Understanding international non-state and subnational actors for biodiversity and their possible contributions to the post-2020 CBD global biodiversity framework: insights from six international cooperative initiatives

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Abstract

While multilateral approaches and national policies have been unable to halt the unprecedented loss of biodiversity, responses from non-state and subnational initiatives are increasing. The successful implementation of the post-2020 global biodiversity framework (GBF), to be agreed upon under the Convention on Biological Diversity (CBD), ultimately depends on commitments and action by state and non-state actors, including subnational actors. However, non-state and subnational actors have so far received little attention in academic analysis of global biodiversity governance. In order to better understand and harness the potential of non-state and subnational involvement, this paper addresses the ways in which non-state initiatives contribute to global biodiversity governance and how productive linkages can be built between state and non-state actors in the post-2020 GBF. This paper applies an explorative case study approach and analyses six international cooperative initiatives (ICIs) that highlight novel approaches in international biodiversity governance. We analyse the qualities of ICIs for biodiversity governance in terms of strengths and potential, the governance functions that they fulfil, and how they are engaging with the CBD and the post-2020 GBF. Based on this analysis, we discuss challenges and opportunities related to non-state and subnational actors involvement in global biodiversity governance and identify possible steps forward. We emphasise the importance of a collaborative framework for non-state action within the CBD that builds on existing and emerging activities of non-state actors, organises monitoring and review as part of an accountability framework of state and non-state actors, and provides for learning, capacity building and follow-up action.

Keywords Biodiversity · Non-state actors · Subnational actors · Transnational governance · Post-2020 global biodiversity framework · International cooperative initiatives · Convention on biological diversity · CBD

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1 Introduction

Despite three decades of multilateral negotiations and national level efforts, biodiversity loss continues at an alarming rate. At the same time, responses from different actors within society are increasing and present an opportunity to complement multilateral and national efforts for more effective biodiversity governance (Tittensor et al., 2014; IPBES, 2019; CBD, 2020a).

Parties to the Convention on Biological Diversity (CBD) are to agree upon a new global biodiversity framework (GBF) for the period after 2020. This has to happen during the 15th Conference of the Parties (COP 15) in Kunming, China, now scheduled for the autumn of 2021. At COP 14 in 2018, the Sharm El Sheikh to Kunming Action Agenda for Nature and People was launched with the aim to further engage non-state and subnational actors such as cities, regions and civil society, and finance and business actors, in conserving biodiversity and building a stronger momentum towards COP 15 (CBD, 2018). This Action Agenda could potentially become part of the institutional design of the new GBF to increase its transformative potential (Bulkeley et al., 2020; Erdelen, 2020; Pattberg et al., 2019; Rankovic et al., 2020).

The Action Agenda's objective to give a stronger role and more visibility to non-state and subnational actors reflects similar developments in other environmental policy domains. For instance, the climate regime involved non-state and subnational actors via the Lima-Paris Action Agenda, the NAZCA portal and the Marrakech Partnership for Global Climate Action (Hickmann et al., 2019); the 2030 Agenda ensured this via the Partnerships for Sustainable Development Goals platform (Bull and McNeill, 2019); and the oceans regime did so via commitments made in the context of the Our Oceans Conference series and the UN Ocean Conferences (Neumann & Unger, 2019).

Taken together, the recognition and stronger involvement of non-state and subnational initiatives indicate a polycentric turn (Dorsch & Flachland, 2017; Jordan et al., 2015; Ostrom, 2010) in multilateral environmental governance that marks a shift from a 'regulatory' to a 'catalytic and facilitative' governance model (Hale, 2016). This departure from the top-down model of global environmental governance constitutes an opportunity for transformative change: multiple initiatives taken by various non-state and subnational actors can act as agents of change within societies around the world (Arts, 2006; Hajer, 2011; Hajer et al., 2015; Risse, 2007). Non-state and subnational action in the climate regime has drawn particular attention in the academic literature (e.g. Bernstein & Hoffmann, 2018; Chan et al., 2015; Dzebo, 2019; Hale, 2018). However, when it comes to the global biodiversity regime,¹ the analysis of non-state and subnational action has so far taken the form of mapping the transnational governance landscape (Curet & Puydarrieux, 2020; Negacz et al., 2020) or addressing operationalisation of the Action Agenda (Kok et al., 2019; Pattberg et al., 2019) or the role of specific actor groups (Bulkeley et al., 2021; Frantzeskaki et al., 2019; Van Oorschot et al., 2020). Empirical research and publications on non-state action in international biodiversity governance, however, remain limited.

An emerging body of literature proposes options for engaging non-state and subnational actors in global environmental governance (Betsill et al., 2014, 2015; Bulkeley

¹ The biodiversity regime refers to the variety of actors and institutions that make up the global biodiversity governance landscape, recognising its fragmented nature. It has the CBD as the central convention, but also includes other biodiversity-related international environmental agreements such as CITES, CMS and Ramsar, as well as non-state and subnational organisations.

et al., 2020; Chan & Pauw, 2014; Chan et al., 2015; Hickman et al., 2019; Hsu et al., 2015; Pattberg et al., 2016; Pattberg et al., 2019; Puig and Bakhtiari, 2020; Widerberg & Pattberg, 2015). Biodiversity policymakers at the international level, however, still grapple to recognise the consequences of the shift away from government-led governance towards what is now referred to in the CBD as ‘whole-of-society’ approaches (Pattberg et al., 2019; see for example the updated zero draft of the GBF (CBD, 2020b)).

A long-standing criticism of more non-state actor involvement in global environmental governance is that it reflects a neoliberal paradigm which impedes the fundamental changes that are required to address the direct and indirect drivers of biodiversity loss (Chan et al., 2019; Pattberg et al., 2019). Indeed, involving non-state actors introduces a number of challenges for international environmental regimes. Specifically, Kok et al. (2019) identify three challenges for the CBD to the successful development and implementation of the Action Agenda. The first challenge is to ensure that non-state actors do indeed contribute to biodiversity goals, drawing attention to the need for adequate transparency and accountability mechanisms in response to greenwashing and ‘bluewashing’ (businesses signing up to UN principles that they do not intend to follow). Second, more closely engaging a plethora of non-state and subnational actors in the achievement of biodiversity goals may require some form of coordination to avoid overlap and confusion. Third, a stronger role for non-state and subnational actors entails the risk of national governments shirking established norms and responsibilities under the CBD.

