

# BNCFF

Blue Natural Capital Financing Facility

Investments in  
Coastal Nature-based  
Solutions

**Opportunities  
for National  
and Local  
Governments**

---







**BNCFF**

Blue Natural Capital Financing Facility

Investments in  
Coastal Nature-based  
Solutions

# Opportunities for National and Local Governments



#### DISCLAIMER

The content of this report does not reflect the official opinion of the project sponsors or their partner organisations. Responsibility for the information and views expressed therein lies entirely with the author(s).

#### SUGGESTED CITATION

von Unger, M., Castillo Cartin, G. (2022). *Investments in Coastal Nature-based Solutions. Opportunities for National and Local Governments*". Report by Silvestrum Climate Associates.

This document was designed by Imre Sebestyén, jr / Unit Graphics.

All photos © Shutterstock unless otherwise stated.

# Contents

---

- Acknowledgements** ..... 6
- Abstract** ..... 7
- 1. Introduction** ..... 9
- 2. Challenges to Scaling NbS** ..... 11
  - 2.1. Inconsistent Regulations ..... 11
    - 2.1.1. Land Tenure ..... 11
    - 2.1.2. Comprehensive Regulation ..... 11
    - 2.1.3. Protected Areas ..... 12
    - 2.1.4. Private Sector Involvement ..... 13
  - 2.2. Wrong Regulations (Perverse Incentives) ..... 15
  - 2.3. NbS Governance Gaps ..... 15
- 3. Tackling the Challenges** ..... 17
  - 3.1. The role of National Authorities: Formulating Coherent Policy Instruments, Legislation, and Incentives for Private Entities ..... 21
    - 3.1.1. Integration of NbS in National Policy and Normative Instruments ..... 21
    - 3.1.2. Protect Land and Coasts, Recognise Indigenous Rights, and Provide Legal Protection to Vulnerable Communities ..... 22
    - 3.1.3. Invest in Nature and Promote Private Sector Investment ..... 23
  - 3.2. The Role of Local Governments ..... 24
    - 3.2.1. Set Economic Incentives at the Local Level ..... 24
    - 3.2.2. Governance and Investment-Readiness ..... 26
    - 3.2.3. NbS Management ..... 27
- 4. Conclusion: Call for Orchestration** ..... 29

# Acknowledgements

---

This work has been made possible by the generous funds provided by the Government Offices of Sweden, Ministry of the Environment. The views expressed in this working paper do not necessarily reflect those of IUCN or the Swedish government.

This report is published as part of the Knowledge Series of the Blue Natural Capital Financing Facility (BNCFF). The BNCFF supports the development of sound, investable BNC projects with clear ecosystem service benefits, based on multiple income streams and appropriate risk-return profiles. It also publishes knowledge pieces like this report. Other reports can be found at <https://bluenaturalcapital.org/knowledge-centre/>.

The authors are grateful for the feedback from the following reviewers: Natalie Gartmann and Greg Cogut (Pegasus Capital Advisors), Elmedina Krilasevic (IUCN) and Dennis Fritsch (UNEP FI).

The authors would also like to thank the IUCN Ocean Team, particularly Dorothée Herr, Anthony Hobson and James Oliver, for their contributions and support.



# Abstract

---

There is a growing understanding for the opportunities provided by Nature-based Solutions (NbS) to respond to climate change and improve the resilience of communities and ecosystems. More attention must be given to the variety of obstacles and barriers to financial scaling, in general, and of the roadblocks for private sector financing of NbS, in particular. Private sector investment in NbS, while hard to estimate, remains low. Of current flows into NbS (US\$ 133 billion per year), perhaps less than 15% come from private sources.

Regulatory and governance issues are among the most persistent and systematic barriers. The rules against which NbS, including coastal NbS, could be implemented and financed is often not complete. There is also the practice of creating or maintaining detrimental regulatory regimes, i.e., those that compel to, or set incentives for policies and actions that negate or go against NbS (on fisheries as well as on land-use).

The paper provides a cursory overview of the topical challenges and explores options for addressing them. The paper also highlights how investments from both the public and private sectors can be combined to promote and enable sustainable growth and to strengthen mitigation and adaptation capacity and action. It finds that success depends on an adequate interaction among stakeholders, the careful gauging of synergies between investment, environment and climate protection, and the mainstreaming of policy areas including tax, trade, planning and labour policies.









# 1. Introduction

---

Complex challenges necessitate innovative solutions. As the world is going through a myriad of unprecedented crises, pain and shortages are felt across areas – from health to peace, from financial to food stability. The challenges posed by climate change represent the backdrop for each of these crises aggravating vulnerabilities, intensifying systematic stress, and shaping the responses humanity must find on its way towards greater stability, equity, and sustainable growth.

From a climate change perspective, urgent action is required to mitigate global warming and to design robust, efficient, and accessible adaptation action with a view to protecting nations and communities, particularly those most vulnerable to extreme weather events and sea level rise. Nature-based Solutions (“NbS”) offer key strategies to combat climate change at the level of mitigation action, adaptation, and inclusive resilience.<sup>1</sup>

Nature-based Solutions are defined by IUCN as “*actions to protect, sustainably manage and restore natural and modified ecosystems in ways that address societal challenges effectively and adaptively, to provide both human well-being and biodiversity benefits*”.<sup>2</sup> NbS can cover a wide range of ecosystem-driven activities and strategies to solve complex problems while providing an opportunity for social integration and economic recovery. Coastal or ‘blue’ NbS – notably those conserving and/or restoring coastal wetlands, i.e., mangroves, saltmarshes and seagrass beds, which *contain some of the highest carbon stocks per unit area and sequester large amounts of carbon* – are particularly effective when it comes to protecting coastal communities from a changing climate, while providing a multitude of ecosystem services both onsite (locally) and offsite (globally).<sup>3</sup> These interventions have the potential to not only reduce the effects of coastal erosion and flood risks for affected communities, but also to foster social cohesion, improve livelihoods and provide fresh income opportunities, while reducing greenhouse gas (GHG) emissions and meeting other international targets including the Sustainable Development Goals, the Aichi Biodiversity Targets, and the Post-2020 Biodiversity Framework.

The momentum for coastal NbS – under the Paris Agreement, the Convention on Biological Diversity (CBD), and elsewhere – is clear. Even if global temperatures are kept from rising to 2°C, by 2050 at least 570 cities and some 800 million people will be impacted by rising seas and storm surges.<sup>4</sup> Countries must respond by doubling down on mitigating emissions and building coastal (blue) resilience. Hence, more and more of them are designing fitting NbS. Flagship

---

1 UNDRR, Nature-based Solutions for Disaster Risk Reduction, Words into Action, UNDR, 2021.pag25. Available at: <https://www.undrr.org/words-action-nature-based-solutions-disaster-risk-reduction>

2 IUCN, WCC-2016-Res-069-EN Defining Nature-based Solutions, 2016 available at: [https://portals.iucn.org/library/sites/library/files/resrecfiles/WCC\\_2016\\_RES\\_069\\_EN.pdf](https://portals.iucn.org/library/sites/library/files/resrecfiles/WCC_2016_RES_069_EN.pdf)

3 Von Unger, Moritz; Herr, Dorothee; Seneviratne, Thilanka; Castillo, Gabriela (2020): Blue NbS in NDCs. A booklet for successful implementation (GIZ 2020). Available at: [https://gridarendal-website-live.s3.amazonaws.com/production/documents/s\\_document/610/original/NbS\\_in\\_NDCs\\_A\\_Booklet\\_for\\_Successful\\_Implementation.pdf?1606858312](https://gridarendal-website-live.s3.amazonaws.com/production/documents/s_document/610/original/NbS_in_NDCs_A_Booklet_for_Successful_Implementation.pdf?1606858312)

4 World Economic Forum (2019), at <https://www.weforum.org/agenda/2019/01/the-world-s-coastal-cities-are-going-under-here-is-how-some-are-fighting-back/>.

initiatives from different parts of the world include Senegal's aim to restore 4000 hectares of mangrove, Costa Rica's commitment to restore 80% of the mangrove at the Golf de Nicoya, Papua New Guinea's commitment to include blue carbon ecosystems in the GHG inventory, Sri Lanka's programme to restore 25% of wetland landscape, and Seychelles adoption of a debt-swap strategy to fund conservation and protection activities.<sup>5</sup>

Nonetheless, there is still a long way to go, and action lags the political vision. The gaps in investment and NbS finance are particularly stark. Financial markets have yet to recognise the value of natural capital. Current research estimates that the annual need of funds to halt the global decline in natural habitats (which correlates to NbS funding) is in the range of US\$ 722–967 billion, while available funding is at about US\$ 124–143 billion (2019 figures).<sup>6</sup> The funding gap for sustainable investments in ocean and coastal habitats is even more pronounced. While annual needs are between US\$ 175 billion and US\$ 459 billion, actual funding – through philanthropy and official development aid (ODA) – may not have exceeded US\$ 13 billion combined during the past decade.<sup>7</sup>

According to a recent analysis by the United Nations Conference on Trade and Development (UNCTAD), the public sector – in many developing countries – is ill-equipped to meeting the financing demands across the key sectors for sustainable development, including climate change mitigation and adaptation.<sup>8</sup> Scaling financing for blue NbS is both urgent and challenging.



