



## Scientific environmental diplomacy: a key asset for governing the biodiversity crisis

### Diplomacia científica medioambiental: una baza clave para gobernar la crisis de la biodiversidad

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biodiversity, science-  
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#### ABSTRACT

Over the past few decades, environmental diplomacy has gained prominence in international politics. Situated at the intersection of science and policy, it has become essential for addressing knowledge gaps arising from the complexity and global scale of the interconnected environmental crises – encompassing climate change, biodiversity loss, pollution – and land degradation.

Scientific efforts to assess planetary health and propose solutions have been instrumental in raising awareness and guiding policies. This contribution examines the role of scientific environmental diplomacy, with a focus on the accelerating biodiversity crisis.

We first provide a historical overview of key milestones, from recognizing biodiversity loss as a critical issue in international politics to its integration into the United Nations 2030 Agenda's Sustainable Development Goals (SDGs), and, more recently, the adoption of the Kunming-Montréal Global Biodiversity Framework (KM-GBF) under the Convention on Biological Diversity (CBD).

We then examine the role of institutions and expert networks such as UNEP, IPCC and IPBES, which, particularly through the production of environmental assessments, have significantly influenced the shaping of the biodiversity components of the SDGs and the KM-GBF.

Finally, we explore how knowledge is produced and used within these institutional settings, highlighting how the inclusion or exclusion of diverse knowledge systems influences global and regional environmental governance.

#### PALABRAS CLAVE

Diplomacia  
medioambiental,  
biodiversidad, interfaz  
ciencia-política, Marco  
Global de Biodiversidad,  
crisis medioambiental

#### RESUMEN

En las últimas décadas, la diplomacia medioambiental ha ganado protagonismo en la política internacional. Situada en la intersección de la ciencia y la política, se ha vuelto esencial para abordar las lagunas de conocimiento derivadas de la complejidad y la escala global de las crisis medioambientales interconectadas -que abarcan el cambio climático, la pérdida de biodiversidad y la contaminación- y la degradación del suelo.

Los esfuerzos científicos por evaluar la salud planetaria y proponer soluciones han sido decisivos para generar conciencia y orientar las políticas. Esta contribución examina el rol

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de la diplomacia científica medioambiental, centrándose en la aceleración de la crisis de la biodiversidad.

En primer lugar, ofrecemos una visión histórica de los hitos clave, desde el reconocimiento de la pérdida de biodiversidad como una cuestión crítica en la política internacional hasta la integración de la biodiversidad en los Objetivos de Desarrollo Sostenible (ODS) de la Agenda 2030 de las Naciones Unidas y, más recientemente, la adopción del Marco Global de Biodiversidad de Kunming-Montreal (KM-GBF) en el marco del Convenio sobre la Diversidad Biológica (CDB). A continuación, examinamos el papel de las instituciones y redes de expertos como UNEP, IPCC and IPBES, que, especialmente a través de la elaboración de evaluaciones ambientales, han influido de manera significativa en la configuración del componente de biodiversidad de los ODS y el KM-GBF.

Por último, exploramos cómo se produce y utiliza el conocimiento dentro de los entornos institucionales, destacando cómo la integración o exclusión de diversos sistemas de conocimiento, influyen en la gobernanza medioambiental mundial y regional.

## 1. INTRODUCTION: ENVIRONMENTAL DIPLOMACY AND THE ENVIRONMENTAL CRISIS

Science diplomacy has a long history, but its formal integration into national and international policy became prominent in the latter half of the 20<sup>th</sup> century. As a formalized discipline, it is relatively new and still in its early stages of development. This research field has distinctive features, such as the policy orientation of its outputs and a practitioner-driven framing (Rüland et al., 2025). A universally accepted definition of science diplomacy has not yet been established. One of the most comprehensive definitions to date was provided in 2009 by Nina Fedoroff, then Science and Technology Adviser to the U. S. Secretary of State. Fedoroff described science diplomacy as “the use of scientific collaborations among nations to address the common problems facing 21<sup>st</sup> century humanity and to build constructive international partnerships” (Fedoroff, 2009).