On the other hand, bringing non-state and subnational initiatives closer to the CBD could also reinvigorate global biodiversity governance (Pattberg et al., 2019). The closer involvement of non-state actors in biodiversity governance would support the mainstreaming of biodiversity in relevant economic sectors (Karlsson-Vinkhuyzen et al. 2017, 2018), help to build positive political and societal momentum, foster innovative governance initiatives as ‘niches’ or ‘seeds’ for transformative change and further upscaling, and break current gridlocks in negotiations or implementation. Support from non-state and subnational actors for more ambitious action could also enable stronger commitments from governments (Kok et al., 2018, 2019; Pattberg et al., 2019).

In order to harness the potential of non-state actor involvement in biodiversity policy and address the challenges that come with it, this paper considers how non-state initiatives can contribute to biodiversity conservation and ways in which productive linkages can be built between non-state and subnational actors and the post-2020 GBF. To realise this objective, we analyse six international cooperative initiatives (ICIs) that highlight novel approaches in biodiversity governance. We then use the insights gained to apply a framework for engaging non-state actors in global environmental governance that was originally developed for the international climate change regime (Chan et al., 2015).

The paper is structured as follows. After describing the methods (Sect. 2), we provide a literature review that identifies elements to better understand the qualities of ICIs in terms of strengths and potential and the governance functions that they can perform (Sect. 3). This literature review guided the case study analysis (Sect. 4), in which we analyse how the ICIs operate, which governance functions they fulfil in the international biodiversity regime, and their concrete engagement with the CBD post-2020 process. Extending the case study analysis, we then discuss (Sect. 5) the potential contributions of non-state actors to the international biodiversity regime and ways in which the CBD could engage with non-state and subnational actors to harness the potential of non-state action in the post-2020 GBF.

2 Methods

2.1 Defining international cooperative initiatives

Non-state and subnational actors take actions at local to national and global levels. This paper analyses international cooperative initiatives (ICIs) for biodiversity, which are defined as: '(i) international and transnational institutions, which not only have the (ii) intentionality to steer policy and the behaviour of their members or a broader community, but also explicitly mention the (iii) common governance goal [i.e. biodiversity and its sustainable use], accomplishable by (iv) significant governance functions' (Widerberg et al., 2016). ICIs consist of companies, civil society organisations, and national, regional or local governments working together in various constellations that are either private, public, or hybrid.

2.2 Approach

The case study analysis consists of three steps. First, we analyse the strengths and potential of ICIs, zooming in on six ICIs. Based on a review of the academic literature on non-state action and transnational governance (see Sect. 3 and Ludwig & Kok, 2018), we identify four elements that highlight the strengths and potential of ICIs, including co-benefits and cooperation, experimentation and learning, monitoring and transparency, and coordination and directionality. This step focuses on the internal dynamics and functioning of the ICIs. We argue that understanding what drives collaboration within ICIs and how they operate, irrespective of intentions to contribute to the objectives of the CBD, is a necessary step to further assess how ICIs can contribute to the international biodiversity regime. In the second step, we zoom out and focus on the emerging biodiversity regime complex and the governance functions that ICIs fulfil in interaction with other ICIs and multilateral and national institutions (Abbott, 2014; Abbott and Snidal, 2009; Pattberg et al., 2019; Widerberg et al., 2016). Third, we analyse how the ICIs under study are actually engaging with the CBD and more specifically the process leading to the post-2020 GBF.

2.3 Selection of case studies

Cases were identified based on the examination of a new database on ICIs for biodiversity that was developed in parallel to this analysis (Pattberg et al., 2017), as well as on expert consultations by the authors. For time reasons, we limited the analysis to six case studies and did not aim for representativeness but for variety. We focused on ICIs active in the terrestrial realm, leaving out marine. Selection was based on a combination of coverage of main drivers of biodiversity loss, new approaches to conservation, involvement of a variety of non-state and subnational actors that have existed for some time, and global relevance. The ICIs selected therefore address various drivers of terrestrial biodiversity loss or cover new approaches to nature conservation and restoration. The drivers of biodiversity loss covered by the ICIs include agriculture, deforestation, industrial activity, climate change, and urban expansion. The cases therefore cover the main drivers of biodiversity loss as identified by IPBES (2019). The actors include cities, businesses, supply chain actors, and conservation NGOs. For a good understanding of the contribution of ICIs to the biodiversity regime, we selected ICIs that have existed for five years or longer. All of the initiatives started between 1990 and 2013 still exist, although with varying levels of activity. While

we aimed for a globally relevant set of case studies, there is some regional bias towards Europe and North America in terms of activities and headquarters in the ICIs selected. Taken together, we suggest that the six cases provide a panorama of innovative international non-state and subnational biodiversity governance arrangements and represent front-runners in the field (see Table 1 for an overview).

2.4 Data collection

The paper is based on an inductive, mixed methods approach with four steps of qualitative data collection. First, we reviewed the existent academic literature on non-state action and transnational governance (Ludwig & Kok, 2018) to identify potential elements to describe the qualities of ICIs in terms of their strengths and potential for biodiversity governance. Second, using these elements as a heuristic analytical framework, we conducted a content analysis of the six case studies using official documents from the organisations involved, online material, and grey literature. As an input to this analysis, in-depth background studies were carried out in the 2014–2016 period (Frantzeskaki et al., 2016, 2019; Ludwig, 2018; Pellis & de Jong, 2016; van Tilburg & Achterberg, 2016; Wentink, 2015) that combined literature reviews, document analysis, and interviews (on average 10 per case study, ranging from 5 to 21 interviews). Case-specific interviews were conducted to obtain expert assessments of the ICI's functions, performance, and relevant developments within the larger biodiversity regime. Third, two expert workshops were held in 2016 to validate the specific and overall findings of the case studies with experts, representatives of the ICIs and policymakers, and to explore further linkages between the six ICIs and the international biodiversity regime (Kok & Ludwig, 2016; Kornet, 2016). Fourth, an update of this analysis was conducted in August 2020 with a special focus on the engagement of the six ICIs in the CBD post-2020 process, to be able to include and reflect on the most recent developments in this paper.

3 Literature review

This paper starts from the assumption that it is important to understand (a) the qualities of ICIs and (b) the functions that these ICIs fulfil in the larger biodiversity governance context in which they operate, in order to capture the full governance potential of ICIs in the international biodiversity regime and identify options to build productive links between non-state actors and the multilateral system. In the following, we outline the literature that served as the conceptual basis for our case study analysis.