- 
- 5 Deutz, A., Heal, G. M., Niu, R., Swanson, E., Townshend, T., Zhu, L., Delmar, A., Meghji, A., Sethi, S. A., and Tobin-de la Puente, J. 2020. Financing Nature: Closing the global biodiversity financing gap. The Paulson Institute, The Nature Conservancy, and the Cornell Atkinson Center for Sustainability. pg. 23 Available at: [https://www.paulsoninstitute.org/wp-content/uploads/2020/09/FINANCING-NATURE\\_Full-Report\\_Final-Version\\_091520.pdf](https://www.paulsoninstitute.org/wp-content/uploads/2020/09/FINANCING-NATURE_Full-Report_Final-Version_091520.pdf) and Commonwealth Secretariat, "Accelerating Financing for Nature-based Solutions to support action across the Rio Conventions", Discussion Paper Number 28, October 2021, United Kingdom pg. 2 and 3. Available at: [https://production-new-commonwealth-files.s3.eu-west-2.amazonaws.com/migrated/inline/Accelerating%20Financing%20for%20Nature%20Based%20Solutions\\_Discussion%20Paper\\_UPDF.pdf](https://production-new-commonwealth-files.s3.eu-west-2.amazonaws.com/migrated/inline/Accelerating%20Financing%20for%20Nature%20Based%20Solutions_Discussion%20Paper_UPDF.pdf)
- 6 Deutz, A., Heal, G. M., Niu, R., Swanson, E., Townshend, T., Zhu, L., Delmar, A., Meghji, A., Sethi, S. A., and Tobin-de la Puente, J. 2020. Financing Nature: Closing the global biodiversity financing gap. The Paulson Institute, The Nature Conservancy, and the Cornell Atkinson Center for Sustainability, at [https://www.nature.org/content/dam/tnc/nature/en/documents/FINANCINGNATURE\\_FullReport\\_091520.pdf](https://www.nature.org/content/dam/tnc/nature/en/documents/FINANCINGNATURE_FullReport_091520.pdf).
- 7 Convergence Data Brief: Blended Finance & the Blue Economy (2022), pag. 2. The figures rely on 2019 data.
- 8 UNCTAD, Investment Policy Framework for Sustainable Development, 2015. UNCTAD/DIAE/PCB/2015/5. pag. 20 Available at: [https://unctad.org/system/files/official-document/diaepcb2015d5\\_en.pdf](https://unctad.org/system/files/official-document/diaepcb2015d5_en.pdf)



## 2. Challenges to Scaling NbS

---

There is growing understanding of the variety of obstacles and barriers to financial scaling, in general, and of the roadblocks for private sector financing of NbS, in particular.<sup>9</sup> Regulatory and governance issues are among the most persistent and systematic barriers. The rules against which NbS, including coastal NbS, could be implemented and financed is often not complete. There is also the practice of creating or maintaining detrimental regulatory regimes, i.e., those that compel to, or set incentives for policies and actions that negate or go against NbS.

While there are other barriers, such as lack of appropriate risk-return profiles regarding NbS projects,<sup>10</sup> this paper focus solely on the regulatory and governance issues.

### 2.1. Inconsistent Regulations

Land and habitats are not consistently regulated. Both public law and individual (private law) protection are critical and often lacking. Regulatory approaches that go beyond “do no harm” and set incentives for better protection and restoration are even less common.

#### 2.1.1. Land Tenure

Uncertain (insecure) land tenure remains a key driver for land degradation as well as an important bottleneck for investment in sustainable land management forms. Formalizing tenure rights is essential to protect the livelihoods of vulnerable populations and indigenous peoples, and conditional to drive long-term investment in habitat conservation, restoration, and NbS at large.<sup>11</sup>

#### 2.1.2. Comprehensive Regulation

Policymakers often struggle to formulate comprehensive regulatory frameworks beyond the demarcation of protected areas. Planning laws, including on infrastructure planning, agricultural

---

9 See: Eselin, M; Schep, Stijn; Duinmeijer, Chris and Van Pul, Joris, Market Study, Financing Nature-based Solutions for Coastal Protection: A practical review of blended finance approaches with carbon credits from blue carbon sources, Netherlands 2022; EcoShape "Paving the way for scaling up investment in nature based solutions along coasts and rivers, How to finance and accelerate implementation of NbS", Whitepaper 2021; Helen Toxopeus, Friedemann Polzin, Reviewing financing barriers and strategies for urban nature-based solutions, Journal of Environmental Management, Volume 289, 2021; Commonwealth Secretariat, "Accelerating Financing for Nature-based Solutions to support action across the Rio Conventions", Discussion Paper Number 28, October 2021, United Kingdom.

10 Cf. United Nations Environment Programme (2021). State of Finance for Nature 2021. Nairobi, at [https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjK3PLBrYr4AhU\\_mo4IHVZlBYEQFnoECCwQAQ&url=https%3A%2F%2Fwedocs.unep.org%2Fxmlui%2Fbitstream%2Fhandle%2F20.500.11822%2F36145%2F5FN.pdf&usq=AOvVaw2lczYFmgnxYJokq2S8-hzB](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjK3PLBrYr4AhU_mo4IHVZlBYEQFnoECCwQAQ&url=https%3A%2F%2Fwedocs.unep.org%2Fxmlui%2Fbitstream%2Fhandle%2F20.500.11822%2F36145%2F5FN.pdf&usq=AOvVaw2lczYFmgnxYJokq2S8-hzB); Wharton, K. et al (2021). Unlocking private capital for nature-based solutions in emerging and frontier markets, at [https://www.crossboundary.com/wp-content/uploads/dlm\\_uploads/2021/08/Unlocking-private-capital-for-nature-based-solutions-in-emerging-and-frontier-markets-FINAL.pdf](https://www.crossboundary.com/wp-content/uploads/dlm_uploads/2021/08/Unlocking-private-capital-for-nature-based-solutions-in-emerging-and-frontier-markets-FINAL.pdf).

11 See: Alcorn, J. B. 2014. Strengthen tenure security. Confl ict-sensitive Adaptation: Use Human Rights to Build Social and Environmental Resilience. Brief 3. Indigenous Peoples of Africa Co-ordinating Committee and IUCN Commission on Environmental, Economic and Social Policy. Available at: [https://www.iucn.org/downloads/tecs\\_csa\\_3\\_tenure\\_alcorn.pdf](https://www.iucn.org/downloads/tecs_csa_3_tenure_alcorn.pdf)

policies, water and waste regulation, all contribute to a regulatory environment that massively impacts natural habitats, including coastal habitats. Planning laws, including on infrastructure planning, agricultural policies, water and waste regulation, all contribute to a regulatory environment that massively impacts natural habitats, including coastal habitats.

National legal and policy frameworks, despite some adjustments to integrate climate action, often fail to take into consideration current conservation needs and fail to introduce and mainstream NbS into climate, biodiversity and land degradation legislation and policies.<sup>12</sup> Where harmonisation tools are developed, they often lack firm legal consequence. For instance, since 1998, Belize has had a Coastal Zone Management Authority and Institute (CZMAI) in place to “assist in the development and implementation of programs and projects that translate the marine and related policies of the Government into activities that contribute to sustainable development of coastal resources” and to design a National Integrated Coastal Zone Management (ICZM) Plan.<sup>13</sup> The goal of the ICZM Plan is to recommend actions that will ensure sustainable coastal resources use by balancing conservation ideals with the economic and social needs of the country. Importantly, however, the CZMAI has few executive powers beyond making recommendations to Government agencies, and the ICZM Plan is not considered hard law in the sense that its zoning approach is binding on permitting or other policies. The regulatory relevance, hence, has been modest.

