

The Kunming–Montreal Global Biodiversity Framework and the Paris Agreement need a joint work programme for climate, nature and people

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Abstract

1. The global climate and biodiversity crises are closely intertwined, yet no policy instrument currently tackles both jointly. This is problematic, as the lack of international platforms for designing coordinated and coherent policy frameworks that align targets across the nexus of biodiversity and climate change poses risks to nature and people.
2. Here, we argue that the successful implementation of both the Paris Agreement and the Global Biodiversity Framework (GBF) requires a joint work programme between the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD). Such a joint work programme could fill the current global governance vacuum and address critical implementation gaps, while fostering innovation and synergies in climate and biodiversity action.
3. Based on a review of existing work programmes under the UNFCCC and interagency and joint work programmes established with the CBD, we provide a concept of how this joint programme could be set up, ideas on the type of issues it should tackle and recommendations for successful implementation.
4. *Policy implications:* The UNFCCC and CBD are unique platforms for providing the evidence to, and guiding the way through the changes we need, but higher levels of integration between the biodiversity and climate change agendas are needed to plug the implementation gap between the GBF and the Paris Agreement. The upcoming Conference of the Parties (COP) for the United Nations Framework Convention on Climate Change (COP29) and the Convention on Biological Diversity (COP16) present a clear policy window for the two conventions to introduce a formal governance structure, such as the one proposed in this contribution, that brings together ideas, people, organizations and processes necessary for joining the dots on how to both stabilize our climate and recover our nature.

KEYWORDS

CBD, climate change, Global Biodiversity Framework, global governance, nature recovery, nature-based solutions, Paris Agreement, UNFCCC

After more than a year since the adoption of the Kunming–Montreal Global Biodiversity Framework (GBF), and despite numerous calls for greater synergies between the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD; see e.g. Gupta & Singh, 2023; Pettorelli et al., 2021; Pörtner et al., 2023; Turney et al., 2020), policy linkages between them on climate, biodiversity and sustainable development remain weak. Collaboration among the Rio Conventions has long been recognized as both essential and challenging due to a lack of mutually supportive implementation frameworks (Gupta & Singh, 2023; Maljean-Dubois & Wemaere, 2017). The establishment of the Joint Liaison Group in 2001 exemplified early efforts to facilitate coordination, focussing on key areas such as adaptation, capacity-building and technology transfer. Despite the initial promise, sustained collaborative processes proved elusive and the Joint Liaison Group did not extend beyond 2016, underscoring the complexities in aligning the diverse mandates, priorities and institutional frameworks of these conventions.

The adoption of the GBF has opened a new opportunity for cohesive alignment with the Paris Agreement (Streck, 2023). At the UNFCCC 28th Conference of the Parties (COP28), a landmark joint statement on Nature, Climate and People was led by the UNFCCC and CBD presidencies and backed by 18 countries to date. This Joint Statement marks a significant reinvigoration of collaboration between the CBD and UNFCCC, aiming to align efforts towards shared objectives and integrated action across climate, nature and sustainable development. It outlines pathways for coordinated action and underscores the importance of enhancing awareness and building capacity to capitalize on synergies between the Paris Agreement and the GBF. Following this, in January 2024, a statement of intent was released, committing to specific collaborative outcomes, such as the scaling up of finance and investments for climate and nature; the promotion of interoperability across data sources and data collection; metrics and methodologies; and voluntary reporting frameworks (Table 1). Together, the joint statement and the statement of intent represent the most comprehensive plan to date for collaboration between the CBD and the UNFCCC.

While these statements signify progress, they rely entirely on voluntary partnerships, initiatives and coalitions, lacking a formal governance structure for planning, operationalization, reporting and progress monitoring. These are necessary for full integration in the implementation of the GBF and the Paris Agreement, respectively. In this contribution, we argue that the establishment of a joint work programme for climate, nature and people is required to bridge this implementation gap and foster synergies to fulfil the shared objectives of the two conventions. Such a programme, overseen by the Subsidiary Bodies for Implementation of both the CBD and UNFCCC, could serve as a pivotal mechanism for aligning the implementation efforts of the GBF and the Paris Agreement, offering crucial governance functions, ensuring continuity, facilitating reporting mechanisms and enhancing accountability.