3.1 Internal dimension of ICIs

Based on our reading of the literature, we suggest four elements that help to shed light on how ICIs steer and operate together with their constituencies (Table 2). The framework does not aim to exhaustively explain the performance of ICIs, but highlights key elements to better understand the strengths and potential of these initiatives. Note that these elements are not necessarily related to international biodiversity goals. The first element—co-benefits and cooperation—focuses on why actors collaborate (or not). The second element—experimentation and learning—highlights how ICIs collaborate and steer to realise their objectives. The third element—monitoring and transparency—focuses on how ICIs

Table 1 Overview of case studies

ICI	Key facts	Case study focus: relevance for biodiversity governance
ICLEI – Local Governments for Sustainability (ICLEI)	<p>Est. 1990 (biodiversity focus since 2006)</p> <p>Area: biodiversity in cities</p> <p>Goal: support urban sustainability (and biodiversity) efforts</p> <p>Drivers of biodiversity loss addressed: land-use change, climate change, pollution, natural resource use, and exploitation</p> <p>Current status: > 1,750 cities, towns, and regions, active in 86 countries https://www.iclei.org/ (27.08.2020)</p>	<p>Exemplifies how cities can act as biodiversity managers and entrepreneurs</p> <p>ICLEI contributed to the CBD Edinburgh Process for Subnational and Local Governments to support the development of the GBF. Together with TNC and IUCN, ICLEI launched the Cities with Nature initiative</p>
ISEAL Alliance (ISEAL)	<p>Est. 2002</p> <p>Area: biodiversity in value chains</p> <p>Goal: strengthen sustainability standards systems by creating best practices for standards</p> <p>Drivers of biodiversity loss addressed: land-use change, climate change, pollution, natural resource use and exploitation and invasive species</p> <p>Current status: 23 members, 3 associates, 118 subscribers from public and private sector, active at global level https://www.isealliance.org/ (27.08.2020)</p>	<p>ISEAL addresses fragmentation in voluntary standard setting through meta-governance</p> <p>ISEAL standards perceived as implementation mechanism in the CBD context</p>
The Global Partnership on Forest and Landscape Restoration (GPFRL)	<p>Est. 2003; Bonn Challenge 2011</p> <p>Area: landscape restoration</p> <p>Goal: support restoration pledges in the context of the Bonn Challenge with the aim of restoring 150 million hectares of land by 2020 and 350 million hectares by 2030</p> <p>Drivers of biodiversity loss addressed: land-use change, climate change, natural resource use and exploitation</p> <p>Current status: 63 commitments to restore 172 million hectares in 50 countries; 41 members from public sector and civil society https://www.forestlandscaperestoration.org/ (27.08.2020)</p>	<p>Generates political will for landscape approach and voluntary goal setting</p> <p>Lately, political importance of GPFRL has seemed to diminish and other landscape-oriented ICIs have gained more prominence</p>

Table 1 (continued)

ICI	Key facts	Case study focus: relevance for biodiversity governance
Natural Capital Coalition (NCC)	<p>Est. 2010/2012; Natural Capital Protocol 2016</p> <p>Area: biodiversity in the private and financial sector</p> <p>Goal: develop an international enabling environment for natural capital approaches and embed natural capital thinking in the private sector</p> <p>Drivers of biodiversity loss addressed: land-use change, climate change, pollution, natural resource use and exploitation and invasive species</p> <p>Current status: > 300 public and private sector organisations, active at global level</p> <p>https://naturalcapitalcoalition.org/ (27.08.2020)</p>	<p>Financial sector pressures private sector to advance integration of biodiversity into core decision-making at firm level</p> <p>Financial sector has received critical attention in the GBF negotiations</p> <p>NCC is also one of the partners in the Business for Nature Coalition</p>
Rewilding Europe (RE)	<p>Est. 2011</p> <p>Area: nature conservation in Europe</p> <p>Goal: create large, rewilded landscapes in at least 10 different regions across Europe</p> <p>Drivers of biodiversity loss addressed: land-use change, climate change, natural resource use and exploitation</p> <p>Current status: 18 members, 8 projects in Europe implemented, active in 7 countries</p> <p>https://rewildingeurope.com/ (27.08.2020)</p>	<p>Experiments with rewilding as a new approach to biodiversity conservation</p> <p>RE is engaging with the CBD post-2020 process through the EU Biodiversity Strategy and by setting up a Global Rewilding Charter</p>
Tropical Forest Alliance (TFA)	<p>Est. 2013</p> <p>Area: agriculture, forestry, drivers of land-use change</p> <p>Goal: support implementation of private sector net zero deforestation pledges</p> <p>Drivers of biodiversity loss addressed: land-use change, climate change, natural resource use and exploitation</p> <p>Current status: > 160 partners from public and private sector, civil society and multilateral organisations, active in 23 countries</p> <p>https://www.tropicalforestalliance.org/ (27.08.2020)</p>	<p>Zero net deforestation pledges from the private sector</p> <p>Using the momentum of China being the host of the CBD COP 15, TFA has set up a China hub to engage with the Chinese business community and the Chinese government to highlight China's role in deforestation within global commodity supply chains</p>

Table 2 Selection of literature per element

Element	Key literature
<i>Co-benefits and cooperation</i>	
Providing mutual benefits to build coalitions	Betsill & Bulkeley, (2004); Ansell & Gash, (2008);
Ensuring participation of key stakeholders	Jordan et al., (2015)
	Bulkeley & Mol, (2003); Newell et al., (2012)
<i>Experimentation and learning</i>	
Clumsy solutions	Thompson & Verweij, (2006)
Experimentation	Hoffmann, (2011); Broto & Bulkeley, (2013);
Governance capabilities	Bulkeley & Broto, (2013)
	Termeer et al., (2015)
<i>Monitoring and transparency</i>	
Monitoring, reporting and review	Folke et al., (2005); Pattberg & Widerberg, (2016)
Advanced data collection, analysis and presentation	Soma et al., (2016); Karpouzoglou et al., (2016);
Reputation mechanisms	Tayleur & Phalan, (2018)
	Héritier, (2002); Arts, (2003); Pattberg, (2005);
	Keskitalo et al., (2009); Gardner et al., (2019)
<i>Coordination and directionality</i>	
Orchestration	Abbott, (2014); Abbott & Bernstein, (2014)
Goal setting	Biermann et al., (2017); Garrett et al., (2019)
Meta-governance through intermediary organisations	Glasbergen et al., (2007); Biermann et al., (2010);
	Glasbergen, (2011); Derkx & Glasbergen, (2014);
	Beisheim and Simon, (2018)

show what they do and deliver. The fourth element—coordination and directionality—centres on how ICIs influence their members and the context in which they are active. We briefly summarise these four elements below.