### 2.1.3. Protected Areas

While there has been an international push in recent years to expand habitat protection through adding or expanding protected areas, including marine protected areas, overall achievements are still modest. Aichi Target 11<sup>14</sup> required that:

*“By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.”*

There is evidence that while countries across the globe have made good progress on defining inland protected areas, limited progress has been made with respect to coastal habitats (7.74% by 2021).<sup>15</sup> Yet, importantly, the quality of the protection applied remains insufficient. Often, the protection status is declaratory at best, incurring few legal consequences. Many protected areas

---

12 Chee Su Yin, Firth Louise B., Then Amy Yee-Hui, Yee Jean Chai, Mujahid Aazani, Affendi Yang Amri, Amir A. Aldrie, Lau Chai Ming, Ooi Jillian Lean Sim, Quek Yew Aun, Tan Choo Eng, Yap Tzuen Kiat, Yeap Chin Aik, McQuatters-Gollop Abigail; Enhancing Uptake of Nature-Based Solutions for Informing Coastal Sustainable Development Policy and Planning: A Malaysia Case Study, *Frontiers in Ecology and Evolution* 9, 2021 pags. 12-13. Available at-<https://www.frontiersin.org/article/10.3389/fevo.2021.708507>. See also: Commonwealth Secretariat, “Accelerating Financing for Nature-based Solutions to support action across the Rio Conventions”, Discussion Paper Number 28, October 2021, United Kingdom, pg.7

13 Belize, Coastal Zone Management Act, Chapter 329. Revised edition December 2000, Available at: <http://extwprlegs1.fao.org/docs/pdf/blz13962.pdf>

14 Conference of the Parties to the Convention on Biological Diversity, Tenth meeting. The Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets, UNEP/CBD/COP/DEC/X/2 29 October 2010. Available at: <https://www.cbd.int/doc/decisions/cop-10/cop-10-dec-02-en.pdf>

15 UNEP, World met target for protected area coverage on land, but quality must improve, press release, Nairobi 19 May 2021. Available at: <https://www.unep.org/news-and-stories/press-release/world-met-target-protected-area-coverage-land-quality-must-improve>



either do not have a governance framework or what does exist is limited such that degradation trends are ongoing and stable conditions for habitat investments are not met.

The Post-2020 Global Biodiversity Framework (not yet adopted at the time of writing, but under negotiation) is expected to further strengthen the Aichi commitments adding a number of *2030 Action Targets*, including to:<sup>16</sup>

*“Ensure that all land and sea areas globally are under integrated biodiversity-inclusive spatial planning addressing land- and sea-use change, retaining existing intact and wilderness areas” (Target 1); and*

*“Ensure that at least 20 per cent of degraded freshwater, marine and terrestrial ecosystems are under restoration, ensuring connectivity among them and focusing on priority systems” (Target 2); and*

*“Ensure that at least 30 per cent globally of land areas and of sea areas, especially areas of particular importance for biodiversity and its contributions to people, are conserved through effectively and equitably managed... measures” (Target 3).*

The 30% target – 30% by 2030, also referred to as **“30 by 30”** – and the new focus on planning, management, and restoration (supporting the UN Decade on Ecosystem Restoration) marks an important milestone in nature and biodiversity protection, but it includes the admission that the practice of land degradation is ongoing and that bottlenecks for conservation, restoration, and sustainable investment persist.

#### **2.1.4. Private Sector Involvement**

Private sector investment in NbS, while hard to estimate, appears to remain low. Of current flows into NbS (US\$ 133 billion per year), perhaps less than 15% come from private sources.<sup>17</sup> Most of today’s private funding goes into biodiversity offsets, sustainable supply chains, and private equity impact investment, for each at overall modest levels.<sup>18</sup>

It is not for lack of conceptual vision and intent. IUCN’s Global Standard for NbS (“an opportunity to create a global user community that helps guide implementation on the ground, accelerate policy development, and create conservation science on NbS”)<sup>19</sup>, the United Nations Environment Assembly’s recent resolution on “Strengthening Actions for Nature to Achieve the

---

16 For details of the consolidated negotiation text see IUCN’s Key Messages: First Draft of the Post-2020 Global Biodiversity Framework, at [https://www.iucn.org/sites/dev/files/iucn\\_key\\_messages\\_and\\_detailed\\_views\\_first\\_draft\\_post-2020\\_gbf\\_0.pdf](https://www.iucn.org/sites/dev/files/iucn_key_messages_and_detailed_views_first_draft_post-2020_gbf_0.pdf).

17 United Nations Environment Programme (2021). State of Finance for Nature 2021. Nairobi.

18 Ibidem.

19 IUCN (2020). Global Standard for Nature-based Solutions. A user-friendly framework for the verification, design and scaling up of NbS. First edition. Gland, Switzerland: IUCN, at <https://portals.iucn.org/library/sites/library/files/documents/2020-020-En.pdf>.

Sustainable Development Goals<sup>20</sup> and the growing number of emerging investor frameworks for NbS<sup>21</sup> provide good guidance for those non-state actors seeking to fund and invest in nature.

However, investment practices are still tilted towards traditional forms of investment; the costs from nature degradation remain mostly externalised (polluters usually do *not* pay); and nature impacts are not perceived as driving investment value outside vague “ESG” commitments.<sup>22</sup>

This points to regulatory gaps (see below, section 2.2) but also data, reporting and behavioural challenges:<sup>23</sup> While impact investment is well defined in its approach and overall targets, there has so far been little guidance on specific NbS business models. Also, investments rarely come with standardised (let alone mandatory) and comprehensive impact measurements. Where impact is reported, it mostly happens in sustainability reports that have no clear audience.<sup>24</sup>

Important regulatory initiatives are under way, notably the EU’s taxonomy for sustainable activities – which provides clear and scientific guidelines to assess the environmental sustainability of any given economic activity, thereby channeling private funding towards Green Deal activities –<sup>25</sup> and the growing number of guidelines on non-financial reporting, including from the Taskforce on Nature-related Financial Disclosures (TNFD), which has a good chance of informing regulators across the globe.<sup>26</sup> A recent report notes the potential of NbS as an “emerging institutional asset class”, identifying investible income models in sustainable commodity markets (timber, agriculture and water sectors), as well as in payment for ecosystem services schemes (carbon credits).<sup>27</sup>

A fresh sustainability network has been created by the United Nations Environment Programme (UNEP). The UNEP Finance Initiative (UNEP FI)<sup>28</sup> is a global partnership bringing together the UN with more than 450 banks, insurers and institutional investors to develop the sustainable finance agenda. The UNEP FI convenes a global community on Sustainable Blue Finance, which champions the Sustainable Blue Economy Finance Principles and produces practical resources and tools for financial institutions to align investment, lending and underwriting activities with SDG 14. The initiative publishes guiding recommendations on which activities to seek out as best practices, which activities to avoid financing and which topics to engage clients and project developers across ocean-linked sectors, including on coastal infrastructure and NbS.

---

20 <https://www.unep.org/environmentassembly/about-unea-5>.

21 Cf. United Nations Environment Programme (2022): Diving Deep: Finance, Ocean Pollution and Coastal Resilience, at [https://7f0f76c0.sibforms.com/serve/MUIEAC\\_c08S8H2XQkkJ0ruhtdM0dU1bBeZE20Gk2QJtStkDipeYix0-LxG8VfD2B4EPQR0eoDxQo4UKjppjwvCLPvnSN79mzlvQq9N9V1ttZFkdUFMgcPGRM8EAQBdpSmp2Rui6krq3idGPFDS88ScMM0wgGU87COcJg9MLiVQBlyzIDdb3RHDFZ-UoFU0olTohQJ7tsgtUODq7f3](https://7f0f76c0.sibforms.com/serve/MUIEAC_c08S8H2XQkkJ0ruhtdM0dU1bBeZE20Gk2QJtStkDipeYix0-LxG8VfD2B4EPQR0eoDxQo4UKjppjwvCLPvnSN79mzlvQq9N9V1ttZFkdUFMgcPGRM8EAQBdpSmp2Rui6krq3idGPFDS88ScMM0wgGU87COcJg9MLiVQBlyzIDdb3RHDFZ-UoFU0olTohQJ7tsgtUODq7f3); Chatham House (2021). An Investor Framework for Nature-based Solutions, at <https://accelerator.chathamhouse.org/article/investor-framework-for-nature-based-solutions>.

