning and design, supports participatory and ecosystem-integrated development, prioritizes biodiversity conservation and natural ecosystem restoration, and ensures inclusive access to green infrastructure and basic services. ▪ **Disaster management:** Strengthen the role of ecosystems in minimizing disaster impacts and lowering recovery costs.
Ahmedabad	▪ Ahmedabad Climate Resilient City Action Plan (CRCAP), 2023 (ICLEI South Asia, 2023)	▪ **Water supply and management:** Revive lakes and integrate natural stormwater networks via rainwater-fed blue infrastructure. ▪ **Solid waste management:** Rehabilitation of dumpsites into ecological parks with urban forests, biodiversity trails, and green open spaces via biomining and bioremediation. ▪ **Urban greening, biodiversity and air quality:** Mandatory minimum of 5% green cover in new town planning schemes, including at least 1% as Miyawaki urban forest plots. ▪ **Disaster management and emergency services:** Use of green-blue corridors, lake-based flood sinks, rain gardens, vegetated buffer zones, and urban forests to lower temperature stress and absorb floodwaters.

9 Non-exhaustive list covering only 5 cities, including tier 1 and 2 cities.

Key Takeaway

India has a diverse nature policy framework at the national, state, and city levels that stakeholders can leverage for implementing Nature-based Solutions, but turning that potential into real impact will require an understanding of coherence between different policy subsystems of nature/NbS, localized planning tools, and cross-sectoral coordination. The guidebook aims to identify these linkages of the enabling environment to enable and improve urban NbS projects in Indian cities.

3.1.4 FINANCIAL REGULATORY FRAMEWORKS FOR NATURE AND NBS IN INDIA

- India's National Biodiversity Target 12, aligned with the Biodiversity Vision 2050 (Ministry of Environment, Forest and Climate Change, Government of India, 2019), and India's draft National Target 19 (National Biodiversity Authority, n.a), under the Global Biodiversity Framework, aims to enhance financial, human, and technical resources and to substantially and progressively increase accessible domestic and international public and private financing to improve nature and biodiversity outcomes, thereby underscoring the need for NbS to be aligned with financial policy and regulatory frameworks.
- India's financial regulatory framework does not explicitly mention NbS. Still, it has elements of nature and human well-being that can be leveraged by NbS stakeholders to enhance financial resource mobilization for nature-related activities.

Figure 11: Key Financial Regulatory Frameworks for Nature and NbS in India

COMPANIES (CORPORATE SOCIAL RESPONSIBILITY POLICY) RULES, 2025 (CYRILL, 2025)

- Companies mandated under India's Corporate Social Responsibility (CSR) rules can support NbS projects, particularly in the urban sector, through eligible environmental activities. The

NbS relevance of the CSR permitted activities can unlock finances for NbS actions in Indian cities (See Table 3).

Table 3: CSR Activity and NbS Mapping

CSR Permitted		NbS Relevance
Activity	**Sub-Activity**	
Poverty, Health, and Sanitation	Contributions to the Swachh Bharat Kosh and ensuring access to safe drinking water	Can support NbS, if linked to water resource conservation or eco-sanitation systems
Education and Employment	Livelihood enhancement projects	Can support NbS, if livelihoods are nature-based (e.g., agroforestry, conservation work, payment of ecosystem services)
Gender Equality and Vulnerable Groups	Empowering women and facilities for senior citizens	Can indirectly support NbS by improving inclusivity in environmental programs
Environmental Sustainability	Initiatives for sustainability, ecological balance, and conservation of natural resources	Directly supports NbS
	Support for the river Ganga rejuvenation and agroforestry	Directly supports NbS
Rural Development	Initiatives focused on rural development	Can support NbS when linked to ecosystem restoration, watershed development, or sustainable agriculture
Slum Area Development	Development of slum areas	Can support NbS when green infrastructure is integrated into urban planning
Disaster Management	Disaster relief, rehabilitation, and reconstruction	Can support NbS through ecosystem-based disaster risk reduction

GREEN CREDIT PROGRAMME (2023). (MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE, 2023)

- This market-based mechanism incentivizes individuals and entities to undertake nature-positive actions, which include protection, preservation, or conservation of the environment. The following activities can be integrated by NbS stakeholders that can generate green credits in urban areas, which would be tradable on domestic platforms to create a revenue stream for such projects-

  1. **Tree plantation** to promote activities for increasing the green cover across the country.
  2. **Water management** to promote water conservation, water harvesting, and water use efficiency or water savings, including treatment and reuse of wastewater.

3. **Sustainable agriculture** to promote natural and regenerative agricultural practices and land restoration to improve productivity, soil health, and nutritional value of food produced.
4. **Waste Management** to promote circularity, sustainable, and improved practices for waste management, including collection, segregation, and environmentally sound management.
5. **Air pollution reduction** to promote measures for reducing air pollution and other pollution abatement activities.
6. **Mangrove conservation and restoration** to promote measures for the conservation and restoration of mangroves.
7. **Sustainable building and infrastructure** to encourage the construction of sustainable buildings and other infrastructure using environmentally friendly technologies and materials.

RESERVE BANK OF INDIA'S PRIORITY SECTOR LENDING (PSL) FRAMEWORK (RBI, 2019)

- The framework does not explicitly label PSL activities as "NbS". Still, many PSL activities can be funneled for NbS financing that enhances ecosystem services, builds climate resilience, and encourages sustainable livelihoods. These can include the following solutions (See Table 4) for urban areas:

Table 4: PSL Framework and NbS Mapping

PSL Category	Urban NbS- Potential Applications
Renewable Energy	Rooftop solar, waste-to-energy
Social Infrastructure	Rainwater harvesting, green school grounds, wastewater reuse
Affordable Housing	Green buildings, passive cooling, urban water management, and sanitation
MSME Lending	Eco-enterprises (recycling, composting, vertical gardening, etc.)

SEBI'S BUSINESS RESPONSIBILITY AND SUSTAINABILITY REPORTING (BRSR) REGULATION (SECURITIES AND EXCHANGE BOARD OF INDIA [SEBI], 2021)

- Integrating environmental disclosures lays the groundwork for valuing nature within the business ecosystem. The following BRSR principles have a nature component in their disclosures-

  1. **Principle 2** requires businesses to report on metrics such as the percentage of R&D and capital investments aimed at reducing environmental impacts, sustainable sourcing practices, and whether they conduct Life Cycle Assessments (LCA) to evaluate the environmental impact of their products and services.
  2. **Principle 6** emphasizes disclosures related to water usage, energy consumption, and GHG emissions, as well as information on operations near ecologically sensitive areas like national parks and biodiversity hotspots.

- These disclosures under these principles encourage private sector investments towards nature-positive activities, like NbS.

SEBI'S AMENDMENTS TO ALTERNATIVE INVESTMENT FUNDS (AIF) REGULATIONS (SEBI, 2024)

- These regulations create an enabling environment for more innovative and flexible investment structures. These measures open the door for NbS stakeholders to create blended finance models that could enhance private finance while managing risk into NbS (Argus Partners, 2024).

SEBI'S GREEN (SEBI, 2017 AND ESG DEBT SECURITIES FRAMEWORK (SEBI, 2025)

- This enables NbS stakeholders, especially municipalities, utilities, and developers, to raise private capital using green and social bond securities, which can be leveraged for NbS actions in Indian cities.
- The activities with these frameworks that can be unlocked for NbS are as follows (See Table 5):

Table 5: Mapping Green and ESG Debt Securities Activity with NbS

Bond Type	Activity	Potential NbS Activities
Social Bond	Affordable basic infrastructure (e.g., clean drinking water, sanitation)	Wetland restoration, constructed wetlands, green infrastructure for decentralized water management
	Climate transition projects / "just transition."	Afforestation, reforestation, and nature-based carbon sequestration initiatives
	Food security and sustainable food systems	Agroecological farming, regenerative agriculture, soil restoration, agroforestry
	Socioeconomic advancement and empowerment	Community-based conservation, nature-linked livelihoods, participatory ecosystem restoration
Green Bond	Renewable and sustainable energy	Biomass from sustainable forestry, integrated land-energy planning with ecological safeguards
	Clean transportation (e.g., public/ mass transit)	Urban green corridors, green belts along transport routes, permeable pavements with vegetation
	Sustainable water management	Rain gardens, bioswales, natural floodplains, urban watershed management
	Climate change adaptation	Urban forest buffers, mangrove restoration, and green infrastructure for flood risk
	Energy efficiency (e.g., green buildings)	Green roofs, living walls, native landscaping for thermal comfort and stormwater management
	Sustainable waste management	Composting, eco-parks, circular economy solutions integrated with soil and land health
	Sustainable land use	Sustainable forestry, afforestation, silvopasture, and ecological restoration of degraded land
	Biodiversity conservation	Urban biodiversity parks, wildlife corridors, wetland conservation, and pollinator-friendly landscaping

- Within green bonds, a special sub-class of blue bonds has been instrumental in NbS projects (See Box 4).

Box 4: Indonesia Sovereign Blue Bond: Blue bonds for coastal ecosystem protection and management

In 2023, Indonesia made history by issuing the world's first publicly offered sovereign Blue Bond in the Japanese debt capital market, raising JPY 20.7 billion (USD 150 million). This groundbreaking issuance, aligned with International Capital Market Association (ICMA) principles, reflects Indonesia's commitment to innovative financing approaches that support both communities and the sustainable use of marine ecosystems. By tapping into the concept of the blue economy, Indonesia demonstrated how sovereign debt instruments can be leveraged to align national financing with global sustainability goals.

The proceeds from this bond are being directed toward strengthening Indonesia's blue economy, with investments in coastal protection, sustainable fisheries and aquaculture, marine biodiversity conservation, and mangrove rehabilitation. Beyond financing, the initiative sends a powerful signal of leadership: that protecting marine ecosystems is not just an environmental necessity but also an economic opportunity. Backed by the Ministry of Finance of Indonesia, with support from UNDP, HSBC Bank, and Crédit Agricole, this pioneering Blue Bond offers a replicable model for other nations seeking to finance resilience and sustainability in ocean-based economies.

Source: *Indonesia Launches the World's First Publicly Offered Sovereign Blue Bond*

Key Takeaway

These financial policies and regulatory frameworks can create an enabling financial environment for NbS stakeholders that allows financial resource mobilization. However, despite the availability of these frameworks, utilizing them requires more practice-based insights from investors and project developers, derived through more meticulous project assessments of NbS in Indian cities.

3.2 STEP 2: LEVERAGING FINANCE AND BUSINESS MECHANISMS FOR URBAN NBS

- **This step for urban NbS stakeholders focuses on leveraging India's existing NbS financing ecosystem by building an assessment of India's NbS finance stakeholders, their roles, processes, and mechanisms**. By doing so, NbS stakeholders can identify and engage the most relevant financial actors based on project needs, unlock suitable financial mechanisms to design blended and innovative structures, or business mechanisms that enhance cost recovery and scalability.

3.2.1 NBS FINANCE ACTORS

- Urban NbS sets out to solve complex and localized climate and socio-economic challenges while delivering multiple benefits. Therefore, their financing and implementation require the engagement of different actors across all levels and stages, and iterative processes of dialogue and participation by urban planners, project developers, financiers, and communities (Wickenberg et al., 2021).
- Stakeholders engaged in financing NbS (See Table 6) can be broadly categorized into the following 3 categories with their associated roles in development and financing (Bhan et al., 2024):

Table 6: Stakeholders for financing urban NbS

Category	Stakeholder Group	Role in Development	Role in Financing
Supply-side[10]	**Multilateral & National Banks**	Provide technical and financial support, set standards	Offer loans, grants, and risk mitigation instruments
	International Climate Funds	Align projects with climate goals to provide concessional finance	Offer grants and concessional loans to lower-risk
	Private Sector & CSR Funds	Innovation in financing and project development	Invest through ESG funds, green bonds, and CSR initiatives
	Philanthropies	De-risking, co-financing, demonstrating bankability	Grants, early-stage, catalytic capital
Demand-side[11]	**NGOs & Civil Society**	Stakeholder engagement; community mobilization	Channeling finances; implementing advocacy
Policy-side[12]	**Public Sector**	Policy formulation; urban planning	Budget allocations for seed funding and risk-sharing; leveraging private investments

- These supply-demand-policy stakeholders can collectively work towards a NbS project financing and implementation (See box 5).