3.1.1 Co-benefits and cooperation

ICIs are based on some form of collaboration between different actors and therefore depend on the co-benefits that actors see in joining and actively participating in an ICI (Betsill & Bulkeley, 2004; Jordan et al., 2015). Co-benefits can be generated when actors are confronted with the same problems and therefore recognise a collective need for action. Collaboration can be costly, not only in terms of time and personnel, but also because of the risks (e.g. competition) to the collaborating actors. Collaboration tends to grow stronger when the decision-making process focuses ‘on “small wins” that deepen trust, commitment, and shared understanding’ (Ansell & Gash, 2008). Furthermore, the participation of key stakeholders is necessary to ensure the effectiveness of ICIs (Bulkeley & Mol, 2003; Newell et al., 2012) and can help to scale up efforts to achieve larger impacts.

3.1.2 Experimentation and learning

ICIs can be understood as forms of self-governance that apply new ways of learning and experimentation to address an environmental problem (Broto & Bulkeley, 2013; Hoffman, 2011). In contrast to governments and international organisations, ICIs are smaller and more agile in responding to new circumstances and testing new approaches. ICIs can therefore act as an innovative force within the larger governance landscape and inspire new

practices in other arenas. This is also reflected in a growing body of scientific literature on how ICIs exercise experimental and adaptive forms of governance (Broto & Bulkeley, 2013; Bulkeley & Broto, 2013; Folke et al., 2005; Hoffmann, 2011; Termeer et al., 2015), as well as in the concept of ‘clumsiness’ (Thompson & Verweij, 2006). Clumsiness accepts the existence of contradictory problem perceptions and, while taking these into account, focuses instead on the synergies. This requires specific governance capabilities (Termeer et al., 2015).

3.1.3 Monitoring and transparency

ICIs are emerging in response to calls for transparency mechanisms (Auld & Gulbrandsen, 2010; Hess, 2007), and monitoring and reporting by ICIs can help to measure progress and to stimulate learning and improved practices (Folke et al., 2005; Pattberg & Widerberg, 2016). Transparency is increasingly becoming the new norm (Mol, 2008), forcing businesses in particular (Vaccaro & Madsen, 2009), but also NGOs and public agencies, to disclose production- and investment-related information (Van Oorschot et al., 2018). Reputation mechanisms can bring about a change in behaviour through naming, faming, and shaming (Arts, 2003; Gardner et al., 2019; Hritier, 2002; Keskitalo et al., 2009; Pattberg, 2005), while new digital data collection and analysis tools are creating more opportunities (Soma et al., 2016) to hold members accountable and increase the impacts of ICIs as well as other actors (Karpouzoglou et al., 2016; Tayleur & Phalan, 2018).

3.1.4 Coordination and directionality

In a polycentric governance context with an increasing presence of non-state actors, coordination and directionality can become problematic. ICIs provide coordination and directionality through goal setting and vision building, meta-governance and orchestration. Non-legally binding goal setting has emerged as a novel way of steering in recent years, both within the multilateral system (Biermann et al., 2017) and for non-state actors (Garrett et al., 2019). Orchestration is considered to be a valuable tool to enhance coherence and order in a context of polycentricism (Abbott, 2014) and is an indirect mode of governance which works through intermediaries (Abbott & Bernstein, 2014). Meta-governance often occurs in networks of ICIs which bring together several frontrunning initiatives and the actors backing them to address joint challenges related to self-governance and fragmentation (Biermann et al., 2010; Derkx & Glasbergen, 2014; Glasbergen et al., 2007; Glasbergen, 2011).

3.2 Governance functions of ICIs within the larger governance context

From a functionalist perspective, ICIs emerge in reaction to an institutional void which leaves open several functional governance gaps (Bckstrand et al., 2012). While the key elements presented above focus on the internal qualities of ICIs, a functionalist perspective makes it possible to extend this analysis to the contribution of ICIs to an international environmental regime. Following Widerberg et al. (2016) and van Asselt (2016), we cluster functions into five main types to adapt them to the context of ICIs: standards and commitments, operational activities, accountability, information and networking, and financing.

The function ‘standards and commitments’ shapes self-governance by non-state actors and includes mandatory compliance schemes and standards for monitoring and reporting,

as well as voluntary and private sector standards and commitments set through the ICI. ‘Operational activities’ may include research and development of technologies, pilot projects, deployment activities, and capacity building. The function ‘accountability’ focuses on monitoring, reporting, and evaluating the commitments of actors involved in the ICI or of other ICIs and actors (e.g. companies that pledge to restore nature) to national/international public goals. The function ‘information and networking’ is concerned with building capacity by sharing knowledge and best practices or providing training as well as with connecting actors to foster further collaboration and learning. ‘Financing’ is a specific type of operational activity focused specifically on providing financing resources and creating preconditions for financing (e.g. support with project pipelines, safeguard analysis).

4 Results

This section summarises our analysis of the six case studies. In our analysis, we highlight key elements that help to understand the working of the six ICIs (see Table 3), their contribution to the biodiversity regime through the governance functions they perform, the challenges they address and how they engage with the emerging CBD post-2020 GBF.

4.1 ICLEI—local governments for sustainability: making local contributions to global goals visible

Anchoring global biodiversity targets in local policy and implementation mechanisms has been a major challenge for global biodiversity governance. Furthermore, the fact that cities play a key role in realising global biodiversity objectives is often underestimated. ICLEI, as the most global and long-standing environmental city network, is an example of an intermediary actor that organises action across local, national, and global levels (Frantzeskaki et al., 2016, 2019). ICLEI has promoted the integration of nature-based solutions in cities for many years, through a range of programmes and an internal working group on biodiversity as well as through national and international advocacy (ibid.; ICLEI, 2020).

Key elements that can help to understand ICLEI’s biodiversity-related initiatives are: co-benefits and cooperation, experimentation and learning, monitoring and transparency, and coordination and directionality. Cities see multiple benefits in joining ICLEI’s biodiversity-related initiatives, including information exchange, technical support, capacity building, international visibility, and advocacy. ICLEI supports local governments in implementing biodiversity-friendly measures as part of an experimental approach that perceives urban spaces as a learning environment in which new measures can be tested. Cities participate because they are increasingly aware of the benefits of nature-based solutions and the growing demand for this from the general public. ICLEI has provided directionality and contributed to establishing nature-based solutions as a key measure to address various urban challenges such as climate change impacts.

