POLICY BRIEF

Valuing Nature in Profit-Driven Economies: A G20 Guide for Developing a Natural Capital Balance Sheet Framework

2025

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Accelerating Climate Action and the Just Energy Transition

Abstract

The global economy fails to recognise its most valuable assets: forests, mangroves, seagrasses, and other vital ecosystems that serve as nature's most powerful carbon sinks and resilience mechanisms. Despite providing trillions in environmental services, these ecosystems remain absent from sovereign balance sheets, rendering them invisible in fiscal policy and economic decisions and undermining the urgency of preserving them. This degradation of biodiversity is exacerbated by significantly underfunded conservation initiatives, which negatively impact both nature and local livelihoods.

Previous G20 proceedings and briefs have highlighted the risks of biodiversity loss, the urgency of natural capital valuation, and the potential for financial linkages. Yet solutions remain fragmented and fail to address a core issue: many emerging economies are rich in natural resources but cannot generate economic value without resorting to extraction, which, without constraints, can be detrimental in the longer run. To address this, a fundamental shift is required: one that redefines economic value by including nature and positions ecosystem preservation as central to fiscal and financial decision-making.

This policy brief builds upon recent advances and frameworks and proposes the co-creation of a standardised Natural Capital Balance Sheet (NCBS) Framework. Spearheaded by the G20, the NCBS seeks to streamline existing natural capital accounting efforts, positioning itself not as a competing approach but as a unifying actor that connects economic prosperity with environmental stewardship. By outlining a practical, implementable roadmap, the NCBS adds value to current frameworks by helping countries recognise, protect, and value nature, thereby enabling them to translate ecosystem preservation into tangible economic benefits.

Following the roadmap and with co-creation of the framework, the G20 can future-proof development, align with global conventions like the UNFCCC and the Convention on Biological Diversity, and set a new standard for sustainable growth. The NCBS Framework offers a credible pathway to integrate ecological thresholds into economic planning, ensuring that future prosperity is aligned with the virtues of regeneration and resilience.

Keywords: Natural Capital Balance Sheet, Biodiversity Loss, Climate Finance

Diagnosis

The 1972 Limits to Growth called attention to the potential dangers of unchecked economic and population growth.[1] Half a century later, the threat looms large, with six out of the nine planetary boundaries transgressed; 20% of the Amazon rainforest destroyed by deforestation, fires, and degradation;[2] 85% of wetlands lost; and a 47% decline registered in natural ecosystems.[3] These trends threaten progress towards 80% of the Sustainable Development Goal (SDG) targets[4] through loss of local livelihoods, traditional knowledge, and ecosystem services that are realised best by farmers, foresters, Indigenous communities, and other vulnerable resource-dependent groups. If these trends continue, years of development could be undone, manifesting in issues of multidimensional poverty, inequality, and intergenerational inequity.

The growth dilemma

Biodiversity and natural resources continue to decline as countries pursue rapid economic growth. Often, because these ecosystems and their resources are considered public goods, their unchecked exploitation goes unnoticed until the consequences become too large to ignore.[5] At the heart of this crisis is a structural flaw in how growth is defined and pursued. GDP – sometimes used interchangeably to denote "growth" – rewards output without considering the quality of life or environmental costs, pushing ecosystems toward irreversible

[1] Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, and William W. Behrens III, *The Limits to Growth* (New York: Universe Books, 1972). Accessed at https://archive.org/details/TheLimitsToGrowth
[2] World Wildlife Fund. "*The Amazon in Crisis: Forest Loss Threatens the Region and the Planet*." 2022. Accessed at https://www.worldwildlife.org/stories/the-amazon-in-crisis-forest-loss-threatens-the-region-and-the-planet.
[3] United Nations. "*Nature's Dangerous Decline 'Unprecedented'; Species Extinction Rates 'Accelerating'*." 2019. Accessed at https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/.
[4] Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). *Global Assessment Report on Biodiversity and Ecosystem Services: Summary for Policymakers*. Bonn, Germany: IPBES Secretariat, 2019. Accessed at https://ipbes.net/global-assessment.
[5] Gretchen C. Daily, Mary Ruckelshaus, and The Natural Capital Project. *Natural Capital: Valuing Nature in Policy and Finance*. Stanford University, June 2024. Accessed at https://g20sfwg.org/wp-content/uploads/2024/06/P4-G20-SFWG-Stanford-Natural-Capital-Project-Valuing-Nature-in-Policy-and-Finance.pdf.

tipping points.[6] This approach conflicts fundamentally with ecological limits and long-term resilience.