10 Entities that provide or allocate capital, public and private, to NbS projects, or that otherwise direct investment flows.
11 Entities that receive funding and/or are responsible for on-the-ground implementation of NbS interventions.
12 Regulatory bodies and intermediaries that govern, mediate, and coordinate investment flows between demand and supply actors.

Box 5: Greater Cape Town Water Fund (GCTWF): A Supply-Demand-Policy Stakeholder Project

The Greater Cape Town Water Fund is a river catchment restoration initiative in South Africa that tackles water security and stormwater management challenges. Its core strategy involves removing water-thirsty alien plant species, which consume up to 20% more water than native vegetation, to restore ecological balance and improve water availability.

The $25.5 million project brings together a diverse set of partners across policy, demand, and supply sides. Funding and support come from national government bodies and municipalities, nonprofit/NGO actors such as The Nature Conservancy's Public/Private Water Fund, and private sector contributors, including Pepsi, Coca-Cola, Levi's, and Caterpillar. This cross-sector partnership illustrates how public, private, and NGO stakeholders can unite to deliver impactful NbS.

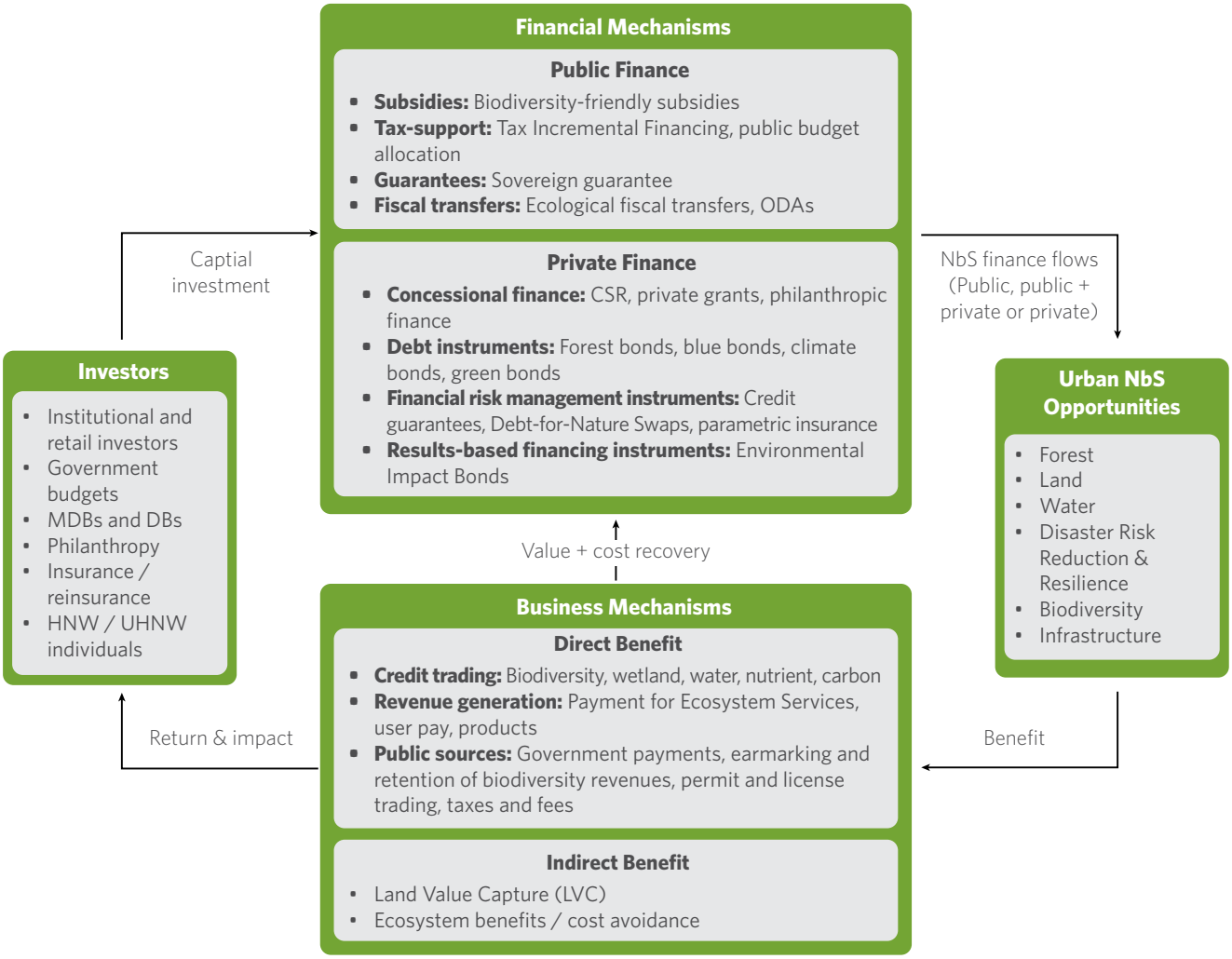
The results have been impressive: municipalities and investors were able to recover costs through indirect benefits, such as reducing the city's reliance on expensive, capital-intensive water storage projects. By comparison, the restoration approach strengthened Cape Town's water supply system at just one-tenth of the cost, with a total of 34.53 billion liters per year restored to the streams.

Source: *IFC- Nature-based Solutions in Cities*

3.2.2 FUNCTIONING OF NBS FINANCING AND BUSINESS ECOSYSTEM

- This ecosystem (See Figure 12) needs to act in synergy with all potential financiers- Institutional and retail investors, government budgets, Multilateral Development Banks (MDBs) and Development Banks (DBs), philanthropy, crowdfunding, insurance/reinsurance, and High Net Worth (HNW)/Ultra High Net Worth (UHNW) individuals- to leverage innovative and credible financial and business mechanisms that can help attract both private and public capital investment for urban NbS opportunities (Deutz et al., 2020; Climate Policy Initiative [CPI], 2024).

Figure 12: Urban NbS Financing and Business Ecosystem



Adapted from Conservation Finance: Moving beyond donor funding toward an investor-driven approach and Financing Nature: Closing the Global Biodiversity Financing Gap report

****Financial and business mechanisms have been detailed in annexure 1 and table 8, which explain the different components of each.*

- **Financial mechanism focuses on evaluating the financial feasibility of an NbS project and making the case for capital allocation**. Based on these evaluations, financial mechanisms provide structures and instruments to unlock and direct finance toward urban NbS effectively. Such financing mechanisms can be from multiple sources of financing- public, private, or blended sources and through multiple financial instruments, including debt, equity, grants, and risk management tools that can operate independently or in combination (BIOFIN, n.d.).
- **Business mechanisms focus on how a project creates, delivers, and captures value and recovers costs.** By establishing clear value and return propositions, business mechanisms ensure that the environmental, social, and economic benefits of NbS projects are properly recognized, communicated, and monetized, thereby answering the fundamental question of who will pay for these solutions and why (Toxopeus, 2019).
- **Financial and business mechanisms serve as complementary frameworks essential for unlocking the potential of urban Nature-based Solutions.** A successful business model

clearly defines a cost recovery mechanism and value proposition for building a business case for urban NbS investments (United Nations Environment Programme Copenhagen Climate Centre [UNEP-CCC], 2024). These feed into financial mechanisms by providing a clear rationale for financial mechanisms to attract and scale investments based on well-defined value addition and revenue streams (Deutz et al., 2020; Ding & McLaren, 2025; United Nations Environment Programme Copenhagen Climate Centre [UNEP-CCC], 2024).

- **While urban NbS financing and business mechanisms are gaining traction, unsubstantiated environmental claims or greenwashing due to the lack of standardization and guidance are a barrier to the implementation and scaling up of NbS** (United Nations Environment Programme Finance Initiative [UNEP FI], 2024). Therefore, the guidebook has focused on clarifying the functioning of the financing mechanisms with linkages to the business mechanisms of urban NbS among private investors, MDBs, DFIs, vertical funds, policymakers, and other stakeholders (G20 Sustainable Finance Working Group [G20 SFWG], 2024).

3.2.3 DIFFERENT FINANCIAL MECHANISMS FOR URBAN NBS

- **Financial mechanism assesses the feasibility of NbS projects and provides structured instruments to mobilize and channel finances from different sources and instruments.** The NbS stakeholders can evaluate their projects and unlock a variety of financial mechanisms for their urban NbS project (See Figure 13) based on the stakeholders involved and the end-use of the financing.
- These financial mechanisms follow 3 broad classifications-

1. PUBLIC FINANCE MECHANISMS

- These domestic public finance mechanisms can be classified into subsidies, tax support, guarantees, and fiscal transfers, international public finance mechanisms, and bilateral and multilateral ODA grants.

For example, the Colombo urban flood resilience and water management project (See box 6) was funded by the government of Sri Lanka and the multilateral development bank (MDB).

Box 6: Colombo's Urban Flood Resilience and Water Management Project: Multilateral Development Bank (MDB) Funded

A USD 321 million project is a public project with MDB support, where the World Bank provided USD 213 million. The Government of Sri Lanka funded USD 108 million, which aims at increasing urban resilience and reducing flood impacts through the development of wetlands, improvement of the natural flood reduction network, and enhancement of green and blue infrastructure.

The project stands out in terms of enhancement of capacity and technical expertise, improving replicability and scalability through three core components: flood and drainage management to enhance natural defenses and repurpose waterways as community assets; urban development and capacity building to improve infrastructure, services, and local planning; and implementation support to ensure effective delivery, financial oversight, and strong community engagement for long-term sustainability.

Source: *World Bank*

2. PRIVATE FINANCE MECHANISMS:

- To attract private finance, a range of financial instruments and innovative structures have emerged, designed to channel financial flows into urban NbS. These instruments can be categorized as concessional finance, debt instruments, financial risk management instruments, and results-based financing instruments (SEBI, 2025; NAP Global Network, 2024).
- For example, Mumbai's mangrove conservation project, financed by the private sector's concessional finance in partnership with foundations and practitioners (See box 7).

Box 7: Mumbai's Mangrove Conservation Project: Private-financed NbS Project

The Mumbai Mangrove Conservation Project, led by Godrej & Boyce Manufacturing Company Limited, is a USD 62 million NbS initiative focused on protecting the city's Vikhroli mangroves- the largest privately owned mangrove forests in the country. Often called the "lungs of Mumbai," these mangroves store an estimated 1.2 million tons of carbon dioxide equivalents, capture an additional 60,000 tons annually, and provide habitat for over 1,500 species of flora and fauna. Beyond their ecological value, the mangroves play a critical role in climate resilience, coastal protection, and maintaining environmental quality for the city's residents.

What sets this project apart is its inclusive governance model. Though privately financed and managed, the project emphasizes strong community engagement through co-planning, consultations, joint management, and citizen-led monitoring. By combining private sector leadership with grassroots participation, the initiative not only safeguards biodiversity but also empowers communities to take part in shaping and sustaining their environment, offering a replicable model for urban conservation worldwide.

Source: *Urban Nature Atlas- Greening and Conserving Pirojshanagar's Mangroves*

3. BLENDED FINANCE MECHANISMS

- Blended finance mechanisms combine public, private, and philanthropic capital to make projects viable, channel investment at scale, and balance financial returns with social and environmental outcomes. By integrating concessional finance with public and private capital, these mechanisms lower costs and mitigate risks for private investors, thereby making NbS projects more attractive.
- Public funds play a crucial role in de-risking private investments, creating an innovative and credible market for NbS, while international frameworks such as the G20's Sustainable Finance Working Group approach are advancing blended-finance instruments on a voluntary, case-by-case basis to maximize private sector participation (UNEP, 2023; G20 Sustainable Finance Working Group [G20 SFWG], 2024). Blended finance has strong potential to unlock private sector participation and accelerate the scaling of NbS when coupled with an enabling environment and capacity building (Deutz et al., 2020). For example, the NbS-focused Harit Bharat Fund is a blended finance structure (See Box 8).