1 | NATURE TO THE RESCUE: RISKS AND FALSE SOLUTIONS

As the interdependencies between the nature and climate crises are being recognized, emphasis is put on integrated action to fulfil shared priorities between the GBF and the Paris Agreement. Advancing the science and supporting the large-scale delivery of Nature-based Solutions (NbS) is a clear example of a critical objective that is of high priority to both the CBD and the UNFCCC. NbS are defined by the International Union for the Conservation of Nature as ‘actions to protect, sustainably manage and restore natural or modified ecosystems’ that bring societal co-benefits. Ecosystem-based approaches also fall in this category, with, for example, Ecosystem-based Adaptation (EbA) defined as ‘a nature-based solution for adaptation’ involving ‘a wide range of ecosystem management activities, such as the sustainable management of forests, grasslands, and wetlands, that increase the resilience and reduce the vulnerability of people and the environment to climate change’.

While both NbS and EbA present potential pathways to meet the goals and targets of the GBF and the Paris Agreement, their implementation requires careful consideration due to their broader consequences for ecosystems and their long-term sustainability (Seddon et al., 2020). To date, neither the CBD nor the UNFCCC have adequately addressed the critical risks that these approaches can potentially pose to nature and people. While both conventions acknowledge interdependencies between the nature and climate agendas, and while Target 8 of the GBF explicitly commits to promoting positive biodiversity impacts of climate actions while minimizing negative effects, neither the CBD nor the UNFCCC have to date established measures to prevent the inappropriate utilization of NbS and EbA for offsetting purposes, with both lacking mechanisms or processes to identify and deter climate actions that threaten biodiversity and/or local communities. Inappropriate utilization of NbS and EbA for offsetting purposes include rapid afforestation and reforestation practices, particularly in nonforested areas such as tropical savannas and natural dry grasslands, which may be great for carbon sequestration and storage, but not so great for wildlife, ecosystem resilience and people (Abreu et al., 2017; Briske et al., 2024; Lovelock et al., 2022; Seddon et al., 2021).

This is concerning, as governments increasingly explore the use of large-scale land-based carbon removal technologies to meet the Paris Agreement targets (Dooley et al., 2022), including those associated with Bioenergy Carbon Capture and Storage approaches. Despite not being officially recognized as a NbS by the International Union for the Conservation of Nature, their growing popularity may be attributed to their prominent inclusion in future mitigation scenarios to reduce atmospheric greenhouse gas accumulation: the Intergovernmental Platform on Climate Change (IPCC) Special Report ‘Global Warming of 1.5°C’, for example, presents Bioenergy Carbon Capture and Storage approaches in three of four illustrative pathways as essential for realizing mitigation targets. This emphasis on land-based mitigation (see also Harper et al., 2018; Roe et al., 2019) leaves a back door for governments

TABLE 1 Joint Statement for Climate, Nature and People—shared objectives, principles and modalities of collaboration. Adapted from the COP28 Climate-Nature Joint Statement for Climate, Nature and People and the Statement of Intent by the secretariats of collaborating partnerships, coalitions and initiatives for actioning the joint agenda (v1.0 2024.01.19).