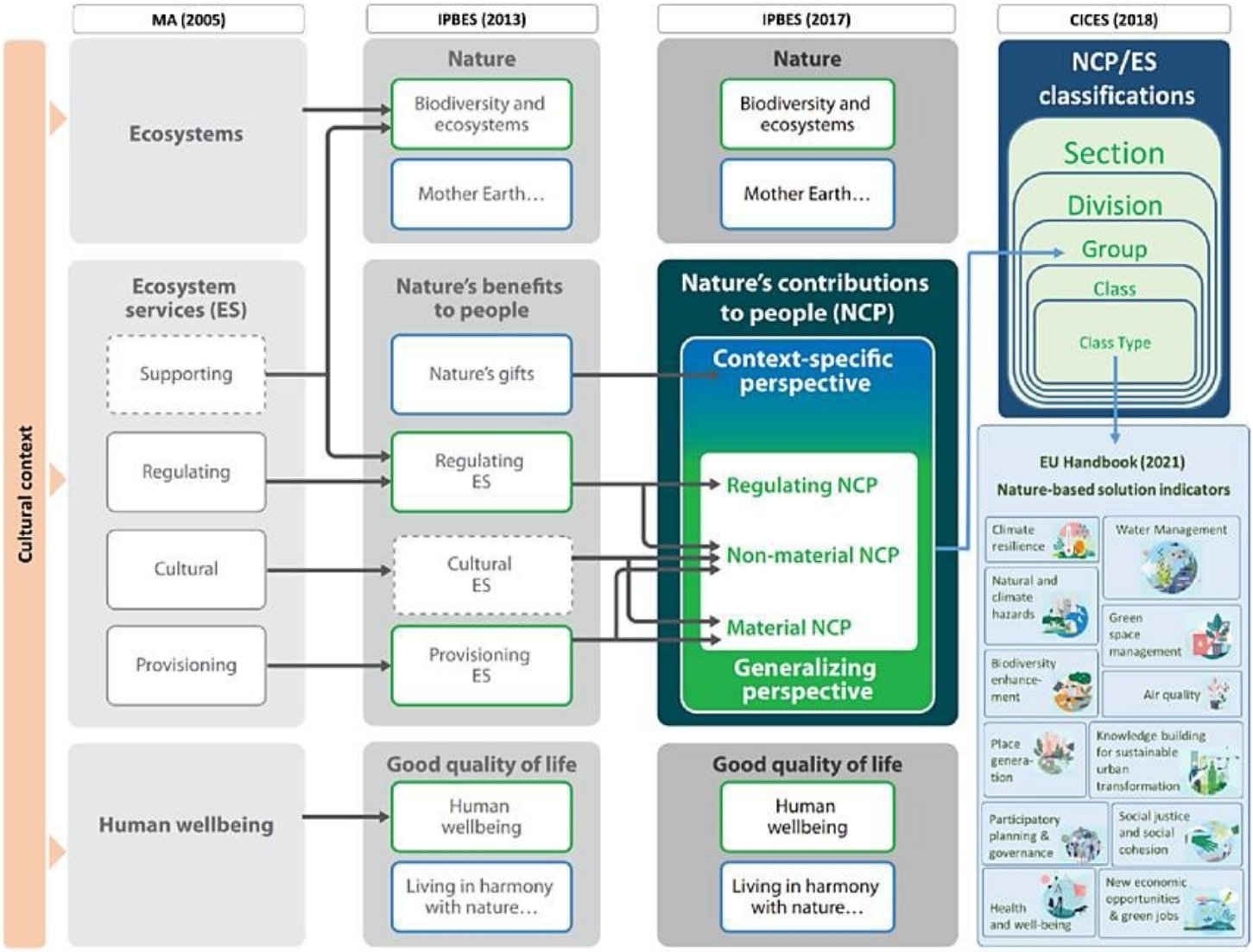
The missing value: Nature's contribution to people

Nature underpins human wellbeing, providing not only ecosystem services for livelihood security but also essential cultural and intrinsic values. While the global discourse has evolved with the Millennium Assessment (2005), IPBES Nature's Benefit to People (2013) and Nature's Contribution to People (2017), and the Common International Classification of Ecosystem Services (2018) capturing them, these values and contributions – especially those recognised by Indigenous peoples and local communities (IPLCs) – are still often overlooked in our current economic models (see Figure 1). A new path is needed – one that manages natural capital, including its cultural and intrinsic dimensions, as rigorously as financial assets. This approach will ensure economic progress aligns with ecosystem presentation and genuine prosperity.[7]

[6] Hamilton (1994) built on Solow's (1974) work to pilot the genuine or adjusted net savings concept, was in acknowledgement of this issue and aimed at improving the way natural capital depletion and human capital gains were valued.