Box 8: Harit Bharat Fund (India): A NbS-focused Blended Finance Structure

The Harit Bharat Fund (HBF) is a pioneering blended finance initiative that supports locally led NbS with a strong focus on restoration. Beginning in the central Indian states of Chhattisgarh, Madhya Pradesh, and Maharashtra chosen for their high restoration potential and pressing social needs. HBF combines financial assistance with capacity building, monitoring, and policy support to strengthen India's restoration economy. The long-term vision is to scale these learnings across the country, ensuring that restoration delivers equitable benefits for people, nature, and climate.

What makes HBF a best practice is its innovative financing model and collaborative approach. By blending concessional, catalytic, and commercial capital, HBF lowers borrowing costs (targeting sub-12% interest rates) and creates space for community-driven interventions such as agroforestry, sustainable agriculture, and watershed management. Grants fund nonprofits to test grassroots solutions, generate local data, and build robust monitoring and verification systems—reducing risk and boosting investor confidence. At the same time, convening partners like Transform Rural India and the India Climate Collaborative bring together communities, technical experts, investors, philanthropies, and government, ensuring solutions are inclusive and scalable. This mix of finance, trust-building, and accountability allows HBF to channel private capital into India's nascent restoration economy while empowering local people to lead the change.

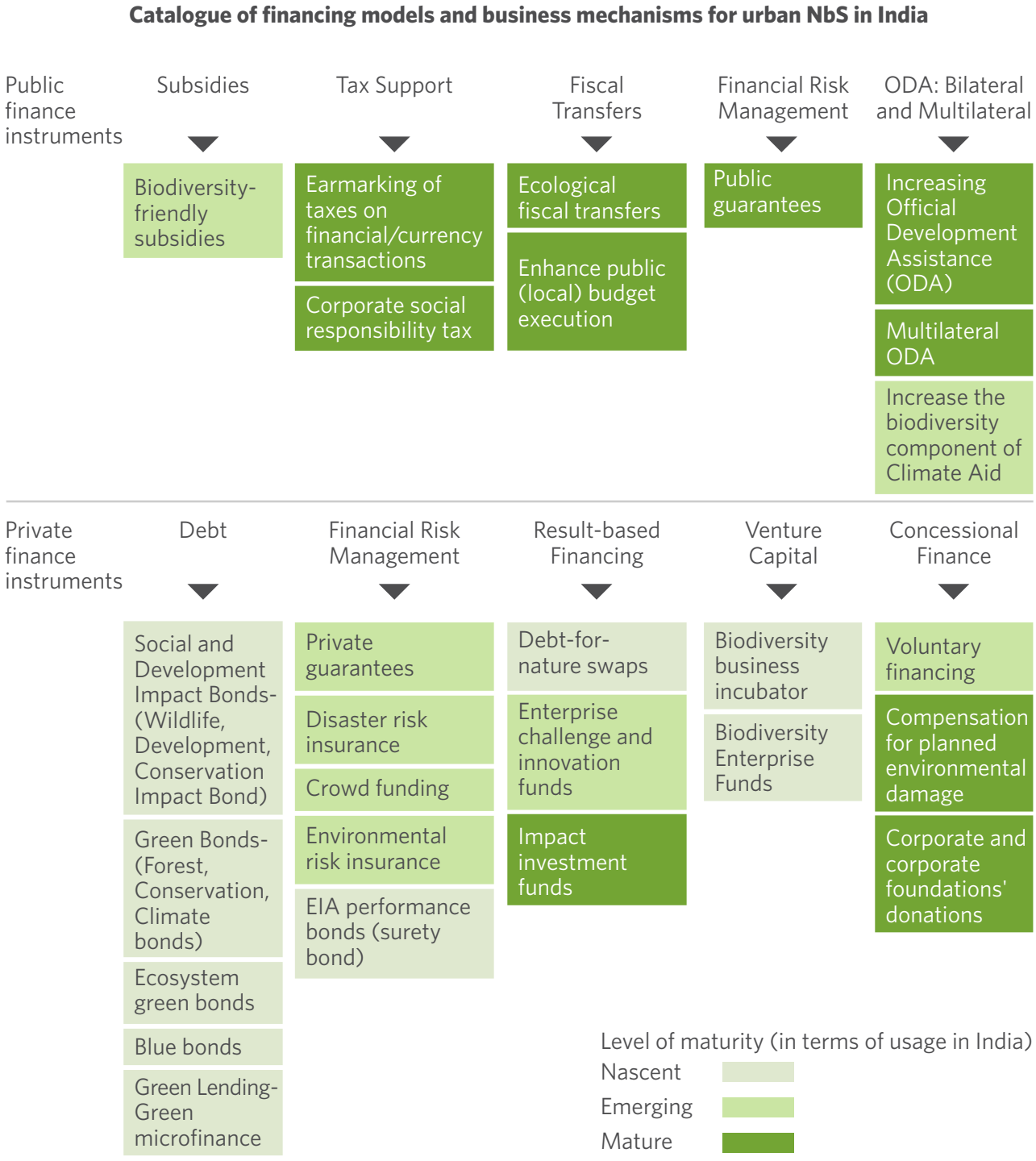
Source: *Harit Bharat Fund- Website*

- Despite growing recognition, private sector engagement in NbS remains nascent, requiring substantial efforts to build capacity and foster enabling conditions that can support their development (CPI, 2024). Successful implementation, particularly in urban NbS projects, will depend on leveraging well-established financial markets and adopting a phased approach that reflects the maturity of NbS markets (World Bank, 2025).

3.2.4 CATALOGUE OF FINANCIAL MECHANISMS FOR URBAN NBS

- **The selection of appropriate and effective financial mechanisms from the growing list of consolidated, emerging, and non-traditional mechanisms to fund urban NbS, and aligning multiple interests, often poses a challenge for practitioners** (Deutz et al., 2020). In such cases, along with financing considerations, various factors such as the project type, local socio-economic and governance context, stakeholders, and the benefits the project sets out to deliver will be crucial determinants.
- Early-stage efforts should therefore focus on educating investors, strengthening implementation, and piloting innovative models to demonstrate profitability, recognizing that no single financing approach will suit all contexts. The following catalogue of financial mechanisms (See Figure 13) aims to assist NbS stakeholders in educating NbS stakeholders and accessing suitable finance mechanisms based on the project stage:

Figure 13: Financial Mechanisms for NbS



Source: *Adapted from BIOFIN's Catalogue of Finance Solutions and NAP Global's Inventory of Innovative Financial Instruments for Climate Change Adaptation*

^^Brief description with examples of each mechanisms are detailed in Annexure 1: Catalogue of Financial Mechanisms for Urban NbS

- The financial mechanisms and instruments have been used by urban areas, for example, the city-level risk mitigation mechanisms in the Philippines (See box-9) and green bonds for city-level NbS in Canada (See box-10).

Box 9: Philippines City Disaster Insurance Pool: City-level Risk Mitigation Mechanisms

A forward-looking initiative that helps cities prepare for and recover quickly from climate-related disasters such as typhoons, floods, droughts, and landslides. Recognizing the growing risks from extreme weather, the Philippine Department of Finance, with support from the Asian Development Bank (ADB), developed this pooled fund as part of the country's 2015 Disaster Risk Financing and Insurance Strategy. The insurance pool is built around a parametric model, which means payouts are triggered automatically based on the physical characteristics of events like typhoons or earthquakes, rather than waiting for lengthy assessments of actual losses. This ensures cities gain rapid access to funds for early recovery when they need it most.

What makes this initiative stand out is its city-level focus and speed of response. By pooling resources and using clear, data-driven triggers, the fund empowers local governments to act quickly, restore essential services, and support communities in the immediate aftermath of disasters. It shifts the approach from reactive relief to proactive preparedness, giving cities financial certainty in uncertain times. This model highlights how innovative risk-sharing mechanisms, backed by national leadership and international partners, can help vulnerable urban communities bounce back faster, stronger, and more equitably in the face of climate shocks.

Source: *ADB- Philippine City Disaster Insurance Pool*

Box 10: Ontario Green Bond Program: Green bonds for City-level NbS

The Port Lands Flood Protection Project in Toronto is a transformative initiative financed through the Ontario Green Bond Program, with an investment of approximately USD 1.4 billion. The project aims to protect the city's southeastern downtown areas, which are highly vulnerable to flooding during provincially defined "Regulatory Storm" events. Its scope extends far beyond flood control, integrating parks, municipal infrastructure, roads, bridges, and earthworks into a comprehensive plan for urban resilience and community well-being.

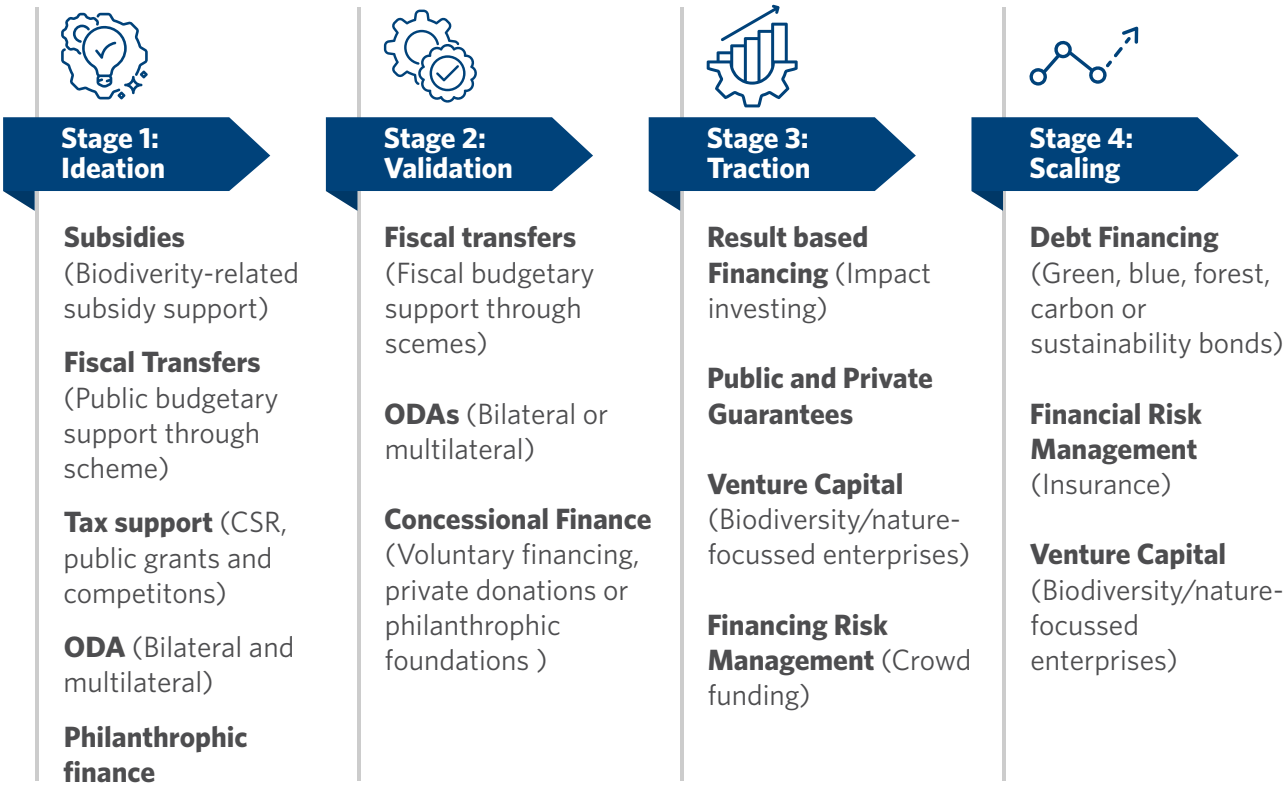
At its heart, the project is about reimagining the Don River and its surrounding landscape. By excavating a new river valley capable of handling high volumes of floodwater and creating a naturalized river mouth, the initiative reduces flood risks while restoring vital ecosystems. Additional elements, such as water flow control structures, sediment management, new transit infrastructure, and the creation of parks and aquatic habitats, ensure that the project delivers benefits not just for flood protection but also for future development, recreation, and biodiversity. Led by the Ontario Financing Authority, this initiative demonstrates how green finance can be harnessed to build safer, greener, and more livable cities.

