



Task Force 5
Purpose & Performance: Reassessing
the Global Financial Order

A FRAMEWORK TO ENHANCE FINANCING CAPACITY AND INCENTIVISE PRESERVATION OF NATURAL ASSETS

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Abstract




Despite global benefits, the burden of preserving natural capital often falls on low- and middle-income countries (LMICs). Mobilising greater flows of funds for these LMICs is critical, given the fiscal and financial market constraints they face. To add to their problems, the fiscal resources of developed countries have shrunk due to the fiscal pressures from COVID-19 and the slowing of growth. The developed countries, therefore,


have been constrained in providing large-scale intergovernmental transfers to these LMICs. Alternative sources of low-cost funds are urgently required by these LMICs, but access to low-cost funds is limited due to their high credit risk. This Policy Brief suggests creating innovative financial tools that will leverage the preservation of natural capital for low-cost financing to LMICs while advocating a better integration of nature into the financial system through standardised accounting systems.



The Challenge



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Burdening LMICs with the responsibility for preserving natural capital is not only unfair but also unfeasible. While natural capital has local benefits, it also contributes to global public goods enjoyed by all countries, such as biodiversity and the ecosystems that contribute to climate regulation. However, the costs of preservation often fall on the host countries; thus, developing countries that generally have higher natural capital endowments (World Bank, 2021) bear the heavier burden (Managi and Kumar, 2018).

Meanwhile, the fiscal pressures from COVID-19 and the slowing of long-term global growth (Kose and Ohnsorge, 2023) are straining the fiscal resources of developed countries and precluding large-scale intergovernmental transfers in the short- to medium-term. Today's limited fiscal resources means that the amounts available through conventional financing instruments, such as government-to-government soft loans and bilateral aid, will fall short of what is required to assist developing countries in climate action and other environmental goals. Promises made at successive United Nations Framework Convention

on Climate Change (UNFCCC) conference of the parties (COPs) have not been realised (Timperley, 2021). Thus, alternative sources of low-cost funds are urgently needed to fill the gap.

Accessing low-cost funds is not an easy task for LMICs due to the high credit risk of these funds. Economies with poor governance, low per capita Gross Domestic Product (GDP), low GDP growth, and an unstable currency face higher risk premiums when borrowing in international markets. This is reflected in low sovereign credit ratings. Out of 82 LMICs, 79 lack an investment grade, resulting in higher interest rates and shorter maturity terms when borrowing funds from international markets.

At the same time, the agenda of preserving natural capital has become more urgent than ever before. Guerry et al. (2015) define 'natural capital' as the living and non-living components of ecosystems that contribute to the generation of goods and services of value for people. Natural capital generates ecosystem services, which are the provisioning, regulating, supporting, and cultural benefits that humans derive from ecosystems. Climate change and numerous other



threats facing societies demonstrate why natural capital is an essential element of the productive base of an economy (Agarwala et al., 2012; Managi et al., 2022). More than half of the global GDP depends on nature (United Nations, 2022). Yet, Dasgupta (2021) found that global natural capital has decreased by 40 percent since 1992. The review recommends that nature be better integrated into the financial system to avoid further losses.

Preserving natural capital, however, requires that it first be measured consistently and comprehensively across countries. While progress has been made, countries face obstacles in measuring natural capital, especially those that are not sold on the market, such as biodiversity, in contrast to those that are, such as mineral resources. The greatest progress in accounting for market and non-

market natural capital has been made by national statistical agencies which have adopted the United Nations (UN) System of Environmental-Economic Accounts (SEEA). Less progress has been made in business and government accounting standards, where natural capital is yet to be widely included. This must change if natural capital preservation is to become a basis for lending to LMICs.


Based on these challenges, this Policy Brief offers suggestions to enhance the availability of development finance while simultaneously preserving natural capital. This can be accomplished by creating innovative financial tools that leverage the preservation of natural capital as a basis for low-cost financing to developing countries. As a prerequisite, natural capital needs to be consistently and comprehensively measured across countries.



The G20's Role

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Access to finance and natural capital preservation in developing economies are closely linked to the G20. Most of the debts of LMICs are financed by G20 countries. Therefore, there will be a direct effect on G20 countries if the capacity of emerging economies to service their debt in the face of climate change and biodiversity loss is not secured.

