



## EXECUTIVE SUMMARY

# SCALING UP ECOSYSTEM RESTORATION FINANCE

## A Stocktake Report



UNITED NATIONS DECADE ON  
**ECOSYSTEM  
RESTORATION**  
2021-2030



**THE WORLD BANK**  
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#GenerationRestoration



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1818 H Street NW  
Washington DC 20433  
Telephone: 202-473-1000  
Internet: [www.worldbank.org](http://www.worldbank.org)

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Report design: Katie Jacobs



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**Humanity is embedded in nature and depends profoundly on the goods and services it generates.** Future economic development and well-being hinge on healthy and resilient ecosystems that provide our food and raw materials, drinking water, clean air, and the stability of the climate system. More than half of the world's gross domestic product (GDP) is generated in sectors such as construction and agriculture that depend on ecosystem services (WEF 2020), making nature relevant not only to policymakers, but also business and financial leaders.

**Humanity's demands on nature currently far exceed its ability to regenerate.** This gap is widening (GFN 2022), leaving vast areas of the planet degraded, and threatening provision of key ecosystem services. Three-quarters of Earth's ice-free land surface and two-thirds of its marine environment had been significantly altered as of 2019 and at least 20 percent of land surface is now degraded. Biodiversity is also in steep decline, with nearly 1 million animal and plant species (of 8 million recorded species) now threatened with extinction (IPBES 2019). This has taken a toll on nature's ability to provide goods and services – with 14 of the 18 assessed categories of ecosystem services, particularly regulating services, declining since 1970 (IPBES 2019). Bringing back the services of once degraded ecosystems – for example by restoring forests

and agricultural soils or giving fisheries space to recover – benefits both people and the planet. Restoration is 'the process of halting and reversing degradation, resulting in improved provision of ecosystem services, and recovered biodiversity' (UN Decade 2021). Ultimately, restoration reverses the decline in the quantity and quality of the stock of natural assets. Loss of these assets can reverse development gains, aggravate fragility and conflict, and exacerbate climate change and climate impacts. Conversely, recovering ecosystem functionality through investments in restoration of degraded natural, semi-natural, production, and urban ecosystems is necessary to meet both the SDGs and the targets set in the Paris Agreement.

**The importance of restoration is increasingly recognized, not least due to the challenges posed by climate change.** However, more action and funding are urgently needed to scale up restoration. As climate change accelerates, healthy ecosystems will serve as a critical buffer against climate impacts. For example, the soil on a farm that has switched from conventional to regenerative farming practices will hold more water, helping to mitigate the impacts of both flooding and drought on crops. Likewise, a healthy mangrove can reduce the impacts on communities and infrastructure of a tropical cyclone.