Joint statement for climate, nature and people		
Shared objectives	Synergies	Fostering stronger synergies, integration and alignment in the planning and implementation of national climate, biodiversity and land restoration plans and strategies
	Finance	Scaling of finance and investments for climate and nature
	Equity and inclusivity	Ensuring the full, equitable, inclusive and effective representation and participation
	Whole-of-society	Promoting a whole-of-society approach in the synergetic planning and implementation of national climate, biodiversity and land restoration plans and strategies
	Coherence	Encouraging coherence and interoperability across data sources and data collection, metrics and methodologies, and voluntary reporting frameworks
Statement of Intent		
Principles	Open and flexible approach	Provide space for peer learning and implement adaptive changes over time to the collaborative effort
	Open communication and engagement	Maximize synergies, share best practices, and avoid duplication of efforts
	Recognition of the urgency of action	Promote collaboration informed by common understanding of urgency
	Respect of the leadership, direction, and priorities of member countries	Respective efforts support member countries in their capacity as members of individual or multiple partnerships
	Support and work with respective COP Presidencies and High-Level Champions	Working and supporting COP Presidencies' decision to advance the commitments and objectives of the Joint Statement
Modalities	Coordination and information sharing	Focal points designated in each partnership secretariat; Secretariats to share updates annually every quarter on programmes, initiatives, and country requests received, as applicable; Quarterly meetings chaired by a volunteering partnership secretariat on a rotating basis; Communications and updates shared via email from member countries; Member requests and national strategies will be shared across platforms; Secretariats to collaborate on organizing high-level events in the margins of international meetings when appropriate
	Synergies and integration between NBSAPs and NDCs	Invite countries interested in updating their Nationally Determined Contributions (NDCs) to consider National Biodiversity Strategies and Action Plans (NBSAPs) and biodiversity as drivers for ambition and effective implementation as they build their requests for support; Ideally, donors would respond to such requests via dedicated funds commissioned through one or more implementing partners (from NDC Partnership), and /or one of the biodiversity coalitions; Ideally, biodiversity-focussed partnerships/institutions would look at these requests and respond to them;
	Driving aligned investment	Provide guidance on request to countries interested in moving from projects to larger investments at the intersection of climate and biodiversity, to ensure countries have the right enabling environments, institutional arrangements, and evidence base in place to attract investment
	Disseminating success cases and best practices	Explore opportunities to disseminate tools, guidance and best practices, and, jointly with other coalitions, support peer learning and exchange in key areas of interest for countries interested in simultaneously tackling climate and biodiversity in their NDCs and long-term low-emission development strategies

to widely adopt practices such as Bioenergy Carbon Capture and Storage approaches, raising concerns, particularly regarding their potential negative impacts on biodiversity and the local communities whose food security and livelihoods directly depend on the

lands targeted by these practices (Creutzig et al., 2021; Günther & Ekardt, 2023). An overemphasis on land-based carbon storage, solely targeting mitigation, may also ultimately hinder decarbonization efforts, jeopardizing the Paris Agreement's mitigation

objectives while simultaneously undermining GBF's implementation (Seddon et al., 2021).

2 | MIND THE IMPLEMENTATION GAP: WHY WE NEED A JOINT WORK PROGRAMME FOR CLIMATE, NATURE, AND PEOPLE

Jointly tackling the biodiversity and climate crises requires more than identifying viable nature-based mitigation and adaptation pathways; to successfully implement both the GBF and the Paris Agreement, a comprehensive governance outlook underpinned by the creation of a joint UNFCCC-CBD work programme for climate, nature and people is required. Such a programme would facilitate bringing together ideas, people, organizations and processes necessary for joining the dots on how to both stabilize our climate and recover our nature.

For example, there is currently no process to oversee and optimize the alignment of Nationally Determined Contributions (NDCs) under the UNFCCC and the National Biodiversity Strategy and Action Plans (NBSAPs) under the CBD. While the statement of Intent by signatory voluntary partnerships, coalitions and initiatives highlights 'synergies and integration between NBSAPs and NDCs', it relies solely on voluntary commitments by Parties and non-Party stakeholders. A joint work programme would be instrumental in developing modalities for comprehensive NBSAP-NDC alignment that are fully integrated into the implementation of the GBF and the Paris Agreement. Involvement of both conventions' SBIs would add the necessary rigour and full integration in implementation, to be taken up in future Global Stocktakes of the Paris Agreement and the respective reviews of the GBF as part of its agreed cyclical system for planning, monitoring, reporting and review. Collaboration with High-Level Climate Champions under the UNFCCC and the CBD's Action Agenda for Nature and People could offer further guidance to support the whole-of-society approach central to both conventions' shared objectives. In that respect, it is worth noting that the joint working programme we propose could inform the critical and fast-developing realm of voluntary actions on biodiversity and climate, by, for example, facilitating harmonization of the action agendas that have been established by the UNFCCC and CBD to spur societal actors to contribute to climate and biodiversity goals and complement governmental efforts (Boran et al., 2024; Chan et al., 2023).