22 Cf. Commonwealth Secretariat, “Accelerating Financing for Nature-based Solutions to support action across the Rio Conventions”, Discussion Paper Number 28, October 2021, United Kingdom.p. 7.

23 Eselin, M; Schep, Stijn; Duinmeijer, Chris and Van Pul, Joris;., Market Study, Financing Nature-based Solutions for Coastal Protection: A practical review of blended finance approaches with carbon credits from blue carbon sources, Netherlands 2022, pag. 32.

24 Pucker, K. (2021). Overselling Sustainability Reporting, Harvard Business Review, at <https://hbr.org/2021/05/overselling-sustainability-reporting>.

25 Regulation (EU) 2020/852. The first Delegate Act covering criteria for the assessment of contributions towards climate change mitigation and adaptation has been published in April 2021 and entered into force on January 1st, 2022. The first Delegate Act covers 13 economic sectors accounting for 80% of the EU GHG emissions. Find details and links to all relevant documents here: [https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities\\_en](https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en).

26 <https://tnfd.global>.

27 Finance Earth (2021). A Market Review of Nature-Based Solutions, at <https://finance.earth/wp-content/uploads/2021/05/Finance-Earth-GPC-Market-Review-of-NbS-Report-May-2021.pdf>.

28 <https://www.unepfi.org>



While these developments are encouraging, ultimately, transformational change is needed from within investment boards to consistently integrate climate risks and climate costs in their decision-making processes. Obstacles abound, from high risk profiles to low return ratios and/or long time horizons for return on investment; from political and financial instabilities in many developing countries to market externalities resulting from the provision of ecosystem services. Tackling these obstacles may not happen in the absence of incentive and disincentive schemes set up by – or jointly with (i.e., in public-private partnerships) – regulators.

## 2.2. Wrong Regulations (Perverse Incentives)

The lack of regulatory integration and strategic planning becomes all the more evident when, in the face of global recognition of climate change risks and the urgent need for mitigation actions, wrong regulations, notably subsidy regimes, subsist. Subsidies are rarely designed to support climate goals, and while they may help reduce food costs, they often do so at the cost of habitat degradation and sustainable supply.<sup>29</sup> Both developed and developing countries have long subsidised capacity-enhancing, industrial fisheries<sup>30</sup> as well as the industrial farm sector<sup>31</sup> directly, focusing on short-term production, as well as indirectly by providing cash for fuel and/or land title for land clearing and deforestation. In many Latin American countries, for instance, ‘the productive use’ of land provided a pathway towards land titles at least until the 1980s (e.g. Brazil,<sup>32</sup> various Central American countries,<sup>33</sup> Ecuador<sup>34</sup>). This has led to widespread degradation of coastal and terrestrial habitats. Other subsidy regimes have been built around the use (and excessive use) of fertilisers, with detrimental impacts for water systems and coastal wetlands, in particular.

## 2.3. NbS Governance Gaps

Effective habitat protection also suffers from dysfunctionalities within and among agencies mandated with habitat management, as well as from insufficient awareness of NbS benefits and advantages. Collaboration across government layers, administrations and non-state actors should be the goal. However, among federal agencies, both state and municipal, that are responsible for planning environment, energy, transport, local communities and business, policy confusion and redundancies in management are often the reality, especially within specific administrative branches, e.g. environment and resource management, forestry and fisheries.<sup>35</sup> Even where administrative responsibilities are clear and respected, the capacity and experience

---

29 Streck, C. / Chiagas, T. / von Unger, M. (2022). Financing the transition to sustainable agriculture and forestry, in van Asselt, H./Mehling, M. (eds.): Research Handbook on Climate Finance and Investment Law (to be released).

30 UNCTAD (2019). Advancing Sustainable Development Goal 14: Sustainable fish, seafood value chains, trade and climate, at [https://unctad.org/system/files/official-document/ditcted2019d3\\_en.pdf](https://unctad.org/system/files/official-document/ditcted2019d3_en.pdf).

31 OECD (2021). Agricultural Policy Monitoring and Evaluation, at [https://www.oecd-ilibrary.org/agriculture-and-food/agricultural-policy-monitoring-and-evaluation\\_22217371](https://www.oecd-ilibrary.org/agriculture-and-food/agricultural-policy-monitoring-and-evaluation_22217371).

32 World Bank (n 39); CPI (n 39).

33 Jeffrey R Jones, *Colonization and Environment: Land Settlement projects in Central America* (UNU Press 1990).

34 *ibid*; Douglas Southgate, Rodrigo Sierra and Lawrence Brown, ‘The Causes of Tropical Deforestation in Ecuador: A Statistical Analysis’ (1991) 19(9) *World Development* 1145.

35 Cuadrado Quesada, G. et al. (2018), at [https://www.aprh.pt/rgci/pdf/rgci-648\\_Ngoran.pdf](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwiArKyLnOr3AhWJKUQIHejQCqoQFnoECCoQAQ&url=https%3A%2F%2Fwww.mdpi.com%2F2071-1050%2F10%2F10%2F3772%2Fpdf%3Fversion%3D1539943437&usq=AOvVaw0_qncTtKN_vVMS7A_VO7vm; Derrick Ngoran, S. et al. (2016), at <a href=).

of relevant departments and staff often are limited, and the lack of a collaborative approach impedes effective implementation.<sup>36</sup>

There are also plain awareness needs among public authorities concerning the cost-effectiveness and additional benefits of NbS when compared with conventional commodity, business and infrastructure (“grey”) solutions.<sup>37</sup> Finally, there are substantial gaps in orchestration among different government levels, sometimes in defiance of constitutional and other high-level legal provisions.<sup>38</sup> In particular, local governments are often left out when it comes to planning and consultation for concrete policies or actions concerning climate change mitigation or adaptation, even though in most cases they are closest to NbS implementation. In a recent case study (with data from 2020), only 21% of 121 states and regions surveyed had been consulted on national climate action plans.<sup>39</sup>



36 Eselin, M; Schep, Stijn; Duinmeijer, Chris and Van Pul, Joris; Market Study, Financing Nature-based Solutions for Coastal Protection: A practical review of blended finance approaches with carbon credits from blue carbon sources, Netherlands 2022, p34

37 Davis, McKenna; Ina Krüger; Mandy Hinzmann 2015: Coastal Protection and Suds – Nature-based Solutions. RECREATE Project Policy Brief No. 4. P9, Eselin, M; Schep, Stijn; Duinmeijer, Chris and Van Pul, Joris; Market Study, Financing Nature-based Solutions for Coastal Protection: A practical review of blended finance approaches with carbon credits from blue carbon sources, Netherlands 2022, p34

38 Derrick Ngoran, S. et al. (2016), at [https://www.aprh.pt/rgci/pdf/rgci-648\\_Ngoran.pdf](https://www.aprh.pt/rgci/pdf/rgci-648_Ngoran.pdf).

