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Tuula Honkonen (editor)

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Foreword

We face the triple planetary crisis of climate change, natural and biodiversity loss, and pollution. To catalyse action on this crisis, countries have concluded and today seek to strengthen international environmental law instruments, including Multilateral Environmental Agreements (MEAs) on various environmental themes.

To promote information sharing and support countries to meet their obligations, the United Nations Environment Programme (UNEP), in partnership with the University of Eastern Finland has organized annual training courses on MEAs since 2004. The 17th University of Eastern Finland – UNEP Course on MEAs was held from September to December 2021. Due to the Covid-19 pandemic, the course was for the first time in its history organized virtually. The focus of the 2021 course was 'The Post-2020 Biodiversity Agenda'. Participants learned about the Agenda and international environmental negotiations. Participants applied their enhanced knowledge and acquired skills in practice through several international environmental negotiation and drafting exercises.

This volume of the *Review* contains a compilation of papers from the 17th Course, presenting a valuable collection of lessons and insights drawn from the Course to a wider audience. The *Review* covers a variety of topics on the post-2020 biodiversity agenda, canvassing the history and current situation of the agenda; progress towards agreement on marine biodiversity of areas beyond national jurisdiction; biodiversity and international human rights; biodiversity protection and emerging technologies; and the rise of ecological restoration law. The *Review* also provides insights on legal drafting skills in MEA negotiations, rules of procedure and virtual MEA negotiations.

This *Review* is designed to equip present and future negotiators of MEAs with information on international environmental law-making to improve the impact and implementation of these key treaties. The ultimate aim is to strengthen capacities to negotiate environmental treaties, for improved international environmental law and governance worldwide.

UNEP is grateful to all the contributors for the successful outcome of the 17th course. We extend special thanks to Tuula Honkonen for her skilful and dedicated editing of the *Review*.

Patricia Kameri-Mbote
Director, Law Division
United Nations Environment Programme

Editorial preface

1 General introduction

The lectures and training given on the seventeenth annual University of Eastern Finland – UN Environment Programme Course on Multilateral Environmental Agreements (MEAs), from which most papers in the present Review originate, were delivered by experienced MEA professionals, members of government and senior academics. One of the Course's principal objectives is to educate participants by imparting the practical experiences of experts involved in international environmental law-making and diplomacy – both to benefit the participants on each Course and to make a wider contribution to knowledge and research through publication in the *Review* publication. The papers in the *Reviews* of different years, although usually having particular thematic focuses, present various aspects of the increasingly complicated field of international environmental law-making and diplomacy.

It is intended that the current *Review* will provide practical guidance, professional perspectives and historical background for decision-makers, diplomats, negotiators, practitioners, researchers, students, teachers and different stakeholders who work with international environmental law-making and diplomacy. The *Review* encompasses different approaches in this field, including international environmental law and governance, international environmental law-making, environmental empowerment, and the enhancement of sustainable development generally. The special themes of the *Reviews* bring naturally their own approaches and special questions into the publication.

The first and second Courses were hosted by the University of Eastern Finland (UEF), in Joensuu, Finland where the landscape is dominated by forests, lakes and rivers. The special themes of the first two Courses were, respectively, 'Water' and 'Forests'. An aim of the organizers of the Course is to move the Course regularly to different parts of the world. In South Africa, the coastal province of KwaZulu-Natal is an extremely biodiversity-rich area, both in natural and cultural terms, and the chosen special themes for the 2006 and 2008 Courses were therefore 'Biodiversity' and 'Oceans'. These two Courses were hosted by the University of KwaZulu-Natal, on its Pietermaritzburg campus. The fourth Course, held in Finland, had 'Chemicals' as its special theme – Finland having played an important

role in the creation of international governance structures for chemicals management. The sixth Course was hosted by UNEP in Kenya in 2009, in Nairobi and at Lake Naivasha, with the special theme being 'Environmental Governance'. The theme for the seventh Course, which returned to Finland in 2010, was 'Climate Change'. The eighth Course was held in Bangkok, Thailand in 2011 with the theme being 'Synergies Among the Biodiversity-Related Conventions'. The ninth Course was held in 2012 on the island of Grenada, near the capital St George's, with the special theme being 'Ocean Governance'. The tenth Course, which in 2013 returned to its original venue in Joensuu, Finland, had 'Natural Resources' as its special theme. The eleventh Course was again held in Joensuu, in 2014, with a special theme of 'Environmental Security'. The twelfth Course was hosted by Fudan University in Shanghai, China, in 2015, with the recurring special theme 'Climate Change'. The thirteenth Course was again hosted by the UEF in Joensuu, in 2016, with the special theme 'Effectiveness of Multilateral Environmental Agreements'. The fourteenth Course was held at the Château des Comtes de Challes, Chambéry, France and at the International Environment House, Geneva, Switzerland, in 2017. The special theme of the Course was 'Trade and Environment'. The fifteenth Course was hosted by the UEF in Joensuu in 2018. The special theme of the Course was 'Environment and Human Rights'. The sixteenth Course was held in Italy in 2019, hosted by the University of Siena. The special theme of the Course was 'Emerging Issues in International Environmental Law'. The most recent, seventeenth, Course was organized in 2021, fully virtually for the first time in the history of the Course. The special theme of the Course was 'Post-2020 Biodiversity Framework' – and this is therefore the special theme of the present volume of the *Review.*

The Course organizers and the editor of this *Review* believe that the ultimate value of the *Review* lies in the contribution that it can make, and hopefully is making, to knowledge, learning and understanding in the field of international environmental negotiation and diplomacy. Over the years, the academic perspective of international environmental law and policy has gained a more prominent role in the *Review*. Although only limited numbers of diplomats and scholars are able to participate in the Courses themselves, it is hoped that through the *Review* many more are reached.

Many of the papers contained in the *Review* are based on lectures or presentations given during the Course, but have enhanced value as their authors explore their ideas, and provide further evidence for their conclusions. In addition, the *Review* welcomes papers from the Course participants; one such paper is included in the present volume. Finally, from the 2019 volume on, the *Review* has had an open call for papers, thus welcoming contributions, subject to editorial review and acceptance,

from people not directly involved with the Course but active in the field of international environmental law, law-making and diplomacy.

Before publication in the *Review*, all papers undergo a rigorous editorial process. Each paper is read and commented on several times by the editor(s), is returned to the author(s) for rewriting and the addressing of queries. As is alluded to above, the papers published in the *Review* vary in nature. Some are based on rigorous academic research (going through a strict peer-review process[1] before publication); others are review-type of papers or have a more practical focus, presenting valuable reflections from those involved in the real-world functioning of international environmental law and law-making; and still others are based on a combination of approaches.

1.2 The post-2020 biodiversity framework

The Convention on Biological Diversity (CBD),[2] concluded in 1992, has often been characterized as an MEA that is somewhat soft in nature.[3] It is true that the provisions of the Convention are not very detailed and do not contain that many strict legal obligations for the Parties. Moreover, the obligations are routinely qualified with restrictive wordings such as 'as far as possible or as appropriate'. Nevertheless, CBD is a broadly participated MEA with 196 Parties currently. It also serves as a platform for more detailed and issue-specific international environmental legislation through the Nagoya[4] and Cartagena[5] Protocols. However, the CBD itself has not been subject to very rigorous upgrading efforts.

At the time of its adoption, CBD was 'revolutionary' in that it did not focus on the protection of particular species or habitats; instead, it took an ecosystem approach and defined biodiversity in very broad terms. However, this new approach placed some practical limitations to the nature and ambition of the Convention's commitments. In addition, from the beginning, the CBD was built on the acknowledgment of state sovereignty over their biological resources.[6]

1 The peer-review is conducted as double blind, in accordance with the generally accepted academic practice. Where a paper has undergone a peer-review successfully, this is indicated in the first footnote of that paper.

2 Convention on Biological Diversity, Rio de Janeiro, 5 June 1992, in force 29 December 1993, 31 *International Legal Materials* (1992) 822, <http://www.biodiv.org>.

3 See, e.g., Lakshman D. Guruswamy, 'The Convention on Biological Diversity: exposing the flawed foundations', 26(2) *Environmental Conservation* (1999) 79-82; Michelle Lim, 'Biodiversity 2050: Can the Convention on Biological Diversity Deliver a World Living in Harmony with Nature?', *Yearbook of International Environmental Law* (2021) 1-23 at 11.

4 Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity, Nagoya, 29 October 2010, in force 16 October 2014, <http://www.cbd.int/abs/>.

5 Cartagena Protocol on Biosafety, Montreal, 29 January 2000, in force 11 September 2003, 39 *International Legal Materials* (2000) 1027, <http://www.cbd.int/biosafety>.