Increased collaboration—particularly across climate, biological and social sciences—is also key to addressing knowledge gaps regarding climate–biodiversity interrelations and socio-ecological implications. More transdisciplinary work is needed to understand how biodiversity and people may respond to climate change; how the climate may respond to changes in biodiversity; and how to best protect and recover nature for climate change mitigation and adaptation in times of rapid environmental change (see e.g. Locatelli et al., 2015; Pettorelli et al., 2021). For example, much

remains to be learnt on how rapidly evolving climatic conditions may affect the ecological and socio-economic effectiveness of NbS (Chausson et al., 2020), with research suggesting that the success and pace of restorative actions will be determined partly by local climate trajectories. Assessing local suitability of various NbS for climate change mitigation and/or adaptation with benefits to people will thus require, among other things, improving our ability to predict local climate trajectories. Ensuring that climate, biodiversity and socio-ecological goals are met together will also require inclusive, locally relevant decision-making, and particularly upholding rights of Indigenous peoples and local communities most directly associated with local conservation actions in biodiversity-rich low-income countries (Leach et al., 2018; Obura et al., 2023).

Increased levels of interdisciplinary collaborations are moreover essential for effective evidence-based policy recommendations and building capacity for delivering these recommendations. This will call for closer cooperation between climate scientists, ecologists and social scientists, which is best achieved when problems and priorities are clearly identified. A joint work programme would provide a fantastic platform for articulating the scientific needs to advance knowledge on issues relevant to tackling both the biodiversity and climate crises, providing directions to organizations around the world as to where to concentrate research efforts and to nurture new partnerships.

In addition, a joint work programme could serve to address the finance gap for nature- and people-centred practices that honour the rights and contributions of Indigenous Peoples and local communities around the world. Such a work programme would help address imbalances between resources allocated to climate change mitigation, climate adaptation and biodiversity conservation (Barbier et al., 2018), while helping step up efforts to remove pervasive financial incentives that negatively impact biodiversity and our climate, such as harmful agricultural subsidies.

Finally, such a platform could be used to set standards in terms of how to measure success towards jointly addressing the nature and climate crises. Success in this regard will have to be defined in terms of biodiversity and societal benefits, as well as climate mitigation and adaptation ones. Yet, contrary to greenhouse gas emissions, biodiversity is both multifaceted and non-fungible, and famously difficult to measure (Johnson et al., 2024; Pereira et al., 2013). Similarly, estimating adaptation potential is fraught with difficulties, being currently largely reliant on place-based qualitative information that shifts across different societal groups and over time (Morecroft et al., 2019), and there remains significant challenges associated with the identification of appropriate metrics of human wellbeing (Hickel, 2020). A joint work programme could provide the necessary structure to establish standards for measuring climate, nature and people's benefits of various approaches to climate change mitigation and adaptation. This would enable the comparison of benefits across climate change–driven projects, and the drawing of clear recommendations on which approaches to consider where.

3 | DESIGN PRINCIPLES FOR A JOINT WORK PROGRAMME

3.1 | Work programme objectives

A joint work programme provides an implementable, transparent and structured approach to filling the current global governance vacuum; address implementation gaps between the Paris Agreement and the GBF; and systematically and comprehensively foster synergies between climate and biodiversity action, while addressing trade-offs. To fulfil its potential, such a joint work programme should be mandated to advance five objectives (Figure 1):

1. *Oversee and optimize the alignment of NBSAPs and NDCs to achieve shared objectives:* This objective will not only ensure respect of the leadership, direction and priorities of member countries but also contribute to the alignment of implementation.