[7] The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) in 2015 gave the concept of "Nature's Benefit to People" which in 2017 was revised to "Nature's Contribution to People" in recognition of both negative and positive contributions of living nature to people's quality of life. Its predecessor, the ecosystem services approach is critiqued for its economic and utilitarian approach and disregards for non-material values. NCP addresses these gaps in that it adopts a much broader, pluralistic approach that recognises the diversity of values associated with nature, including intrinsic and relational. Source: Sandra Díaz et al., "Assessing Nature's Contributions to People," *Science* 359, no. 6373 (2018): 270–272, https://doi.org/10.1126/science.aap8826.

Figure 1. Relationship between MEA and IPBES Assessment Framework



Source: MA (2005), IPBES (2013, 2017[8] adopted from Díaz et al. (2018). Photos of EU Handbook adopted from European Commission (2021)

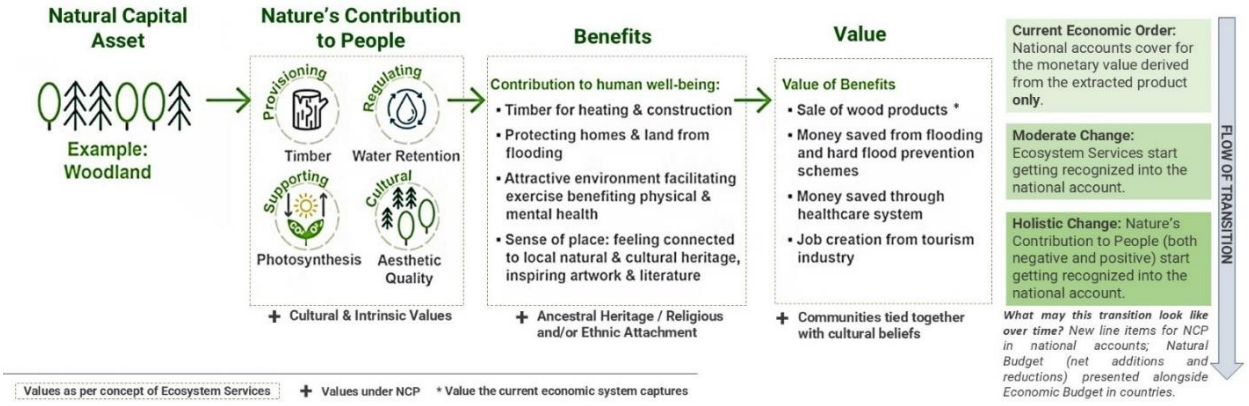
[8] Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), *Summary for Policymakers of the Methodological Assessment Report on the Diverse Values and Valuation of Nature*, ed. Unai Pascual et al. (Bonn, Germany: IPBES Secretariat, 2022), https://doi.org/10.5281/zenodo.7410287.

Aligning economies with nature: A systemic shift

Redefining what we value: Countries must move beyond extractive growth and integrate natural capital into their economies, measuring progress by both GDP and the vitality of ecosystems, such as thriving forests, clean rivers, protected biodiversity, and resilient landscapes. This approach rewards ecological regeneration and empowers IPLCs as guardians of nature, driving environmental sustainability and human well-being.

Pathway to alignment: Incorporating natural capital into national accounts is the most lasting way of attaining such an alignment. Through this, a *true* cost of ecosystem loss can be pegged and the urgency of its preservation reflected in fiscal policies and decisions[9] (Figure 2). Linkage with sustainable financing mechanisms like carbon markets and nature credits can also help to close the biodiversity funding gap that plagues prevention, regeneration, and restoration efforts.