Another landmark contribution to defining science diplomacy came in the 2010 report jointly published by the Royal Society and the American Association for the Advancement of Science (2010). This report introduced the widely recognized distinction between three dimensions of science diplomacy:

- Science in diplomacy: “informing foreign policy objectives with scientific advice”.
- Diplomacy for science: “facilitating international science cooperation”.
- Science for diplomacy: “using science cooperation to improve international relations between countries”.

In the 21<sup>st</sup> century, the challenges calling for the intervention of science diplomacy have grown in scale and complexity. While this trend began to emerge as early as the mid-20<sup>th</sup> century with the advent of nuclear energy and its destructive potential, today’s pressing issues demand an unprecedented level of collaboration among governments, multilateral institutions, and the international scientific community. The most urgent challenges facing humanity are the multifaceted and interconnected global environmental crises – including climate change, biodiversity loss and pollution – together with land degradation. These crises are inherently global; they transcend political borders and demand sustained, cooperative action among nations.

As Fedoroff noted in 2009, addressing these interconnected problems requires a shift in perspective and approach. She emphasized that such issues do not exist in isolation but are part of a broader, intertwined system:

How do we as scientists begin to think – and act – on a global scale to address such complicated problems? It seems to me that we must first become citizens not just of our own nations, but of this world without borders. [...] And perhaps most importantly of all, we need to understand, at a deep gut level, that all our fates are truly intertwined” (Fedoroff, 2009, p. 10).

As more recent literature notes, new geopolitical equilibria and international tensions have partly challenged this internationalist and collaborative approach to science diplomacy, which is increasingly characterized by a securitized approach to national science systems and international scientific cooperation (Rüland et al., 2025).

In recent years, science diplomacy has increasingly focused on addressing the major challenges currently facing humanity, in particular the environmental crisis, as its impacts have intensified and its socio-economic consequences multiplied. Environmental change has become a central challenge for countries in all dimensions, affecting virtually every aspect of human life and calling into question the very structure of contemporary societies.

Because environmental change is fundamentally a scientific issue, policymakers must rely on scientific expertise and advice to grasp its breadth, evaluate the magnitude of its impacts, and assess available solutions.

Through an informal literature review, we observed that while considerable attention has been devoted to the role of science diplomacy in international negotiations on climate change mitigation and adaptation (Ruffini, 2018; Özkaragöz Doğan et al., 2021), there appears to be a notable research gap regarding the role of science diplomacy in tackling the parallel biodiversity crisis. This oversight is significant given the strong interconnections between biodiversity loss and climate change, both of which present similarly alarming and urgent challenges (IPBES, 2019; Pörtner et al., 2021; IPCC, 2023).

As recent definitions of science diplomacy emphasize, key objectives of the field include efforts to strengthen international relationships between states in order to protect and advance national interests, address cross-border interests, and tackle globally relevant challenges (Fedoroff, 2009; Gluckman et al., 2017; Rüland et al., 2025).

Environmental diplomacy is a relatively recent subset of science diplomacy focusing specifically on environmental issues. As with science diplomacy, the scientific literature has not converged on a unified definition; the field has been characterized differently across disciplinary perspectives. Most existing definitions of environmental diplomacy focus on negotiations over natural-resource conflicts as well as its instrumental use in resolving cross-border or international disputes and building peace (Ali and Vladich, 2016). In general, environmental diplomacy aims to foster genuinely collaborative action to address the escalating environmental crisis, which increasingly challenges the ability to safeguard national interests and makes international cooperation both more difficult and more urgent than ever. This situation underscores the imperative for humanity to work synergistically towards a cleaner and 'greener' transition, thereby averting the medium- and long-term detrimental consequences of the ongoing changes to planetary systems.