Convincing urban actors of the benefits of nature-based solutions as opposed to grey infrastructure has been a long process in which ICLEI continues to play an important role. Consequently, the main governance function of the biodiversity initiatives by ICLEI in the past was to gather knowledge, experiment and share best practices and to a certain extent to provide technical support, focusing less on accountability.

ICLEI contributed to the CBD Edinburgh Process for Subnational and Local Governments to support the development of the GBF. Together with The Nature Conservancy and IUCN,

Table 3 Key elements per case study

Case study focus & ICI key elements	Cities and biodiversity (ICLEI)	Voluntary sustainability standards (ISEAL)	Landscape restoration (GPFLR)	Financial sector (NCC)	Rewilding (RE)	Zero deforestation (TFA)
Co-benefits and cooperation	Knowledge hub; Advocacy	Members obtain competitive advantages / credibility by complying with ISEAL codes	Common interest to realise co-benefits of restoration; low costs of participation in GPFLR	Convening key actors; Shared interest in advancing and establishing common methodologies	Ecotourism based on wild landscapes as source of income	Convening power due to key actors and cross-sectoral membership
Experimentation and learning	Network of urban innovations and experimentation			Arena to test beta-versions of methodologies and tools	Rewilding as experimental approach	
Monitoring and transparency	Cities With Nature registry and MRV	Focus on showing impacts and use of transparency mechanisms to build trust		Accounting methodologies as enabling environment		
Coordination and directionality	Orchestrator of city-level biodiversity action	ISEAL Codes as benchmark	Advocacy, guidance and principles on landscape restoration	NCC- and NCP-endorsed accounting methodologies		Limited ability to function as intermediary
Governance functions	Standards and commitments; operational activities and information and networking	Standards and commitments; operational activities and accountability	Information and networking; operational activities	Standards and commitments; information and networking; finance	Information and networking; operational activities; finance	Information and networking; operational activities

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ICLEI also launched the CitiesWithNature initiative. Apart from capacity building and knowledge exchange, the initiative also comprises a registry for cities to announce their contributions to GBF implementation. By promoting and tracking urban commitments to the GBF, accountability governance functions are gaining more importance, indicating that urban commitments to nature are maturing.

4.2 ISEAL Alliance: meta-governance for Voluntary Sustainability Standards (VSS)

The emergence of a myriad of competing VSS has created a fragmented governance landscape leading to coordination and competition issues (Bernstein, 2011; Derkx & Glasbergen, 2014; Dingwerth & Pattberg, 2009; Fransen, 2011; Vermeulen & Kok, 2012). ISEAL (2020) aims to address these issues by setting meta-standards to ensure credible VSS that strengthen coherence in supply chain governance (Derkx & Glasbergen, 2014; Steurer, 2013).

Key elements that can help to understand how ISEAL operates include co-benefits and cooperation among standard organisations to create best practices, monitoring and transparency, and coordination and directionality. As a global membership organisation, ISEAL builds on collaboration between VSS to provide a 'gold standard' for sustainability standard setting. As markets and consumers demand more transparency on the impacts of production and trade, by complying with the ISEAL VSS meta-standards members aim to ultimately increase market shares. Full ISEAL members are required to comply with the Standard-setting Code as well as the Impacts and Assurance Codes. ISEAL provides networking and capacity building opportunities and supports reporting on VSS market shares and their biodiversity benefits (Potts et al., 2016). Within the wider governance landscape, standards endorsed by ISEAL serve as a key means to implement objectives of other ICIs, such as zero deforestation pledges, while countries also use ISEAL meta-standards for public procurement or national standards.

To address the limitations of VSS (Van Oorschot et al., 2014), ISEAL is developing new standards that aim to engender systemic impacts, for instance by developing standards for landscape or jurisdictional approaches. However, achieving ISEAL's stated objective of moving beyond certification proves challenging within an organisation in which standard setters play a key role with little interest in leaving their business case behind.

ISEAL functions as a meta-standard setter through its Codes of Good Practice and contributes to awareness raising within its network. While ISEAL does provide enabling conditions for transparency, the accountability governance function is spearheaded by third party certifiers. The financing function is mainly indirectly implemented by businesses and producers that form part of the market.

While ISEAL is engaging with public policy and advocacy, there are no apparent activities related to the CBD post-2020 process. However, ISEAL standards are perceived as a key implementation mechanism in the CBD context: the achievement of CBD sustainable agriculture and forestry targets is measured among other things against indicators that focus on the coverage through ISEAL member VSS (e.g. Forest Stewardship Council and Marine Stewardship Council), which may again be included in the post-2020 GBF as a performance indicator.

4.3 Global partnership for forest and landscape restoration and the Bonn Challenge: restoration pledges

The benefits of implementing restoration measures as part of a wider landscape approach were not recognised internationally for a long time. The Bonn Challenge was one of the first voluntary pledge-driven initiatives and has the current aim to restore 350 million hectares by 2030. The Bonn Challenge is overseen by the Global Partnership for Forest and Landscape Restoration (GPFLR, 2020), with IUCN as the secretariat. To date, national, subnational, and non-state actors have made 63 commitments to restore 172 million hectares (Bonn Challenge, 2020). The GPFLR focuses on knowledge exchange, dissemination of best practices and agenda setting, with the aim of generating political will around landscape restoration from the public and private sector.

Key elements that underpin the workings of the GPFLR include co-benefits and cooperation as well as coordination and directionality (Wentink, 2015). The organisation itself has not scaled up in membership size but has helped to mobilise action on landscape restoration through its network. GPFLR members support the implementation of commitments through capacity building, assessments and monitoring, for example, through the Bonn Challenge Barometer and the Action Plan on Ecosystem Restoration. The GPFLR has contributed to a global reframing of land degradation by stressing the multiple benefits of forest landscape restoration to climate and biodiversity action alongside social and economic goals. In this sense, the GPFLR has taken on the networking and awareness raising governance function by providing an important network for generating political will around landscape restoration from the public and private sector alike. Although, according to their website, the Bonn Challenge is an ‘implementation vehicle’, the implementation of commitments is lagging behind (Wentink, 2015). The financing function still largely remains with national and local governments, although the private sector is increasingly playing a role in this.