6 Preamble and Art. 3.

The Convention subsequently adopted a target-based approach to operationalize its provisions. However, the agreed targets or the mechanisms for their implementation have not been very effective.[7] The Aichi Targets[8] expired in 2020. The international community is regrettably late in agreeing on new and hopefully more ambitious, effective and implementable targets and measures for reaching them. The rate of global biodiversity loss is alarming,[9] and it is clear that rapid concerted international action is needed to change the course.

The preparation of the post-2020 biodiversity framework started already in 2016.[10] The process has been long and further challenged by the pandemic. Parties to the CBD have been aware of the limitations of their past efforts to create global targets to halt biodiversity loss. The crisis awareness has now been on a considerable higher level than in the previous negotiation rounds. At the same time, sovereignty concerns are still real for many countries as regards biodiversity and biological resources.

Looking at the preparatory process of the post-2020 global biodiversity framework as a whole, the level of ambition has been heightened, and Parties are paying attention also to the need to make the new Targets quantifiable to ensure their clear-cut implementation and effective follow-up. Then again, these same things have complicated the negotiations.

At the time of writing, the post-2020 framework is still to be agreed upon by the Parties. Even if the framework continues on the technically non-binding path of setting up global targets (instead of a new treaty), both the increased ambition and precision of the targets and the high public concern about biodiversity loss speak for an instrument that will not remain a collection of dead letters.

1.3 The papers in the 2021 *Review*

The present *Review* is divided into two Parts. Part I introduces selected perspectives on the theme of the Post-2020 Biodiversity Agenda. In the opening paper of Part I, Professor An Cliquet examines the international law on restoration. Her analysis shows that an evolution can be discerned in the existing international law in this respect, from a rather implicit

7 See, e.g., Shannon M. Hagerman and Ricardo Pelai, '"As Far as Possible and as Appropriate": Implementing the Aichi Biodiversity Targets', 9(6) *Conservation Letters* (2016) 469-478; Graeme M.Buchanan et al, 'Assessment of national-level progress towards elements of the Aichi Biodiversity Targets', 116 *Ecological Indicators* (2020) 106497.

8 'The Strategic Plan for Biodiversity 2011–2020 and the Aichi Biodiversity Targets', CBD Dec. X/2 (2011).

9 Eduardo Brondizio, et al (eds): Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES secretariat, 2019), available at <https://zenodo.org/record/6417333#.Y24Q1-RBxPY> (visited 11 November 2022).

10 'Progress in the implementation of the Convention and the Strategic Plan for Biodiversity 2011-2020 and towards the achievement of the Aichi Biodiversity Targets', CBD Dec. XIII/1 (2016).

attention for restoration to a gradually more extensive and explicit attention for restoration. Nevertheless, gaps still exist in the current international regime on restoration: there is lack of clarity on how and where to restore; a too narrow focus on restoration of protected areas; and a lack of concrete and binding qualitative and quantitative targets for restoration in and outside protected areas. Cliquet then discusses three recent initiatives that could potentially ameliorate the current situation with regard to the international law on restoration: the UN Decade on ecosystem restoration; developments within the post-2020 biodiversity framework; and the proposal for an EU nature restoration law. She concludes that the discussed initiatives could be promising to accelerate the commitments and implementation of restoration at global level. Furthermore, a new legal principle of restoration could, over time, help to upscale restoration activities.

The starting point for the second paper of Part I, written by Ina Tessnow-von Wysocki and her co-authors, is that while there are a variety of biodiversity-related agreements relevant to the post-2020 global biodiversity framework, international efforts to reverse biodiversity loss at different fora are oftentimes kept as separate processes, hindering a holistic approach to global environmental governance. The global biodiversity framework could indeed offer guidance to focus international efforts towards a common goal. The paper stresses the importance of links to different multilateral environmental agreements for an effective implementation of the post-2020 global biodiversity framework and provides recommendations as to how to strengthen synergies among biodiversity-related agreements.

The third paper of the *Review*, written by Manuel Eymers, addresses the issue of invasive alien species (IAS) and the effectiveness, or lack of it, of the CBD to address this threat to biodiversity. The problem of introduction of IAS is exacerbated by climate change. The paper argues that the current CBD framework fails to successfully regulate IAS. In particular, the risks of climate change have not been appropriately considered so far. This concerns also the preparation of the post-2020 global biodiversity framework. Consequently, Eymers provides a number of suggestions on how the CBD, and the post-2020 framework in particular, could be amended to address the risks that IAS pose to biodiversity, especially with regard to the interplay with climate change.

In the final paper of Part I of the *Review*, Erriketi Tla da Silva examines the European Union (EU) Biodiversity Strategy for 2030 and its potential to effectively tackle biodiversity loss. The author notes that the EU Biodiversity Strategy shows that the EU is ready to lead by example to

address the global biodiversity crisis, but that a variety of challenges exist for effective biodiversity management within the Union as envisaged in the Strategy. The paper concludes that the success of the Strategy will depend on the willingness and capacity of the Member States to implement the conservation measures, and on the readiness of the European Commission to exercise its enforcement powers in cases where Member States do not properly implement the relevant EU environmental legislation.

Part II of the *Review* reflects the interactive nature of the Course – and the fact that education and dissemination of knowledge are at the core of the Course and an important element of the *Review*. The first paper of Part II derives from a lecture given by Catalina Pizzarro during the MEA Course. Her topic is virtual MEA negotiations, an issue that has become familiar to international diplomats and negotiators during the last few years. The paper identifies some of the operating procedures that can be adapted for participation in virtual meetings, and highlights some of the best practices that MEAs have adopted to hold virtual meetings during the covid-19 pandemic. Pizzarro concludes that virtual or hybrid meetings seem to be to stay in MEA negotiations. While virtual negotiations can, at beast, lead to inclusive processes, there are also risks posed by the 'digital divide' that is relevant for all parts of the world.

During the MEA Course, a negotiation simulation exercise was organized to introduce participants to the real-life challenges facing negotiators of MEAs. Excerpts from, explanation of, and consideration of the pedagogical value of, the exercise are included in the second paper of Part II of the *Review*. The paper describes the negotiation exercise that, based on experiences from exercises run in previous years of the Course, was devised by Tuula Honkonen with the help of Anne Daniel. The scenario for the negotiation simulation focused on the post-2020 global framework on biodiversity.

The exercise was set at the virtual meeting of the resumed third session of the Open-ended Working Group on the Post-2020 Global Biodiversity Framework. Negotiations took place within four drafting groups, each established to negotiate a designated part of the draft text of the Framework. Participants were given individual instructions and a hypothetical, country-specific negotiating mandate and were guided by international environmental negotiators. The general objectives of the simulation exercise were to promote among participants, through simulation experience:

- Understanding of the challenges and opportunities related to negotiating new goals and targets and supporting policies in an existing MEA, both in general and in the specific context of the international biodiversity regime.
- Understanding of the principles and practices of multilateral negotiations, and appreciation of the value and role of the rules of procedure.
- Familiarity with specific substantive and negotiation issues; and
- Discussion and appreciation of different perspectives on conceptual and substantive issues related to future international cooperation on the protection (and sustainable use) of biodiversity.

The negotiation exercise is a central element of each MEA Course. It gives the participants the chance to apply the knowledge and practice the skills gained during the Course in a safe and supporting environment among their peers. Every *Review* published to date has featured an account of the negotiation exercise organized on the MEA Course. The collection of these exercises has significant value as a teaching tool for anyone seeking to understand international environmental negotiations.

It is the hope of the editor that the various papers in the present *Review* will not be considered in isolation. Rather, it is suggested that the reader should make use of all of the *Reviews* (currently spanning the years 2004 to 2021), all of which are easily accessible online through a website provided by the University of Eastern Finland,[11] to gain a broad understanding of international environmental law-making and diplomacy.

Tuula Honkonen[12]

[11] See <https://sites.uef.fi/cceel/uef-unep/publications/>.
[12] D.Sc Environmental Law (University of Joensuu) LLM (London School of Economics and Political Science); Senior Lecturer, University of Eastern Finland; e-mail: tuula.honkonen@uef.fi.