Figure 2. Natural capital integration model



Source: Adapted from LUC[10]

[9] Natural Capital is defined as "the naturally occurring living and non-living components of the Earth, together constituting the biophysical environment, which may provide benefits to humanity.". Natural Capital Accounting refers to reporting systemically on natural capital stocks and flows. Source: United Nations. *System of Environmental-Economic Accounting—Ecosystem Accounting (SEEA EA)*. New York: United Nations, 2021. Accessed at https://seea.un.org/ecosystem-accounting.

[10] LUC. "What Are Natural Capital and Ecosystems Services?" *LUC*, July 7, 2021. Accessed at https://www.landuse.co.uk/thoughts/what-are-natural-capital-and-ecosystems-services/.

Existing momentum: Explorations of natural capital accounting are already well advanced, with robust frameworks such as the Capitals Coalition and the UN System of Environmental Economic Accounting (SEEA) guiding measurement and reporting at organisational and national levels. Furthermore, a range of initiatives exist and can be further harnessed to scale natural capital integration. Institutions like the World Bank[11] and the IMF[12] have urged countries to integrate their natural capital into national balance sheets for better policies and planning. Pilots in countries like Botswana, Colombia, and Madagascar are active under WAVES Partnership.[13] Norway has assessed its Government Pension Fund Global portfolio for natural capital risks.[14] Colombia is pioneering biodiversity bonds to mobilise capital linked to natural assets.[15] REDD+ is linking forest conservation with carbon markets, with models like Namibia's wildlife credits and Australia's NaturePlus™ and EcoAustralia™ showing the potential of ecosystem-based finance. Tools like InVEST further provide a foundation for finance-aligned natural capital accounting that supports both sustainability goals and economic resilience.

Hindrances & challenges: While in the right direction, efforts to mainstream natural capital remain fragmented, often confined to specific geographies, limiting cross-country learning and creating costly redundancies. This inefficiency strains scarce climate finance and drains valuable time amid urgent environmental challenges. National accounts could also be incomplete or inconsistent, lacking standardised metrics and shared interpretations. Such

[11] World Bank. *The Changing Wealth of Nations 2021: Managing Assets for the Future*. Washington, DC: World Bank, 2021. Accessed at https://openknowledge.worldbank.org/handle/10986/36400.
[12] International Monetary Fund. "Building Better Balance Sheets to Account for Natural Resources." *Public Financial Management Blog*, October 2021. Accessed at https://blog-pfm.imf.org/en/pfmblog/2021/10/building-better-balance-sheets-to-account-for-natural-resources.
[13] World Bank. *WAVES: Wealth Accounting and the Valuation of Ecosystem Services Partnership*. Washington, DC: World Bank, 2020. Accessed at https://www.wavespartnership.org.
[14] Norges Bank Investment Management. *Responsible Investment: Government Pension Fund Global – Annual Report 2022*. Oslo: Norges Bank, 2023. Accessed at https://www.nbim.no/en/publications/responsible-investment/2022/responsible-investment-2022/.
[15] International Finance Corporation. "BBVA Colombia and IFC Issue the World's First Biodiversity Bond in the Financial Sector." Press release, July 12, 2024. Accessed at https://www.ifc.org/en/pressroom/2024/28298.

fragmentation impedes natural capital integration into wealth accounts and hinders global benchmarking, making it harder to scale best practices and align efforts across countries.

The G20's role

The G20, representing two-thirds of the world's population and accounting for 85% of global GDP, is uniquely positioned to drive the integration of natural capital into economic and financial systems. The group manages 60% of the world's land area, encompassing diverse ecosystems such as forests, wetlands, grasslands, and coastal belts, while also being a major resource consumer and a significant driver of biodiversity loss through global supply chains.[16] This dual role morally and strategically obligates the G20 to lead the transition toward nature-positive economies and to address the externalities of profit-driven growth models.

Past G20 discussions have underscored the risks of biodiversity loss and the urgency of ecosystem valuation to unlock new financing for resilience. With South Africa's G20 presidency coinciding with Brazil's leadership at COP30 and the Finance COP29, there is a rare opportunity for unified, at-scale global action on natural capital. The G20 is called upon to commission and institutionalise a Natural Capital Balance Sheet Framework, transforming natural capital from an overlooked asset into a driver of sustainable growth.

This policy brief outlines a roadmap for the G20 to pursue this initiative. It also proposes critical components for the framework to gain credibility and acceptance widely.