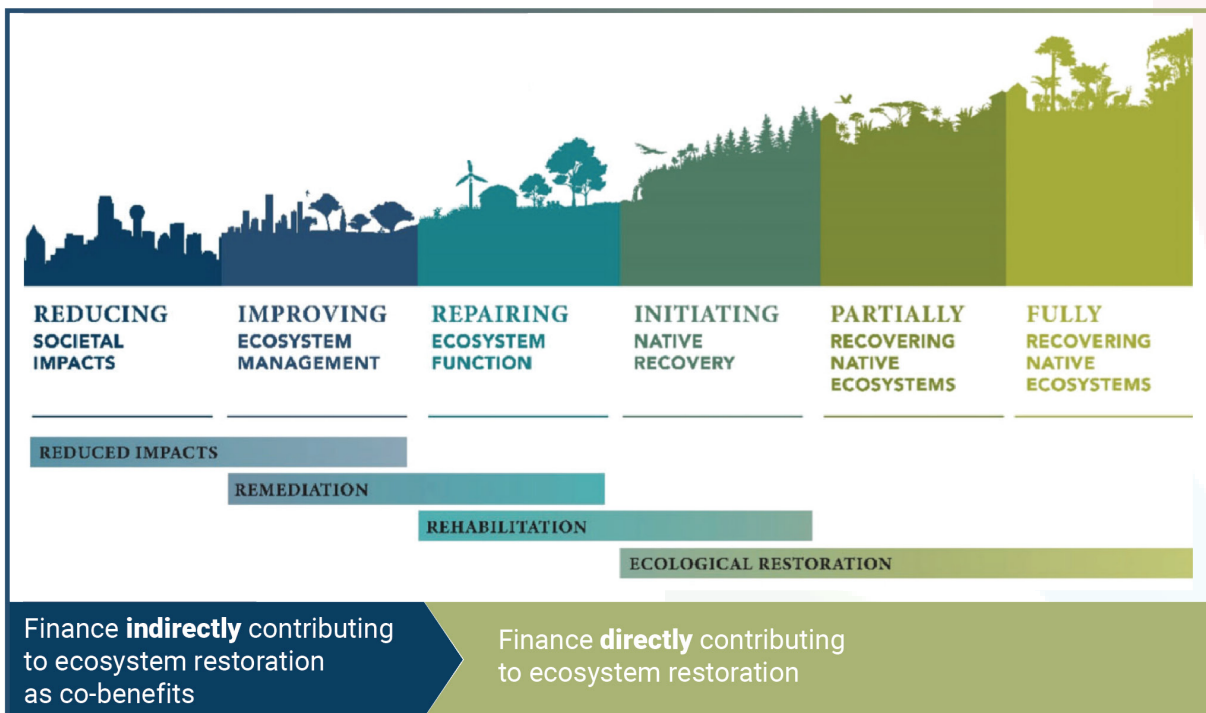


Figure ES-1: The Restoration Continuum (Source: adapted from Gann et al (2019))

Awareness about the value of nature and commitments to restore it by governments and the private sector are increasing – particularly as the world prepares for the post-2020 global biodiversity framework to be agreed upon at the CBD COP15. Governments, financial institutions, and businesses have committed/pledged themselves to increased restoration efforts through several high-level global commitments, such as the Bonn Challenge. However, as of 2021, land restoration initiatives represent/cover/encompass a small fraction of the area of degraded land thought to be suitable for restoration, and further areas continue to be degraded (UNCCD 2022).

**Importantly, many pledges remain unfunded and financing restoration at scale remains a challenge.** Most of the financing for restoration currently comes from public

sources – and will not be sufficient to meet the amounts required to address the scale of the challenge. Moreover, there are large financial flows, including subsidies, that continue to drive environmental degradation (Deutz et al., 2020) and which are at least an order of magnitude greater than those that are beneficial (OECD, 2020; World Bank Group, 2020; 2021; Koplou and Steenblik, 2022). Mapping and monitoring private sector investment in restoration is hindered by definition and data challenges, but we know this funding is currently very low in relation to public spending and the overall need. Finance needs to be mobilized across the full restoration continuum (see Figure ES-1) – through both ‘greening finance’ – i.e. making sure that financing does not flow to activities which degrade nature – and ‘financing green’ – i.e. directing capital towards direct investments in restoration (see World Bank 2020a).

**Restoration has enormous potential to generate market and non-market benefits for different types of investors.**

It is estimated that for every dollar spent on ecosystem restoration, between US\$7 and US\$110 in economic benefit is

derived from ecosystem services gained.<sup>1</sup>

Restoration can generate market benefits in the form of financial returns or savings, as well as social and environmental non-market benefits to public, private, and philanthropic investors (see Figure ES-2).