Natural capital preservation, on the other hand, can result in a number of benefits, from increasing resilience to climate change to promoting biodiversity conservation. It can help achieve the Sustainable Development Goals (SDGs) and Paris Agreement targets. The support of G20 in incentivising developing countries to preserve their natural capital can have far-reaching positive consequences, not only for the member countries but also for the global community.

As a forum that brings together developed and developing countries, the G20 is well-positioned to influence international financial institutions (IFIs) to internalise natural capital to leverage access to financing. G20 leaders can also give a fillip to natural capital accounting by promoting best practices and sharing knowledge with other countries. This would help popularise and bring into the mainstream the concept of natural capital in economic and financial decision-making.


Finally, G20 countries themselves cover a significant proportion of the world's natural capital, which are fundamental to natural capital measurement and protection and which can be gainfully used for financing these goals in countries that lie outside this group.



Recommendations to the G20

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Recommendation 1. Proposed financing mechanism

Traditional measurements of the risk-return profile are unable to capture the potential long-term benefit of preserving natural capital. Therefore, alternative financing mechanisms are required to provide affordable funds for LMICs to support natural capital preservation.

This Policy Brief proposes the creation of innovative financing mechanisms by multinational development banks (MDBs) and IFIs that provide affordable financing to help LMICs preserve their natural assets or capital. This scheme is designed to align incentive mechanisms for optimal natural asset preservation. One way to do this is to classify natural capital as a guarantee or integrate natural capital as an influential factor in the assessment for accessing concessional loans.

However, certain conditions must be met for lenders to be willing to use natural capital preservation as a basis for providing low-cost financing. First, the benefits of preserving natural capital should be clear, measurable, and monitored to convince lenders that value is being created. Second, lenders must

be willing to trade that benefit for a lower return on investment. Attracting the ‘correct’ types of investors is important in this financing scheme. Institutions like MDBs and philanthropies are potentially suitable investors as they tend to seek benefits beyond commercial returns. Third, there must be a means of verifying whether the commitment to preserving the natural capital is adhered to in the future. This requires a standardised measurement of natural capital with a proper taxonomy scheme to correctly assess the progress of preserving natural capital. In this regard, the World Bank (2021) has already proposed a biodiversity-adjusted sovereign credit rating, focusing on a group of 26 developing countries. This initiative could be expanded to assess the level of biodiversity preservation by each country. Fourth, the currencies of LMICs are more volatile or unstable due to global risks, though they have tackled recent shocks relatively better than major advanced economies. This duality should be considered when repurposing the international financial architecture, as the capacity to absorb economic shocks by the LMICs should provide better stability to their currency and access to financing. This can be achieved by integrating the performance


of a country in managing shocks as a further conditionality for better access to MDBs or international financing.

Climate-, biodiversity-, and nature-related risks can have significant effects on sovereign creditworthiness, default probability, and the cost of sovereign and corporate borrowing. It leads to a series of policy implications. First, economies dependent on ecosystem services can either ‘pay now’ by investing in the conservation of natural capital or ‘pay later’ through reduced fiscal resources and higher borrowing costs; the former is preferred, as it offers long-term returns and reduced downside risks. Second, without recognition and reward to countries that actively invest in natural capital conservation, especially if those investments are debt-financed, there is a ‘catch-22’ situation: sovereigns that borrow to invest in nature risk increasing their debt-to-GDP ratio, while those that do not borrow risk future losses from natural capital depletion. There lies an important opportunity for nature-rich countries to demonstrate that investments in mitigation and adaptation should improve, rather than degrade, creditworthiness. Third, innovative debt instruments, such as nature-linked bonds, could offer

a ‘greenium,’ ultimately reducing the cost of borrowing for nature-related investments (Volz, 2022).