Source: *Ontario Financial Authority- 2024 Ontario Green Bond Newsletter*

3.2.5 FINANCING CYCLE OF URBAN NBS PROJECTS

- There is no one-size-fits-all financing mechanism for urban NbS, as each project is unique and requires different types of financial mechanisms and instruments across project development stages (Deutz et al., 2020).
- NbS projects would move through four stages of development (Department for Promotion of Industry and Internal Trade [DPIIT], n.d.):
    1. **Ideation**- Developers are at the ideation stage
    2. **Validation**- Prototype ready and requires validation of potential demand.
    3. **Traction**- Project developed with key performance indicators. Cost recovery, benefits, and revenue become important at this stage**.**
    4. **Scaling**- Experiencing rapid market growth and increasing revenues.
- **Mapping these stages of an NbS project with the financing cycle (check Figure 14) can help both developers and investors gain clearer insights into what to anticipate and how to respond at each step.** This alignment not only strengthens individual projects but also lays the groundwork for scaling NbS more effectively across urban contexts.

Figure 14: Financing cycle of NbS Projects



Source: *CPI Analysis*

Key Takeaway

The financial mechanism aids in assessing the feasibility of NbS projects and provides structured instruments to mobilize and channel finances from different sources and instruments. These financial mechanisms must be tailored to align different financial instruments with the stages of NbS project development and the financing cycle, which can help developers and investors anticipate risks, capital needs, and responses at each stage.

3.2.6 CATALOGUE OF BUSINESS MECHANISMS FOR URBAN NBS

- **Business mechanisms demonstrate the value generation (benefits), service offering, and revenue sources of NbS projects.** For ensuring bankability and attracting commercial private investment, an NbS project must be able to generate a reliable and stable source of revenue over the life of the project.
- For NbS business mechanisms, the revenue risk and uncertainty around value realization are arguably the major challenges, as NbS projects do not readily provide a straightforward revenue generation approach.
- For NbS stakeholders to understand various NbS tools for cost recovery and value creation of an urban NbS project, the guidebook has created a catalogue of various business mechanisms (Check Table 7). These business mechanisms can be categorized into 2 types for NbS projects-
    1. **Direct benefit mechanisms**- These approaches directly generate revenues or financial flows that can be used to recover costs and ensure long-term sustainability of NbS projects. These include credit trading, revenue generation, and public sources.
    2. **Indirect benefit mechanisms**- These do not generate direct cash flows but create value capture or cost avoidance, which improves financial attractiveness and supports cost recovery. These include land value capture (LVC), ecosystem benefits, cost avoidance, and other products generated through these mechanisms.
- These categories are not mutually exclusive, and almost all the projects leveraged some combination of these revenue and benefit sources. The lines between them can also sometimes be blurred. However, for the purpose of thinking through potential cost recovery mechanisms, it is a functional categorization approach.

Table 7: Business Mechanisms for urban NbS

Level of Maturity (in terms of usage)	Colour Code
Nascent	
Emerging	
Mature	

The maturity level color coding is derived from the application of business mechanisms in sustainability and green domains within the Indian context.

Business Mechanism	Summary	Status/Example
Direct Benefit Mechanisms		
Credit Trading		
Carbon Markets	Cap-and-trade or voluntary systems set limits on emissions and allow trading of emission units. Revenue is generated by selling credits from projects that reduce or capture greenhouse gas emissions, often through reforestation, wetland restoration, or other carbon-sequestering activities.	India has a voluntary carbon credit mechanism in forestry, wetland restoration, or agroforestry. For example, the Mid-Himalayan Watershed Development Project, which includes the Himachal Pradesh Reforestation Project (HPRP) (Government of Himachal Pradesh, n.d.), utilizes the carbon market within the project.
Wetland banking	Conservation outcomes are monetized through the creation and sale of wetland credits to offset ecological impacts caused by development elsewhere.	India has various wetland restoration projects underway, but there is no defined wetland trading system in India.
Nutrient trading	Credits are established based on nutrient reductions (nitrogen, phosphorus, sediment), which can be sold to parties needing offsets, incentivizing improved land and water management practices.	India currently lacks a formal nutrient trading system (e.g., for nitrogen or phosphorus offsets), unlike some Western contexts.
Biobanking (habitat/species)	Credits are generated from conservation or restoration of species or habitats, which developers can purchase to compensate for biodiversity impacts.	Nascent in India with the launch of the Green Credits Programme, this space is becoming increasingly active globally.
Water markets	Mechanism to buy and sell water rights, improving allocation efficiency, and supporting more sustainable use of water resources.	Informal groundwater markets are slowly emerging (Rodrigues et al., 2024). However, a formal water market is still missing.
Revenue Generation		
User pays	Service providers charge users directly through fees, tariffs, or tolls for ecosystem-related services such as water supply, flood protection, or stormwater management.	Numerous Indian cities charge user fees or tariffs for water supply, waste management, and wastewater services, but a few directly tie these to ecosystem services.
Product sales	Revenue streams are created by selling sustainably produced goods such as agricultural products, timber, or fisheries products tied to NbS projects.	For example, ITC's Afforestation Initiative (CSRBOX, n.d.) focuses on nature and biodiversity to provide sustainable and eco-friendly products.

Business Mechanism	Summary	Status/Example
Ecosystem service payments (PES)	Beneficiaries or users of ecosystem services pay providers (directly or indirectly) to maintain and safeguard these services, ensuring a financial incentive for conservation.	For example, Meghalaya's root bridges were a Payment for Ecosystem Services programme that shows the emergence of such mechanisms (PIB, 2025).
Public Sources		
Government pays	Governments provide the primary or sole revenue source for projects through budget allocations, payments, or debt service, especially where projects provide public goods.	Public sources of cost-recovery are mostly used for NbS projects that create a public good.
Taxes and fees for natural resources	Governments charge general or sector-specific taxes and levies (on wildlife, forestry, water use, etc.) and allocate revenues to fund NbS.	No explicit funds are earmarked for nature or NbS, but governments can utilize fines, tourism fees, and environmental charges (for forests, wildlife, water use, etc.).
Permit & license trading	Governments issue tradable permits or licenses for the use of natural resources, generating revenue while regulating sustainable exploitation.	Tradable permits for resource use, such as fishing quotas, forest mining rights, or wastewater discharge licenses, are utilized in the Indian context.
Earmarking and retention of biodiversity revenues	Revenues such as taxes, fees, or charges are ring-fenced and directly allocated to biodiversity management and conservation activities.	Although not explicitly mentioned, it can be utilized for allocating public resources.
Indirect Benefit Mechanisms		
Land Value Capture (LVC)	Recovering part of the increase in land value generated by NbS investments through mechanisms such as property taxes, developer contributions, or special levies.	No cases accounted for or labelled as such, but have significant potential.
Ecosystem benefits/ cost avoidance	NbS reduces long-term costs such as disaster damages, healthcare burdens, or insurance premiums, creating financial savings that enhance project viability even without direct revenues.	Numerous studies highlight how nature-based interventions reduce long-term societal costs, such as flood damage, health burdens, or cooling needs, strengthening project viability and assessing benefits (Wadhawan & Bajpai, 2024).

Source: *Adapted from BIOFIN's Catalogue of Finance Solutions and World Bank Group's Financing Climate Adaptation and Nature-based Solutions report*

Key Takeaway

Although these catalogued business mechanisms are still nascent or emerging, they have yet to achieve maturity. However, these mechanisms can monetize the NbS opportunity into cash flow that could either be reinvested back into NbS projects to maintain and scale them or returned to investors. These could address revenue risk and uncertainty through appropriate cost-recovery and value-creation.

3.3 STEP 3: URBAN NBS PROJECT EVALUATION FACTORS

- **This step for urban NbS stakeholders elaborates the urban NbS project evaluation framework, which contains a 9-factor framework for assessment of an individual project's NbS definitional fit, diversity, performance, and financing.** These qualitative factors cumulatively allow NbS stakeholders to conceptualize, design, and deliver long-term scalability, financial innovation, and impact through NbS projects.

3.3.1 URBAN NBS PROJECT EVALUATION FRAMEWORK

- This 9-factor evaluation framework has been arrived at through secondary literature review of frameworks such as Climate Policy Initiative's Toolbox on financing nature-based solutions (Climate Policy Initiative, 2024), Council of Energy, Environment and Water's ENSURE Framework (Wadhawan & Bajpai, 2024), and core concepts of NbS effectiveness (Sowińska-Świerkosz & García, 2021).
- The table categorizes and describes each of the 9 factors (See Table 8) with their applicable cases for application-based understanding for NbS stakeholders.

Table 8: Urban NbS project evaluation framework

Category	Factors	Description	Example/Application
Definitional Factors	**Factor 1: NbS Fit**	Intervention fits into the Nature-based Solution approaches of ecosystem restoration, protection, management, and infrastructure approaches.	Best Practice: **Municipal Bonds for Stormwater Drainage (Chennai, India)** focused on supporting stormwater drains and restoration of water bodies, combining grey and green infrastructure for flood resilience**.**
Diversity Factors	**Factor 2: 'Local Factors of Influence' (LFI) Mix**	Interventions consider and cover a mix of LFI – social, economic, cultural, climate-related, livelihood-related, and biodiversity-related factors.	Best practice: **Blue Carbon Financing – Vida Manglar Project (Colombia)** focused on diverse local factors like socio-economic, community livelihoods, climate, and biodiversity protection.
	Factor 3: Governance Mechanisms	Governance of these projects/ cases needs to be participatory and inclusive for stakeholders.	Best Practice**: Payment for Watershed Services (Rio Camboriu – Brazil),** a community-led governance and implementation mechanism with payment to landowners linked to watershed restoration and services (PWS).
Performance Factors	**Factor 4: Cost and Benefits**	Assessment of the costs and benefits of the NbS intervention that balances trade-offs between multiple co-benefits.	Best Practice: **DC Clean Rivers Project (Washington, DC, USA)** issued bonds with repayment linked to actual impact, aligning incentives for quality outcomes. Therefore, developers had to undertake cost and benefit assessments.
	Factor 5: Scaling-up and Sustainability	Potential for scaling up and sustaining the NbS project across regions with similar geographies and socio-economic conditions.	Best Practice: **Quito Water Protection Fund-FONAG (Quito, Ecuador)** became a long-term trust fund investing in watershed conservation, ensuring steady finance because of direct and indirect benefits with strong replicability in similar contexts.
	Factor 6: Harm or Maladaptation	The project does not cause any potential harm or lead to maladaptation in the future.	Negative screening factor to avoid maladaptation and harm to other local factors of the project.

Category	Factors	Description	Example/Application
Financing Factors	**Factor 7: Financial Data Analysis**	Identifying the NbS project/case's possible financial flows, business revenue, stakeholders involved, mechanisms used, and benefits achieved.	The best practice repository in section 3 highlights the financial data analysis.
	Factor 8: Bankability and Investment Mobilization	Assessing the risk-return profile and the ability to mobilize investments through public, private, and concessional finance across the NbS project cycle.	Best practice: **Green Roof Improvement Fund (Chicago, USA)** was a financial risk management approach using tax increment financing (TIF). The public funds were used to reimburse private developers up to 50% of costs for green roofs that reduce heat island effects and improve stormwater management.
	Factor 9: Innovative Financing Mechanisms	NbS projects incorporate innovative financing or business mechanisms that enhance stakeholders' access to finance.	**Box 3-10 and the best practices repository** demonstrate an innovative financing mechanism for stakeholders.

**** Section 3 covers the 9 best practices examples in detail to showcase the financial and business mechanisms lessons for urban NbS that can be adopted and utilized for Indian cities.*

4. SECTION 3: NBS BEST PRACTICE REPOSITORY

The section is a repository of the 9 best practices that were selected and analyzed from a larger list of practices. These showcase global and domestic NbS examples of financial and business mechanisms that can be replicated and utilized in Indian cities.

The list of projects included here extends beyond the urban context, so as to also learn from mechanisms that were successful in mobilizing finance in peri-urban and rural areas. The focus was on identifying innovative financing and business mechanisms; there is not enough evidence available on this within the urban context. Therefore, as long as the outcomes achieved by projects were replicable in the urban context, they have been evaluated and included in the final list.

Key learning outcomes:

- Understanding the approach of identifying and analyses NbS best practices.
- Best practices with their financial and business mechanisms, and developing scalable, context-relevant NbS initiatives for Indian cities.