[16] The G20, for instance, drives 13.3 percent of biodiversity leakages in terms of global specie range loss abroad through imported agricultural and timber products.

Recommendations

A G20 NCBS framework should be designed for countries to assess, track, and integrate natural assets into national wealth accounts. It would be a flexible package that combines core metrics with country-specific indicators, guidelines, and tools enabling tailored implementation while allowing comparability across similar contexts. By embedding nature into economic planning and unlocking access to new capital, the framework can help countries de-risk development pathways and build long-term resilience, all while supporting climate, biodiversity, and sustainability goals.

Proposed roadmap for the G20

1. Co-creation of NCBS Framework

The G20 can establish a Special Purpose Working Group (SPWG) with representation from the Sherpa and Finance track,[17] coordinated by a rotating co-chair model consisting of one troika representative, one Global South non-G20 country, and a multilateral organisation (UNEP/UNDP/others) to increase legitimacy among the Global South and foster broader geopolitical ownership.

Institutionalizing non-G20 Participation in SPWG	*Non-G20 Role: Anchored in Precedent*
The G20 can enable non-G20 participation by granting observer status and co-chairing rights to the selected non-G20 country. Selection can be based on regional rotation or a nomination process overseen by the SPWG Secretariat, with endorsement from the Sherpa and Finance Tracks and ratification via a formal G20 communiqué.	While G20 working groups traditionally include only G20 and invited guest countries, precedent exists: in the G20 Compact with Africa (CwA) and G20 Development Working Group (DWG), non-G20 countries have engaged in working-level discussions and technical sub-groups through structured partnerships or regional representation.

[17] Particularly the Energy Transition, Environment and Climate Sustainability, Framework and Sustainable Finance Group. Considering the debate regarding unsustainable resource extraction for energy transition, it will be essential to involve the Energy Transition Sherpa Group in the discussion. The Sustainable Finance Group is proposed to be involved from the lens of exploring ways in which natural capital framework can link for raising new and additional climate finance.

The World Bank and IMF's participation will ensure financial alignment. The G20 can also facilitate the SPWG's engagement with the Biodiversity COP and other global forums.

The Power of Co-Creation	*The G20 Advantage*
Through co-creating the framework with the G20 member countries and other aligned stakeholders, a common consensus can be developed on key components. This shall enhance collective ownership and aid implementation.	G20's convening power and the experiences of its resource-rich member economies - particularly those emerging and vulnerable to climate change and biodiversity loss - will be powerful assets that could drive the co-creation process.

Special emphasis on cultural committees – leveraging existing taskforces and groups – will ensure that Indigenous knowledge and voices of local communities are heard and incorporated in the framework development, in alignment with IPBES' recognition of the role of culture in linking nature and people. Embedding free, prior, and informed consent (FPIC) protocols into the framework and guidelines to implement RACI (Responsible, Accountable, Consulted and Informed) will be essential for safeguards and effectiveness (Table 1). The role of the SPWG is set out in Appendix 2. An indicative scoping sheet for framework development is available in Appendix 3.

Table 1. Structure of a RACI Matrix

	Responsible	**Accountable**	**Consulted**	**Informed**
Data	Who gathers data?	Who approves methodologies?	Who provides input?	Who receives updates?
Valuation	Who conducts assessments?	Who signs off on valuation approaches?	Who reviews assumptions?	Who is informed of results?
Governance	Who convenes meetings and enforces compliances?	Who takes final decisions?	Who offers expert counsel?	Who is kept informed?

Communications	Who drafts and disseminates materials?	Who oversees messaging strategy?	Who consults stakeholders for feedback?	Who receives communication?

2. Validation and piloting

- The G20 can hold targeted sessions to vet the framework with select groups prior to the summit, culminating in final validation and endorsement during a high-level summit session.
- Countries can be identified based on interest in piloting the framework, preferably at different development levels. The G20 can discuss with the interested party the nuances of the framework, assess risk (cost), and devise potential solutions. Upon mutual understanding of the scope, an agreement can be signed to initiate the pilot.

Strategic Piloting & Early Implementation

While the pilot should remain open to both G20 and non-G20 countries, it may be prudent for the G20 to conduct the initial pilot within a member country. This would enable the G20 to provide direct oversight and timely course correction if needed, helping to ensure a more controlled and responsive implementation during the early stages.