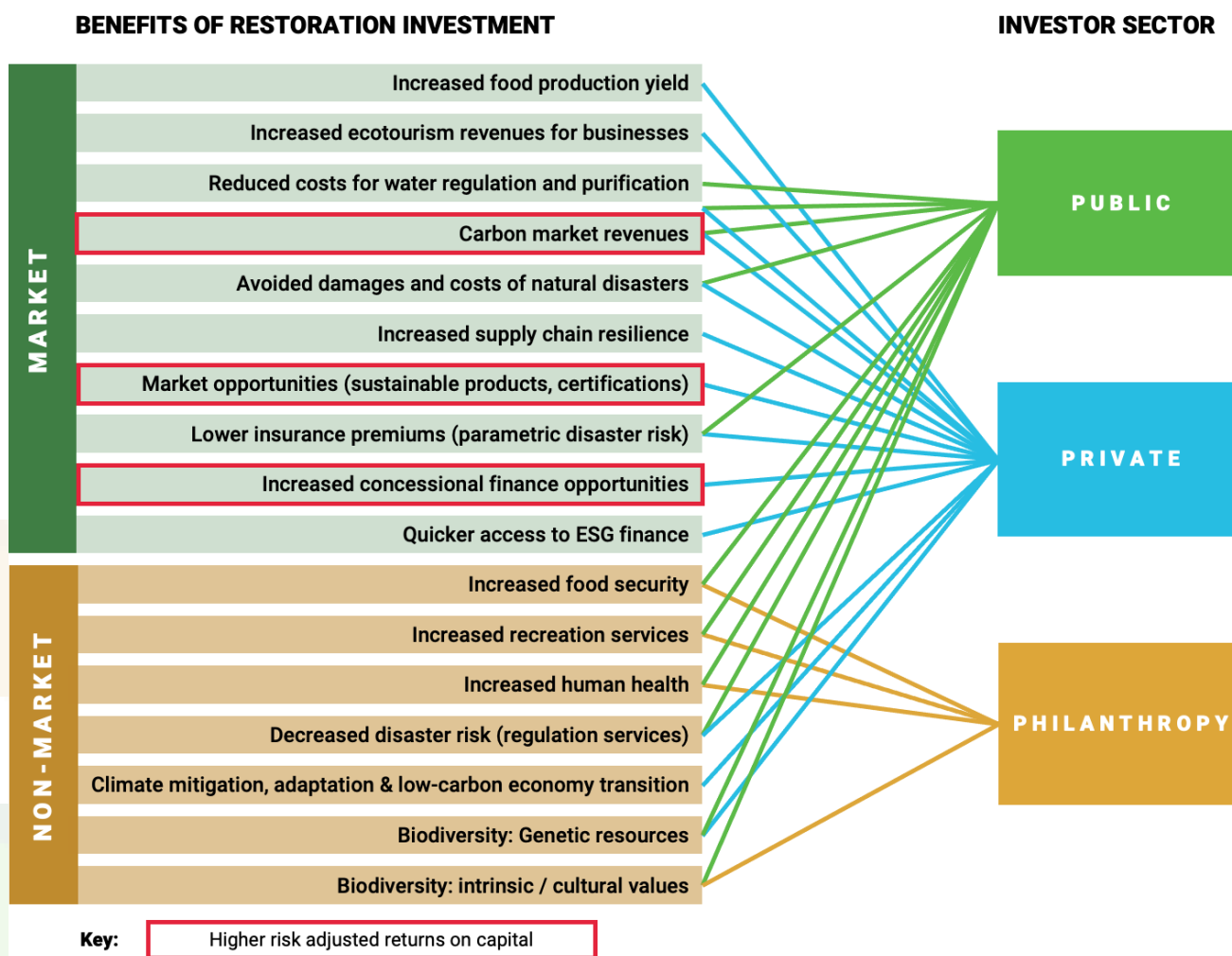


Figure ES-2: The benefits of restoration by investor sector

Note: Market benefits refer to those that typically generate financial returns or savings to investors, while non-market benefits are public in nature and do not usually generate cashflows.

<sup>1</sup> Range based on a series of studies including FAO and UNEP 2021, Verdone and Seidl 2017, UNEP et al. 2018, Blignaut et al. 2014, Groot et al. 2013, and WRI 2017.

**However, the economic and business case for different types of restoration projects has not been convincingly made.** This stems from the concern that restoration is mostly an upfront cost, with long-term social and environmental benefits which cannot be easily monetized.

Key drivers of underinvestment include:

- insufficient awareness about the critical role of ecosystem services in the economy and society;
- lack of taxonomy of restoration activities and standardized frameworks and institutions for managing a portfolio of restoration projects;
- inadequate knowledge and data on the costs and benefits of restoration;
- the structure and timing of the costs and benefits of restoration, which make the risk-return profiles of investments less competitive than other types of investments;
- lack of knowledge about bankable business models for restoration projects;
- difficulty monetizing the benefits of some types of restoration;
- taxes and subsidies that drive degradation and fail to incentivize restoration;

- lack of sectoral and financial policy and regulation that incentivize private sector investment in restoration; and
- land and sea tenure uncertainty or insecurity and unequal distribution of derived benefits, preventing sound governance and management of the natural assets.