Part I

Perspectives on Post-2020 Biodiversity Agenda

The Rise of Ecological Restoration Law: Evolution Becomes Revolution

An Cliquet[1]

1 Introduction

The world is facing an unprecedented biodiversity crisis. In the course of its existence, this planet has already experienced five mass extinctions – the worldwide mass extinction of many species in a relatively short period of time. Scientists report the beginning of a sixth mass extinction, this time one for which humans are largely responsible.[2]

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)[3] released a report in 2019 on the global state of biodiversity.[4] This body, similar to the Intergovernmental Panel on Climate Change (IPCC),[5] is responsible for bringing together scientific information on ecosystems and biodiversity. The global report shows that approximately 1 million species are threatened with extinction.[6] Even in fairly well-protected regions such as Europe, biodiversity is declining.[7] The latest 'State of nature' report by the European Environment Agency

1 Professor of international environmental and biodiversity law, Ghent University; e-mail: An.Cliquet@ugent.be. NOTE: This paper underwent a formal anonymous review process, through two anonymous reviewers. The reports of these reviewers, and any relevant further correspondence, are kept on file with the editor.
2 See Gerardo Ceballos et al, 'Accelerated Modern Human–induced Species Losses: Entering the Sixth Mass Extinction', 1(5) *Science Advances* (2015) e1400253.
3 See <https://ipbes.net/>.
4 Sandra Diaz et al (eds), *Summary for Policymakers of the Global Assessment Report on Biodiversity and Ecosystem Services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services* (IPBES Secretariat, 2019).
5 See <https://www.ipcc.ch/>.
6 Diaz et al, *Summary for Policymakers, supra* note 4, at 12.
7 See on EU nature protection law: Charles-Hubert Born et al (eds), *The Habitats Directive in its EU Environmental Law Context: European Nature's Best Hope?* (Routledge, 2015).

shows that many protected habitats and species are in an unfavourable state of conservation.[8]

Human activities have already had such an impact on our planet that the planetary boundaries that allow for a safe operating space for humanity are being crossed.[9] Nine planetary boundaries have been identified, four of which have already been exceeded. The loss of integrity of the biosphere, measured by the degree of biodiversity loss, is one of the planetary boundaries that has already been crossed. Biosphere integrity includes biodiversity and the functioning of ecosystems, and is considered an essential planetary boundary.[10]

Maintaining what is left of biodiversity on this planet, will not suffice anymore. Given the rate of degradation of ecosystems and biodiversity worldwide, the importance of ecological restoration is increasingly emphasized.[11] There are calls for a significant upscaling of ecological restoration activities.[12] Scientists point to the need to accelerate ecological restoration, given the degree of biodiversity loss, but also given the time needed to achieve results in ecological restoration. Even though nature is sometimes very resilient, strongly degraded nature cannot be restored by a 'quick fix'. Scaling up ecological restoration is also required to implement international commitments on ecological restoration.[13] At the European level too, there are calls to speed up ecological restoration.[14]

Restoration has been defined in different ways and can include several activities. Restoration is considered here as a broader term, including

8 European Environment Agency (EEA), *State of Nature in the EU. Results from Reporting under the Nature Directives 2013-2018*, EEA Report No. 10/2020 (Publications Office of the European Union, 2020).

9 Johan Rockström et al, 'Planetary Boundaries: Exploring the Safe Operating Space for Humanity', 14(2) *Ecology and Society* (2009) 32-64; Will Steffen et al, 'Planetary Boundaries: Guiding Human Development on a Changing Planet', 6223 *Science* (2015) 1259855-1259855-10.

10 *Ibid.*

11 On the various reasons for ecological restoration, see Andre Clewell and James Aronson, 'Motivations for the Restoration of Ecosystems', 20(2) *Conservation Biology* (2006) 420-428; United Nations Environment Programme (UNEP), *Becoming #GenerationRestoration: Ecosystem Restoration for People, Nature and Climate* (UNEP, 2021), available at <https://wedocs.unep.org/bitstream/handle/20.500.11822/36251/ERPNC.pdf>; see also the IPBES report on land degradation and restoration: Robert Scholes et al (eds), *Summary for Policymakers of the Assessment report on Land Degradation and Restoration of the Intergovernmental SciencePolicy Platform on Biodiversity and Ecosystem Services* (IPBES Secretariat, 2018), available at <https://ipbes.net/resource-file/18160> (both visited 1 September 2022).

12 Michael Perring, Todd Erickson and Pedro Brancalion, 'Rocketing Restoration: Enabling the Upscaling of Ecological Restoration in the Anthropocene', 26(6) *Restoration Ecology* (2018) 1017-1023.

13 See, for instance, James Aronson and Sasha Alexander, 'Ecosystem Restoration is Now a Global Priority: Time to Roll up our Sleeves', 21(3) *Restoration Ecology* (2013) 293–296.

14 Jordi Cortina-Segarra, Kris Decleer and Johannes Kollmann, 'Speed Restoration of EU Ecosystems', 535 *Nature* (2016) 231.

activities such as remediation,[15] rehabilitation,[16] as well as *ecological* restoration. Both in literature and in legal instruments there is no real consistency in the terminology.[17] The most commonly used definition of 'ecological restoration' is from the Society for Ecological Restoration (SER), defining this as the 'process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed'.[18] According to SER, 'ecological restoration' is part of a continuum of restorative activities, which includes a series of practices, ranging from reduced societal impacts, remediation, rehabilitation to ecological restoration. Ecological restoration includes activities ranging from initiating native recovery, partially recovering native ecosystems and fully recovering native ecosystems.[19] Ecological restoration seeks the highest level of recovery possible.[20]

As an alternative to 'ecological' restoration, the term 'ecosystem' restoration is sometimes used, for instance, in the framework of the Biodiversity Convention and the UN Decade on Ecosystem Restoration (see *infra*). According to the SER Standards, ecological and ecosystem restoration can be seen as interchangeable, but 'ecological restoration always addresses biodiversity conservation and ecological integrity, whereas some approaches to ecosystem restoration may focus solely on the delivery of ecosystem services'.[21] In this paper, ecological and ecosystem restoration are seen as synonyms. Although the aim of the paper is to look for the legal framework on 'ecological' restoration, the broader term of restoration will be used to examine the legal documents, as most legal instruments do not explicitly mention the term 'ecological restoration', but rather use terms such as 'ecosystem restoration', 'restoration' and 'restore'.

Most legal and policy instruments do not have a (clear) definition of restoration, which can be problematic, as not knowing what is meant by restoration, makes it very difficult to assess or measure progress on restoration targets and obligations (see *infra* 2.2.1). In contrast to most

[15] Remediation is defined by SER as 'a management activity, such as the removal or detoxification of contaminates or excess nutrients from soil and water, that aims to remove sources of degradation' (George Gann et al, *International Principles and Standards for the Practice of Ecological Restoration* (2nd ed., Society for Ecological Restoration, 2019) at 84 (further referred to as SER Principles and Standards).

[16] Rehabilitation is defined by SER as 'management actions that aim to reinstate a level of ecosystem functioning on degraded sites, where the goal is renewed and ongoing provision of ecosystem services rather than the biodiversity and integrity of a designated native reference ecosystem' (*SER Principles and Standards, supra* note 15, at 83).

[17] See also: Afshin Akhtar-Khavari and Benjamin J. Richardson, 'Ecological restoration and the Anthropocene' in Afshin Akhtar-Khavari and Benjamin J. Richardson (eds), *Ecological Restoration Law. Concepts and Case Studies* (Routledge, 2019) 1-26.

[18] Society for Ecological Restoration International Science & Policy Working Group, *The SER International Primer on Ecological Restoration* (Society for Ecological Restoration International, 2004), available at <https://cdn.ymaws.com/www.ser.org/resource/resmgr/custompages/publications/ser_publications/ser_primer.pdf> (visited 1 September 2022).

[19] *SER Principles and Standards, supra* note 15, at 49-50, and, in particular, figure 5 on the restorative continuum at 50.

[20] *Ibid.* at 40.

[21] *Ibid*. at 79.

laws, the proposal for an EU nature restoration law includes a well-worked out definition of 'restoration' (see *infra* 3.2).

Ecological restoration is scientifically underpinned by a specific branch of ecology, 'restoration ecology'.[22] Underlying scientific principles of ecological restoration have already been defined by SER in 2019[23] and similar principles by FAO/IUCN/SER in 2021.[24] These principles include, amongst others, that ecological restoration is informed by native reference ecosystems, taking into account environmental changes; ecological restoration contributes to ecosystem recovery processes; ecological restoration strives for the highest level of recovery attainable; and ecological restoration consists of a continuum of restorative actions. The principles are complementary and should be considered altogether.[25]

One of the main reasons for restoration is to help conserve biodiversity.[26] Restoration is seen as a promising strategy compared to the dominant approach in nature conservation law of preventing degradation of nature through prohibition or regulation of human activities.[27] Conservation encompasses both the maintaining of biodiversity or restoring it.[28]

Restoration is important to restore ecosystem services that contribute to human well-being.[29] Restoration is also a necessary strategy to help combat the climate crisis. The biodiversity crisis and the climate crisis are interlinked in several ways. On the one hand, climate change is an additional threat to biodiversity, which is already under pressure from habitat loss, overexploitation of natural resources, invasive species and pollution.[30] On the other hand, ecosystems and biodiversity provide ecosystem services that help combat climate change through both mitigation[31] and adaptation.[32]

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22 On restoration ecology, see Margareth A. Palmer, Joy B. Zedler and Donald A. Falk, *Foundations of Restoration Ecology* (2nd ed., Island Press, 2016); Jelte van Andel and James Aronson (eds), *Restoration Ecology: The New Frontier.* (2nd ed., Wiley-Blackwell, 2012). See also the journal Restoration Ecology (Wiley), <https://onlinelibrary.wiley.com/journal/1526100x> (visited 10 July 2022).