While the GPFLR was able to successfully anchor the landscape approach in global sustainability governance and implementation efforts, the role of the GPFLR seems to have diminished over the past years. Other landscape-oriented ICIs have gained more prominence with respect to restoration and landscape management. For example, the Global Landscapes Forum, while originally mainly active in the context of UNFCCC, is increasingly engaging with the CBD-2020 process and the Satoyama Initiative has been a long-time partner of the CBD and played a key role as the host of one of the thematic consultations for the post-2020 framework and advocate of the landscape approach (UNU-IAS, 2019).

4.4 Natural capital coalition: financial sector pressures private sector to advance biodiversity mainstreaming

Although natural capital, defined by the Natural Capital Coalition (2016) as ‘the stock of renewable and non-renewable natural resources (e.g. plants, animals, air, water, soils, and minerals) that combine to yield a flow of benefits to people’, is increasingly being measured at the firm level, many companies in natural capital-sensitive sectors are not yet reporting on natural capital, or they are reporting data of an uncertain quality. On the other hand, some financial institutions increasingly recognise the materiality of biodiversity loss for their financial performance and have started gathering data on natural capital impacts and dependencies. The Natural Capital Coalition (NCC, 2020) was founded by business, civil society and the World Bank in 2012 with the aim of mainstreaming natural capital

accounting in the private sector. Over the years, a few frontrunning financial sector actors have joined the NCC to actively promote the development of natural capital accounting and reporting methodologies (van Tilburg & Achterberg, 2016).

Key elements that can help to understand how the NCC operates include co-benefits and cooperation, monitoring and transparency, experimentation and learning, and coordination and directionality (van Tilburg & Achterberg, 2016). The NCC brings together a very heterodox group of institutions (companies, civil society, governments, and financial and knowledge institutions) that, despite different interests, share the objective to implement natural capital accounting methodologies. In developing the Natural Capital Protocol (NCP), the NCC provided directionality on accounting for NCC members and beyond. The NCC also provided companies and financial institutions with an arena to test beta-versions of methodologies and tools. Through these actions, the NCC created an enabling environment for transparency and accountability as a key mechanism for leveraging change towards biodiversity-friendly investment practices.

While companies mostly intend to use natural capital accounting for internal decision-making, financial institutions demand reporting so that they can use the outcomes for their risk management. There is a large potential to scale up the adoption of methodologies by companies and financial institutions, but this has not been realised so far. Overall, the financial sector has the transformative potential to further pressure the private sector via the NCC and other platforms into integrating natural capital into their core business decisions.

By promoting accounting methodologies, NCC supports the standard-setting governance function, while its main focus is on networking. NCC also provides enabling conditions to facilitate transparency and accountability through meta-standards and frameworks by enhancing coherence and comparability. The finance function is currently shared between financial institutions, the private sector and the public sector.

In the run-up to COP 15, there has been growing attention for the role of the financial sector as an important leverage point for transformative change (OECD, 2019). NCC is also one of the partners in the Business for Nature coalition that aims to amplify a business movement for nature, to influence the negotiations and collect and show business commitments.

4.5 Rewilding Europe: new approaches for protecting and restoring nature

Scaling up conservation and restoration efforts beyond traditional protected areas while at the same time providing income opportunities has been a major challenge in regions such as Europe, where landscapes have been intensively shaped by humans. Rewilding Europe (RE, 2020) represents a complementary, entrepreneurial, and somewhat unconventional strategy for biodiversity conservation, which aims to achieve the return to more natural processes in many places where agriculture is now being abandoned.

Key elements that can help to understand how RE functions include co-benefits and cooperation and experimentation and learning through a new conservation approach (Pellis & de Jong, 2016). RE reframes the challenge of abandoned land into an ecotourism opportunity; passive forms of land management are presented as lower-cost options than active conservation management. RE has helped to establish rewilding as a complementary conservation approach in Europe by promoting and implementing rewilding pilots and by building a network of rewilding initiatives. RE was able to achieve this by identifying project opportunities, taking an experimental approach and by promoting the co-benefits of rewilding projects, actively showcasing pilots.

Some rewilding practices have received criticism for their tendency ‘to erase human history and involvement with the land’ (Jørgensen, 2014, p. 1). The rewilding approach has also sometimes generated conflicts between RE and local land users in planned pilot regions (Pellis & de Jong, 2016). Without a dialogue between the different stakeholders in which the concept of rewilding is explained and illustrated with landscape examples and local future scenarios, it is challenging to generate local support for rewilding initiatives.

In terms of governance functions, RE has taken on the networking and awareness raising function by becoming a central actor within the rewilding governance context in Europe, benefiting from increasing global attention to restoration and rewilding. Through Rewilding Europe Capital, RE also takes on a financing function, enabling the financial flows to RE pilot sites. The implementation function is taken on by local organisations which carry out the projects.

RE is engaging with the CBD post-2020 process through the EU Biodiversity Strategy and by setting up a Global Charter for Rewilding the Earth that brings together 30 civil society organisations around the world to call for nature recovery and rewilding.

4.6 Tropical forest alliance: zero net deforestation pledges from the private sector

International supply chains of agro-commodities are a major driver of tropical deforestation, and there is increasing recognition that international business needs to take action beyond what is legally required and bridge the institutional void in supply chains (Lambin et al., 2018). To address this, the Tropical Forest Alliance (TFA), which is hosted by the World Economic Forum, was set up and is committed to zero net deforestation for palm oil, soy, beef, and pulp and paper supply chains by 2020 (Lister & Dauvergne, 2014).

Key elements that underpin the workings of TFA are co-benefits and cooperation along the supply chain in both production and consumption countries as well as coordination and directionality (Ludwig, 2018). TFA functions as a network and platform for private sector pledges and initiatives, working with other actors within the governance landscape (Ludwig, 2018). TFA has been working on building coalitions ‘by opening a door’ between the private and public sector and by scaling up business pledges. The cross-sectoral membership base of TFA also means that TFA can function as an intermediary and utilise a number of political resources, including diplomatic resources via governmental partners, public pressure via non-governmental organisations and market pressure through the private sector. TFA is now working with regional initiatives which focus on the specific deforestation risks in regions in Africa, South-East Asia, and Latin America.

Initially, a small number of frontrunner purchasing companies and consumer countries were the dominant force within TFA. This led them to push their ideas and agendas on sustainable forest governance, leaving less room for the visions of producing countries and local companies. In recent years, the steering structure of TFA has been adjusted towards a balanced representation of consumer and production countries, businesses along the value chain and civil society organisations (Tropical Forest Alliance, 2020).