2. *Hold technical expert dialogues for addressing the programme priorities:* A joint work programme will achieve cohesion and consistency by moving away from occasional high-level events in the margins of international meetings towards expert dialogues under the CBD and UNFCCC with a reporting mechanism.
3. *Identify climate actions that are harmful to biodiversity and put in place coherent and safeguards that are interoperable between the two conventions:* This objective will ensure that both conventions agree on clear recommendations on the use of land- and marine-based practices to store carbon.
4. *Establish a platform for visibility and recognition of efforts undertaken by countries, local governments and nonstate actors to advance the programme priorities:* The joint work programme will play a key role in aligning coherent and mutually complementary whole of society approaches to the GBF and the Paris Agreement. It should also play a critical role in helping scale up local initiatives honouring the rights of Indigenous Peoples and local communities.

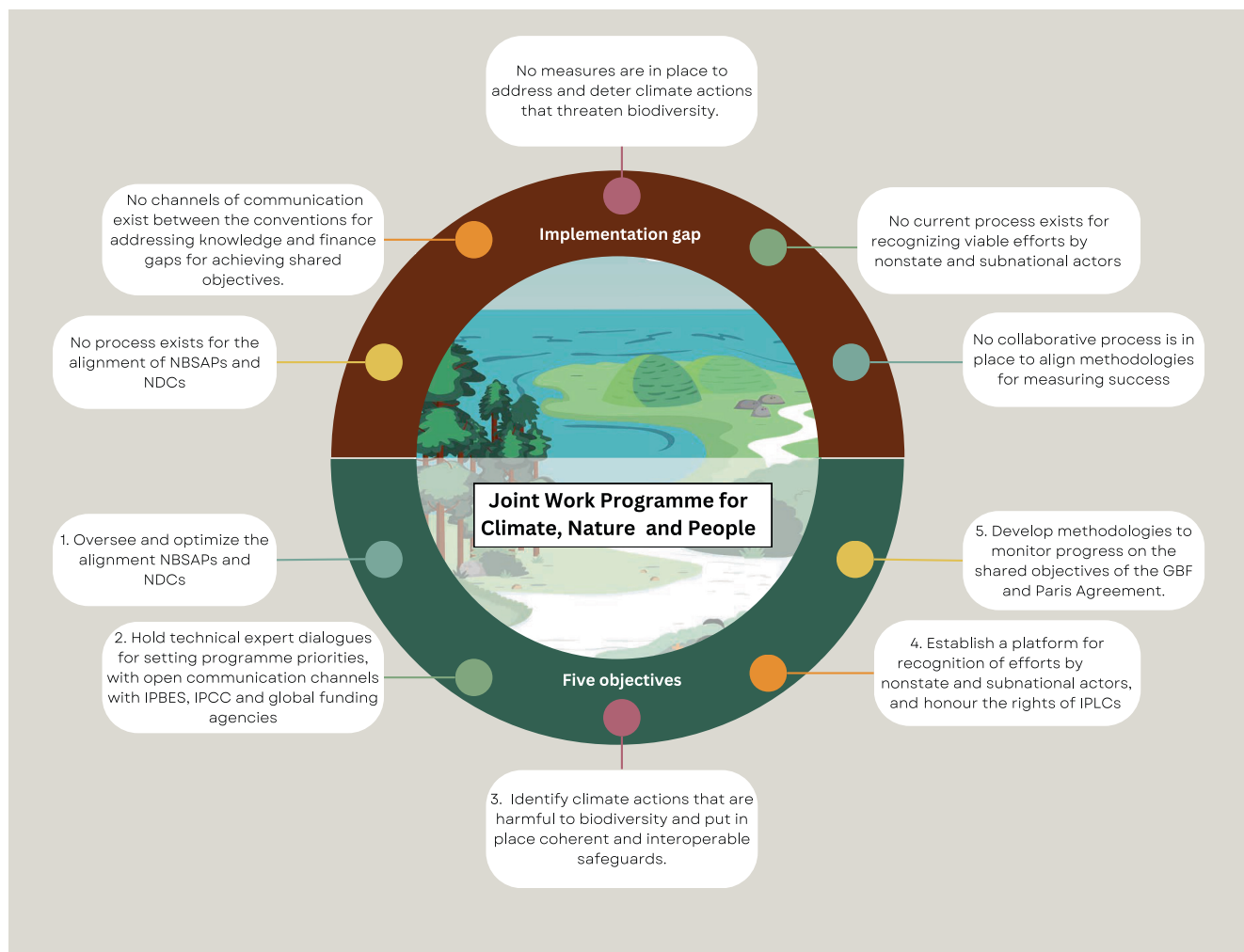


FIGURE 1 Five objectives of a joint work programme for climate, nature and people responding to five areas of implementation gap. In this figure, IPLCs stands for Indigenous Peoples and Local Communities; NDCs for Nationally Determined Contributions; NBSAPs for National Biodiversity Strategy and Action Plans; IPBES for Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services; and IPCC for Intergovernmental Panel on Climate Change. Image credit: Sunflower2014 from Pixabay.