Recommendation 2. Proposed financing framework

There are at least three opportunities for lender nations at G20, as well as IFI lenders, to directly integrate natural capital considerations within their financing operations. Doing so would not be operationally complex, given the systematic and detailed considerations of macro-, institutional-, and political-factors that already go into lending decisions. Sustainability analyses, such as alignment with the goals of the Paris Climate Agreement (a part of World Bank operations), are also increasingly being routinised. Building on this, the first opportunity would be to provide borrowing terms that are preferential to those that demonstrate natural capital asset preservation or accumulation. Gradual shifts in lending portfolios towards countries with a steady natural capital base both reduce risks for lenders as well as help borrower countries leverage their global assets for financial access, for their own benefit and that of the global commons. Note that countries may require access



to capital to shift away from natural capital-depleting activities, and so implementation would require careful consideration of each activity proposed for financing.

Second, lender nations and IFIs could consider loan ‘insurance’ against natural disasters based on natural capital status and trends. Faced with a disaster, countries with insurance could be permitted to divert loan repayments towards rebuilding. This would be an extension of existing mechanisms, such as the World Bank’s catastrophic debt drawdown option, which makes financing available for disaster response for short-term support. Insurance terms and availability would depend on natural capital status and trends, in line with its role in reducing disaster impacts. Insurance could be built into financing packages negotiated upfront. Increasing the resilience of countries through natural capital protection would be encouraged through access to this insurance. They would then be advantageously using their natural capital not only for direct physical resilience but for increasing financial resilience through hedging against future climate disaster effects.

Third, lender nations and IFIs could increasingly harness debt-for-nature swaps. While these instruments have existed for some time, they may become more attractive in a tightening fiscal scenario in which the value of some at-risk debt is falling. As demonstrated in bilateral or third-party debt for nature swaps, IFIs could provide similarly purchased marked-down debt with the difference returned to the debtor country on condition of natural-capital enhancing or climate-related actions. A new generation of scaled-up debt swaps could be used to release funds for climate investments as well as biodiversity protection. Natural capital accounts—with specific, consistent metrics—could be used to define terms and conditions for refinancing. The synergies between these climate and debt goals are increasingly recognised. The International Monetary Fund (IMF), for example, notes that 34 of the 59 most climate-vulnerable countries are also at high risk of a debt crisis (Chamon et al., 2022). More broadly, debt restructuring could be linked to natural capital outcomes and climate adaptation when these outcomes significantly reduce credit risk.

Apart from financing, a governance mechanism is also required to guarantee the commitment of borrower countries to preserve natural capital once they get access to finance. Measuring the quantity, quality, and value of natural capital stocks is notoriously difficult. Countries like the United Kingdom and New Zealand are preparing satellite accounts of sectors, such as forests, fisheries, and groundwater. They involve estimating accounting prices of their stock. Some countries are at a more advanced stage and have satellite accounts in which the value of natural capital is presented as an aggregate. Drawing lessons from these best practices and establishing a suitable mechanism to guarantee borrower countries' commitment would be critical in the implementation of a governance mechanism.

Recommendation 3. Supporting Natural Capital Accounting

- **Embedding local context in natural capital measurement**


To make natural capital preservation a condition of low-cost financing to LMICs, they must commit to the international System of Environmental-Economic

Accounting (SEEA) standard. Both physical and monetary units should be measured. To allow LMICs to follow such a standard, the measurement of natural capital should allow for adjustments to existing local contexts and standards. This will ensure continuously improved standards for LMICs.

- **Coordination among national accounting, business accounting, and public accounting standards**

Quantifying natural capital and maintaining statistical time series that connect the environment and the economy are imperative planning tools. Neglecting natural capital loss is a risk to macroeconomic and financial stability. To manage business risks, many business leaders seek to understand how natural resources are evolving. They seek guidance from governing bodies in setting an example of natural capital accounting on balance sheets.

This mandates the amalgamation of natural capital into institutional frameworks to assemble and refresh natural capital and ecosystem accounts. To guarantee their sustainability, natural capital accounting programmes should be embedded within governmental



agencies, like statistical offices, and allocated financial resources, dedicated personnel, technical know-how, and institutional capacities. Furthermore, the quality of data depends on official, dependable, obtainable, timely, and comprehensive information sources as well as unambiguous communication between natural capital compilers and information providers.

- **Improve data collection mechanism**

Natural capital accounting will require an integration of large volumes of data produced by many sources, and, in some cases, several modelling techniques. The data should cover both physical stocks and rental rate components. Coordination is especially relevant for environmental economic statistics

because expertise is distributed across government agencies. Promoting access to data for statistical agencies and improving data interoperability are highly important in making production-level natural capital accounts easier to compile.