23 *SER Principles and Standards, supra* note 15.

24 Food and Agriculture Organization of the UN (FAO), International Union for Conservation of Nature Commission on Ecosystem Management (IUCN CEM) and Society for Ecological Restoration (SER), *Principles for Ecosystem Restoration to Guide the United Nations Decade 2021–2030* (FAO, 2021), available at <https://www.fao.org/3/cb6591en/cb6591en.pdf> (visited 1 September 2022).

25 *Ibid.* at 3.

26 Young D. Choi, 'Considering the future. Anticipating the need for ecological restoration' in Stuart K. Allison and Stephen D. Murphy (eds), *Routledge Handbook of Ecological and Environmental Restoration* (Routledge, 2017) 7-15.

27 Kees Bastmeijer, 'Ecological Restoration in International Biodiversity Law: A Promising Strategy to Address Our Failure to Prevent?' in Michael Bowman, Peter Davies and Edward Goodwin (eds), *Research Handbook on Biodiversity and Law* (Edward Elgar, 2016) 387-413.

28 See, for instance, the definition of conservation in the EU Habitats Directive (*infra* 2.3).

29 Millennium Ecosystem Assessment, *Ecosystems and Human Well-being: Synthesis* (Island Press, 2005).

30 See, for instance, Muzafar S. Habibullah et al, 'Impact of Climate Change on Biodiversity Loss: Global Evidence', 29 *Environmental Science and Pollution Research* (2022) 1073-1086.

31 See, for instance, Sven Teske (ed.), *Achieving the Paris Climate Agreement Goals. Global and Regional 100% Renewable Energy Scenarios with Non-energy GHG Pathways for +1.5°C and +2°C* (Springer Open, 2019).

32 See, for instance, UNEP, *Becoming #GenerationRestoration, supra* note 11.

Restoration is not only advocated from a purely ecological necessity. It is also seen as a powerful positive story, which can offer hope in the ominous reports about the climate and biodiversity crisis. Examples of successful large-scale restoration projects show how years of negative impact on the environment can be reversed, with positive consequences for nature, but also for the quality of life of the local population. The Loess Plateau Restoration Project in China is an example of such a project.[33]

Despite the enormous benefits of ecological restoration, it seems difficult to convince politicians and the population to engage in large-scale ecological restoration. The difficulties can be many and are ecological (difficulties to restore nature), financial, legal and social.[34] The economic benefits of ecological restoration are nevertheless clear: the benefits of restoration outweigh the costs many times over.[35]

This paper will examine the international law on restoration in two parts. A first part (section 2) will analyze the existing international restoration law ('evolution' of restoration law).[36] In existing international law, we see an evolution from a rather implicit attention for restoration to a gradually more extensive and explicit attention for restoration, amongst others in the form of Conference of Parties decisions in several multilateral environmental agreements (MEAs), as well as in court cases. This evolution in restoration law has, however, not been able to stop the further degradation of biodiversity, due to a number of shortcomings and gaps in the current international regime on restoration. The gaps point predominantly to a lack of clarity on how and where to restore, a too narrow focus on restoration of protected areas, as well as a lack of concrete and binding qualitative and quantitative targets for restoration in and outside protected areas.

The second part (section 3) will look at some recent and ongoing developments in restoration law and policy that can possibly upscale restoration law and become a 'revolution' of restoration law.[37] Three recent

[33] On this project, see Judith D. Schwartz, *The Reindeer Chronicles and Other Inspiring Stories of Working with Nature to Heal the Earth* (Chelsea Green Publishing, 2020).

[34] For possible bottlenecks for restoration, see Jordi Cortina-Segarra et al, 'Barriers to Ecological Restoration in Europe: Expert Perspectives', 29(4) *Restoration Ecology* (2021) e13346.

[35] Rudolf S. De Groot et al, 'Benefits of Investing in Ecosystem Restoration', 6 *Conservation Biology* (2013) 1286–1293; Richard B. Bradbury et al, 'The Economic Consequences of Conserving or Restoring Sites for Nature', 4 *Nature Sustainability* (2021) 602–608.

[36] Partly based on the following publication (in Dutch): An Cliquet, 'Ecologisch Herstel als Juridische Win-win bij Klimaatswijziging: Een Positief Verhaal?' in Carole M. Billiet and Hendrik Schoukens (eds), *Klimaatrechtspraak* (Die Keure, 2021) 241-271.

[37] The title and subtitles of this paper are inspired by the movie title 'Rise of the Planet of the Apes' and its tagline 'Evolution Becomes Revolution'.

initiatives will be discussed that hold the potential of being revolutionary for restoration: the UN Decade on ecosystem restoration, which creates an unseen attention and forum for cooperation for restoration at the global level; the implementation of the Kunming-Montreal Global Biodiversity Framework under the Biodiversity Convention, that could offer some improvements compared to previous initiatives; and the proposal for an EU nature restoration law, that could not only be a groundbreaking law in the EU, but could serve as an example of what revolutionary restoration law could look like at a global level.

2 Evolution of restoration law

2.1 Legal grounds for restoration

Roughly speaking, three ways can be distinguished that form a basis for restorative obligations. The first are the positive restoration obligations[38] that are imposed in various treaties, regional and national laws, and that are directed towards the government, which is obliged to take restoration measures. Often these obligations are linked to protected areas.

A second legal ground for restoration is the obligation to restore as compensation for damage to nature (offsetting). In this case, restoration measures are imposed as part of development projects, such as the construction of infrastructure. These restoration obligations are part of the mitigation hierarchy. The mitigation hierarchy includes: 1) avoiding or preventing negative impacts on the environment in general and biodiversity in particular; 2) minimizing and restoring the impacts on the site of development if the impacts cannot be avoided; and 3) compensatory measures used as a last resort (on-site or off-site) for the remaining negative impacts.[39] Restoration measures can thus occur at two stages of the mitigation hierarchy: firstly, restoration can be done on site, aimed at repairing the negative impact on nature that could not be avoided or minimized. Secondly, restoration is also possible as compensation for damage to nature: restoration measures are taken to compensate for the residual negative impact on nature. Restoration in the form of offsetting is the last step and only comes into play if the previous steps have been completed first. Restoration as compensation aims to meet the objective of 'no net loss' of nature. Restoration as offsetting can take place in the same area where the damage took place, or (and usually) in another area.

[38] An Cliquet, 'International Law and Policy on Restoration' in Stuart K. Allison and Stephen D. Murphy (eds), *Routledge Handbook of Ecological and Environmental Restoration* (Routledge, 2017) 387-400.

[39] 2014/203/EU: Commission Implementing Decision of 19 March 2014 on the adoption of the LIFE multiannual work programme for 2014-17, *OJ L* 116, 17 April 2014, note 52.

A third legal basis for restoration measures are incident-related restoration measures, for instance after an environmental disaster. These are part of liability regimes, as for instance provided by the EU Environmental Liability Directive.[40] Although this last legal ground is important, also in case law – think of the restoration measures taken after the Deepwater Horizon disaster in the United States[41] – this contribution will mainly focus on the first legal basis, the positive restoration obligations for governments.

Increasingly, there are legal obligations for restoration, both in international law[42] and in European[43] and national law.[44] In many global and regional conventions, provisions can be found on restoration. Also in the implementation of such treaties the attention for restoration has increased enormously, among others in all kinds of resolutions and other decisions by treaty bodies such as Conference of Parties (COP) decisions. Although a legal obligation to restore can be derived from this multitude of international documents, the exact content of this obligation is not always clear.[45] In the following section (2.2), some of the most important international obligations concerning restoration are discussed, without wanting to be exhaustive.[46] Undoubtedly the most important treaty with global obligations for restoration is the Biodiversity Convention. Next, obligations and commitments in some other conventions are examined, as an illustration of the broad presence of restoration obligations in international law. The Ramsar Convention, the World Heritage Convention, the Convention on Migratory Species, the Convention on Desertification, and restoration obligations in the context of international climate law are discussed successively. We also briefly discuss restoration in an International Court of Justice case. After that, section 2.3. examines the obligations concerning restoration in European Union law.

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40 Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage, *OJ L* 143, 30 April 2004.

41 See <https://www.gulfspillrestoration.noaa.gov/> (visited 10 July 2022); Edward B. Barbier, 'Coastal Wetland Restoration and the 'Deepwater Horizon' Oil Spill', 64 *Vanderbilt Law Review* (2019) 1819-1849.