4.1 APPROACH OF IDENTIFYING AND ANALYZING NBS BEST PRACTICES

The study took the following approach:

- 30 best practices featuring innovative financial and business mechanisms with potential for sustainable scaling in Indian cities were identified. These emerged from an initial literature review as well as suggestions gathered through stakeholder consultations and field explorations conducted by partners at the India Forum for NbS.
- A deeper analysis was conducted using an assessment framework (See Annexure 2: Best Practices Assessment Framework), which examined four thematic areas- Definitional Factors (such as NbS fit), Diversity Factors (such as local factor mix or governance mechanisms), Performance Factors (such as scaling-up and sustainability, and maladaptation), and Financing Factors (such as bankability and investment mobilization, and innovative financing mechanisms) that were further broken down into nine sub-factors. The purpose of this analysis was to identify projects that can be broadly categorized as best practices for financing NbS.
- These were then evaluated using a structured scoring process to arrive at 9 diverse best practices (See Annexure 3: Best Practices Scoring Framework). The evaluation considered two sets of criteria: priority indicators, such as data availability and relevance to urban and Indian contexts, and additional indicators, including innovation and potential for scaling.

The identifying and analysis process resulted in the shortlisting of 9 NbS best practices that were further analyzed.

4.2 NINE NBS BEST PRACTICES- FINANCIAL AND BUSINESS MECHANISMS

- Each of the best practices was elaborated on its key features, ranging from the location of implementation, stakeholder mapping, objectives, financing, and implementation approach, key innovations, outcomes, and relevance to Indian cities. A summary of the 9 best practices with their business and financial mechanisms is outlined in the table given below (See Table 9). A deep dive into the individual best practices follows the table.

Table 9: Nine NbS Best Practices with the Financial and Business Mechanisms

NbS Best Practice	Business/Financial Mechanisms	Summary
Municipal Bonds for Stormwater Drainage (Chennai, India)	Municipal bonds for NbS-linked urban infrastructure	Bonds worth INR 200 crores supported stormwater drains and restoration of water bodies, combining grey and green infrastructure for flood resilience.
Blue-green infrastructure for Tapi Riverfront Development (Surat, India)	Debt-based financing by the National Public Finance	Demonstrates how Surat Municipal Corporation leverages municipal bonds, blended finance, and PPPs to integrate blue-green infrastructure for flood management, climate resilience, and urban livability.
DC Clean Water Project (Washington, DC, USA)	Environmental Impact Bond (EIB) with payment tied to stormwater reduction performance	USD 25 million raised for rain gardens and permeable pavements; repayment linked to actual impact, aligning incentives for quality outcomes.
Blue Carbon Financing – Vida Manglar Project (Colombia)	Verified blue carbon credits sold in voluntary markets	Mangrove restoration is generating high-quality credits, with 92% of proceeds reinvested into community livelihoods and biodiversity protection.
SEWA Livelihood Recovery and Resilience Fund (Gujarat, India)	Parametric Insurance, where weather thresholds trigger insurance payouts	Women workers received payouts during heat stress events, with premiums partly subsidized; the model supports resilience and links to low-cost credit.
Carbon Credit Trading by Farmers for Forests (Maharashtra, India)	PES model combining agroforestry with carbon markets	Farmers get farming inputs and access to carbon revenue, with monitoring through AI tools, creating a steady income and climate benefits.
Payment for Watershed Services (Rio Camboriu – Brazil)	Payment to landowners linked to watershed restoration and services (PWS)	Farmers receive conditional payments for restoring and protecting forests, which helps cut sedimentation costs and improve water security.
Green Roof Improvement Fund (Chicago, USA)	Financial Risk Management by Tax Increment Financing (TIF)	City-led model using public funds to reimburse up to 50% of costs for green roofs, reducing heat island effects and improving stormwater management.
Quito Water Protection Fund-FONAG (Quito, Ecuador)	Users-pay model with water utility revenue and corporate contribution	Long-term trust fund investing in watershed conservation, ensuring steady finance, strong governance, and replicability in similar contexts.

MUNICIPAL BOND FOR INTEGRATED STORMWATER DRAINAGE PROJECT IN THE KOSASTHALAIYAR BASIN BY THE GREATER CHENNAI CORPORATION (GCC) | DEBT-BASED PRIVATE FINANCING

Objective and NbS: Bond-based financing for ULBs to leverage capital markets for hybrid NbS infrastructure for flood resilience.[13]

Financing Approach

In May 2025, the Greater Chennai Corporation (GCC) raised Municipal Bonds to initiate a large-scale project worth INR 200 crores, which aims to improve urban flood resilience in the Kosassthalaiyar basin by building 769 km of stormwater drains and restoring 79 water bodies in flood-prone areas. The bonds were listed on the NSE at a 7.97% annual interest rate (in comparison to bank loans at 8.75% to 8.9%) for 10 years, and were oversubscribed by 4.21 times, showing strong market trust. India Ratings and Acuitte have rated the GCC municipal bonds as AA+, as per official releases from the Tamil Nadu government. Additionally, the center provides an incentive of INR 13 crore for every INR 100 crore raised through bonds to urban local bodies (ULBs). The GCC will receive INR 26 crore as an incentive from the Union government under the Atal Mission for Rejuvenation and Urban Transformation 2.0 scheme for the INR 200 crore raised.

Bankability and Investment Mobilization

To support the GCC's fundraising efforts and boost investor confidence, the TN government has assisted under the Project Sustainability Grant Fund scheme (a non-lapsable fund by the TN govt. to support the research and development of urban infrastructure projects). Amalgamating conventional grey infrastructure projects for yielding environmental benefits (through a watershed planning approach that aggregates outcomes), and monitored through performance-based indicators, the Urban Local Body (ULB) makes the project not only locally feasible, but also capable of attracting institutional investors. Co-benefits from the project involve groundwater recharge and water retention.

Scaling-up and Sustainability

Finance flows to NbS in India are mainly supported by the public sector. Raising Municipal Bonds for investing in infrastructure harnesses private financing, domestic capital markets, and offers state oversight, making it a replicable model for other urban sectors. The groundwork by the GCC to prepare for the Integrated Storm Water Drain Project bond issuance, conducting due diligence as per SEBI regulations, has created a framework for future listings. Following this model, three more TN municipal corporations, Coimbatore, Tiruppur, and Tiruchy, are in the process of raising INR 100 crore each via municipal bonds. However, scaling bond-based financing for NbS can be challenging where long timelines for land acquisition may be involved, or municipal credit rating/ institutional capacity needs to be improved.

13 Sources: ADB- Integrated Urban Flood Management for the Chennai-Kosasthalaiyar Basin Project ; PIB update ; ADB- Integrated Urban Flood Management for the Chennai-Kosasthalaiyar Basin Project: Report and Recommendation of the President

Key enablers accredited to the bond's success are the demarcation of a well-defined problem and solution, a known and predictable source of revenue (e.g., property tax), robust credit quality, the capability of the implementing agency, and assistance from the public sector, facilitating de-risking.

Applicability in Indian Cities

The monitoring and reporting provisions that Municipal Bonds offer improve trust, which incentivizes climate outcomes. However, they also add cost and effort. Designing such integrated projects with due consideration of local climate data that also align with national policies like AMRUT 2015, FMP 2007, and Atal Bhujal Yojana 2019 presents a probable case for de-risking private capital.

INTEGRATING BLUE-GREEN INFRASTRUCTURE FOR TAPI RIVERFRONT DEVELOPMENT | DEBT-BASED FINANCING BY NATIONAL PUBLIC FINANCE

Objective and NbS: To leverage municipal bonds and blended finance for integrating blue-green infrastructure (BGI) in the Tapi Riverfront Development, aimed at flood attenuation, groundwater recharge, pollution reduction, habitat enhancement, and increased recreational value.[14]

Financing Approach

The Tapi Riverfront Development, estimated at INR ~7,882 crores for a 33 km stretch, is being financed through a blended model by the Surat Municipal Corporation (SMC). At its core is debt-based finance, with SMC announcing a Green Municipal Bond of INR 200 crores (INR 100 crore base+INR 100 crore green-shoe option), certified by the Climate Bonds Initiative and rated Provisional CRISIL AA+/Stable. This builds on SMC's earlier successful issuances with coupon rates of 8.25%–8.68%, backed by structured repayment mechanisms. Complementing the bonds, SMC's FY 2025–26 municipal budget of INR 10,004 crores allocates significant funds to flood management and green infrastructure. The project also draws on international climate finance from C40, UrbanShift, GEF, and UNEP, alongside CSR investments from Surat's textile and diamond industries, and contributions from PPP/EPC contracts engaging private players in engineering, procurement, and construction.

Bankability and Investment Mobilization

SMC's strong creditworthiness, demonstrated by a track record of timely bond servicing, 99% property tax collection, and robust revenue predictability, has enabled it to access capital markets. The proposed Green Bond follows SEBI's Green Debt Securities norms, with safeguards like escrow accounts, Debt Service Reserve Accounts, and trustee oversight to de-risk investors. Surat's industrial base (textiles and diamonds) and high municipal capacity further bolster investor confidence.

Scaling-up and Sustainability

By blending municipal bonds with concessional funds, CSR, and PPP contributions, SMC has created a multi-stakeholder financing template for large-scale urban resilience projects. The formation of the Tapi Riverfront Development Corporation Ltd. (SPV) ensures governance and accountability. Additionally, Surat can capture increased land value, estimated at nearly USD 400 million, from the riverfront redevelopment, which enhances long-term financial sustainability. This makes the model replicable for other ULBs with strong fiscal health.

Applicability for Indian Cities

The Tapi Riverfront Development demonstrates how debt-based financing can be aligned with national frameworks like AMRUT 2.0 and the Ministry of Jal Shakti's urban resilience vision. The model shows how ULBs with strong credit ratings and robust revenue systems can access private capital at competitive rates (lower than traditional bank loans). For other Indian cities, the key barriers remain municipal creditworthiness, institutional capacity, and long gestation periods for large-scale projects, but Surat's example provides a clear pathway.

14 Sources: Surat Munical Corporation- Tapi Riverfront Development and Rejuvenation Project, Tapi Riverfront Project

DC WATERS- ENVIRONMENTAL IMPACT BOND | PAY FOR PERFORMANCE MODEL

Objective and NbS: The Clean Rivers Project is a USD 2.7 billion initiative designed to demonstrate the cost-effectiveness of green versus grey infrastructure for stormwater management in the District of Columbia, aiming to reduce CSOs by 96% system-wide and meet specific targets for the Anacostia, Potomac, and Rock Creek.[15]

Financing Approach

Creating investment incentives to address market failures- DC Water developed the first environmental impact bond (EIB) in 2016, linking interest rates to environmental benefits achieved through bond funding, highlighting innovative financing mechanisms.

Pilot implementation and Impact evaluation

The bond was privately issued (By DC Water) to Goldman Sachs and Calvert Impact Capital at USD 25 million, funding a pilot (Rock Creek) to create 25 acres of green infrastructure (rain gardens, permeable pavement, and the development of a sewer shed park) with a 30-year issue length. Investor returns on the EIB were linked to the success of the green infrastructure project, meaning DC Water and investors shared the performance risk.

As per the EIB structure, the principal is repaid through the costs saved by reducing sewer overflows. The core interest rate was set at 3.43% to achieve the expected environmental benefit, with a reduction clause for under-performing and an increase for over-performing. Performance monitoring of the pilot was another critical step- making design adjustments where necessary. The green infrastructure was assessed as successful for achieving a 20% reduction in runoff into Rock Creek, and the bond was repaid in full and closed in 2021.

Scaling-up and Sustainability

The structure of an EIB was deemed appropriate to address the goals of DC water on risk sharing between the public and the private sector, as well as scalability for municipalities to use green infrastructure for addressing stormwater management. To further encourage adoption of the tool, there was a focus on enhancing city capacities and decision-making to select suitable NbS practices and publicly reporting impact for improved transparency to local ratepayers.

15 Sources: WEF- DC Water's Environmental Impact Bond ; DC Water- Green Bond Framework

Applicability for Indian cities

For Indian cities, performance-based delivery of funds is currently not expected. Green bonds and other instruments are not widely used due to reporting burdens.