TFA is one of many actors involved in supporting the implementation of zero net deforestation commitments. While TFA provides a network and capacity building support, other actors take on additional governance functions. For instance, transparency is provided by actors such as Global Forest Watch, CDP and Global Canopy. The standards they rely on are provided by agro-food and forestry product standard setters such as Rainforest Alliance, which is a member of ISEAL.

Using the momentum of China being the host for the CBD COP 15, TFA has set up a China hub to engage with the Chinese business community and the Chinese government to highlight China's role in deforestation within global commodity supply chains (TFA, 2020).

5 Discussion

In the introduction, we referred to opportunities and challenges that ICIs generate for international biodiversity governance. In the remaining, while recognising the limitations of our case base, we first discuss the potential contribution of ICIs to international biodiversity governance (Sect. 5.1), then turn to options for embedding non-state action in the emerging CBD post-2020 Global Biodiversity Framework (Sect. 5.2).

5.1 The potential contribution of ICIs to international biodiversity governance

International biodiversity governance is at a point in which the first steps are being made towards the stronger inclusion of non-state and subnational actors. This is exemplified by the launch of the Action Agenda for People and Nature in 2018 in the CBD. In this section, we further discuss insights from the case studies in light of the possible opportunities that a stronger involvement of ICIs would provide for the international biodiversity regime.

5.1.1 To what extent can ICIs be regarded as 'niches for innovation' or 'seeds of the good Anthropocene'?

ICIs can help to address the direct and indirect drivers of biodiversity loss, thereby contributing to transformative change for biodiversity. We would argue that non-state actions can be considered a starting point for transitions for biodiversity (Bennet et al., 2016; Geels & Schot, 2010) and that ICIs do help to bridge local action and international policies. ICLEI provides an interesting example of this, as it builds on the role of cities not only as implementers of policies, but especially as innovators, integrating nature into the urban agenda (nature-based solutions in cities, limiting urban expansion into conservation areas) as well as addressing sustainable lifestyles (Bulkeley et al., 2021). RE could be considered as developing a new approach for conservation, and the Natural Capital Protocol developed by the NCC and being picked up by frontrunners in the financial sector is another example. ICIs also provide opportunities to connect local and global action in 'trans-local networks' (Loorbach et al., 2020). ICLEI, TFC, and RE are examples of how ICIs can link local actions and become international agents of change by giving a global voice to local actors. These developments could be considered as essentially experimental and may help to develop new transformative pathways for biodiversity by new actors.

5.1.2 How can a stronger involvement of non-state actors in biodiversity governance support the mainstreaming of biodiversity in economic sectors and society at large?

The case studies show that new actors do indeed get involved in conserving biodiversity through the partnerships that ICIs have developed. These actors range from cities, to the financial sector to supply chain actors. ICIs build on the convening power of key players

to set up networks for the exchange of information, building capacities (e.g. TFA, NCC, and ICLEI) and creating a competitive advantage over non-members (ISEAL). The NCC aims to integrate biodiversity concerns into the private sector, to in turn use the power of the financial sector as a lever for change in business (Van Oorschot et al., 2020; van Tilburg & Achterberg, 2016). The question remains, however, whether market-based approaches such as NCC will be able to realise fundamental changes in the financial system. ISEAL and TFA provide mechanisms for agro-commodity supply chains to address unsustainable production practices in production countries and, in doing so, aim to contribute to halting deforestation and improving the environmental impacts of agricultural production and local livelihoods. GPFLR has realised non-state commitments to restoration through the Bonn Challenge.

5.1.3 To what extent can non-state initiatives play a role in breaking specific gridlocks in international environmental negotiations?

This question requires further research; however, the case studies do provide some insights. Despite long international negotiations on tropical deforestation, deforestation continues. Notwithstanding the criticism of TFA that it did not reflect the interests of producing countries for a long time (Ludwig, 2018), TFA is, however, an example of an ICI that aims to play a role in addressing an issue that got stuck on the international agenda. One Planet Business for Biodiversity (OP2B), a network of businesses addressing biodiversity in the agricultural sector, aims to play a similar role in sustainable agriculture and dietary change. While it is not yet clear whether ICIs are indeed able to help break gridlocks, they do help to build momentum around the issues that they work on, which can then bring new impetus to stalled negotiations. Lessons from these initiatives could be transferred to the national and international governmental level for further policy development.

5.1.4 How can ICIs help to build positive political and societal momentum for biodiversity governance?

While an answer to this question cannot be derived from the six case studies alone, some of the initiatives taken by ICIs suggest a positive answer to this question. Moreover, recent mapping of ICIs for biodiversity identified 331 ICIs with a biodiversity focus and a membership of over 10,000 actors (Negacz et al., 2020; see also Curet & Puydarrieux, 2020), confirming that there is indeed a wider presence of ICIs in the international biodiversity regime. Several of the ICIs studied also represent large memberships (e.g. ICLEI) or have the potential for far-reaching impact (businesses using VSS from ISEAL members). Some ICIs have already contributed to the CBD and are creating pledges and specific commitments for the post-2020 GBF. NCC and ICLEI have become active in new networks that are creating specific commitments to the GBF among their constituencies (CitiesWithNature, Business for Nature). Likewise, the zero deforestation commitments supported through TFA and the Bonn Challenge could also contribute to the implementation of the GBF. TFA is using the momentum in China around the CBD COP 15 presidency to highlight China's role in agro-commodity supply chains and deforestation. However, other initiatives such as ISEAL seem to stay away from this international process, possibly reflecting a lack of confidence that a more active role would be to their benefit.

5.2 Options for strengthening non-state involvement in the CBD and the post-2020 GBF

Building on the results presented in Sect. 4, in this section we discuss options to harness the potential of non-state action in the CBD. Drawing from the burgeoning literature on international climate governance, we reflect on four design principles proposed by Chan et al. (2015) for the international climate change regime to discuss the extent to which these are also relevant for global biodiversity governance.

5.2.1 Design and maintenance of the framework should be achieved in a collaborative manner by the secretariat, COP presidencies and participating non-state actors and initiatives

In the past, frameworks for non-state action were often managed by UN organisations alone, which restricted the engagement of non-state actors in many ways. In the draft of the GBF, the ‘whole-of-society’ approach is recognised as an essential element for the GBF (CBD, 2020b). The Action Agenda for Nature and People could become a stepping stone towards the formalisation of non-state and subnational engagement in the GBF. However, the Action Agenda is not fully recognised and engaged with by non-state actors so far, as can be seen by the commitments submitted by mid-2021. In this light, it will be critically important to involve non-state actors in the further development of the GBF and the Action Agenda, including the inclusion of a voluntary non-state commitment track in the GBF. Such activities can build on the investments made by the CBD secretariat in engaging various stakeholders in the Convention over the years (Hickmann & Elsässer, 2020).