39 Climate Group, Global States and Regions annual Disclosure 2020, Report, 2 December 2021, Available at: <https://www.theclimategroup.org/AnnualDisclosure2020>

# 3. Tackling the Challenges

Overcoming the challenges requires an innovative, holistic and multi-layered approach that demands not only the active intervention of *authorities at the national level*, but also *leadership at the subnational level, especially from local authorities*. While much innovation can also come from within the private sector – notably through corporate NbS investment strategies, setting of strict voluntary nature targets (carbon, biodiversity, resource management, and so on), NbS impact reporting, as well as through the active promotion of fiscal and policy changes to enhance NbS –<sup>ss</sup> the following table focuses on the government action, with a specific emphasis on local level action. Interventions are not restricted to a government’s ability to raise funds and/or impose financial obligations on individuals, groups, or firms. Rather, interventions should also target the enabling framework for (future) NbS-related investments. The following sections elaborate on how each administrative level can foster an environment to scale NbS. While the array of intervention types is broad, and a variety could be applied by both central and local governments, there is a clear disparity in capacity and impact. Some measures, notably on taxation, regulatory mainstreaming, and finance, are the prerogative of central state-level governments, others appear strongest when managed at the local level (see Table 1). Then, the larger a municipality, the greater the capacity to also use what are usually higher-level government tools, including emissions trading and climate subsidies. Urban climate finance flows, however, remain heavily concentrated on OECD countries and China.<sup>ss</sup>

**Table 1:** Possible intervention types by government entity

Intervention Type	Central Government	Local Government (large/cities)	Local Government (small/rural)
Subsidies (including payment for ecosystem service schemes)	<ul style="list-style-type: none"> <li>Regulatory autonomy and funding capacity put this tool mostly at the disposition of higher-level governments</li> </ul>	<ul style="list-style-type: none"> <li>Large cities can provide direct and indirect funding, too</li> <li>Ex. San Francisco Bay Water Quality Improvement Fund (to fund the restoration of coastal wetlands and watersheds)</li> </ul>	<ul style="list-style-type: none"> <li>Low applicability, though small local government cash support for NbS may occasionally exist</li> </ul>
Taxes	<ul style="list-style-type: none"> <li>Taxation is strictly regulated and often the prerogative of central governments (with delegated powers to local governments in specific areas)</li> </ul>	<ul style="list-style-type: none"> <li>If autonomous or delegated powers exist, environmental taxes at local level can be implemented</li> </ul>	<ul style="list-style-type: none"> <li>Capacity may be missing</li> </ul>

40 Cf. Finance Earth (2021), at <https://finance.earth/wp-content/uploads/2021/05/Finance-Earth-GPC-Market-Review-of-NbS-Report-May-2021.pdf>.  
 41 Neigreiros, P. et al. (2021). The State of Cities Climate Finance, available here.



Intervention Type	Central Government	Local Government (large/cities)	Local Government (small/rural)
Fees	<ul style="list-style-type: none"> <li>✓ Environmental fees (for e.g. park use, water use) usually available at all government levels</li> <li>✓ Ex. Rwanda's tourism fee<sup>42</sup></li> </ul>	<ul style="list-style-type: none"> <li>✓ However, legal restrictions for local governments may exist</li> <li>✓ Ex. the restriction for local governments in Colombia to add environmental fees to utility charges</li> </ul>	
Debt Instruments (e.g., Blue Bonds, Ocean-for-Nature Swaps)	<ul style="list-style-type: none"> <li>✓ Central governments or states have fiscal authority to issue debt and may restrict the capacity for lower-level governments to do so themselves</li> </ul>	<ul style="list-style-type: none"> <li>✓ Municipal green bonds have a long history</li> <li>✓ Investment in blue NbS is feasible though practice remains limited</li> <li>✓ Municipalities must have financial standing and technical / institutional capacity to issue debt.</li> </ul>	Not available
Corporate NbS Information (Disclosure, Taxonomy, other)	<ul style="list-style-type: none"> <li>✓ Typically, regulations on corporate reporting are issued by highest or higher-level governments</li> </ul>		Not available
Carbon Pricing (Compliance Markets)	<ul style="list-style-type: none"> <li>✓ These are complex tools that require a large pool of operators or installations.</li> <li>✓ Most compliance schemes will be set up at national or state level</li> </ul>	<ul style="list-style-type: none"> <li>✓ Examples of local-level emissions trading do exist (e.g., Tokyo Cap and Trade Program)<sup>43</sup></li> </ul>	Not available
Carbon Pricing (Voluntary Carbon Markets)	<ul style="list-style-type: none"> <li>✓ Voluntary carbon markets are (mostly) tailored to project-based, i.e. local interventions</li> <li>✓ While there are a large number of voluntary carbon projects in which government agencies play a role, some of them linked to the central government, these are typically local-level, grassroot activities</li> </ul>	<ul style="list-style-type: none"> <li>✓ High potential, including for NbS development</li> </ul>	High potential, including for NbS development
Planning Tools (including infrastructure planning and insurance policies, i.e. frameworks for coastal insurance products)	<ul style="list-style-type: none"> <li>✓ High-level planning tools are usually located with the central government</li> </ul>	<ul style="list-style-type: none"> <li>✓ Local governments have their own planning tools, including with respect to infrastructure, and they have the opportunity to climate-proof local investment in infrastructure through climate-sensitive procurement</li> </ul>	<ul style="list-style-type: none"> <li>✓ There is limited capacity and participatory power.</li> </ul>

42 Panorama Solutions for a Healthy Planet. Community-based tourism's contribution towards a conservation in Rwanda's Volcanoes National Park. Available at: <https://panorama.solutions/es/building-block/rwanda-tourism-revenue-sharing-trs-program> and NJOKA John Nyaga, Tourism Revenue Sharing and Community Participation in Tourism and Conservation around Volcanoes National Park in Rwanda, Master Thesis, Kenyatta University, November 2017. Pag. 26. Available at: <https://ir-library.ku.ac.ke/bitstream/handle/123456789/19076/Tourism%20revenue%20sharing%20and%20community%20participation%20in%20tourism.pdf?sequence=1&isAllowed=y>

43 International Carbon Action Partnership (2022). Emissions Trading Worldwide, available here.

Intervention Type	Central Government	Local Government (large/cities)	Local Government (small/rural)
Enhanced protection (MPA expansion)	<ul style="list-style-type: none"> <li>✓ Typically, a large number of protected areas, including marine protected areas, are created and managed at central government level</li> <li>✓ Worldwide, 268 Ramsar sites and 19 World Heritage sites contain mangroves</li> <li>✓ Many countries (central governments) recognise mangroves in their Nationally Determined Contributions and National Biodiversity Strategy and Action Plans</li> <li>✓ MPAs also typically require central-level funding</li> </ul>	<ul style="list-style-type: none"> <li>✓ Some form of MPA creation possible at local level</li> <li>✓ Funding is limited</li> </ul>	<ul style="list-style-type: none"> <li>✓ Some form of MPA creation possible at local level</li> <li>✓ Funding is limited</li> </ul>
Public restoration campaigns	<ul style="list-style-type: none"> <li>✓ Often guided by central government decisions</li> <li>✓ Ex. Pakistan's 10 billion trees by 2023 (a substantial share of which to be mangroves)<sup>44</sup></li> <li>✓ Cf. also restoration commitments from COP26<sup>45</sup></li> </ul>	<ul style="list-style-type: none"> <li>✓ A growing number of initiatives from global cities is under way to restore habitats within their municipal boundaries</li> <li>✓ Ex. Rewilding Campaigns from New York City (US) to Haerbin (China), with a strong focus on wetlands<sup>46</sup></li> </ul>	<ul style="list-style-type: none"> <li>✓ Local communities will mostly lack the funding, but they add the knowledge and manpower to implement restoration campaigns</li> </ul>
On-site / Community Governance	<ul style="list-style-type: none"> <li>✓ Habitat governance is often mandated to forest or protected area administrations</li> <li>✓ This can work well and be conducive to long-term investment, but there is often lack of resources and funding</li> <li>✓ There is also at times dissonance between central governments and communities</li> </ul>	<ul style="list-style-type: none"> <li>✓ After long neglect, there is a growing trend towards nature restoration and local governance</li> </ul>	<ul style="list-style-type: none"> <li>✓ Customary authorities and community groups play key roles in habitat governance</li> <li>✓ Strong examples of habitat health and positive investment climate, where customary land titles are recognised, and communities permitted governance roles<sup>47</sup></li> <li>✓ Cf. Tahiry Honko Mangrove Restoration Project (Madagascar)<sup>48</sup></li> </ul>

44 <http://www.mocc.gov.pk/ProjectDetail/M2QzOWJmMjUtZTU3MC00NmFkLWE4YmMtZDFhMmRlOGU2NGRh>.

45 Glasgow Leaders' Declaration on Forests and Land-Use (2021), at <https://ukcop26.org/glasgow-leaders-declaration-on-forests-and-land-use/>.

46 <https://www.weforum.org/agenda/2021/06/8-cities-rewilding-their-urban-spaces/>.