42 See Anastasia Telesetsky, An Cliquet and Afshin Akhtar-Khavari, *Ecological Restoration in International Environmental Law* (Routledge, 2017); Afshin Akhtar-Khavari and Benjamin J. Richardson (eds), *Ecological Restoration Law. Concepts and Case Studies* (Routledge, 2019); Kees Bastmeijer, 'Ecological Restoration', *supra* note 29; An Cliquet, 'International Law and Policy on Restoration' in Allison and Murphy (eds), *Routledge Handbook of Ecological, supra* note 38, 387-400; An Cliquet, 'Ecological Restoration as a Legal Duty in the Anthropocene' in Michelle Lim (ed.), *Charting Environmental Law Futures in the Anthropocene* (Springer, 2019) 59-70; An Cliquet and Afshin Akhtar-Khavari, 'Ecological Restoration and International Law', *Oxford Bibliographies in International Law* (Oxford University Press, 2019), available at <http://www.oxfordbibliographies.com/obo/page/international-law> (visited 10 July 2022); Benjamin J. Richardson, 'The Emerging Age of Ecological Restoration Law', 25(3) *RECIEL* (2016) 277-290.

43 See Hendrik Schoukens, *Ecological Restoration as New Environmental Paradigm: A Legal Review of Opportunities and Challenges within the context of EU Environmental Law, with a Particular Focus on the EU Nature Directives*, A dissertation submitted to Ghent University in partial fulfillment of the requirements for the degree of Doctor of Law (Ghent University, 2017); An Cliquet, Kris Decleer and Hendrik Schoukens, 'Restoring Nature in the EU: the Only Way Is Up?' in Born et al (eds), *The Habitats Directive in, supra* note 7, 265-284.

44 For some examples, see Telesetsky, Cliquet and Akhtar-Khavari, *Ecological Restoration in International, supra* note 42, at chapter 8: National approaches to ecological restoration, 173-195.

45 *Ibid*. at 289.

46 For a more complete overview, see *ibid.*

2.2 Restoration in international law

2.2.1 Biodiversity Convention

The Convention on Biological Diversity[47] (CBD) contains a number of provisions referring to restoration as a means to achieve its objectives. According to Article 8(f), each Party shall, as far as possible and appropriate, 'rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, inter alia, through the development and implementation of plans or other management strategies'. However, the text of the Convention itself does not contain concrete targets or further guidance and, although the Convention contains a comprehensive list of definitions in Article 2, the terms 'rehabilitate', 'restore' and 'recovery' are not defined.

Several COP decisions elaborate on restoration. Fifteen Conferences of Parties have been organized since the entry into force of the CBD. The fifteenth COP was supposed to take place in November 2020, but was postponed several times due to the COVID pandemic and finally took place in December 2022 in Montreal. The results of the fifteenth COP will be discussed under section 3. At the various COPs, several decisions have been taken that include provisions on restoration of, inter alia, forests, dry and sub-humid lands, freshwater systems, mountainous, marine and coastal areas and on the issue of liability and restoration.[48]

The most specific targets for restoration can be found in the Aichi Biodiversity Targets (Strategic Plan 2011-2020).[49] Three targets are of particular importance in this regard. According to Target 11, by 2020:

> at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.

Although 'restoration' is not explicitly mentioned in Target 11, the words 'conservation' and 'effectively managed' can be interpreted to include restoration activities if a protected area is in an unfavorable conservation status. The reference to 'well connected systems of protected areas' is also relevant to restoration. Creating or restoring functional connections

[47] Convention on Biological Diversity, Rio de Janeiro, 5 June 1992, in force 29 December 1993, 31 *International Legal Materials* (1992) 822, <http://www.biodiv.org>.
[48] See Telesetsky, Cliquet and Akhtar-Khavari, *Ecological Restoration in International, supra* note 42, at 116-140.
[49] 'Strategic Plan for Biodiversity 2011-2020', CBD Dec. X/2. (2010).

between protected areas and their surrounding regions is essential to strengthen ecological coherence and resilience for biodiversity conservation and sustainable development.[50]

Although it can be assumed that restoration of protected areas is included in Target 11, there is a lack of an explicit objective of restoration and of concrete guidelines on the extent to which restoration measures should be taken in protected areas. The effectiveness of protected area management depends on the objectives for which the protected area was designated. However, many protected areas are 'paper' protected areas and lack clear or sufficient conservation and restoration objectives.[51]

Two other Aichi Targets make explicit reference to restoration. Target 14 includes the obligation that 'ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded [...]'.

Target 15 contains the most explicit reference to restoration:

> By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

While the 15 per cent target places strong emphasis on climate change and carbon storage and provides an important incentive for forest restoration, it is not limited to this as it addresses ecosystem resilience in general and ecosystems other than forests can also play an important role in carbon storage.

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[50] *Explanatory Guide on Target 11 of the Strategic Plan for Biodiversity* (2012), 22-23; on the importance of connectivity, see: Jodi Hilty et al, *Guidelines for conserving connectivity through ecological networks and corridors* (IUCN, 2020), available at <https://portals.iucn.org/library/sites/library/files/documents/PAG-030-En.pdf>; Barbara Lausche, David Farrier, Jonathan Verschuuren, Antonio G. M. La Viña, Arie Trouwborst, Charles-Hubert Born and Lawrence Aug, *The Legal Aspects of Connectivity Conservation. A Concept Paper* (IUCN, 2013), available at <https://portals.iucn.org/library/efiles/documents/eplp-085-001.pdf> (both visited 11 November 2022)

[51] See, for instance, on the lack of management in many protected areas: Fiona Leverington, Katia Lemos Costa, Helena Pavese, Allan Lisle and Marc Hockings, 'A global analysis of protected area management effectiveness', 46 *Environmental Management* (2010) 685-698; Enrico Di Minin and Tuuli Toivonen, 'Global Protected Area Expansion: Creating More than Paper Parks', 65(7) *BioScience* (2015) 637–638; Kendall R. Jones, Oscar Venter, Richard A. Fuller, James R. Allan, Sean L. Maxwell, Pablo Jose Negret and James E. M. Watson, 'One-third of global protected land is under intense human pressure', 360(6390) *Science* (2018) 788-791; Samuel Hoffmann, 'Challenges and opportunities of area-based conservation in reaching biodiversity and sustainability goals' 31 *Biodivers Conserv* (2022) 325–352. For Europe, see the news release by the European Environment Agency, *Many of Europe's protected areas lack specific conservation measures and objectives* (6 October 2020), available at <https://www.eea.europa.eu/highlights/many-of-europes-protected-areas> (based on the Briefing by EEA, *Management effectiveness in the EU's Natura 2000 network of protected areas* (6 October 2020), available at <https://www.eea.europa.eu/publications/management-effectiveness-in-the-eus/management-effectiveness-in-the-eu> (both visited 30 October 2022).

As almost two thirds of the world's ecosystems can be considered degraded, we presume that Target 15 is not limited to protected areas. However, there are no guidelines on how much of the 15 per cent target should take place inside or outside protected areas. Although Target 15 sounded promising, there was a risk that, in order to meet the 15 per cent target, governments were tempted to take restoration action that is already legally required by international or national laws within protected areas, without significant added value. The lack of a definition of restoration in the Target 15 makes it difficult to measure the progress made in achieving this objective.[52]

After the adoption of the Aichi Targets in 2010, work on restoration has continued under the CBD, including through information papers, Secretariat briefings and COP decisions. Ecosystem restoration is also one of the cross-cutting themes of the Convention.[53] COP decision XI/16 of 2012 calls on Parties to work towards Aichi Targets 14 and 15. The fact that there was still ambiguity about the proper meaning of 'restoration' is reflected in this decision which asks the Secretariat to develop definitions of restoration and rehabilitation.[54] At COP 11, the governments of India, South Korea and South Africa, together with the secretariats of several international conventions, including the Climate Convention, and NGOs, agreed on the Hyderabad Call for a Concerted Effort on Ecosystem Restoration, which calls on governments, governmental and other organizations and individuals to make long-term, coordinated efforts to mobilize resources and facilitate the implementation of ecosystem restoration activities to conserve and enhance the health and well-being of humans and all other species.[55] Although this is a voluntary initiative, it demonstrates the increased interest in restoration at the international level.