To enable innovation, the political will of the public sector and the accuracy in evaluating projected impact for the private sector are critical. Piloting solutions to demonstrate potential impact is one such way to reduce uncertainty. Additionally, as cities increasingly declare their adaptation ambitions through Climate Action Plans, the EIB serves as an effective instrument for the more efficient use of public funding. However, more rigorous performance projection and reporting methods can make it easier for investors to understand risks and benefits.

VIDA MANGLAR BLUE CARBON PROJECT, CISPATA BAY, COLOMBIA |CARBON CREDIT TRADING MECHANISM

Objective and NbS: A first-of-its-kind blue carbon revenue model project focusing on mangrove ecosystem restoration and sustainable management.[16]

Financing Approach

The Vida Manglar project in Colombia showcases a community-driven model that conserves 7,500 hectares of mangroves. As the first blue carbon project accredited by Verra under the Verified Carbon Standard (VCS), it generates high-quality carbon credits for voluntary markets, ensuring a sustainable cost-recovery mechanism. By adopting a market-driven conservation approach, the project generates high-quality carbon credits that are sold through voluntary carbon markets, serving as a sustainable cost-recovery mechanism. Over 30 years, it aims to sequester nearly 1 million metric tons of CO_2, protect and restore up to 11,000 hectares of mangroves, conserve biodiversity, and curb unplanned deforestation. Conservation International developed the model with the technical support of South Pole.

Market-Driven Project with Local Impact

This project has been recognized with Gold-level Climate, Community & Biodiversity (CCB) certification, highlighting its exceptional beyond-carbon benefits for the local communities of San Antero and San Bernardo del Viento. Notably, 92% of carbon credit proceeds are returned directly to local communities, ensuring that conservation efforts translate into tangible social and economic gains.

In addition to generating carbon benefits, the project delivers critical nature and biodiversity co-benefits, including the monitoring of native species and the conservation of key migratory bird habitats. Carbon revenues are strategically reinvested to fund training programs and equipment, empowering local stakeholders and fostering long-term community engagement in conservation and sustainable land management.

Beyond carbon sequestration, the project also delivers significant adaptation and resilience co-benefits, including reducing river and marine flooding risks and mitigating coastal erosion. These outcomes contribute to multiple SDGs, including education, gender equality, sustainable communities, climate action, and biodiversity protection.

Applicability for Indian Cities

India places strong emphasis on mangrove restoration and conservation, supported by initiatives such as the MISHTI scheme. However, scaling up such efforts faces key challenges, including the limited maturity of carbon markets, the complexities of implementing community-led projects, and the long gestation periods typically associated with them.

Despite these barriers, mangrove-based projects offer significant co-benefits, including enhanced biodiversity conservation, carbon mitigation, and strengthened disaster risk reduction for vulnerable coastal regions.

16 Sources: Conservation International- Vida Manglar carbon project ; Verra- The Blue Carbon Project Gulf of Morrosquillo: Protecting Mangroves and Marshes in Colombia

PARAMETRIC INSURANCE MODEL | SELF-EMPLOYED WOMEN'S ASSOCIATION (SEWA)

Objective and NbS: To build community resilience to climate risk events by ensuring livelihoods as short-term safety nets for low-income communities, as part of the Cleaner Skies Campaign. Working as a risk transfer mechanism, parametric insurance policies can be expanded to include natural asset recovery.[17]

Financing Approach

Unlike traditional insurance (Indemnity models), which compensates for proven loss, parametric insurance pays a fixed amount when a predefined event, such as extreme heat stress, occurs. In 2023, SEWA piloted a heat parametric insurance scheme for 21,000 of its registered members in five districts in Gujarat, in partnership with an insurance technology firm (Blue Marble) and a nonprofit (The Atlantic Council). SEWA is the group policyholder, and ICICI Lombard is the local insurer. The scheme set a temperature threshold beyond which payouts would be triggered (based on three days of satellite-assessed temperature data, within six 10-day cycles, customized to each district) to each participating member. 50% of the premium was supported by philanthropy and CSR, and members provided the other 50%. Each woman who is a part of the collective contributed INR 250 annually and received INR 400 in direct cash assistance. While the payouts did not cover all the losses, they offered a short-term safety net during extreme heat days.

Scaling-up and Sustainability

The insurance product was piloted alongside other climate adaptation measures, such as early warning systems, to build comprehensive resilience to heat risks. Additionally, SEWA aims to expand its parametric insurance into a Livelihood Recovery and Resilience Fund (LRRF) offering not just payouts, but low-cost credit, emergency grants, and climate adaptation financing.

With the increase in frequency of extreme weather events, insurance coverage may cause premiums to rise, impacting access to the product, especially for low-income communities.

Applicability for Indian cities

Adoption of parametric insurance schemes for the urban Indian context still requires enhancing climate literacy. Insurance companies and risk managers need to be brought in early to integrate NbS into risk management strategies. Additionally, there is a need to reduce basic risk through more accurate data-based thresholds to release timely payouts. For urban NbS-linked insurance, exploring the maintenance of NbS assets in eligibility criteria or premium calculations can lead to approaches that combine risk transfer (e.g., insurance) with risk reduction (e.g., hazard mitigation). Additionally, bundling services like SEWA's Livelihood Resilience and Recovery Fund can support the recovery of natural infrastructure, such as mangroves, through supplementary contributions from philanthropic funding, thereby improving resilience to future climate risk events.

17 Source: SEWA- Parametric Heat Insurance for informal sector women workers

FARMERS FOR FORESTS | CARBON CREDIT TRADING MECHANISMS

Objective and NbS: Leveraging philanthropic capital to address gaps in access and pricing in carbon credits, while converting degraded land into biodiverse forests, providing a steady source of income to farmers and forest-dependent communities, and linking them to carbon credit markets.[18]

Financing Approach

The Farmers for Forests (F4F) model leverages philanthropic capital to validate a business model for biodiverse forests. The upfront costs for project preparation and evaluation (Capacity building of farmers, feasibility assessments of plots, agreements, etc.) are provisioned through philanthropic grants and CSRs. These also support the development of monitoring technology and market linkages to commercialize forest harvests. Early-stage project structuring improves access to carbon markets (Verra VM0047 methodology), generating 2 revenue streams – from the harvests and the sale of carbon credits (% of each revenue stream). The model also allows for improved carbon credit prices due to increased tech-enabled transparency in monitoring and reporting, as well as a CCB certification (Climate, community, and biodiversity label) obtained for improved quality of service delivery. The financing approach also acts as a revolving fund, where the organization can reinvest capital into other plots to achieve scale.

Enabling policy

To secure land and carbon rights, and sustain outcome generation in the long-term, the F4F team has signed long-term MoUs with local governments (State departments, Forest department, etc.). Budget outlays from state-level schemes, such as MNREGA and Majhi Vasundhara, are leveraged to achieve livelihood outcomes (35,000+ labor days of rural employment) for tree planting teams.

Scaling-up and Sustainability

To sustain the model, A PES component in the form of conditional cash transfers (X INR) incentivizes farmers to shift from monoculture to agroforestry, where results are tied to the survival rate of trees. This also bridges the income gap until the trees begin delivering products and services. Granular monitoring through their own AI platform (Drone monitoring combined with varied satellite data sources and field verification) provides accurate carbon sequestration estimates (The F4F team reports about 40,000,000 + kg of carbon sequestration per year). R&D for this platform is largely funded through small catalytic funds from organizations (such as The Nudge Foundation, Fast Forward, HP, CISCO, and others) that are keen to support authentic carbon credit assessments.

18 Sources: Farmers for forest- Our Mission & Vision ; Farmers for forest- AI Based Automated Calculation of Carbon Stock in Agroforestry Plantations

Clear ownership rights are critical for financial sustainability of projects, along with distribution of revenue generated, such that the community receives equitable benefits. Through the Farmers for Forests model for example, the farmers receive only about 10% of the total revenue generated through carbon credit trading.

Applicability for Indian Cities

Accuracy in reporting and cost recovery options to ensure financial sustainability are aspects that can be taken forward from the F4F model. However, factors such as land availability remain a challenge, where aggregation of bankable projects (a minimum of 2000 hectares) is critical to ensure feasibility (carbon registry and verification costs). Lastly, low carbon credit pricing deters access to the instrument, where there is more demand for the purchase of units at the carbon credit spot price (verified emissions that have already occurred) due to risks perceived with the sequestration potential of projects in the long-term.

RIO CAMBORIU PAYMENT FOR WATERSHED SERVICES (PWS) PROJECT, SANTA CATARINA, BRAZIL | PAYMENT TO WATERSHED SERVICES MODEL

Objective and NbS: A Payment to Watershed Services (PWS) project on the Camboriu River that aims to restore and conserve remaining forests and restore degraded areas with high sediment load to reduce water treatment costs.[19]

Financing Approach

The Balneário Camboriú Water Company (EMASA), the city's public water utility, invested in the project and used the Payment for Watershed Services (PWS) business model that emphasizes not just ecosystem restoration but also cost recovery, livelihoods, and community engagement.

The design of restoration and conservation measures—such as fencing off riparian and headwater areas, protecting upland forests on steep slopes, and planting native trees—was negotiated directly with each landowner. The landowners were compensated for maintaining these interventions, combining ecological restoration with economic value, livelihood benefits, and overall disaster resilience.

Integrating Value Generation: Cost, Benefits, and Community Participation

PWS's business model utilized in the NbS intervention allows for integrated value generation and co-benefits with community participation. In terms of benefits, restoring degraded forests and creating natural water storage areas reduces flooding risks. Additionally, in terms of cost avoidance, such NbS interventions prove far more cost-effective than gray infrastructure alternatives. Furthermore, between 2015 and 2045, it is expected to generate an average of USD 194,000 annually in sediment reduction-related benefits alone.

Central to its success is a community participation and governance model built on collaboration among municipalities, state agencies, and landowners—where landowners design interventions for their own land, contractors carry out the work, and conditional payments with bi-annual inspections ensure transparency and accountability. This integrated approach not only strengthens resilience and water security but also builds trust by linking ecological restoration with livelihoods and long-term community well-being.

Adaptability to Indian Cities

In India, the Payment for Watershed Services model encounters challenges, especially in densely urbanized areas where community mobilization is limited. However, aligning the model with existing watershed development schemes and urban river management plans—and placing stronger emphasis on community participation and ecosystem services—can make it more feasible for tier-2 and tier-3 cities. Despite the barriers, the approach holds significant promise for urban greening and water conservation. By framing it as a practical, people-centric solution that delivers visible benefits, cities can build stronger community ownership while addressing pressing water challenges.

19 Sources: IFC- Nature-based Solutions in Cities; Returns on investment in watershed conservation: Application of a best practices analytical framework to the Rio Camboriú Water Producer program, Santa Catarina, Brazil

GREEN ROOF IMPROVEMENT FUND (GRIF) IN CHICAGO, USA | FINANCIAL RISK MANAGEMENT BY TAX INCREMENT FINANCING (TIF)

Objective and NbS: To facilitate stormwater management by installing green roofs in commercial buildings.[20]

Financing Approach

Chicago established over 120 TIF districts, attracting private investment while leveraging public grants to implement NbS. Revenue from the Central Loop TIF District has been ring-fenced into the Green Roof Improvement Fund (GRIF), which reimburses commercial buildings that install green roofs. The USD 6 billion TIF program earmarks resources for urban resilience, with GRIF offering 50 % grants (up to USD 100,000 per project) in designated districts. Chicago's TIF districts generate revenue by capturing growth in property value, officially measured as growth in the Equalized Assessed Valuation (EAV) of properties within a defined district over a fixed horizon (often ~ 23 years). This mechanism creates a predictable incremental tax flow (the "increment") that can be earmarked for public investment. By linking funding to incremental property tax revenues, Chicago ensured predictable cash flows, reduced investor risk, and enabled sustained private investments.

Scalability and Marketability

The TIF–GRIF mechanism is highly marketable as it links NbS financing to rising property values, thereby creating a self-sustaining revenue stream. By reducing investor risk through predictable TIF cash flows, the model is able to attract private and institutional capital at scale. The length and structure of TIF districts (e.g., 20-25 years typical, some renewal or extension) allow for long-term planning. This is crucial when implementing NbS infrastructure, which often has longer payback periods. Its structure is scalable across global urban contexts, provided cities have robust land valuation systems and creditworthy urban local bodies. In emerging economies like India, this approach could unlock private real estate and infrastructure financing for NbS, particularly in rapidly expanding urban centres.