5. Collaborate for the development of methodologies to monitor progress on the shared objectives of the GBF and Paris Agreement: The joint work programme will propose standards to be adopted by the CBD and the UNFCCC as to how to measure the benefits of climate action for nature and people.

3.2 | Governance principles

Much policy experience has been gained over the years on UN work programmes and joint initiatives. In the last decades, for example, multiple work programmes have been launched under the UNFCCC, including the Work Programme on Just Transition Pathways; the Sharm-El-Sheikh Mitigation and Implementation Work Programme; the Glasgow–Sharm El Sheikh Work Programme on the Global Goal on Adaptation, Ad Hoc Work Programme on the New Collective

Quantified Goal on Climate Finance and the Glasgow work programme on Action for Climate Empowerment (Appendix: Table S1). Yet, none of these work programmes are joint with other United Nations conventions. The CBD, on the other hand, does not have a matching system of work programmes: ‘work programmes’ established by the CBD Secretariat have different structures and mandates than those under the UNFCCC, having for example less stringent demands in terms of reporting and governance. However, and as opposed to the UNFCCC, the CBD has ample experience with interagency liaison groups, notably with the World Health Organization in recognition of the interlinkages between biological diversity and health and with UNESCO in recognition of the interlinkages with cultural diversity.

Together, these precedents provide a knowledge base for designing and implementing an effective joint work programme between the UNFCCC and the CBD, whose governance principles can be summarized as follows (Figure 2):