Although similar in scale and severity, the climate and biodiversity crises have distinct characteristics. Climate stability has been fundamental to the development of sedentary human societies, based on the domestication of plants and animals and reliant on the cyclical predictability of seasons. Over tens of thousands of years, humans have adapted to the climatic stability of the Holocene epoch, specializing – both physiologically and through external systems such as food production, economic structures, and social organization – to a narrow 'climate niche' with a global mean annual temperature between approximately 11 and 15°C (Xu et al., 2020; Klinger and Ryan, 2022). Consequently, the projected rapid rise in mean annual temperatures is likely to push large portions of the human global population outside their functional range, making adaptation measures difficult or ineffective, potentially triggering large-scale migrations, and challenging societal organization. Avoiding a shift away from this 'human climate niche' is therefore in the interest of all nations, highlighting the crucial role of environmental diplomacy in reconciling short-term economic priorities with the collective long-term goal of maintaining a "safe operating space for humanity" (Rockström et al., 2009; Richardson et al., 2023; Kitzmann et al., 2025).

In contrast, as a growing body of research shows, the biodiversity crisis (as well as biodiversity-related multilateral talks) has historically received significantly less attention, despite its profound impacts on human wellbeing and societal functioning being as far-reaching as those of climate change, and despite the deep interconnections and shared drivers between the two crises.

Various factors have contributed to this neglect, notably the limited availability of knowledge on the issue and the localized and fragmented manifestations of biodiversity decline. Nonetheless, in recent years, biodiversity discourse has gained momentum, receiving increased attention from both the scientific community and decision-makers.

In this contribution, we focus on the nexus between environmental diplomacy and global biodiversity protection. In the next section, we briefly outline the historical evolution of biodiversity discussions within the context of environmental diplomacy, retracing key milestones of international biodiversity negotiations. Section 3 focuses on the intergovernmental institutions that play a leading role in the science-policy interface for nature protection. Finally, we consider the two most recent reports published by IPBES, known as the "Transformative Change Assessment" and the "Nexus Assessment" (IPBES, 2024; McElwee et al., 2024), emphasizing their conceptual and political relevance for international biodiversity negotiations. Drawing on these examples, we examine the modes and forms of knowledge generation employed within these institutional frameworks, exploring how the inclusion or exclusion of diverse knowledge systems and practices shapes global and regional environmental governance.

## 2. THE HISTORICAL EVOLUTION OF ENVIRONMENTAL DIPLOMACY FOR BIODIVERSITY

Public awareness of the urgency of the environmental crisis grew significantly in the 1970s. In response to this rising public concern, the first science diplomacy initiatives addressing environmental issues emerged,

marking the origins of what is now known as environmental diplomacy (Ali and Vladich, 2016). One of the first international environmental initiatives was the United Nations Conference on the Human Environment, held in Stockholm, Sweden, in 1972. This conference led to the establishment of the United Nations Environment Programme (UNEP).

UNEP has a 'hybrid' nature, positioned at the intersection of scientific knowledge production and policymaking, and actively working to promote dialogue and collaboration between these two domains on environmental issues. As an entity tasked with addressing the interconnected global environmental crises, UNEP's primary mission is to monitor the 'health' of the global environment, advance scientific knowledge, and promote research on environmental issues. At the same time, however, as a United Nations (UN) body, UNEP must engage with political actors, foster international diplomatic relations, and facilitate environmental policy initiatives aimed at safeguarding both environmental health and global cooperation and stability.

Since its establishment, UNEP has played a pivotal role in raising awareness and emphasizing the importance of environmental issues as a central theme in policymaking. Its early efforts helped raise global awareness on environmental issues, paving the way for treaties such as the United Nations Convention on Biological Diversity (United Nations 1992) and, more recently, the Kunming-Montréal Global Biodiversity Framework (KM-GBF; see CBD, 2022). In the ensuing decades, numerous other similarly hybrid bodies and organizations emerged, operating at the science-policy interface. This evolution towards the creation of new intergovernmental bodies under the aegis of the UN also marked a shift from an initial narrow focus on climate change and greenhouse gas accumulation into the atmosphere towards a broader consideration of other aspects of environmental degradation, such as the biodiversity crisis and ecosystem degradation, and the interconnections among these issues.

One significant milestone in environmental diplomacy was the establishment of the Intergovernmental Panel on Climate Change (IPCC) in 1988, through the joint efforts of the World Meteorological Organization (WMO) and UNEP. Since its establishment, the IPCC's critical contributions to providing up-to-date climate assessments and supporting international negotiations and treaties have underscored the value of science-policy interfaces.