> The initiative has also seen formal recognition of 'green' infrastructure by the local government, which in turn encouraged private sector participation in financial risk-sharing, accelerating on-ground implementation.

Applicability for Indian Cities

Although TIF is not widely deployed in India, this approach offers significant potential for densely populated cities such as Mumbai, Delhi, or Bengaluru, which grapple with stormwater flooding and urban heat. With policy support through frameworks such as the Smart Cities Mission, AMRUT, and the National Urban Policy Framework, TIF-like mechanisms could be adapted to Indian contexts. Success would depend on strengthening ULB creditworthiness, ensuring transparent land valuation systems, and creating enabling regulatory frameworks that integrate NbS into mainstream urban financing.

20 Sources: City of Chicago Tax Increment Financing and Green Roof Improvement Fund; Tax Increment Financing ; 10-year TIF Projections ; Total Cook County TIF Revenue Increased $93.1 Million in 2023

QUITO WATER PROTECTION FUND (FONAG) PROJECT, QUITO, ECUADOR| USER PAY MODEL

Objective and NbS: A user-pay model project focuses on restoring the Guayllabamba River basin, one of Ecuador's most densely populated areas and the source of water for 2.6 million residents, including the city of Quito. Nature-based Solutions aim to improve watershed health, ensuring clean, reliable water and long-term ecosystem resilience.[21]

Financing Approach

Fondo para la Protección del Agua (FONAG), a dedicated water conservation fund, started as a partnership between the Municipal Sewer and Potable Water Company of Quito (EPMAPS) and The Nature Conservancy (TNC). It began with an initial contribution of just USD 1,000 from TNC and USD 20,000 from EPMAPS. Still, it grew into a powerful financial mechanism, surpassing USD 22 million in cumulative investments by the end of 2018.

Structured as a private trust with an 80-year lifespan, FONAG ensures steady, long-term funding for ecosystem management, made possible by pooling resources from both public and private sectors. Recognizing the indirect benefits of protecting watersheds, more private sector partners joined over time, including Quito's electric company, Cervecería Nacional, Tesalia Springs Co., CAMAREN, and international actors such as the Swiss Cooperation (COSUDE). A key innovation that strengthened sustainability was the introduction of a cost-recovery mechanism, with 2 % of EPMAPS's revenues earmarked for the fund, which was recovered through water tariffs, guaranteeing ongoing support and long-term impact.

Replicable and Sustainable Business Model

FONAG illustrates how a Nature-based Solution can evolve into a replicable and sustainable business model, even within the highly localized nature of such projects. While financing, implementation, and benefits are often context-specific and difficult to replicate, FONAG's success has inspired the creation of other water funds, such as FORAGUA in Southern Ecuador and the Upper Tana-Nairobi Water Fund in Kenya.

> By aligning ecological protection with clear economic and social gains, FONAG shows how NbS interventions can unite public, private, and philanthropic partners to address human challenges through long-term collaboration and lasting impact.

Its strength lies in securing steady revenue streams from both corporate and public budgets while embedding a strong cost-recovery mechanism. For example, Quito's water utility, EPMAPS, earmarks 2% of its revenue that is contributed through water tariffs, ensuring that the fund remains financially resilient. At the same time, private companies benefit directly from the initiative through avoided operational losses, reliable water supply, and improved productivity.

21 Source: World Bank- Financing Climate Adaptation and Nature-based Infrastructure

Adaptability to Indian Cities

Water scarcity remains a persistent challenge in Indian cities, largely because water is often treated as a free resource with minimal user charges. Initiatives such as the *Jal Jeevan Mission,* which aims to provide safe and adequate drinking water, and NIUA's *Urban River Water Management Plans* can create opportunities for urban local bodies to adopt and scale water-focused NbS with user-pay models. These initiatives could demonstrate strong potential for replication across India, particularly in watershed development, water pollution mitigation, and reducing the risks of urban flooding.

5. SECTION 4: STAKEHOLDER INSIGHTS

The stakeholder insights section captures early conversations on investment motivations and approaches towards urban NbS projects.

The NbS domain includes various stakeholders, including policy makers, urban developers, financiers, and civil society organizations, who play a key role in advancing the urban NbS agenda. To capture stakeholder perceptions, interviews with detailed questionnaires were conducted, and a focused group discussion was organized with a diverse group. These insights can be broadly categorized into three themes: policy, financial, and financial/ business mechanisms.

Key learning outcomes:

- Insights on policy gaps and solutions that hinder mainstreaming and scaling urban NbS.
- Stakeholder assessment of finance challenges and solutions in urban NbS ecosystem.
- Insights on business mechanisms and financial instruments that make NbS economically viable and attractive to investors.

5.1 STAKEHOLDERS ON NBS POLICY GAPS AND SOLUTIONS

- **Many local governments rely on traditional "grey" infrastructure due to a lack of clarity and evidence on how NbS works, which makes** them a risky endeavour. Stakeholders pointed out that even though NbS are gaining attention, cities still face significant hurdles in putting them into practice. The lack of innovation and limited technical capacity further hinders the process.
- **On the policy side, enabling long-term NbS project agreements around land and carbon rights is critical,** but this is not yet a common practice. While funding exists through schemes like MNREGA and Majhi Vasundhara (Maharashtra government's scheme), the money is not always well-aligned with NbS needs. Stakeholders emphasized the importance of technical assistance and capacity building at different levels of government to support NbS at the planning stage.
- At the same time, **environment, climate, and sustainability are becoming key entry points and investment mandates for many organizations**. NbS is often positioned not just as an environmental intervention, but to deliver multiple co-benefits—spanning urban infrastructure, health, livelihoods, WASH, education, waste management, and biodiversity. This broader framing helps connect NbS to sectors where funders and policymakers are already active, making it easier to build momentum.
- **Finally, cities often lack the know-how for writing strong proposals, raising funds, and tracking results**. Current monitoring is mainly focused on infrastructure audits, which miss

the bigger picture. More inclusive, citizen-driven approaches could make NbS projects more effective and sustainable.

5.2 STAKEHOLDERS ON THE NBS FINANCE GAPS AND SOLUTIONS

- **Stakeholders shared that while NbS holds promise, its application is still limited in scale and sectoral reach**. Financial mechanisms are often pieced together from a mix of grants, CSR support, concessional capital, and public funds. These approaches help kickstart projects or cover stages where commercial returns are hard to prove. Still, few investors have funded urban NbS due to challenges such as land availability, cost recovery, and weak regulatory backing.
- **Stakeholders noted that the value of co-benefits, such as improved health, biodiversity, or community livelihoods, is hard to monetize**. Creative business mechanisms and cost-recovery mechanisms were often suggested, like charging premiums, linking projects to new revenue streams (e.g., transport from restored canals), and ensuring that benefits are shared, especially with informal workers and communities dependent on natural resources for their livelihoods.
- **On the investment side, scale and structure matter.** For example, access to carbon markets often requires projects covering thousands of hectares. Investors also weigh a project's alignment with climate goals, government support, community risks, and whether it creates lasting assets. Tools like guarantees can make projects more attractive, while debt-based financing hinges on solid cashflow projections and measurable carbon outcomes**.**
- **The barriers of due diligence can stretch up to two years, carbon pricing remains low, and most investors want quick returns** as ecological and community benefits take far longer to materialize. In vulnerable communities, challenges are even bigger: data can be complex to verify, and early-stage costs for mobilizing people often go unfunded.
- In short, while there is clear interest in NbS, the road to scaling them up requires better financial innovation, more precise valuation of benefits, and more patient, flexible investment approaches.

5.3 STAKEHOLDERS ON FINANCIAL AND BUSINESS MECHANISMS FOR NBS

- Stakeholders emphasized that financing **urban NbS requires a tailored approach—there is no single model that fits all contexts**. At present, nearly all NbS in India are funded through government grants, which offer low returns and discourage private investment. Most urban local bodies (ULBs) struggle with weak creditworthiness and limited capacity to design bankable proposals, meaning that financially stronger ULBs may need to lead the way. In contrast, others build capacity through risk management and better institutional frameworks.
- **Carbon credit trading is seen as an emerging but fragile mechanism**: Current models are biased toward tree planting, verification is difficult at small scales, and India's reliance on volatile international markets makes projects vulnerable. Stakeholders suggested that carbon

trading should only serve as supplemental revenue, supported by "plug-and-play" aggregator models, replicable designs, and packaged revenue streams that blend ecological outcomes with community benefits—like Bengaluru's water management project. Similarly, bonds such as Chennai's green bond show promise when built around clear problems, predictable revenue sources, and government backing, but wider adoption is limited by reporting burdens and ULB credit constraints.

- **Insurance-based instruments** could help de-risk projects, but they require stronger data and the early involvement of insurers to design products that reflect real risks. Land value capture and property-linked financing also hold potential—linking improved water tables or flood reduction to property taxes or tapping tourism-related revenues—but remain underutilized.
- Overall, stakeholders stressed that **framing NbS as infrastructure projects, ring-fencing funds to de-risk investments, diversifying revenue streams, and ensuring equitable sharing of benefits with local communities** are key to making financial mechanisms both viable and scalable.

6. CONCLUSION

The guidebook and best practices repository were designed to guide stakeholders and share lessons to advance Nature-based Solutions in India's urban spaces. Breaking the process into a simple three-step framework helps stakeholders understand where India's urban NbS field currently stands, what barriers need attention, and how project models can be strengthened to scale and attract meaningful finance. With clear explanations of policy frameworks, financing mechanisms, and project evaluation factors, the guidebook aims to make NbS more approachable and easier to navigate for policymakers, practitioners, city leaders, and financial actors alike. The NbS best practices and stakeholder insights share lessons on global and national examples that can be applied to Indian cities to unlock finance for NbS in Indian cities.

Looking ahead, the scaling of NbS finance will require collective effort and long-term thinking. Strengthening policies, embedding NbS into everyday planning and design, and building a more supportive financing system can help move NbS from isolated pilots to a central part of Indian cities. By improving collaboration, sharing knowledge widely, and unlocking new financial pathways, we can create the conditions for NbS adoption, which ultimately helps cities become healthier, more resilient, and more inclusive for the people who call them home.

7. ANNEXURES

ANNEXURE 1: CATALOGUE OF FINANCIAL MECHANISMS FOR URBAN NBS

Level of Maturity (in terms of usage in India)	Colour Code
Nascent	
Emerging	
Mature	

The maturity level color coding is derived from the application of financial mechanisms in overall sustainability and the green domain within the Indian context

Financial Mechanism	Financial Instrument	Definition
Public finance instruments		
Subsidies	**Biodiversity-friendly subsidies**[22]	Government subsidies support individuals and organizations that act in biodiversity-friendly ways. Subsidies can take many forms, including tax relief, technical support, price support, etc.
Fiscal Transfers	**Ecological fiscal transfers**[23]	Intergovernmental fiscal transfers redistribute tax revenues across government levels-from national and regional to local jurisdictions- according to agreed principles and priorities. Integrating ecological services means including conservation indices in the fiscal allocation formula.
	Enhance public (local) budget execution	Measures promoting quality spending of committed funds and removing related obstacles to effective spending. Effective budget execution is the percentage of annual public budget allocations that government agencies actually spend.
Tax Support	**Earmarking of taxes on financial/currency transactions**[24]	A tax placed on a specific financial transaction, such as the purchase or sale of equity instruments, options, and forward contracts, or foreign currency transactions. The revenues obtained may be earmarked or guaranteed for biodiversity or related spending.
	Corporate social responsibility tax[25]	A special form of government taxation that requires (usually large) companies to spend a percentage of their profits every year on corporate social responsibility, usually through financing NGOs or paying into government social investment funds.

22 Target 18 of India's National Biodiversity Strategy and Action Plan (NBSAP) focuses on repurposing harmful incentives, such as subsidies, that negatively impact biodiversity and scaling up positive incentives for conservation and sustainable use. Example- National Mission of Natural Farming or Sustainable Agriculture, Paramparagat Krishi Vikas Yojana (PKVY) or Traditional Agricultural Development Scheme, Sub-Mission for Seed and Planting Material (SMSP), and the National Livestock Mission (NLM)

23 15th Finance Commission's criteria for tax devolution included a 10% weightage for "Forest and Ecology".