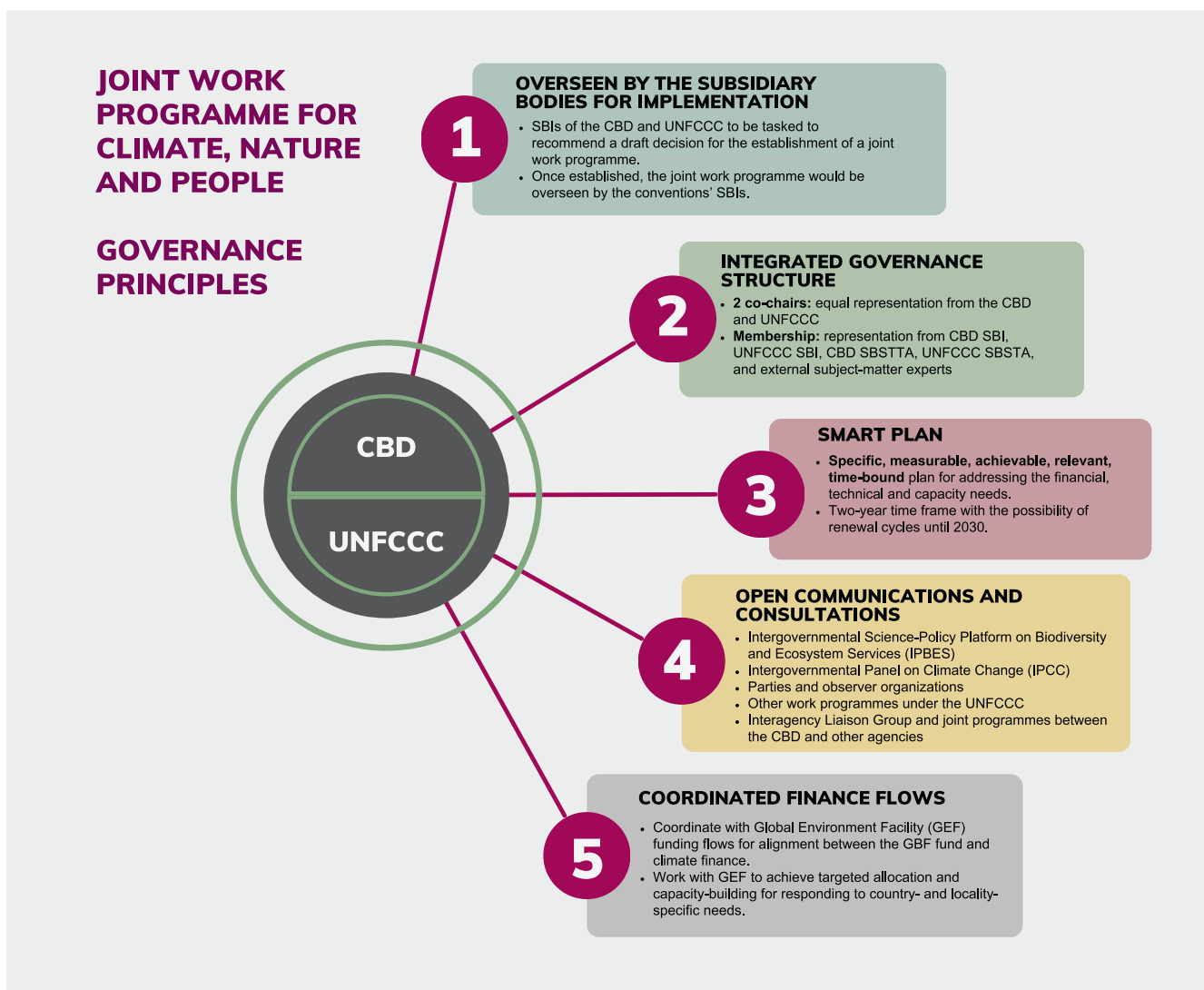


FIGURE 2 Joint Programme for Climate, Nature and People governance principles. In this figure, UNFCCC stands for the United Nations Framework Convention on Climate Change; CBD for the Convention on Biological Diversity; GBF for Global Biodiversity Framework; SBI for Subsidiary Body for Implementation; SBSTA for the UNFCCC's Subsidiary Body for Scientific and Technological Advice; and SBSTTA for the CBD's Subsidiary Body on Scientific, Technical and Technological Advice.