Following the IPCC's success, a parallel science-policy institution entirely devoted to biodiversity was created: the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). Established in 2012 by 94 governments, IPBES is "an independent intergovernmental body established by states to strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human wellbeing and sustainable development". Although not initially a UN body, UNEP began providing secretariat services to IPBES as early as 2013.

Given the growing relevance of IPCC and IPBES not only in knowledge assessment and generation but also in providing policy support – a core function of environmental diplomacy –, these institutions have gradually assumed roles previously fulfilled by the Subsidiary Body for Scientific and Technological Advice (SBSTA) of the United Framework Convention on Climate Change (UNFCCC) and the Subsidiary Body for Scientific, Technical and Technological Advice (SBSTTA) of the CBD. Both SBSTA and SBSTTA were established under their respective conventions to deliver up-to-date scientific knowledge and technical support for their negotiation processes.

The official beginning of international biodiversity politics can be traced back to the Rio 'Earth Summit', the United Nations Conference on Environment and Development held in Rio de Janeiro in June 1992, where the Convention on Biological Diversity was first opened for signature. The adoption of this landmark agreement laid the foundation for the periodic international science-policy meetings known as Conferences of the Parties (COPs).

For both the UNFCCC and the CBD, the COP is the supreme decision-making body. All States that are parties to the Convention are represented at the COP, where they review the implementation of the respective conventions and any other legal instruments adopted by the COP, and take the necessary decisions to promote effective implementation of the Conventions, including institutional and administrative arrangements.

The first COP to the CDB took place in Nassau (Bahamas) in 1994. Since then, these meetings have continued, culminating in 2022 in COP15, where a historic agreement was reached to adopt the Kunming-Montréal Global Biodiversity Framework, featuring 23 action-oriented targets for biodiversity and ecosystem protection to be met by 2030 and 4 overarching goals to be met by 2050. In contrast, the subsequent COP16 – held in 2024 in Cali, Colombia – faced significant challenges, as parties struggled to reconcile competing economic interests at domestic and regional levels with the urgent need to fund nature conservation efforts (Bell-James and Watson, 2025; Buckley, 2025).

### 3. BIODIVERSITY: AN ANCILLARY ISSUE?

The significant time gap (24 years) between the establishment of the IPCC and the creation of IPBES highlights a notable conceptual disparity in how the different dimensions of the two environmental crises have been understood and prioritized. For decades, both the scientific community and international policy focused predominantly on climate change while largely neglecting biodiversity loss. Although foundational studies on species decline and ecosystem degradation began to accumulate in the late 1970s and early 1980s, the term 'biodiversity' did not even exist as a concept until the 1980s. While credit for coining the term is shared by Laura Tangle (1985), Steven Peters (Peters, 1986), and Walter G. Rosen (1997), Edward O. Wilson is responsible for popularizing it (Sarkar, 2021; Wilson, 1988). Wilson also played a pivotal role in advocating for the recognition of biodiversity loss as a central issue on the international political agenda, a commitment that contributed to the Convention for Biological Diversity (1992) extensively using the term – its first official appearance in an international legal document. It was during this period that the biodiversity crisis began to gain prominence as a relevant topic of debate, although earlier instances of attention to biodiversity can be identified.

From that point onwards, the protection of biodiversity increasingly gained traction, driven by a rapidly expanding body of research explaining the critical role of biodiversity and ecosystem integrity in supporting both human and planetary health. In 2010, under the CBD, the first set of 20 internationally agreed biodiversity targets, known as the "Aichi Biodiversity Targets", was adopted. These goals were intended to be achieved by 2020 but were largely unmet (Secretariat of the Convention on Biological Diversity, 2020).