24 Concept is similar to the Swachh Bharat Cess that was introduced on 15th November 2015, with a tax rate of 0.5% on all taxable services.

25 In 2014, India became the first country to legally mandate CSR spending under Section 135 of the Companies Act, 2013. This requires businesses exceeding specific financial criteria (Again the choice of words need to apt; exceeding certain turnover/profit threshold or something similar would be more apt) to allocate 2% of their average net profits made during immediately preceding 3 financial years to CSR initiatives.

Financial Mechanism	Financial Instrument	Definition
Financial Risk Management	**Public guarantees**	Guarantees can mobilize and leverage commercial financing by mitigating and/or protecting risks (such as political, regulatory, and foreign-exchange risk), notably commercial default or political risks.
ODA: Bilateral and Multilateral	**Increasing Official Development Assistance (ODA)**	Increasing ODA flows through better programming and delivery, training on grant preparations, or other targeted efforts. Official agencies channel aid to recipient countries to address environmental challenges.
	Multilateral ODA	Biodiversity-related financing is channeled through a multilateral development agency, such as the United Nations or the World Bank, within the ODA channel.
	Increase the biodiversity component of Climate Aid	Biodiversity-related financing is provided within official public assistance for climate change mitigation and adaptation. Public climate finance is counted separately from general ODA due to the promise of additionality made by developed countries.
Private Finance Instruments		
Debt	**Social and Development Impact Bonds- Wildlife Impact Bond**	A social and development impact bond that links resources to outcomes, specifically focusing on the protection or conservation of wildlife.
	Social and Development Impact Bonds- Development impact bond[26]	A social and development impact bond that links resources to a specific development outcome, with measurable results.
	Social and Development Impact Bonds- Conservation impact bond	A social and development impact bond that links resources to a measurable conservation outcome.
	Green Bonds- Forest bonds	Green bonds finance projects related to sustainable forest management or forest conservation, such as investments in sustainable timber production companies.
	Green Bonds- Conservation notes	Fixed-income product that channels capital to conservation-critical lands and waters. The interest rate can be lower than the market rate (i.e., concessional).
	Green bonds- Climate bonds	Green bond financing projects related to climate adaptation and mitigation, e.g., renewable energy projects.
	Ecosystem green bonds	Green bonds are linked to self-sustained cash-flow-generating initiatives from ecosystem-related services.
	Blue bonds	Bond financing projects related to the blue economy, i.e., sustainable fisheries and conservation of maritime resources.
	Green Lending- Green microfinance	Microfinance programmes that integrate green or environmental principles, criteria, and/or assessments into lending policies. Criteria can include sustainable agricultural practices and the measurement of environmental benefits.

26 Quality Education India Development Impact Bond (DIB) issued in 2022 of $11m aimed to improve literacy and numeracy skills for primary school children

Financial Mechanism	Financial Instrument	Definition
Financial Risk Management	**Private guarantees**	Guarantees can mobilize and leverage commercial financing by mitigating and/or protecting risks, notably commercial default or political risks. The guarantee functions as a promise by the guarantor to the lender.
	Disaster risk insurance[27]	Insurance schemes cover financial losses due to extreme weather and natural disasters. If the event occurs, the insurer will refund the percentage of the loss.
	Crowd funding	The practice of securing funding for a project or business venture by a dispersed group of people: the crowd. It takes place via online platforms that connect the investor or the donor with the project owner without the intermediation of a financial organization.
	Environmental risk insurance	Insurance schemes that cover against environmental liabilities (i.e., the financial risk associated with environmental pollution and contamination) in exchange for a premium.
	EIA performance bonds (surety bond)	A performance (or contract bond) is a surety bond issued by an insurance or financial company to guarantee satisfactory completion of a project by a contractor. Performance bonds can be linked to EIA provisions.
Result-based Financing	**Debt-for-nature swaps**	Through debt restructuring agreements, governments can write off a proportion of their foreign-held debt. The savings accrued will be channelled into domestic conservation initiatives and climate adaptation programs.
	Enterprise challenge and innovation funds	A funding instrument that distributes grants (or concessional finance) to profit-seeking projects on a competitive basis. It subsidizes private investment in developing countries where there is an expectation of commercial viability.
	Impact investment funds[28]	Investments made into companies, organizations, and funds with the intention of generating measurable social and environmental impact alongside a financial return.
Venture Capital	**Biodiversity business incubator**	Business incubators are institutions that provide technical or financial services to strengthen startups and early-stage enterprises. Incubators can support companies with an explicit commitment to biodiversity.
	Biodiversity Enterprise Funds	Highly flexible investment funds that provide debt or equity to companies that sustainably use or protect biodiversity, such as sustainable agriculture and forestry, non-timber forest products, and ecotourism.

27 As part of disaster risk insurance, a new instrument of parametric insurance has emerged that provides a type of coverage that pays out a fixed amount based on the occurrence and intensity of a predefined event, rather than the actual loss incurred.
28 Caspian Impact Investments (Caspian Debt) provided ₹8.5 crore (approximately $1 million) debt financing to Iora Ecological Solutions (IORA), an enterprise dedicated to Nature-based Solutions (NbS) for climate action and ecosystem conservation.

Financial Mechanism	Financial Instrument	Definition
Concessional Finance	**Voluntary financing**[29]	Individuals, companies, and organizations finance NbS actions (mitigation or adaptation) with no regulatory or market benefits. Voluntary financing occurs for a variety of co-benefits.
	Compensation for planned environmental damage[30]	Financial or other compensation paid by companies, private individuals, or governments for planned environmental damage as part of infrastructure or project development.
	Corporate and corporate foundations' donations[31]	Corporations provide support to organizations implementing sustainable development, including nonprofits, through direct-giving programs, private foundations, and/or public charities.

Source: *Adapted from BIOFIN's Catalogue of Finance Solutions and NAP Global's Inventory of Innovative Financial Instruments for Climate Change Adaptation*

29 Godrej & Boyce announced, 'The India Mangroves Coalition' and has been working on conservation of the mangrove ecosystem in Mumbai.
30 District Mineral Foundations (DMFs) and CAMPA (Compensatory Afforestation Fund Management and Planning Authority) are mechanisms for raising such compensatory finances.
31 India Climate Collaborative's Trends in Climate Philanthropy shows that corporate foundations and CSR finance flows are targeting towards agriculture, and urban and rural resilience, ocean and water ecosystems.

ANNEXURE 2: BEST PRACTICES ASSESSMENT FRAMEWORK

Category	Factors	Description
Definitional Factors	**Factor 1: NbS Fit**	Intervention fits into the Nature-based Solution (NbS) approaches of ecosystem restoration, protection, management, and infrastructure approaches.
Diversity Factors	**Factor 2: 'Local Factors of Influence' (LFI) Mix**	Interventions consider and cover a mix of LFI – social, economic, cultural, climate-related, livelihood-related, and biodiversity-related factors.
	Factor 3: Governance Mechanisms	Governance of these projects/cases needs to be participatory and inclusive for stakeholders.
Performance Factors	**Factor 4: Cost and Benefits**	Assessment of the costs and benefits of the NbS intervention that balances trade-offs between multiple co-benefits.
	Factor 5: Scaling-up and Sustainability	Potential for scaling up and sustaining the NbS case across regions with similar geographies and socioeconomic conditions.
	Factor 6: Harm or Maladaptation	The project does not cause any potential harm or lead to maladaptation in the future.
Financing Factors	**Factor 7: Financial Data Availability**	The identified NbS project/case has access to information related to financial flows, business revenue, stakeholders involved, mechanisms used, and benefits achieved.
	Factor 8: Bankability and Investment Mobilization	Assessing the risk-return profile and the ability to mobilize investments through public, private, and concessional finance across the NbS project cycle.
	Factor 9: Innovative Financing Mechanisms	NbS cases/projects incorporate innovative financing mechanisms or ecosystem payments to demonstrate best practices for stakeholders.

ANNEXURE 3: BEST PRACTICE SCORING FRAMEWORK

The scoring framework has two categories:

1. PRIORITY SCORING INDICATORS (X2 WEIGHTAGE)

Indicator	Score	Benchmark
Score for Data Availability	**1**	Only the title, location, and implementing agency are available
	2	Information on the NbS category, scale, location, and implementing agency is available
	3	Information on practice + financial data + location + implementation, and supporting agency
	4	Information on practice + financial data + benefits (case studies or M&E reports) + location + agencies
	5	Information on practice + financial data + benefits + potential for scaling + local factors of influence + agencies
Score for Urban Applicability	**1**	Major barriers (physical, regulatory, social, ecological); negligible expected impact
	2	Significant constraints; requires major adaptation or support
	3	Implementable with adjustments; benefits are limited or contingent on supportive policies
	4	Strong alignment with urban needs; feasible with moderate external support; co-benefits evident
	5	Highly compatible with site, policy, and community needs; scalable, cost-effective, and delivers multiple benefits
Score for Applicability in India	**1**	Major constraints (environmental, socio-cultural, governance); low acceptance
	2	Requires substantial financial/institutional/technological support; limited alignment with national priorities
	3	Moderately aligns with Indian urban conditions; benefits are possible with adjustments
	4	Supports national missions (e.g., Jal Shakti Abhiyan, GIM); proven in Indian states/cities
	5	Culturally appropriate, technically feasible, scalable, and aligned with SDGs, NDCs, and flagship schemes

2. ADDITIONAL SCORING INDICATORS (X1 WEIGHTAGE)

Indicator	Score	Benchmark
Score for Innovation	**0**	Does not meet definitions of innovative finance (World Bank, OECD, Stratigos, NAP Global Network)
	1	Meets at least one definition of innovative finance**
Score for Scaling Potential	**0**	No bankable features*
	1	Contains one or more bankable features*

Based on the total score, the top 9 NbS best practices were identified that balanced data quality, urban

Total Score= 2× (Sum of Priority Indicators) + 1× (Sum of Additional Indicators)

* **Bankable features** are at least one of the following:

1. Positive environmental returns → biodiversity/climate adaptation/mitigation benefits.
2. Provision for cashflow-generating activities.
3. Evidence of sufficient collateral.
4. High probability of success.
5. Clear exit strategy.
6. Acceptable risk-adjusted rate of return.
7. Proof of concept and track record.

** **Innovative finance** refers to non-traditional mechanisms that mobilize new partners and resources—beyond conventional spending—to fund development and climate priorities in scalable, sustainable ways.

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WRI India, an independent charity legally registered as the India Resources Trust, provides objective information and practical proposals to foster environmentally sound and socially equitable development. Through research, analysis, and recommendations, WRI India puts ideas into action to build transformative solutions to protect the earth, promote livelihoods, and enhance human well-being.

The Council on Energy, Environment and Water (CEEW) is one of Asia's leading not-for-profit policy research institutions and among the world's top climate think tanks. The Council uses data, integrated analysis, and strategic outreach to explain — and change — the use, reuse, and misuse of resources. The Council addresses pressing global challenges through an integrated and internationally focused approach. It prides itself on the independence of its high-quality research, develops partnerships with public and private institutions, and engages with the wider public. CEEW has a footprint in over 20 Indian states and has repeatedly featured among the world's best managed and independent think tanks

The India Forum for Nature-based Solutions is a coalition of research, practice and finance organizations working to scale up the adoption of Nature-based Solutions (NbS) to shape climate resilient cities and communities in India. The larger vision of the Forum is to climate proof 100 million residents and infrastructure worth $100 billion in Indian cities by 2030. To achieve this, the Forum supports peer-to-peer exchange of best practices, technical training, knowledge sharing and research towards strengthening local knowledge and building evidence around the use of NbS for urban services and resilience in Indian cities.

The Funding and Finance Task force within the India Forum for Nature-based Solutions was established to address key barriers to investing in urban NbS that broadly include limited evidence of innovative finance models; access to data and standardized metrics to evaluate benefits; limited technical capacities and financial assistance during early-stage project preparation; and lengthy timeframes for projects to become profitable. The Forum aims to address such barriers through the development of tools and knowledge that can guide the design of reliable business cases and unlock sustainable finance, potentially increasing the share of commercial, concessional and public funds for urban NbS.