- (i) To start the process, the Subsidiary Bodies for Implementation of the CBD and UNFCCC should be tasked to recommend a draft decision for the establishment of a joint work programme for consideration and adoption by the respective bodies with executive power under the CBD and the UNFCCC. There are precedents for this; for example, the UNFCCC Work Programme on Just Transition Pathways has been established following a recommendation from the Subsidiary Bodies for Implementation. Subsequently, the Subsidiary Body for Scientific and Technological Advice was tasked to recommend a draft decision on this matter for consideration and adoption by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement, which was then adopted at COP27 Sharm el Sheikh. Once established, the joint work programme would be overseen by the Subsidiary Bodies for Implementation of the CBD and UNFCCC.
- (ii) The composition of the joint work programme should reflect equal representation with two co-chairs appointed by the CBD and UNFCCC, respectively. The membership should have balanced representation from the respective subsidiary bodies for implementation and for scientific, technical and technological advice of both conventions. To quickstart the programme, additional external experts could be appointed for the first 2 years; however, the consideration of a rotational basis for subsequent cycles would add rigour and accountability.
- (iii) To be effective, the joint work programme must develop a SMART (Specific, Measurable, Achievable, Relevant, Time-bound) plan for addressing the financial, technical and capacity needs associated with the delivery of the joint work programme's work. The programme should have a defined timeframe, starting as a 2-year programme, with the possibility of 2-year cyclical renewal periods until 2030 or the establishment of a successor framework or mechanism for climate, nature and people.
- (iv) The joint work programme will need to engage in open communication with intergovernmental and regional science-policy platforms such as the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) and the IPCC, but also the Science Panel for the Amazon and the newly formed Science Panel for the Congo Basin. It should also consult Parties and observer organizations. Up to four workshops a year could be conducted by the joint programme, supported by both the UNFCCC and CBD Secretariats and guided by the chairs and the subsidiary bodies, culminating in annual reports providing guidance for implementation. This approach builds on successful precedents like the UNFCCC's Glasgow–Sharm El Sheikh Work Programme on the Global Goal on Adaptation, where regular workshops have been held, and the 2020 IPBES-IPCC joint workshop. The scope of the joint programme is expected to be wide enough to cover key topics of interest to the GBF and the Paris Agreement; as such, the establishment of task forces could be instrumental

in establishing open channels of communication with other work programmes currently undertaken by the UNFCCC Secretariat and with the interagency liaison group and joint work programmes between the CBD and other agencies. Task forces can make recommendations for specific application areas, such as climate adaptation, climate mitigation, metrics for measuring success, capacity building, and engagement with nonstate and subnational actors, providing important opportunities to share experiences and enhance mutual learning.

- (v) The joint work programme should be instrumental in mobilizing effective and equitable finance for aligned implementation, addressing persistent financing barriers (Amerasinghe et al., 2017; Droste et al., 2019). The outcomes of the joint programme are expected to identify climate actions benefiting nature and people, which is relevant to entities such as the Global Environmental Facility. The Global Environmental Facility, as the oldest and most established multilateral funder, serves both the CBD and UNFCCC, and assists countries in meeting convention objectives. However, current funding practices allocate specific budgets to each convention, resulting in funding silos that hinder cost-effective and equitable allocation for wildlife- and community-centred initiatives. The new Global Environmental Facility fund for biodiversity (Landry, 2023) complements existing funding mechanisms for climate adaptation and mitigation. Yet, without coordination, funding gaps persist. The joint programme should fill this critical role by coordinating funding flows to equally support biodiversity conservation and climate action.

4 | CONCLUSIONS

The world is at a crossroad, where rapid changes in landscapes, economies and ways of living are required to secure a liveable future for all. The climate, nature and health crises we are facing are intertwined, and so cannot be successfully addressed separately. The UNFCCC and CBD are incredible platforms for providing the evidence to, and guiding the way through the changes we need, but higher levels of integration between the biodiversity and climate change agendas are needed to plug the implementation gap between the GBF and the Paris Agreement.

A joint programme is needed to formalize and action the vision laid out in the COP28 joint statement on Nature, Climate and People, and the subsequent Statement of Intent by the UNFCCC and CBD secretariats. Admittedly, there are other UN conventions that carry out activities that are relevant to climate change and biodiversity conservation, such as Ramsar Convention on Wetlands and the UN Convention to Combat Desertification, but these conventions currently lack comprehensive action plans that match the level of commitments and details found in the Paris Agreement and the GBF. Because of this, the implementation gaps between these

conventions and the GBF or the Paris Agreement are not clear. By setting up the joint programme as a time-bounded yet renewable initiative, there is, however, scope for these conventions to contribute to the work programme at a later date.

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Nathalie Pettorelli and Idil Boran have contributed equally to this work.

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The authors have no conflict of interest to report.

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This article does not contain data.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

Table S1. Existing work programmes under the UNFCCC and interagency and joint work programmes established with the CBD (non-exhaustive list).

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