COP15, initially scheduled to take place in China in 2020 but delayed due to the COVID-19 pandemic, eventually provided governments with a new roadmap for biodiversity protection for the 2020-2030 decade. Despite the two-year delay, this goal was achieved with the adoption of the Kunming-Montréal Global Biodiversity Framework (KM-GBF). This (nonbinding) treaty established 23 ambitious biodiversity targets, including the widely known "30x30" goal, which aims to protect 30% of the world's land and water ecosystems by 2030 (CBD, 2022). Against the widely recognized failure of the Aichi Targets to halt biodiversity loss during the 2010-2020 'decade of biodiversity' the KM-GBF represents a significant advancement in stepping up global biodiversity conservation efforts. It aims to address the underlying drivers of biodiversity loss by developing a 'theory of change' to guide actions to halt and reverse biodiversity loss and ecosystem degradation across sectors (Hughes, 2023; Maney et al., 2024).

The interlinkages between the climate and biodiversity crises are now widely recognized as two facets of the same overarching issue rather than separate problems. This represents another pivotal milestone in the science-policy interface, illustrating how integrated approaches can enhance policy effectiveness, especially at the international level. A major advancement in this regard was the incorporation of biodiversity and ecosystem protection into the Sustainable Development Goals (SDGs) under the 2030 Agenda (Goals 14 and 15), a key outcome of the Climate COP21 held under the UNFCCC in Paris, France, in 2015. Since then, the IPCC and IPBES have increasingly joined forces, working together to advance public and political understanding of the interdependence between these crises. This collaboration culminated in a Co-Sponsored Workshop on Biodiversity and Climate Change, the scientific outcomes of which were published in a Special Report (Pörtner et al., 2021).

The IPCC-IPBES Report emphasizes that:

At the international level, greater synergies across multilateral environmental agreements such as the UNFCCC and the CBD as well as with the Sustainable Development Goals could facilitate simultaneously halting global biodiversity loss and mitigating climate change. Cross-cutting issues, intersectoral policies and regulatory frameworks are areas where strong synergies could contribute to the transformative societal change that is needed to achieve ambitious goals for biodiversity, climate mitigation and good quality of life" (Pörtner et al., 2021, p. 15).

Given the complexity and interdependence of causes and effects – most notably between climate change and biodiversity loss (cf. McElwee et al., 2024) – science and policy must work in close alignment. The environmental crisis is neither solely a technological nor purely a scientific issue. It is a polycentric and polysemantic challenge<sup>1</sup> that fundamentally questions our worldviews and the foundational structures of

<sup>1</sup> Climate change (and the same applies to the other dimensions of the environmental crisis) has been defined a 'hyperobject' (Morton, 2018): This term refers to a phenomenon that is temporally and geographically vast, and whose scale and significance are difficult for the human mind to fully comprehend. Moreover, the environmental crisis calls into question the political, economic, and cultural structures of contemporary societies, requiring a fundamental, system-wide transformation that demands the adoption of new values, worldviews, and practices at both individual and collective levels.

modern societies. Decision makers simply cannot afford to disregard this evidence when establishing priorities and crafting both short- and long-term action plans.

#### 4. SCIENTIFIC INSTITUTIONS FOR BIODIVERSITY GOVERNANCE

Institutions such as UNEP, IPCC, and IPBES make invaluable contributions to decision-making processes by providing up-to-date knowledge on the progress and multiple dimensions of the environmental crises. They also propose potential pathways for the most effective and socially beneficial responses to environmental disruption and for achieving the targets set by countries under international environmental treaties.

In recent years, the scientific work of these organizations has significantly supported the development and adoption of landmark agreements, including the 2030 United Nations Agenda for Sustainable Development, the Paris Agreement to the UNFCCC, and the KM-GBF to the CBD. However, beyond providing science-based evidence to decision makers, the diplomatic activities of these institutions – emphasizing the relevance of biodiversity decline for both collective and national interests – have proved even more critical in international negotiations.

This diplomatic engagement (falling under the “science in diplomacy” category of science diplomacy, as defined by The Royal Society and AAAS, 2010) has been particularly evident in discussions on possible solutions, where the differing – and often conflicting – needs and interests of states, the private sector, and civil society may collide. Scientists drafting reports and other policy-relevant documents must therefore consider trade-offs between different potential solution pathways and their short- and long-term benefits and assess not only physical and biological evidence but also social, economic, and political implications.