**Now is the time to act - and solutions do exist as market and regulatory dynamics are increasing the potential for recognizing**

**nature's benefits.** The fall in supply of ecosystem services coincides with growth in the global population, incomes, and consumption, as well as climate change, and contributes to potentially higher monetary values for ecosystem services. Monetizing the value of these benefits is key to unlocking more sources of private investment, in various ways. For example, while the extent of these interventions is still quite small, governments and the private sector are taking steps to develop and deepen payment for ecosystem services (PES) programs and markets, including for carbon storage and sequestration, water provision, and biodiversity credits, which can improve returns. Other sources of revenue, such as from ecotourism services and sustainably manufactured products, are also on an upward trajectory.<sup>2</sup>

<sup>2</sup> Castro, M. 2022. The secret behind ecological developments that meet new sustainable tourism standards. [Online] Forbes.com Available from: <https://www.forbes.com/sites/forbesbusinesscouncil/2022/07/21/the-secret-behind-ecological-developments-that-meet-new-sustainable-tourism-standards/?sh=4df434a87144>

Cost savings and life cycle benefits from restoration are being integrated into project finance. Meanwhile, insurance markets are also taking steps to better account for increased resilience from restoration, which can result in reduced insurance premiums and ultimately cost savings.

**However, there is a need for actors in the public, private, and non-profit sectors to take steps to accelerate the shift in the economics of restoration and address the barriers described above.** Actors from across sectors can contribute to improving awareness about the important role of ecosystem services in our economies and communities. Additionally, these actors can take steps to design, expand, or improve the environmental and social impact of PES programs and markets. For example, steps could be taken to better integrate biodiversity into the voluntary carbon market and improve equitable benefit sharing. Additionally, countries can develop and implement national water PES programs. Governments have a critical role to play in developing and implementing nature-positive policy and regulation – urgently – by reforming fiscal programs to incentivize investment and restoration and to disincentive activities contributing to degradation. Governments can also pursue sectoral regulation that mandates restoration, and

financial sector regulation that encourages financial institutions to shift to more nature-positive portfolios. Restoration involves a wide range of activities, including agroforestry, silvopasture, reforestation, mixed species plantations, riverbank restoration, natural regeneration,<sup>3</sup> assisted natural regeneration, and farmer-managed natural regeneration. While many actions can be taken that improve the economics of restoration across the full spectrum, there is a need for financing approaches, standards, and best practices to be developed for each category of restoration activities. Projects and businesses operating in each category can then be aggregated together within a given geography to increase the size of investment, diversify risk, and reduce the cost of capital. An agreed upon taxonomy or classification of restoration activities and associated investment opportunities could better enable this.

**Developing and publishing information on restoration costs, benefits, business models, and best practices is critical to scaling investment in restoration.** This information, aligned with the taxonomy described above, is needed to make a compelling investment case to the range of different actors, including governments, that can contribute to restoration.

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3 Adapted by WRI from Contemporary forest restoration: A review emphasizing function, Elsevier B.V. 2014 and Sustainable Forest Management Toolbox, FAO 2017.



Cost and benefit data should be as localized as possible – providing information specific to countries and bioregions. There is particular urgency for this data for low- and middle-income countries, where the need for restoration investment is greatest and costs tend to be lower. Tools that enable governments, investors, and project developers to apply this data, and analytics that map out investment opportunities, could support restoration investment. The World Bank’s analysis of the costs and benefits of large-scale mangrove restoration in Indonesia provides an example for how this could be approached (World Bank 2022). Analysis of benefits should apply a broad lens to provide a holistic picture of the impact of restoration, and may include granular data and local knowledge, including from indigenous peoples and local communities. Additionally, there is a need to develop case studies demonstrating business models and best practices for developing bankable restoration projects that generate positive economic and environmental impacts.<sup>4</sup> Once these steps are complete, public, private, and non-profit actors can collaborate to link investment needs and opportunities with appropriate funding sources.

For example:

- Corporations represent an important potential source for restoration finance through investment in resilient supply chains for food and fiber-based products, (Bancilhon et al., 2018).
- Institutional investors are looking for opportunities with market returns that are compatible with or contribute to their net zero and sustainability goals and commitments.
- Impact investors and philanthropic finance weight environmental and social impacts more highly than traditional investors, and may be willing to pay for impact.
- Public and concessional finance can be blended with the sources detailed above to de-risk or credit enhance.

**A key challenge is enabling locally led initiatives to access capital from large financial institutions and donors.**

Many of the most impactful restoration interventions are being implemented through small projects led by local actors.