At COP13 (December 2016), a short-term ecosystem restoration action plan was adopted, with the aim of assisting States Parties and organizations to scale up ecosystem restoration.[56] At the 2014 COP, the Conference of the Parties noted with concern that insufficient progress had been made on Targets 14 and 15. Priority should be given to preventing or mitigating ecosystem loss, promoting ecosystem restoration activities, especially large-scale restoration activities, while also noting the cumulative benefits of small-scale restoration activities that can collectively contribute to

[52] Dolly Jørgensen, 'Ecological Restoration in the Convention on Biological Diversity Targets', 22 *Biodiversity Ecosystem restoration Conservation* (2013) 2977-2982.
[53] <https://www.cbd.int/restoration/> (visited 10 July 2022).
[54] 'Ecosystem Restoration', CBD Dec. XI/16 (2012).
[55] Hyderabad Call for a Concerted Effort on Ecosystem Restoration, available at <https://www.cbd.int/doc/restoration/Hyderabad-call-restoration-en.pdf> (visited 10 July 2022).
[56] 'Ecosystem restoration: short-term action plan', CBD Dec. XIII/5. (2016).

biodiversity conservation, climate change adaptation and mitigation, and desertification reduction.[57]

The fifth Global Biodiversity Outlook (GBO) report of 2020[58], drawn up in preparation of COP 15, unfortunately shows that many of the Aichi Targets were not met. Aichi Target 11 on protected areas is probably largely achieved in terms of the quantitative objective. However, there is less progress when it comes to 'effectively' managed areas. Target 14 to restore ecosystems and ecosystem services was not met. Progress on Target 15 is limited, and the target was not met universally, even though ambitious restoration programmes are underway or planned in several regions.

Whether the results of COP 15 and their implementation will continue in the same line as previous COPs and further evolve restoration law, or instead become a revolution of international restoration law, remains to be seen. In section 3 we will further discuss the outcome of COP 15.

2.2.2 Restoration in other multilateral conventions

2.2.2.1 Ramsar Convention

The 1971 Ramsar Convention on Wetlands of International Importance[59] does not explicitly mention restoration. However, there are implicit restoration obligations, both for wetlands that are part of the Ramsar List of Wetlands of International Importance and for other wetlands:[60] Article 3 requires Parties to formulate and implement their planning so as to promote the conservation of wetlands in the List and, as far as possible, the wise use of wetlands in their territory.[61] Furthermore, Article 4(2) contains a compensation obligation for the loss of a listed wetland.

In subsequent strategic plans of the Convention, wetland restoration has been recognized as one of the strategic objectives. The Strategic Plan 2016-2024[62] states that to achieve the Convention's mission, it is essential that vital ecosystem functions and the ecosystem services they provide to people and nature are fully recognized, conserved, restored and used wisely. Several of its targets aim at restoration. Objective 5 states that the ecological character of Ramsar sites should be preserved or restored

57 'Ecosystem conservation and restoration', CBD Dec. XII/19 (2014).
58 Secretariat of the Convention on Biological Diversity, *Global Biodiversity Outlook 5* (2020), available at <https://www.cbd.int/gbo5>.
59 Convention on Wetlands of International Importance, Ramsar, 2 February 1971, in force 21 December 1975, 11 *International Legal Materials* (1972), 963, <http://www.ramsar.org>.
60 See also Royal C. Gardner, 'Rehabilitating Nature: A Comparative Review of Legal Mechanisms that Encourage Wetland Restoration Efforts', 52(3) *Catholic University Law Review* (2003) 573-620.
61 Article 3(1) of the Ramsar Convention.
62 'The Ramsar Strategic Plan 2016-2024', Ramsar Res. XII.2 (2015).

through effective planning and integrated management. Objective 12 states that restoration should be undertaken in degraded wetlands, with priority given to wetlands important for biodiversity conservation, disaster risk reduction, livelihoods and/or climate change mitigation and adaptation.

Several recommendations and resolutions refer to restoration.[63] Resolution VIII.16 of 2012 on principles and guidelines for wetland restoration is a very important resolution, as its annex provides comprehensive guidelines for wetland restoration.[64] The importance of wetland restoration for human well-being and for adaptation to climate change has been highlighted in several resolutions,[65] including in the last COP of November 2022.[66] Specifically with regard to wetlands included in the Ramsar List, several resolutions have been adopted referring to the restoration of Ramsar sites.[67] Restoration is also specifically mentioned in resolutions on specific ecosystems, such as peatlands and mangroves.[68]

2.2.2.2 World Heritage Convention

The text of the World Heritage Convention[69] itself does not mention restoration. However, several articles of the Convention refer to 'rehabilitation'. Article 5(d) obliges States Parties to take the appropriate legal, scientific, technical, administrative and financial measures necessary for the identification, protection, conservation, presentation and rehabilitation of World Heritage sites. The World Heritage Committee may receive requests from State Parties for international assistance concerning cultural or natural heritage situated within their territory and listed or potentially eligible for listing on the World Heritage List or the World Heritage List in Danger. The purpose of such requests may be to ensure the protection, conservation, presentation or rehabilitation of such property.[70] International assistance provided by the World Heritage

63 See, for instance, 'Wetland Restoration', Ramsar Recommendation 4.1. (1990); 'Restoration of wetlands', Recommendation 6.15 (1996); 'Restoration as an element of national planning for wetland conservation and wise use', Resolution VII.17 (1999); 'Principles and guidelines for wetland restoration', Resolution VIII.16 (2002).

64 'Principles and guidelines for wetland restoration', Resolution VIII.16 (2002).

65 'Climate change and wetlands: impacts, adaptation, and mitigation', Resolution VIII.3 (2002); 'The Changwon Declaration on human well-being and wetlands', Resolution X.3 (2008); 'Climate change and wetlands', Resolution X.24 (2008), para. 18.

66 'The protection, conservation, restoration, sustainable use and management of wetland ecosystems in addressing climate change', Resolution XIV.17 (2022).

67 'Assessing and reporting the status and trends of wetlands, and the implementation of Article 3.2 of the Convention', Resolution VIII.8 (2002); 'A Framework for processes of detecting, reporting and responding to change in wetland ecological character', Resolution X.16 (2008), flowchart.

68 See, for instance, 'Restoration of degraded peatlands to mitigate and adapt to climate change and enhance biodiversity and disaster risk reduction', UNFCCC Res. XIII.13 (2018); 'Promoting conservation, restoration and sustainable management of coastal blue-carbon ecosystems', UNFCCC Res. XIII.14 (2018).

69 Convention Concerning the Protection of the World Cultural and Natural Heritage, Paris, 16 November 1972, in force 17 December 1975, 11 *International Legal Materials* (1972) 1358, <http://whc.unesco.org>.

70 Article 13(1) of the World Heritage Convention.

Committee and the World Heritage Fund may assist in the rehabilitation of World Heritage properties.[71]

The operational guidelines[72] also pay attention to the rehabilitation of World Heritage, in the chapter on 'reactive monitoring'. Reactive monitoring is the reporting by the Secretariat, other sectors of UNESCO and the advisory bodies to the World Heritage Committee on the state of conservation of specific World Heritage sites that are under threat.[73] Based on information provided by State Parties or others, the Committee has several options. When the Committee considers that the property has seriously deteriorated, but not to the extent that its restoration is impossible, it may decide that the property be maintained on the List, provided that the state Party takes the necessary measures to restore the property within a reasonable period of time. The Committee may also decide that technical cooperation shall be provided under the World Heritage Fund for work related to the restoration of the World Heritage site.[74]

World Heritage sites may also be placed on the List of World Heritage in Danger. When considering World Heritage sites for inclusion on the List of World Heritage in Danger, the Committee shall, as far as possible, in consultation with the relevant Contracting Party, develop and adopt a 'Desired state of conservation for the removal of the property from the List of World Heritage in Danger' as well as a programme of corrective measures.[75] Although not specifically referring to restoration, the 'corrective' measures may include the restoration of sites. If the restoration measures prove successful, the site may be removed from the World Heritage in Danger List, based on a regular review of the conservation status of sites on the World Heritage in Danger List.[76]

The most far-reaching measure is the removal of World Heritage sites from the World Heritage List. This can happen for the following reasons: where the property has deteriorated to the extent that it has lost those characteristics which determined its inclusion in the World Heritage List; and where the intrinsic qualities of a World Heritage property were already threatened at the time of its nomination by human action and where the necessary corrective measures as outlined by the State Party at the time, have not been taken within the time proposed.[77] In other

[71] See Arts 22 and 23 of the World Heritage Convention.
[72] United Nations Educational, Scientific and Cultural Organization (UNESCO), *Operational Guidelines for the Implementation of the World Heritage Convention*, doc. WHC.21/01 (2021), available at <https://whc.unesco.org/document/190976>.
[73] *Ibid*. para. 169.
[74] *Ibid.* para. 176b.
[75] *Ibid.* para. 183.
[76] *Ibid.* paras 190-191.
[77] *Ibid.* para. 192.

words, failure to take restoration action may lead to the removal of a site from the World Heritage List.