Inclusivity is a key objective of these ‘hybrid’ science-policy institutions. For instance, IPBES was the first such institution to explicitly undertake the effort of integrating multiple knowledge systems – including Indigenous, traditional, and local knowledge and worldviews – alongside conventional scientific knowledge sources. Moreover, when developing solution pathways for policymakers, IPBES consistently considers the needs of Indigenous Peoples and local communities, who are central to biodiversity protection yet also among the most vulnerable to the impacts of environmental change. A clear example of this systematic incorporation of plural knowledge systems into the production of policy-relevant documents is provided by the two most recent thematic assessments released by IPBES – the ‘Nexus Assessment’ and the ‘Transformative Change Assessment’ – both developed by highly diverse authors teams selected to ensure balanced representation across geography, discipline, culture, and gender (IPBES, 2024; McElwee et al., 2024).

The significance of these institutional structures in promoting environmental negotiations is exemplified by the critical role IPBES played in supporting the Open-ended Working Group on the Kunming-Montréal Global Biodiversity Framework, which culminated in December 2022, at the closing of the 15<sup>th</sup> COP to the CBD, with the adoption of the KM-GBF.

Both the introductory sections of the KM-GBF (sections A-E) and those addressing the 2030 Mission and 2050 Vision (sections F-K) draw heavily on IPBES scientific findings and recommendations. For instance, the Global Assessment Report on Biodiversity and Ecosystem Services (IPBES, 2019) highlighted the need for ‘transformative change’ to simultaneously address the direct and indirect drivers of the environmental crisis. Accordingly, as the KM-GBF text recalls, the entire agreement is built around the concept of a Theory of Change that “recognizes that urgent policy action is required [...] to achieve sustainable development so that the drivers of [...] biodiversity loss will be reduced and/or reversed”.

The Theory of Change draws directly from the IPBES Conceptual Framework, its refinements by IPBES-affiliated scientists, and the findings of key IPBES assessments from 2019 to 2022, including the “Assessment Report on the Sustainable Use of Wild Species” (IPBES, 2022a) and the “Assessment Report on Diverse Values and Valuations of Nature” (IPBES, 2022b).

The KM-GBF has also incorporated other elements developed by IPBES, such as the ‘whole-of-society’ and ‘whole-of-government’ approaches to biodiversity protection, the concept of ‘transformative change’, and the recognition of the contributions and rights of Indigenous Peoples and local communities. These inclusions reflect the guidance IPBES provided to both scientific and political negotiating delegations (Sarkki et al., 2025).

Looking ahead, IPBES is expected to take on an increasingly vital role by supplying robust scientific findings to support businesses in aligning their operations with nature by demonstrating their dependencies and impacts on nature. It will also be central for contributing to global stocktakes of progress on

the KM-GBF and in supporting capacity building and technology transfer to countries committed to its implementation.

More broadly, the rapid evolution of biodiversity science and policy over the past two decades can be largely attributed to the contributions of these science-policy institutions.

## 5. CONCLUSIONS. SCIENCE-POLICY INTERFACE: KNOWLEDGE GENERATION AND POLICY GUIDANCE

Following the landmark adoption of the KM-GBF in 2022, international negotiations on biodiversity protection have entered a period of stagnation. The central points of contention concerned the strategies for mobilizing financial resources – particularly from the ‘Global North’ to the ‘Global South’ – and the creation of a global biodiversity finance mechanism. No agreement had been reached on these issues before 2025.

However, alongside political negotiations, the science-policy landscape advanced significantly. In December 2024, the IPBES Plenary approved two landmark reports: the Nexus Assessment (McElwee et al., 2024) and the Transformative Change Assessment (IPBES, 2024).

The Nexus Assessment – a thematic assessment of interlinkages among biodiversity, water, food, health, and climate change – offers an integrated framework highlighting how biodiversity, food security, water, human health, and climate change are deeply interconnected, and proposes over 70 response options to address them jointly.