G20's Legacy of Piloting Beyond Membership

The G20 has a track record of enabling piloting initiatives beyond its membership. The Compact with Africa and the G20 Energy Access Action Plan are immediate examples. Through the **Global Partnership for Financial Inclusion (GPFI)**, the G20 has also piloted digital and financial inclusion initiatives across developing economies.

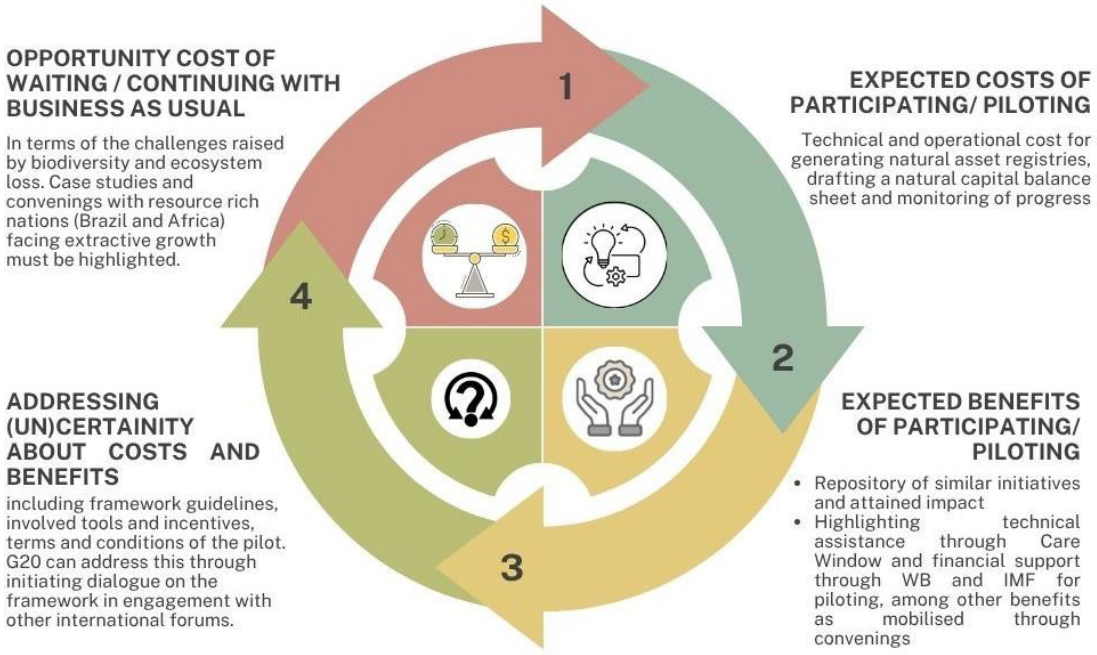
3. Refinement and replication

At least two comprehensive country pilots could be conducted before the framework is formally reviewed. The G20 can set pilot timelines and provide support for monitoring and documentation. Upon completion, results can be evaluated to refine the framework and inform broader replication in another set of countries, giving due credence to context specificities.

Incentivising countries to pilot

By keeping transaction costs low and demonstrating how the expected benefits of natural capital integration outweigh expected costs (or opportunity cost), the G20 can mobilise interests from countries in piloting sooner than later (Figure 3).

Figure 3. Levers for incentivising countries to pilot NCBS Framework



Source: Authors' Visualisation, adapted from Cassimon, Essers and Presbitero (2023)

In addition,

- The Framework could be presented as a voluntary solution and not a binding agreement on countries.
- The piloting could be supported financially by the existing G20 financial mechanisms, supplemented as necessary with financial assistance from the World Bank and the IMF. The responsibility of drawing the linkage lies with the SPWG, where both institutions are proposed to be represented.
- Involvement of private sector and civil society could enable tripartite agreements where they provide technical assistance or engage in

blended financing models for additional financial support. Between receipt of interest and signing of agreement, the G20 may present country-specific proposals to its Civil20, Business20 and Innovation, Entrepreneurship and Collaboration to gauge their interest in such an arrangement.

- Post signing of agreement, a Technical Assistance Window must be created by the G20 with the World Bank and IMF to handhold the country through the piloting process. Standard formats can be devised for recording and reporting progress at regular interval to the G20.