In the implementation of the GBF, the long-term approach to mainstreaming (CBD, 2020c) that is being developed together with the GBF could play an important role in strengthening non-state action in the CBD, in particular to ensure the representation of non-state actors from developing countries. The CBD could follow an orchestration logic in which ‘states or intergovernmental organisations initiate, guide, broaden, and strengthen transnational governance by non-state and/or substate actors’ (Hale & Roger, 2014: 60–51). Hickmann and Elsässer (2020) highlight the specific role that treaty secretariats can play in interacting with non-state actors. They find that the secretariat of the CBD has manifested itself as a ‘co-hosting and award-giving institution, a convening body, as well as a distributor of good practices’ that ‘aimed to foster biodiversity-friendly behaviour by the private sector to mitigate biodiversity loss’. To further develop this role would require high-level political support as well as funding made available by the Parties to provide the resources that can facilitate such an orchestration process.

5.2.2 The framework should be comprehensive and include existing information and build on existing non-state action registries

One of the challenges outlined in the introduction was the risk of overlap and confusion due to a multiplicity of non-state activities. The aim of this paper was not to obtain a systematic overview of the landscape of non-state and subnational initiatives. As we have found, some of the ICIs analysed in this paper are developing approaches to contribute to the GBF and the Action Agenda for Nature and People and are coordinating activities among their constituencies. For example, ICLEI is developing a registry together with IUCN and The Nature Conservancy in which cities can submit, report and monitor commitments. TFA

has launched a forest-positive Collective Action Agenda for the post-2020 period aimed at supply chain actors, producers, the financial and public sector and civil society to achieve deforestation-free commodity supply chains. Rainforest Alliance (member of ISEAL) co-launched the '1000 landscapes for 1 billion people' initiative, and NCC is a member of the Business for Nature coalition. This indicates an increasing number of non-state actor networks that could be brought together under the umbrella of the Action Agenda for Nature and People. In turn, this requires a strong coordination role for the secretariat of the CBD, for example, or another intermediary organisation such as UNEP or IUCN to bring the commitments of all the non-state actors together. It will furthermore be important to establish the linkages with the action agendas in other environmental domains, requiring stronger collaboration between the different MEAs.

5.2.3 The framework should be evaluative and incorporate benchmarking, review and follow-up procedures to ensure that non-state initiatives go beyond mere passive registration and can be held accountable

Another challenge outlined in the introduction was to ensure that non-state actors do indeed contribute to biodiversity goals. For this, the framework should go beyond non-state commitments or pledges and should also put procedures in place for monitoring implementation and for verification (possibly by a third party). Non-state actors therefore need to be included in the emerging review and accountability framework within the GBF (CBD, 2020d), in addition to state commitments. To reduce the resource needs of such an accountability mechanism, non-state actors could rely on existing non-state frameworks for reporting and set measurable goals for themselves to track progress (Widerberg & Pattberg, 2015). Additionally, a non-state accountability mechanism should ensure additionality via an adequate monitoring framework. This mechanism can build on initiatives taken by VSS through ISEAL, Business for Nature and CitiesWithNature. To ensure effective as well as fair and equitable outcomes, capacity building and targeted financial support need to be available to non-state actors who would otherwise be limited in their ability to contribute to the accountability mechanism.

5.2.4 The framework should be catalytic and support concerned actors to identify gaps and fill them by brokering new relationships or scaling up existing initiatives

The third challenge put forward in the introduction pointed to the risk of national governments shirking established norms and responsibilities under the CBD. The contributions of non-state and subnational actors could be made part of the global stocktake that is being discussed as part of the review and accountability mechanism (CBD, 2020d) for the GBF. Such a stocktake would show where implementation and ambition gaps are emerging, in turn providing an agenda for learning and capacity building and requiring follow-up action of non-state networks as well as governments. An example would be deforestation, in which TFC aims to play a role through the COP 15 presidency. A stocktake involving both non-state and governmental contributions could help to ensure that contributions are made transparent, so that it is more difficult for governments to shirk established commitments under the CBD. Follow-up would require, for example, voluntary reviews, organised dialogue (such as the government dialogues being organised by the NCC) and capacity building on enabling conditions to scale up action. Support from non-state and

subnational actors for more ambitious action may also enable stronger commitments from governments. National responses in Indonesia and Malaysia to develop national certification schemes for palm oil may be considered as an example of such a governmental response to non-state action (e.g. private certification schemes and ISEAL). Here, a link to the long-term strategic framework for capacity development in support of implementation of the post-2020 Global Biodiversity Framework will be important (CBD, 2020e). A stocktake could also help reveal the governance functions that different actors take on and thereby highlight which functions still need to be strengthened within the regime complex. These activities will need to be developed as a complement to an accountability framework for the Parties, to ensure that governments do not shirk their responsibility for established norms and commitments.

6 Conclusion

While non-state action has become a prominent part of various international environmental policy frameworks, the CBD has so far been slow to recognise its full potential. In the light of limited progress in reaching previous global biodiversity targets, we suggest that increased non-state actor involvement represents an opportunity that cannot be ignored by Parties to the CBD. The ongoing negotiations for the CBD post-2020 GBF provide an opportunity to build more productive linkages between ICIs and the international biodiversity regime. Drawing from the climate and sustainable development literature on non-state action, this paper presents a conceptual framework to understand international non-state and subnational action for biodiversity and their possible contribution to the international biodiversity regime. The paper also raises new questions for biodiversity governance research, including the further development of adequate systems for monitoring, reporting and reviewing non-state action that cover the multiple governance functions that non-state actors fulfil, and ways to further incorporate these into the biodiversity regime. With action agendas emerging in various policy domains, the opportunities and challenges arising from connecting non-state biodiversity actions with other policy domains, including climate, oceans, and the Sustainable Development Goals, to achieve multiple dividends also require further attention.

To conclude, we emphasise the importance of a collaborative framework for non-state action within the CBD. Such a framework needs to build on existing and emerging activities of non-state actors, organise monitoring and review of both state and non-state actors as part of an accountability framework, and provide for learning, capacity building, and follow-up action.

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Declarations

Conflict of interest The authors declare that there is no conflict of interest.

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