The Transformative Change Assessment identifies three underlying causes – intended as “deeply rooted social and cultural patterns” – of the environmental crisis (namely, the disconnection from and domination over nature; the concentration of power and wealth; and the prioritization of short-term, individual and material gains) and analyzes potential pathways for systemic change, arguing that only a fundamental reorganization of economic, social and governance systems – along with a shift in values and human-nature relationships – can halt and reverse biodiversity decline.

The importance of transformative change had already been emphasized in the Co-sponsored IPCC-IPBES Workshop (Pörtner et al., 2021), which noted that “achieving the scale and scope of transformative change needed to meet the goals of the UNFCCC and CBD and the Sustainable Development Goals relies on rapid and far-reaching actions of a kind never before attempted” (Pörtner et al., 2021, p. 23).

In parallel with these scientific advances, 2025 saw renewed political momentum: parties to the CBD re-convened at COP16.2 in Rome and agreed on a global biodiversity finance mechanism and resource-mobilization strategy, including provisions for benefit-sharing for Digital Sequence Information (DSI) and dedicated funding for biodiversity protection and for supporting Indigenous Peoples and local communities.

These developments – both scientific (IPBES assessments) and political (global financing mechanism) – significantly strengthened the architecture of global biodiversity governance. The two new thematic IPBES reports now provide policy-relevant evidence and integrated, cross-sectoral guidance capable of informing solutions pathways and concrete actions aligned with the KM-GBF long-term 2050 Vision for Biodiversity and supporting the implementation of global environmental goals.

In light of these developments, the role of IPBES is evolving from a body that primarily delivers scientific assessments to a key driver of transformative biodiversity policy. Through its recent work, IPBES increasingly positions itself not only as a bridge between scientific knowledge and environmental policy, offering criteria, indicators and guidance for public- and private-sector activities, but also as an active agent of change at the science-policy interface. These assessments highlight system-wide solutions, diverse value perspectives, and co-produced knowledge, strengthening the Platform’s influence in global biodiversity governance.

The Business and Biodiversity Assessment (IPBES, 2026) and the Monitoring Assessment are further expanding this impact. As negotiations move toward the CBD COP17 in 2026, IPBES is becoming an indispensable mechanism for shaping coherent, ambitious, and actionable pathways toward a nature-positive future.

Such knowledge-generation efforts by IPBES and similar institutions are proving crucial for advancing policy-driven negotiations aimed at building a sustainable and nature-positive future. Their assessments increasingly serve not only as scientific references but also as strategic inputs that shape global environmental agendas and inform multilateral decision-making processes.

As a recent study emphasized, this evolving role has significant implications (Gustafsson and Hysing, 2023). Like UNEP, IPBES’ hybrid position at the intersection of science and policy has made it a key actor in orienting and shaping biodiversity policies regionally and internationally. Gustafsson & Hysing argue that, given IPBES’ willingness “to deliberatively and strategically participate in shaping, catalyzing and facilitating system-wide structural changes”, it might be re-conceptualized as an “agent of transformation”, seeking not only to inform

and accompany change, but to actively drive it. The Transformative Change Assessment is thus not expected to be “a neutral and value-free process devoid of agency in the sense of the deliberative exercise of individual or collective will. Instead, having a seal of credibility and legitimacy from both the scientific and intergovernmental communities, IPBES needs to be recognized for its performative power” (Gustafsson & Hysing, 2023).

As Gustafsson & Hysing (2023) also note, this shift towards a more politically oriented role may entail risks, such as diminishing IPBES’ perceived credibility or political neutrality. Nevertheless, it is undeniable that it marks a critical precedent and signals a qualitative shift in environmental diplomacy. The increasing engagement of independent bodies like IPBES with political decision-making reflects the urgency felt by the scientific community – particularly those directly involved in international environmental negotiations – regarding the need to actively address global environmental crises. This more proactive stance by IPBES could also indicate a broader movement among scientific and science-policy institutions towards solutions-oriented approaches and a stronger role in steering international negotiations on environmental issues.

## CONTRIBUTIONS OF AUTHORSHIP

Sofia Belardinelli: Conceptualization, literature review, writing, editing, revision.

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