47 Stevens, C. et al (). Securing Rights, Combating Climate Change, at [https://files.wri.org/s3fs-public/securingrights\\_executive\\_summary.pdf](https://files.wri.org/s3fs-public/securingrights_executive_summary.pdf). For mangrove governance, see the case study on Madagascar in Slobodian, L. N., Badoz, L., eds. (2019), Tangled roots and changing tides: mangrove governance for conservation and sustainable use. WWF Germany, Berlin, Germany and IUCN, Gland, Switzerland, at <http://www.mangrovealliance.org/wp-content/uploads/2019/11/Tangled-Roots-and-Changing-Tides.pdf>.

48 The Commonwealth Blue Charter: Mangrove Ecosystems and Livelihoods, Tahiry Honko- Community-Led Mangrove Carbon Project, Velondriake Managed Marine Area, Madagascar, 2020. Available at: [https://bluecharter.thecommonwealth.org/wp-content/uploads/2020/10/CBC-Case-Studies\\_19\\_Mangrove.pdf](https://bluecharter.thecommonwealth.org/wp-content/uploads/2020/10/CBC-Case-Studies_19_Mangrove.pdf)

Intervention Type	Central Government	Local Government (large/cities)	Local Government (small/rural)
Public-private partnerships	<ul style="list-style-type: none"> <li>There are high level partnerships, e.g. Belize's recent partnership with TNC to implement an ocean through debt conversion,<sup>49</sup> but central governments mostly provide the legal frameworks (e.g., on creating nature trusts)</li> </ul>	<ul style="list-style-type: none"> <li>Local governments have long worked with private donors, including on conservation</li> </ul>	<ul style="list-style-type: none"> <li>Efforts are growing to set up local partnerships (often with the help of big NGOs) to control and reduce drivers of deforestation and degradation</li> <li>For examples in Cambodia, Laos and Myanmar, cf. the initiative by WCS<sup>50</sup></li> <li>For an example on mangrove restoration in public private partnership between local governments, the central governments and the private sector, see the initiative from Conservation International in Ecuador<sup>51</sup></li> </ul>
Job creation around habitat protection (e.g., ecotourism)	<ul style="list-style-type: none"> <li>Central government can help build a sustainable tourism sector, set standards, and more</li> <li>Top countries listed for their sustainable tourism industry are all OECD countries<sup>52</sup></li> </ul>	<ul style="list-style-type: none"> <li>Good opportunities</li> </ul>	<ul style="list-style-type: none"> <li>Often local / grassroots initiatives</li> <li>Good opportunities</li> </ul>
Habitat data and impact data: Data management	<ul style="list-style-type: none"> <li>There are many datasets administered at central level (including national inventory data, national deforestation data, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Capacity for localised data gathering and reporting often exists</li> </ul>	<ul style="list-style-type: none"> <li>Much of the data must be locally sourced, however</li> <li>Also, intervention monitoring (e.g., for NbS carbon projects) requires local management</li> <li>Similarly, a range of impact data requires local data gathering and local data management</li> </ul>

Accompanying case studies highlight real-case initiatives from around the globe that have managed to overcome these challenges by introducing coherent and comprehensive policy and regulatory reforms or adopting specific finance mechanisms. Not all the examples speak to interventions on coastal and marine habitats, with some focusing on terrestrial ecosystems and some concerning entirely different economic sectors. However, each of the examples offers innovative solutions to the barriers identified for investing in NbS, and they have high potential to be replicated for coastal and marine matters.

49 <https://www.nature.org/en-us/newsroom/blue-bonds-belize-convert-thirty-percent-of-ocean-through-debt-conversion/>.

50 <https://programs.wcs.org/driverspartnership/Strategies/Engaging-with-the-private-sector.aspx>.

51 <https://www.greenclimate.fund/sites/default/files/document/ppf-application-transformative-public-and-private-partnerships-climate-change-adaptation-and.pdf>.

52 Euromonitor (2021). Top Countries for Sustainable Development, at [https://go.euromonitor.com/white-paper\\_Travel-and-Tourism-21-03-12\\_Top-Countries-for-Sustainable-Tourism.html](https://go.euromonitor.com/white-paper_Travel-and-Tourism-21-03-12_Top-Countries-for-Sustainable-Tourism.html).



### 3.1. The role of National Authorities: Formulating Coherent Policy Instruments, Legislation, and Incentives for Private Entities

Investments from both the public and private sectors are needed to promote and enable sustainable growth and to strengthen mitigation and adaptation capacity and action. Success depends on an adequate interaction among stakeholders, the careful gauging of synergies between investment, environment and climate protection, and the mainstreaming of policy areas including tax, trade, planning and labour policies.<sup>53</sup>

It is for a country's main legislator – in most cases the legislator at the national level – to design, revise, and reform laws and policy instruments to facilitate NbS and to do away with detrimental statutory provisions and subsidies. It is important that NbS mainstreaming efforts be accompanied by close procedural interaction between public institutions, a focus on sustainability and efficiency, and robust transparency.

Among the priorities for **(central) legislators** are:

#### 3.1.1. Integration of NbS in National Policy and Normative Instruments

- ✓ Assess all existing and planned policy and legal instruments against their contribution to climate action in light of national priorities and vulnerabilities.
- ✓ Test the role for NbS in each of these instruments.
- ✓ Conduct extensive consultations with stakeholders to identify the role and scope for NbS.
- ✓ Mainstream NbS into core policy instruments other than climate and nature protection, namely development, infrastructure, planning, disaster risk reduction, and finance.
- ✓ Provide for regulatory (*hard law*) tools that ensure NbS-enabling outputs. Turn NbS “guidance” or “recommendations” into clear and precise instructions touching on process (e.g., *mandatory* nature impact assessments), substantive laws (e.g., all infrastructure *must, as a rule, must be built on or integrate* NbS, and finance (all state funding *must, as a rule, be conditional* on NbS implementation).
- ✓ Design an NbS impact framework to guide policy decisions at all levels focusing on climate mitigation, adaptation, resilience, as well as other ecosystem services.
- ✓ Promote capacity building processes among national authorities to improve the understanding of NbS criteria, principles, benefits and cost-effectiveness.
- ✓ Consider the establishment of a specialised entity to coordinate the different public sector entities participating in these crucial procedures and to act as a promotion agency to attract different investors and offer matchmaking services. This function could also be delegated to municipalities considering the site-specificity criteria (see below).

---

<sup>53</sup> UNCTAD, Investment Policy Framework for Sustainable Development, 2015. UNCTAD/DIAE/PCB/2015/5. pag. 44-50. Available at: [https://unctad.org/system/files/official-document/diaepcb2015d5\\_en.pdf](https://unctad.org/system/files/official-document/diaepcb2015d5_en.pdf)

Specialised Institutions: **Seychelles' Conservation and Climate Adaptation Trust (SeyCCAT) and the Blue Sovereign blue bond.**

**The Challenge:** Seychelles is highly vulnerable to climate change and sea level rise. At the same time it is highly dependent on its marine and coastal assets, particularly considering its Exclusive Economic Zone (EEZ) of 1.37 million square kilometers. In 2008, Seychelles was in a severe economic crisis, with the government facing repayment challenges with total public debt reaching more than 150% of GDP.

**The solution and regulatory measures:** In 2018, Seychelles undertook the world's first blue economy-focused debt for nature swap, converting US\$ 21.6 million of national debt. The swap contributed to financing climate change adaptation actions such as implementing a Marine Spatial Plan for the entire exclusive economic zone and protecting 400,000 square kilometers through conservation management within 5 years. The same year (2018), Seychelles also developed the Blue Economy Strategic Policy Framework and Roadmap and it launched the world's first sovereign blue bond with an aim to support sustainable marine fisheries projects. The bond allowed for expanding Marine Protected Areas and improved the governance of fisheries.

**Results:**

- ✓ Conversion of \$21 million of Seychelles' debt into investments in coastal protection and adaptation
- ✓ The Blue bond raised US\$ 15 million from international investors.
- ✓ Improved habitat and habitat finance governance. The Seychelles conservation and climate adaptation trust (SeyCCAT) currently manages US\$ 3 million from the bond to support the management and expansion of the MPA, sustainable fisheries and other conservation, protection, and adaptation actions.