There are two options to consider for hosting data infrastructure. The first option is to have each agency host its own data, which would be drawn from a common back-end database managed by that agency. The second option is to centralise all data on a dedicated website, with no data hosted on partner agencies' websites. Instead, these websites would have links directing users to the centralised website.

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Bibliography

- Agarwala, Matthew, Matt Burke, Patrycja Klusak, Moritz Kraemer, and Ulrich Volz. "Nature Loss and Sovereign Credit Ratings." (2022).
- Burke, Marshall, Solomon M. Hsiang, and Edward Miguel. "Global Non-Linear Effect of Temperature on Economic Production." *Nature* 527, no. 7577 (November 2015): 235–39. <https://doi.org/10.1038/nature15725>.
- Chamon, Marcos, Vimal Thakoor, Erik Klok, and Jeromin Zettelmeyer. "Debt-for-Climate Swaps: Analysis, Design, and Implementation." *IMF Working Papers* 2022, no. 162 (August 2022): 1. <https://doi.org/10.5089/9798400215872.001>.
- Dasgupta, Partha. *The Economics of Biodiversity: The Dasgupta Review: Full Report*. Updated: 18 February 2021. London: HM Treasury (2021).
- Johnson, Justin Andrew, Giovanni Ruta, and Uris Baldos. "E Economic Case for Nature." (2021).
- Kahn, Matthew & Mohaddes, Kamiar & Ng, Ryan & Pesaran, Hashem & Raissi, Mehdi & Yang, Jui-Chung. (2021). Long-term macroeconomic effects of climate change: A cross-country analysis. *Energy Economics*. 104. 105624. [10.1016/j.eneco.2021.105624](https://doi.org/10.1016/j.eneco.2021.105624).
- Kose, M. Ayhan (Ed.), and Franziska (Ed.) Ohnsorge. *Falling Long-Term Growth Prospects: Trends, Expectations, and Policies*. World Bank : Washington, DC (2023). <https://doi.org/10.1596/39497>.
- Klusak, P., Agarwala, M., Burke, M., Kraemer, M., Mohaddes, K. (In Press). Rising Temperatures, Falling Ratings: The Effect of Climate on Sovereign Creditworthiness. *Management Science*.
- Managi, Shunsuke, Moinul Islam, Osamu Saito, Marie Stenseke, Luthando Dziba, Sandra Lavorel, Unai Pascual, and Shizuka Hashimoto. "Valuation of Nature and Nature's Contributions to People." *Sustainability Science* 17, no. 3 (May 2022): 701–5. <https://doi.org/10.1007/s11625-022-01140-z>.
- Managi, Shunsuke, and Pushpam Kumar. *Inclusive Wealth Report 2018: Measuring Progress Towards Sustainability*. 1st ed. London: Routledge (2018). <https://doi.org/10.4324/9781351002080>.
- Monasterolo, Irene. "Climate Change and the Financial System." *Annual Review of Resource Economics* 12, no. 1 (2020): 299–320. <https://doi.org/10.1146/annurev-resource-110119-031134>.
- Timperley, Jocelyn. "The Broken \$100-Billion Promise of Climate Finance — and How to Fix It." *Nature* 598, no. 7881 (October 20, 2021): 400–402. <https://doi.org/10.1038/d41586-021-02846-3>.
- United Nations. "Countries to Consider Ground-Breaking Change to Economic Reporting That Includes Natural Capital." United Nations (2022). <https://www.un.org/en/desa/countries-consider-ground-breaking-change-economic-reporting-includes-natural-capital>.



Volz, Ulrich. "On the Potential of Sovereign State-Contingent Debt in Contributing to Better Public Debt Management and Enhancing Sustainability Outcomes." *Journal of Globalization and Development* 13, no. 2 (January 4, 2023): 379–409. <https://doi.org/10.1515/jgd-2021-0071>.

World Bank. *The Changing Wealth of Nations 2021: Managing Assets for the Future*. The World Bank (2021). <https://doi.org/10.1596/978-1-4648-1590-4>.