Conclusion

A Natural Capital Balance Sheet Framework presents a bold opportunity for G20 to confront the twin crises of biodiversity loss and climate change. By embedding nature into national accounting and global finance, the G20 can redefine growth in line with ecological limits. This approach directly supports the objectives of the UNFCCC, CBD, and UNCCD, while advancing the SDGs. It also contributes to the global discourse on unified carbon pricing by linking the price per tonne of CO_2 mitigated to measurable carbon sequestration recorded in natural capital accounts.

Under South Africa's presidency, with a troika comprising Brazil – which is also anchoring this year's UNFCCC COP, with climate financing as a major agenda point – the G20 is well-placed to engage relevant stakeholders and lead this paradigm shift, ensuring that nature is valued, preserved, and restored as a core pillar of future-ready economies.

Appendices

Appendix 1. Non-exhaustive summary of existing frameworks and value add of NCBS

Framework	Lead institution/s	Scope & features	Value added	Limitations	NCBS value add
SEEA (System of Environmental -Economic Accounting)	UN	Integrates environment into national accounts using standardised methodology	Offers statistical coherence and comparability to GDP	Often limited to countries with high capacity; weak integration with finance	Builds on SEEA structure to link to fiscal and investment decisions
WAVES (Wealth Accounting and Valuation of Ecosystem Services)	World Bank	Country pilots on ecosystem valuation for policy planning	Demonstrates feasibility and national relevance	Fragmented pilots, no global standardi-sation	NCBS scales WAVES into a global, standardised framework
Natural Capital Protocol	Capitals Coalition	Business-focused tool to value natural capital impacts/ dependencies	Mainstream business engagement	Not targeted at public policy	NCBS bridges public–private sector
REDD+	UNFCCC	Forest carbon payment scheme linked to climate mitigation	Monetises ecosystem services	Forest-specific; focuses on carbon	NCBS expands beyond carbon to multi-dimensional ecosystem services
InVEST	Natural Capital Project	Tool for modelling and valuing nature's benefits	Technical modelling support	Requires technical expertise; not policy framework	NCBS integrates such tools into sovereign accounting structures
NCBS	G20 (proposed), World Bank & IMF support	Co-created sovereign-level framework for embedding natural capital	Harmonises existing frameworks; creates cross-country	Still conceptual; requires piloting	Unifies efforts under a flexible, scalable, country-

		into wealth accounts	comparability; ties nature to fiscal planning	and validation	sensitive sovereign framework

Appendix 2. Roles and responsibilities of the Special Purpose Working Group (SPWG)

- Creating an informal charter for itself consisting of clarity on membership, role of each member, frequency of meeting, progress monitoring on framework development and reportage to G20.
- Regular convenings within the group and externally with other resource-rich countries, think tanks, and experts working on natural capital valuation etc.
- The main deliverable of the SPWG shall be a draft framework that it will handover to G20 within a timeframe mutually agreed in the charter. The framework may consist of:
    - A repository of possible assets, methodologies, and available tools for assessment.
    - Digital knowledge platform to act as a map of all pilots conducted by countries, good practices, and potential lessons.
    - Scope of leveraging AI, citizen science, and other technical means for supporting the balance sheet development must also be explored within the ambit of the framework.

Note that the role of SPWG is to co-create the draft framework through consultations and engagement of key members. The responsibility of validation and subsequent buy-in shall rest with the G20, where the SPWG will present the draft framework.

Appendix 3. An indicative scoping sheet for framework development

Regarding a Natural Capital Balance Sheet

What are the benefits of developing a Natural Capital Balance Sheet?

- Gives a country robust quantified information on its impacts and dependencies on the environment and how it could change.
- Possible to use accounts to explore new sources of income, like voluntary carbon markets, biodiversity net gain credits, and public money for public goods through agri-environment schemes.

What steps may it consist of?

A Natural Capital Balance Sheet is on output. The handholding to piloting country will include assistance in the development of:

- Asset Register: A (list) register of all natural capital assets within the boundary of the account. It forms the foundation of the account and records both the extent and condition of owned assets.
- Physical Flow Account: Quantifies the benefits that the assets deliver (cooler air, prevention of soil erosion etc.) in physical terms. The changes in the quantity and/or quality of the assets and their benefit provision over time are also shown.
- Monetary Flow Account: Estimates the economic value of the benefits in monetary terms and discounts the projected future flow of these benefits to provide the present value of the assets. This uses data from actual markets and other non-market values. The value of the benefit is the net of the cost of producing the benefit, where possible.
- Natural Capital Balance Sheet: A breakdown of benefits and costs, and their contribution to different beneficiary groups based on the above accounts.