2.2.2.3 Bonn Convention

The Convention on Migratory Species[78], which concerns the conservation of transboundary migratory species, includes an obligation for Parties that are Range States of a migratory species listed in Appendix I 'to conserve and, where feasible and appropriate, restore those habitats of the species which are of importance in removing the species from danger of extinction'.[79] No further guidelines or concrete targets are given in the text of the Convention. Annex II of the Convention contains a list of migratory species with an unfavorable conservation status which require international agreements for their conservation and management, and of migratory species with a conservation status which would significantly benefit from the international cooperation which might be brought about by an international agreement. Range States are required to conclude agreements for these species.[80] Several of these agreements include obligations to restore the habitats of migratory species.[81]

2.2.2.4 Desertification Convention

The Desertification Convention[82] does not contain an explicit reference to restoration, but rather to 'rehabilitation': combating desertification includes activities that form part of the integrated development of land in arid, semi-arid and dry sub-humid areas with a view to sustainable development, aimed at prevention and/or reduction of land degradation; rehabilitation of partly degraded land; and reclamation of desertified land.[83] The aim of the Convention is to combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa, through effective action at all levels, supported by international cooperation and partnership arrangements, with a view to contributing to the achievement of sustainable development in affected areas. This will involve long-term integrated strategies that focus on improved productivity of land, and the rehabilitation, conservation and sustainable management of land and

78 Convention on the Conservation of Migratory Species of Wild Animals, Bonn, 23 June 1979, in force 1 November 1983, 19 *International Legal Materials* (1980) 15, <http://www.cms.int>.
79 Article III(4)a of the Bonn Convention.
80 Article IV (1 and 3) of the Bonn Convention.
81 For examples, see Telesetsky, Cliquet and Akhtar-Khavari, Ecological Restoration in International, *supra* note 42, at 93-95.
82 United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and or Desertification, Particularly in Africa (UNCCD), Paris, 17 June 1994, in force 26 December 1996, 33 *International Legal Materials* (1994) 1309, <http://www.unccd.int>.
83 Article 1b of the UNCCD.

water resources, leading to improved living conditions, in particular at the community level.[84]

Subsequent work on the Convention has paid explicit attention to restoration. Restoration is one of the core themes on the Convention website.[85] In 2012, the Convention Secretariat prepared a policy paper proposing Zero Net Land Degradation[86] as a sustainable development goal for the 2012 UN Rio+20 Conference on Sustainable Development.[87] Land degradation neutrality was also included as one of the Sustainable Development Goals (SDGs). SGD 15.3 states 'By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world'.[88] At COP 12 of the Desertification Convention in 2015, the definition of land degradation neutrality was endorsed and the implementation of the Convention was linked to the SDGs, and SDG 15.3. in particular.[89] At COP 13, a Land Degradation Neutrality Fund (LDN Fund)[90] was launched,[91] funding projects to restore degraded lands. COP 15 in 2022 continued to pay attention to restoration, for example in supporting gender-responsive approaches to land restoration.[92] The Convention also supports the Great Green Wall Initiative, launched in 2007 by the African Union, which aims to restore 100 million hectares of degraded land in the Sahel region of Africa.[93]

2.2.2.5 Climate Change Convention

As already indicated, ecosystems play an important role in mitigating and adapting to climate change. This is also recognized in international climate law. The preservation and promotion of sinks was already included in the Climate Change Convention (UNFCCC),[94] and is also an obligation in the

84 Article 2 of the UNCCD.
85 UNCCD, 'Land management & restoration', available at <https://www.unccd.int/land-and-life/land-management-restoration/overview> (visited 10 July 2022).
86 UNCCD Secretariat, *Zero Net Land Degradation. A Sustainable Development Goal for Rio+20. To secure the contribution of our planet's land and soil to sustainable development, including food security and poverty eradication* (UNCCD, 2012), available at <https://www.droughtmanagement.info/literature/UNCCD_zero_net_land_degradation_2012.pdf> (visited 2 September 2022).
87 United Nations Conference on Sustainable Development (Rio+20), Rio de Janeiro, 20-22 June 2012; Rio +20 Outcome Document 'The Future We Want', UNGA Res. 66/288 of 11 September 2012.
88 'Transforming our world: The 2030 Agenda for Sustainable Development', UNGA Res. 70/1 of 25 September 2015.
89 'Integration of the Sustainable Development Goals and target into the implementation of the United Nations Convention to Combat Desertification and the Intergovernmental Working Group report on land degradation neutrality Decision', UNCCD Dec. 3/COP.12 (2015).
90 UNCCD, 'Land Degradation Neutrality Fund', available at <https://www.unccd.int/land-and-life/land-degradation-neutrality/impact-investment-fund-land-degradation-neutrality> (visited 10 July 2022).
91 UNCCD, 'LDN Fund officially launched'(14 September 2017), available at <https://www.unccd.int/news-stories/stories/ldn-fund-officially-launched> (visited 10 July 2022).
92 'Integration of Sustainable Development Goal 15 and related target 15.3 into the implementation of the Convention and land degradation neutrality', UNCCD Dec. 3/COP.15 (2022).
93 UNCCD, 'Great Green Wall Initiative', available at <https://www.unccd.int/actions/great-green-wall-initiative> (visited 10 July 2022).
94 United Nations Framework Convention on Climate Change, New York, 9 May 1992, in force 21 March 1994, 31 *International Legal Materials* (1992) 849, <http://unfccc.int>, Art. 4.

Paris Agreement.[95] Within the framework of the UNFCCC, an adaptation policy was developed, which received a formal legal basis in the Paris Agreement. It mentions the possibility of increasing the resilience of ecological systems.[96] At COP 26 in 2021 the Glasgow Leaders' Declaration on forests and land use called for the acceleration of restoration of forests and other terrestrial ecosystems.[97]

Within the framework of the Climate Change Convention, the REDD mechanism (Reducing Emissions from Deforestation and Forest Degradation in Developing Countries) was developed. REDD is a mechanism to provide developing countries with financial resources for climate mitigation activities and sustainable forest management. REDD initially focused on reducing emissions from deforestation and forest degradation, but has been broadened to include the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries (known as REDD+). REDD+ involves several activities, including increasing carbon stocks in forests, which may include forest restoration. REDD was first introduced at the COP in 2005 and reappeared at subsequent COPs.[98] The 2015 Paris Agreement gives a formal legal basis to COP decisions on REDD+.[99] However, there are some challenges to restoration under the REDD+ programme that need to be addressed.[100]

In addition to the Climate Change Convention, other international initiatives have been taken with regard to the restoration of forests, partly with a view to mitigating climate change. On the initiative of Germany and IUCN, the so-called Bonn Challenge was adopted in 2011.[101] The Bonn Challenge calls for the restoration of 150 million ha of deforested and degraded land by 2020. The Bonn Challenge is not a new global commitment, but rather a practical means of realizing other existing international commitments, including Aichi Target 15, the UNFCCC REDD+ target, and the Land Degradation Neutrality target. By the end of 2021, promises to restore 210.12 million hectares have already been made. In 2016, the Bonn Challenge Barometer was developed to monitor

95 Paris Agreement to the United Nations Framework Convention on Climate Change, Paris, 12 December 2015, in force 4 November 2016; 55 *International Legal Materials* (2016) 740, Art. 5.
96 Article 7(9) of the Paris Agreement.
97 Glasgow Leaders' Declaration on Forests and Land Use, 2 November 2021, available at <https://ukcop26.org/glasgow-leaders-declaration-on-forests-and-land-use/>.
98 For the decisions, see UNFCCC, 'Key decisions relevant for reducing emissions from deforestation and forest degradation in developing countries (REDD+). Decision booklet REDD+ (Includes the Warsaw Framework for REDD+)', available at <http://unfccc.int/files/land_use_and_climate_change/redd/application/pdf/compilation_redd_decision_booklet_v1.1.pdf> (visited 10 July 2022).
99 Article 5 of the Paris Agreement.
100 Sasha Alexander et al, 'Opportunities and Challenges for Ecological Restoration within REDD+', 19(6) *Restoration Ecology* (2011) 683-689.
101 See <https://www.bonnchallenge.org/> (visited 10 July 2022).

progress on forest restoration pledges made.[102] In 2014, an additional commitment was made in the New York Declaration on Forests,[103] to restore an additional 200 million hectares by 2030, on top of the 150 million hectares of the Bonn Challenge. The Declaration was signed by several governments, companies, civil society and indigenous organizations. Like the Bonn Challenge, it is a non-legally binding document. The 2019 progress report shows that great promises are being made, but that the realization of these promises is lagging behind.[104]

While the increased focus on forest restoration certainly has its merits, other ecosystems such as peatlands and wetlands can also play an important role in climate mitigation and adaptation. The role of these ecosystems is still too often overlooked. Moreover, there is a risk of undesired effects, for example by planting trees in ecosystems such as grasslands that are ecologically unsuitable for this, and as a result the functioning of these ecosystems and biodiversity will decline.[105] Scientists are therefore calling for the Bonn Challenge to be extended to other ecosystems and to landscape restoration.[106]