### 3.1.2. **Protect Land and Coasts, Recognise Indigenous Rights, and Provide Legal Protection to Vulnerable Communities**

- ✓ Substantially expand on the network of protected areas, including marine protected areas (MPAs) and develop management plans and an implementation framework for each of the protected areas.
- ✓ Test land tenure uncertainties and/or dysfunctionalities and create legal frameworks that promote private and communal engagement, including through investment and management, with a focus on coastal zones and marine protected areas (MPAs). Reforms must ensure transparency and inclusivity.
- ✓ Revise current legislation to recognise the rights of indigenous populations and customary land ownership.
- ✓ Improve public procurement processes to integrate NbS in relation to grey infrastructure.

### 3.1.3. Invest in Nature and Promote Private Sector Investment

- ✓ Undertake impact assessments of existing subsidies to determine possible harmful effects on coastal habitats and necessary reforms. Focus on drivers of marine (including fisheries) and land degradation.
- ✓ Develop financing frameworks, equipped with a sustainable investment taxonomy (defining what is considered a sustainable investment), including on carbon pricing approaches, debt instruments ('blue bonds', debt-for-nature swaps) to benefit investments in coastal conservation and restoration.
- ✓ Revise the legislation and administrative procedures to ensure that there are no unintended barriers to private sector investment (legal, financial or technical), and to ensure predictability and transparency.
- ✓ Create investment facilities and dedicated institutions that help channel private sector funding into conservation and restoration activities, with business incubators and accelerators capable of designing sustainable business models and walking 'the last mile', and blended finance approaches able to de-risk private sector investments.
- ✓ Clearly establish responsibilities for the private sector to minimise any negative social or environmental impact; this includes encouraging adherence to international rules and best practices on impact reporting and disclosure. TNFD<sup>54</sup> and/or similar guidance should become regulatory (mandatory) tools.

#### Creating Payment for Ecosystem Services (PES) Schemes: Costa Rica's National Fund for Forest Finance

**The challenge:** By the 1990s, Costa Rica's forest cover had severely shrunk and continued to be threatened by high deforestation rates, population growth and the expansion of the agricultural frontier.

**The NBS Solution:** Creation of a programme under which private landowners would be compensated for specific efforts on reforestation, conservation, and responsible exploitation of forests (payments for ecosystem services).

In 1996, Costa Rica adopted the Forest Law no. 7575, which not only created the PES programme but also renovated the institutional structure to support it and created the National Fund for Forest Financing (FONAFIFO). The Fund is responsible for financing and managing the PES programme, for this purpose it can refer to different types of mechanisms to capture financial resources.

The law also creates a series of incentives for those property owners who decided to conserve the forests on their property. Fiscal incentives include: exemptions from paying property taxes and taxes over productive goods.

FONAFIFO activities are currently financed not only by governmental resources, donations and public-private partnerships, but also by specific taxes to gasoline (3.6%) and wood (3%), a fee for the use of water resources, and the emission of green bonds.

**The Results:** The National Forest Financing Fund has paid more than US\$ 500 million to protect 1, 250,000 hectares of forests or farming land.

54 <https://tnfd.global>. See also above.



## Environmental Taxes: Colombia's carbon tax and domestic carbon markets

**The Challenge:** Colombia's economy is highly dependent on resource extraction – oil, gas, coal and minerals – and agriculture, accepting high levels of environmental degradation, including deforestation. Degradation is also related to key economic sectors such as industry, transport, and agriculture. As a result, the development process is characterised by a continuous increase of its GHG emissions. Acknowledging the urgent need to transit towards a green economy, Colombia pledged to reduce 20% of its GHG emissions by 2023. To achieve this objective, generating resources became essential.

**The NBS Solutions:** In order to incentivise this transition, the government implemented a low-carbon policy vision that resulted in the adoption of a carbon fuel tax in 2016. The tax aims at disincentivising GHG emissions and stimulates support for projects that result in carbon offsets. This reform process also introduced a National Voluntary Carbon Market in 2018, and allows for companies to demonstrate carbon neutrality, and therefore avoiding the tax payments, through the use of carbon credits.

**The Results:** The tax has generated a wide participation of the private sector in financing different types of projects that produce carbon credits, including NbS. 25% of the carbon fuel tax revenues are used to support environmental causes, with a significant portion going directly to Herencia Colombia, a programme that conserves and protects 20 million hectares, and seeks to expand Colombia's natural capital by 2 million hectares. The other 70% goes to the Sustainable Colombia Fund (Fondo Colombia Sostenible) for environmental sustainability and sustainable rural development.

These measures were accompanied by the creation and regulation of a monitoring, reporting and verification system; and a National Registry of GHG Emissions Reductions.

## 3.2. The Role of Local Governments

Local governments often lack the mandate, legislative power, and the capacity to set up stringent regulatory regimes on NbS implementation or to mainstream NbS across regulatory areas. However, local governments are typically the government layer that comes closest to NbS implementation, and they have both physical and social knowledge of the habitats and communities concerned. It is a distinct set of expertise, responsibility, and opportunities that local governments can tap into. This is ideally happening in concert, i.e., orchestrated between the national and local governments.

Among the priorities for local governments are the following actions:

### 3.2.1. Set Economic Incentives at the Local Level

- ✓ Establish a system of environmental fees in line with the polluter-pays principle for community-level usage of water, electricity, waste management, among others, and channel the fees in local NbS.

- ✓ Engage in carbon finance by providing access to land managed by local governments, operating nature-based carbon projects (as a project proponent or a collaborator), and/or provide the infrastructure for carbon project development (including with respect to the organisation of stakeholder consultations).

### Local Environmental Fees: Lima's Local Water Fee System<sup>55</sup>

#### The Challenge:

Lima, Peru's capital city, obtains water from three rivers – Rímac, Chillón, and Lurín – that originate in the high peaks of the Andes Mountain Range and flow into the Pacific Ocean. For decades, the constant pressure for urban expansion, coupled with unsustainable mining and agriculture practices in the highlands of these valleys, has caused serious pollution and environmental degradation problems in these watersheds.

#### The Solution:

Triggered by various national regulatory reforms in 2013 and 2014 – including the 2013 Sanitation Services Modernisation Law – Lima's water utility, SEDAPAL, approved a new tariff structure in 2015 to include a small fee to all water users which generates around US\$ 120 million annually. The proceeds go to the Lima Water Fund (AquaFondo) where they are channeled into watershed management activities that include reforestation, and improved agricultural practices. The financial administration of contributions made to AquaFondo is the responsibility of FONDAM, an organisation with ample experience managing resources from debt-for-nature swaps between the governments of Peru and the United States.

#### The Results:

AquaFondo formulated the first Green Infrastructure Public Investment Project for Lima to be funded from the water fee system. Land restoration is under way, including 7 ha of green areas in Lima restored reusing treated wastewater. The measure will recharge depleted aquifers.

In the Upiqua Communal Farm, a smart irrigation system was installed sharply reducing the amounts of water needed and helping restore the agricultural soils.



<sup>55</sup> <https://s3.amazonaws.com/tnc-craft/library/WF-Lima-Peru-English-Nov-2018-F.pdf?mtime=20200812211826>  
<https://www.nature.org/en-us/about-us/where-we-work/latin-america/peru/aquafondo-the-water-fund-for-lima/>  
<https://s3.amazonaws.com/tnc-craft/library/tnc-peru-tariff-english.pdf?mtime=20180210195416>

### Local coordination of blue carbon projects: Indus Delta Blue Carbon Project, Sindh Province in south-eastern Pakistan.

**The Challenge:** The Sindh Indus Delta Region is a vast complex of tidal river channels and creeks, low-lying sandy islands, mangrove forests and inter-tidal areas. The mangrove forests in the area compose the largest area of arid climate mangroves in the world.

Threats to the habitat are manifold, including from the use by local communities for fuelwood, fodder and open-range grazing.

**The NbS Solution:** A private company, Indus Delta Capital Ltd, developed a blue carbon project (ultimately seeking monetisation of carbon credits) and coordinated with both the provincial Government of Sindh and sixty village governments to invest in the restoration of some 75,000 hectares of mangrove since its start in 2015 and plans to restore a total area of 224,997 hectares. The project also protects other 100,000 hectares of existing mangrove forests. The provincial Government holds the formal title to the areas, with local communities holding customary title. Communities are benefitting directly and indirectly, including through programmes to switch from extensive to intensive, more sustainable cattle farming.