Regarding the Framework

What will the framework do for a country?

The Care Window will be responsible for tailoring the framework to the country context. It will:

- outline a practical strategy for integrating natural capital into sovereign accounting while addressing the associated challenges;
- examine diverse country contexts and present a feasible implementation approach; and
- explore how natural capital valuation can unlock public–private co-financing, helping climate-vulnerable nations attract investment, restructure debt, and enhance both economic and environmental resilience.

Who may use the framework?

The user base of natural capital balance sheet is diverse. This would include but be not limited to:

- Governments, so that they understand their impact and dependencies better, manage risks and opportunities relating to natural capital.
- Investors, as it provides a systematic way of recording their impacts, dependencies, and risks related to their activities.
- Public sector, as it helps assess how to allocate and record the impact of expenditure on the environment.

What foundational questions should the framework answer?

The framework could answer the following questions:

- What assets does the country own and/or manage?
- What contributions do these assets provide and to whom?
    - Value to society (negative/positive in alignment with IPBES' NCP

framework).

  - Value to business (negative/positive including arable food production, livestock production, landings by vessels, volume of softwood removals, hydropower electricity, etc.).
  - Non-monetised contributions (negative/positive, including flood risk management – annual average additional woodland soil water storage capacity; water supply – total water abstraction at source; recreation – total recreation visits)
- What are the benefits worth?
- What does it cost to maintain the assets? Who will bear the cost?
- How do costs compare to benefits over time?
- How much time will it take for the balance sheets to be prepared?
- What to do with the accounts? How to store them, when to update?
- Can a country set targets for itself and then reverse-engineer to draw pathways for meeting those targets?

<u>Potential tools, governance processes and best practices that countries can leverage towards natural capital records and asset generation</u>

- AI-powered ecosystem monitoring platforms
  Leverage artificial intelligence (AI) and machine learning to analyse satellite imagery and real-time data for ecosystem health monitoring. Tools like Planet AI or Earth Engine can automate the detection of deforestation, biodiversity loss, and changes in carbon sequestration. Example: AI algorithms can predict ecosystem degradation patterns and suggest intervention strategies based on historical data trends.
- Gamification for community engagement
  Develop mobile apps that gamify natural capital monitoring, encouraging local communities' involvement in narrative setting for nature's contribution to people and thereby value setting and, at a later stage,

reporting ecosystem changes (eg, illegal logging, wildlife sightings). Participants could earn rewards or incentives for their contributions. Example: Apps like iNaturalist could be adapted to include gamified features tied to natural capital valuation.

- Dynamic natural capital risk dashboard

  Create a real-time dashboard that integrates global data streams (eg, weather patterns, biodiversity metrics) to assess risks to natural capital across G20 countries. This dashboard could guide policy decisions by predicting vulnerabilities and opportunities. Example: Similar dashboards exist for financial risk management and biodiversity monitoring; this would apply the concept to ecosystems.

- Community-led natural capital trusts

  Establish localised trusts where communities manage natural capital assets and receive direct financial benefits from their conservation efforts (eg, payments for ecosystem services; revenues through nature credits). This fosters local ownership, incentivises sustainable practices, and ensures long-term financial stability. Example: Community forest management programmes in Nepal have successfully linked conservation with economic benefits.

- Natural capital digital twin models

  Build digital twin models of ecosystems that simulate their behaviour under different scenarios (eg, climate change impacts, urbanisation). These models can help policymakers test interventions before implementing them in the real world. Example: Digital twins are widely used in engineering and are slowly being adapted for ecosystems (eg, the Nature Conservancy and Bioverse use digital twins for biodiversity conservation).

- Citizen science networks with AI integration

  Combine citizen science initiatives with AI-driven analysis to crowdsource

data collection while ensuring accuracy and scalability. For example, community members could upload photos or observations via a mobile app, which AI processes to generate actionable insights. Example: A network similar to Zooniverse, enhanced with AI tools, could support natural capital valuation efforts.

These ideas, integrating cutting-edge technologies, community engagement strategies, and governance models, could make the framework forward-thinking and scalable.

T20 South Africa convenors

The Institute for Global Dialogue (IGD)

The South African Institute of International Affairs (SAIIA)

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