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<sup>4</sup> An example is WWF’s Bankable Nature Solutions report. Available at [https://www.panda.org/discover/our\\_focus/finance/bankable\\_nature\\_solutions/](https://www.panda.org/discover/our_focus/finance/bankable_nature_solutions/)



Thus financing restoration at scale often requires a coalition of investors and donors that support a consortium of actors implementing a suite of actions on the ground.<sup>5</sup> It is critical to improve the efficiency and standardization of portfolio management so such financing can be scaled up. Lessons and best practices can be drawn from programs such as [Initiative 20x20](#), [AFR100](#), and the [Great Green Wall Initiative](#).

**These actors can also collaborate on developing investment vehicles for standardization that enables replication and aggregation to reduce the cost of capital for restoration projects.** Standards and labels will be critical to enabling the flow of capital to often small-scale projects. Compared with the engineering standards used for infrastructure, restoration projects are likely to have more process-focused standards or labels, as by definition restoration will require unique practices which will have a distinct impact in each bioregion.

**The role of the UN Decade Finance Task Force (FTF) is to catalyze actions which can contribute to unlocking the capital needed to meet the Decade’s goals.** The FTF will coordinate catalytical research, tools, datasets, projects, and partnerships and take steps to increase awareness and foster political will in the public or private sectors, in support of scaling up investment in ecosystem restoration. This Stock Take report is the first in a series of FTF outputs that will chart the course of the Task Force efforts through 2030. Based on the Stock Take, a Roadmap will be developed which will lay out the work of the FTF in the coming years, covering primary research which the FTF will conduct through its members and also using the FTF to showcase the work of others, relevant to the financial sector. The Roadmap will be structured around the following key pillars of work, with initial workshops covering these topics kicking off in early 2023.

RIGHT: Table ES-1: FTF Roadmap Pillars (to be further developed)

5 Sean Dewitt. WRI. Personal communication, September 2022.

PILLARS	FTF OUTPUTS	PARTNER OUTPUTS
<b>PILLAR 1:</b> GOVERNMENT AND SECTORAL POLICY LEVERS	<ul style="list-style-type: none"> <li>• Identification and promotion of relevant work by partners</li> </ul>	<ul style="list-style-type: none"> <li>• Research on how to create a supportive enabling environment for restoration</li> <li>• Case studies on successful subsidy reform/ PES programs, frameworks, or regulation</li> <li>• Case studies on successful landscape-scale integrated planning</li> </ul>
<b>PILLAR 2:</b> KNOWLEDGE, DATA, AND TOOLS	<ul style="list-style-type: none"> <li>• Taxonomy of restoration activities</li> <li>• Restoration cost/ benefit database, analytics, tools, and training</li> <li>• Restoration trade-offs assessment guide</li> </ul>	<ul style="list-style-type: none"> <li>• Presentation of key restoration data sets to a group of relevant private sector actors and collect feedback on additional data needs</li> <li>• Tracking and analysis of restoration investment flows</li> <li>• Approach for integrating credits for co-benefits with carbon credits (i.e. biodiversity, water, etc.)</li> <li>• Publications, guidance, and/or support for countries and the private sector on natural capital accounting</li> </ul>
<b>PILLAR 3:</b> FINANCIAL SECTOR REGULATION AND INITIATIVES	<ul style="list-style-type: none"> <li>• Review of key financial sector regulation, guidance, and analytical tools to ensure restoration is appropriately accounted for (i.e. taxonomies, credit rating methodologies, risk assessment approaches, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Workshops exploring how to better integrate restoration into financial sector regulation, guidance, and analytical tools</li> <li>• Analytical papers assessing potential to better integrate restoration</li> </ul>
<b>PILLAR 4:</b> FINANCIAL MARKETS AND INVESTMENT INSTRUMENTS	<ul style="list-style-type: none"> <li>• Templates for replicable or scalable investment structures (typology of restoration investments)</li> <li>• Publication assessing Monitoring, Reporting and Verification (MRV) cost reduction trends and barriers</li> </ul>	<ul style="list-style-type: none"> <li>• Case studies showcasing restoration investment and regenerative business models</li> <li>• Provide input or technical assistance to investment platforms</li> <li>• Support standardization of investment contracts</li> <li>• Standards/label for NbS projects – building on FAST Infra’s Sustainable Infrastructure Label</li> <li>• Cooperation with the UN Decade Best Practices Task Force to implement the Capacity, Knowledge and Learning Action Plan</li> <li>• Guidance to UN Decade partners leading Restoration Challenge for Finance</li> </ul>