**The Results:** In a period of 60 years, the project aims to achieve an estimated 140 million tCO<sub>2</sub>e in GHG benefits. Local communities will implement the project and maintain it, including through a ward and watch system, which is formalised through Mangrove Stewardship Agreements (MSAs) with different community groups.

### 3.2.2. Governance and Investment-Readiness

- ✓ Create partnerships between the central and local governments focusing on climate action and blue NbS at the local level.
- ✓ Create public-private partnerships to build local green/blue infrastructure and transform existing grey infrastructure to integrate green/blue elements.<sup>56</sup>
- ✓ Identify a list of investment-ready projects on NbS (including carbon projects) and maintain transparent records of these.
- ✓ Focus on staffing protected areas and enforcing the protection status, including through combating deforestation/degradation drivers.

<sup>56</sup> For a useful approach see United Nations Environment Programme (2022): Diving Deep: Finance, Ocean Pollution and Coastal Resilience, at [https://7f0f76c0.sibforms.com/serve/MUIEAC\\_c08S8H2XQkkJ0ruhtdM0dUIbBeZE20Gk2QJTstkDipeYix0-LxG8Vfd2B4EPQR0eoDxQo4UKjppjwCLPvnSN79mzlvQq9N9VlittZFkdUFMgcPGRM8EAQBdpSmp2Rui6krq3idGPFDS88ScMM0wgGU87COcJg9MLiVQBiyzLDdb3RHDFZ-UoFU0olTohQJ7tsqtUODq7f3](https://7f0f76c0.sibforms.com/serve/MUIEAC_c08S8H2XQkkJ0ruhtdM0dUIbBeZE20Gk2QJTstkDipeYix0-LxG8Vfd2B4EPQR0eoDxQo4UKjppjwCLPvnSN79mzlvQq9N9VlittZFkdUFMgcPGRM8EAQBdpSmp2Rui6krq3idGPFDS88ScMM0wgGU87COcJg9MLiVQBiyzLDdb3RHDFZ-UoFU0olTohQJ7tsqtUODq7f3).



## Municipal Climate Action: Creating Governance Space (Climate Pact Luxembourg)<sup>55</sup>

**The Challenge:** Municipalities in Luxembourg have considerable influence on industry, transport, as well as resource and land management. However, they have long been detached from climate policymaking and implementation, and they have few financial resources to provide for climate action.

**The Solution:** Launched in 2012, the Luxembourg Climate Pact seeks to incentivise municipalities to set climate policy at the local level, reduce GHG emissions and energy use, and stimulate investment.

The Climate Pact is a voluntary agreement between the government and the municipality concerned. The municipality must commit to specific targets and measures (selected from a catalogue of 64 measures), including on spatial planning. The government, in turn, provides financial assistance and technical support.

### Results:

All of Luxembourg's 102 municipalities have signed up to the Climate Pact. Most of them have already replaced it by the second-generation Climate Pact. Many targets, including on energy certification, have been met. The policy has established close coordination between central and local governments, and the climate policy capacity at the local level has substantially improved.

### 3.2.3. NbS Management

- ✓ Set up NbS monitoring procedures and a monitoring infrastructure, with local communities prepared to procure NbS impact data (such as vegetation, soil, fish sampling) and to ensure long-term continuity.
- ✓ Promote NbS management through eco-tourism formats by educating communities, establishing a knowledge platform, and by coordinating eco-tourism efforts from licensing to match-making of investors and habitats.



57 <https://www.oecd.org/climate-action/ipac/practices/a-climate-pact-to-strengthen-the-role-of-luxembourg-s-municipalities-b485676c/>

## Local MPA Management: AGIR (Morocco)<sup>58</sup>

**The Challenge:** Since the formal establishment of the **Al Hoceima National Park**, a terrestrial and marine park in the Moroccan Mediterranean region in 2004, and its 19,000 hectares of Marine Protected Area (MPA) have offered significant protection to more than 72 species of fish, 264 types of algae and to various types of turtles and dolphins. Nonetheless, the MPA was threatened by large-scale coastal fishing operations reliant on illegal unreported and unregulated fishing practices, as well as harmful dynamite fishing practices. The lack of infrastructure also significantly limited the fisher's possibility of exploring lucrative markets, which exacerbated the poverty rate of the communities.

**Local Solution:** In 2008, recognizing the need to stop these practices and enhance marine protection and livelihood of local artisanal fishers, the community formed Integrated Resource Management Association (Association de Gestion Intégrée des Ressources or "AGIR"). AGIR develops action plans on the basis of participatory planning that allows the community to co-manage the fishing resources in collaboration with the authorities. It brings together fisher folk, artisans, homemakers, elected representatives, and local and national government agencies. It collaborates with 12 fishing cooperatives. Key activities include the use of traditional knowledge to promote sustainable fishing practices. For instance, changing drift nets for sustainable fishing gear handcrafted by local women, microloans to acquire sustainable fishing gear, monitoring and surveillance programs to combat illegal fishing activities, education and awareness campaigns, and restoration of marine habitat actions.

Results: AGIR restored 2,000 hectares of coral and demarcated 2,000 hectares of no-take zone, secured 8,000 hectares of coastal land for community ownership and planted 900 hectares of artificial reefs. As a result of these actions, marine resources have increased 20 - 30%; a 30% poverty reduction has been observed in 1,200 artisanal fisher folk, it has also fostered women empowerment and opened the access to export markets for local fishing cooperatives.



58 United Nations Development Programme. 2016. Association de Gestion Intégrée des Ressources (AGIR), Morocco. Equator Initiative Case Study Series. New York, NY. Available at: <https://www.equatorinitiative.org/wp-content/uploads/2019/11/AGIR-Morocco.pdf>

## 4. Conclusion: Call for Orchestration

---

While each government level can work towards NbS scaling alone, the examples and experiences make clear that orchestrated and complementary action taken by both the central and the local government makes most sense. This includes the perspectives of the private sector. A national government's success in creating a constructive investment climate and/or channeling funding into local action is best met by a local government preparing a portfolio of potential projects ready to be funded. The design of an NbS-focused carbon compliance market ideally builds on the project infrastructure and knowledge local governments have gathered by engaging in voluntary carbon markets. The creation of new (marine) protected areas has the highest impact if it is supported by enforcement and monitoring capabilities at the local level, and so forth.

Synchronizing government action on climate among different government levels has become a priority for the Conference of the Parties (COP) to the UNFCCC. Yet, the path forward is difficult, at least as long as Luxembourg's practice ("Climate Pact", see above) to hold direct negotiations between the central government, on the one hand, and local governments, on the other hand, is the exception, not the rule. Luxembourg is a small country in which local government representatives and national government representatives often know each other personally. The bigger a country, the less likely this kind of familiarity. Even in the case of the "Climate Pact", the items of coordination are limited. NbS are targeted on the margins only, and the list of investment tools is restricted.

Still, the Luxembourg example offers direction. A process in which in any given country both central and coastal municipalities commit to regularly consult and coordinate and to work on a shared agenda to boost NbS ambition and investment – say under the "30 by 30" banner – appears both technically feasible and politically acceptable. However, it will not work without better orchestration to close the nature investment gap.





The Blue Natural Capital Financing Facility is supported by The Government of the Grand Duchy of Luxembourg, Ministry for Environment, Climate and Sustainable Development, and led by the International Union for Conservation of Nature (IUCN).

---

[www.bluenaturalcapital.org](http://www.bluenaturalcapital.org)

The Subnational Climate Finance initiative (SCF) is a global blended finance initiative that aims to invest in and scale mid-sized (5 - 75 M \$USD) sub national infrastructure projects in the fields of sustainable energy, waste and sanitation, regenerative agriculture and Nature-based Solutions in developing countries.

---

[www.subnational.finance](http://www.subnational.finance)







# **BNCFF**

**Blue Natural Capital Financing Facility**

**[www.bluenaturalcapital.org](http://www.bluenaturalcapital.org)**

[bluenaturalcapital@iucn.org](mailto:bluenaturalcapital@iucn.org)