2.2.3 Restoration at the International Court of Justice

International case law on restoration is scarce. In 2018, the International Court of Justice explicitly mentioned restoration in a case of *Costa Rica v Nicaragua.*[107] In this case, the Court recognized that damage to the environment, and the consequent impairment or loss of the ability of the environment to provide goods and services, is compensable under international law. This compensation may include indemnification for the impairment or loss of environmental goods and services in the period prior to recovery and payment for the restoration of the damaged environment. Payment for restoration accounts for the fact that natural recovery may not always suffice to return an environment to the state in which it was before the damage occurred. In such instances, active restoration measures may be required in order to return the environment to its prior condition, in so far as that is possible.[108] In determining the

[102] See Radhika Dave et al, *Bonn Challenge Barometer of Progress: Spotlight Report* 2017 (IUCN, 2017), available at <https://portals.iucn.org/library/sites/library/files/documents/2017-060.pdf>; Radhika Dave et al, *Second Bonn Challenge progress report. Application of the Barometer in 2018* (IUCN, 2019), available at <https://portals.iucn.org/library/sites/library/files/documents/2019-018-En.pdf> (both visited 2 September 2022).
[103] See <https://forestdeclaration.org/> (visited 10 July 2022).
[104] *Protecting and Restoring Forests: A Story of Large Commitments yet Limited Progress* (NYDF Assessment Partners, 2019), available at <https://climatefocus.com/publications/nydf-2019-progress-report-protecting-and-restoring-forests/> (visited 2 September 2022).
[105] Joseph W. Veldman et al, 'Tyranny of Trees in Grassy Biomes', 347 *Science* (2015) 484-485.
[106] Vicky M. Temperton et al, 'Step back from the Forest and Step up to the Bonn Challenge: How a Broad Ecological Perspective Can Promote Successful Landscape Restoration', 27(4) *Restoration Ecology* (2019) 705-719.
[107] Certain Activities carried out by Nicaragua in the Border Area (Costa Rica v. Nicaragua), Compensation Judgment of 2 February 2018, *ICJ Reports* (2018) 15.
[108] *Ibid*. paras 42-43.

compensation for environmental damage, the Court assessed the value to be assigned to the restoration of the damaged environment as well as to the impairment or loss of environmental goods and services prior to recovery.[109] Nicaragua was concretely sentenced to US$ 120,000 for the degradation or loss of environmental goods and services, as well as US$ 2,708.39 for the restoration costs incurred by Costa Rica with respect to the internationally protected Ramsar site.[110] Although the final amount for restoration costs is very low, at least the Court recognizes the necessity of active restoration measures.

2.3 Restoration in regional law: the European Union

EU legislation currently lacks a comprehensive legal framework aimed at implementing the applicable restoration objectives,[111] as also indicated in the Biodiversity Strategy 2030.[112] Nevertheless, restoration obligations already exist in several EU directives. The core directives for the protection of nature are the 1979 Birds Directive (codified in 2009)[113] and the 1992 Habitats Directive[114] (the so-called Nature Directives). Other directives that include restoration obligations are the Water Framework Directive of 2000,[115] the Marine Strategy Directive of 2008[116] and the Environmental Liability Directive of 2004.[117] Below, we will only discuss the Nature Directives.[118] The aim of these Nature Directives is to maintain or restore habitats and species at a favorable conservation status through the establishment of an ecological network of protected areas (the Natura 2000 network) and strict species protection.

In both directives, there is an explicit reference to restoration. The preamble to the Birds Directive states that 'it is necessary for the preservation of all species of birds to protect, maintain or re-establish a sufficient diversity and area of habitats'.[119] According to Article 3(1), '(...)Member States shall take the requisite measures to preserve,

[109] *Ibid.* para. 53.
[110] *Ibid.* para. 157.
[111] Hendrik Schoukens, 'Legal Considerations in Operationalizing Eco-restoration in the European Union: A Sisyphean Task or Unlocking Existing Potential?' in Akhtar-Khavari and Richardson (eds), *Ecological restoration law, supra* note 42, 167-192.
[112] See *infra* under 3.2.
[113] Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds, *OJ L* 20, 26 January 2010.
[114] Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, *OJ L* 206, 22 July 1992.
[115] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy, *OJ L* 327, 22 December 2000.
[116] Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy, *OJ L* 164, 25 June 2008.
[117] Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage, *OJ L* 143, 30 April 2004.
[118] See more extensively, Cliquet, Decleer and Schoukens, 'Restoring Nature in the EU', *supra* note 43; Telesetsky, Cliquet and Akhtar-Khavari, *Ecological Restoration in International, supra* note 42, at chapter 7 (on ecological restoration in the EU) and chapter 10 (on ecological restoration and protected areas).
[119] Preamble, consideration 8.

maintain or re-establish a sufficient diversity and area of habitats for all the species of birds referred to in Article 1'. The measures for the protection of biotopes and habitats shall include '(c) re-establishment of destroyed biotopes; (d) creation of biotopes.'[120] The Habitats Directive also makes explicit reference to restoration. It defines 'conservation' as 'a series of measures required to maintain or restore the natural habitats and the populations of species of wild fauna and flora at a favourable status as defined in (e) and (i)'.[121] Other definitions also refer to restoration. A site of Community importance (SCI) is defined as a site which contributes significantly to the maintenance or restoration at a favorable conservation status of a natural habitat type in Annex I or a species in Annex II.[122] A 'special area of conservation' means 'a site of Community importance designated by the Member States through a statutory, administrative and/or contractual act where the necessary conservation measures are applied for the maintenance or restoration, at a favourable conservation status, of the natural habitats and/or the populations of the species for which the site is designated'.[123]

Neither directive contains a definition of restoration or specific restoration objectives. The general objective of the Habitats Directive, as set out in Article 2 is 'to contribute towards ensuring bio-diversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States to which the Treaty applies'.[124] Measures taken in accordance with this Directive shall be designed 'to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest'.[125]

According to the latest State of Nature report by the European Environment Agency, only 15 per cent of protected habitats, 27 per cent of protected species and 47 per cent of protected bird species are in a favorable conservation status. 81 per cent of habitats and 63 per cent of species are in an unfavorable state.[126] In view of the overall objective of the Habitats Directive and the unfavorable conservation status of many habitats and species, restoration measures to achieve favorable conservation status are therefore in many instances legally required.

Restoration obligations are found explicitly or implicitly in the articles on site protection and species protection. With regard to site protection, once a site is designated as an SCI, Member States have to set the priorities in

[120] Article 3(2), c-d of the Birds Directive.
[121] *Ibid.* Art. 1(a).
[122] *Ibid.* Art. 1(k).
[123] *Ibid.* Art. 1(1).
[124] *Ibid.* Art. 2 (1).
[125] *Ibid.* Art. 2(2).
[126] European Environment Agency, *State of nature in the EU, supra* note 8.

the light of the importance of the sites for the maintenance or restoration, at a favorable conservation status, of a natural habitat type in Annex I or a species in Annex II and for the coherence of Natura 2000.[127] Article 6(1) of the Habitats Directive obliges Member States to establish the necessary conservation measures. These include, if need be, 'appropriate management plans specifically designed for the sites or integrated into other development plans, and appropriate statutory, administrative or contractual measures which correspond to the ecological requirements of the natural habitat types in Annex I and the species in Annex II present on the sites'.[128] Since the definition of conservation includes restoration, the conservation obligations in Article 6(1) implicitly include restoration obligations.

Article 6(2) of the Habitats Directive includes a prohibition on deterioration and obliges Member States to 'take appropriate steps to avoid, in the special areas of conservation, the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated [...]'.[129] The obligation to prevent deterioration includes the obligation to take restoration action if necessary.[130] In a case against Ireland concerning deterioration of the Red Grouse habitat, the Court ruled in 2002 that the authorities must not only take measures to stabilize the problem of overgrazing but must also ensure that damaged habitats are given the chance to recover.[131] In a preliminary ruling in an Italian case (*Cascina Tre Pini*)[132], the Advocate General concluded, on the question of site declassification, that Article 6(2) requires Member States to protect sites of Community importance from deterioration. The failure of a Member State to comply with this protection obligation does not justify the withdrawal of the protected status. Rather, the Member States must take the necessary measures to restore the site.[133] In its judgment, the European Court of Justice states that the failure of a Member State to fulfil its obligation of protecting a particular site does not necessarily justify the declassification of that site. On the contrary, it is for that State to take the measures necessary to safeguard that site.[134] Although the Court does not expressly mention restoration measures, it does so implicitly by referring to the measures necessary for the protection of that site.

[127] Article 4(4) of the Habitats Directive.
[128] *Ibid.* Art. 6(1).
[129] *Commission of the European Communities v Ireland*, 13 June 2002, Case C-117/00, ECLI:EU:C:2002:366, para. 31.
[130] See also Hendrik Schoukens, 'Non-regression Clauses in Times of Ecological Restoration Law: Article 6(2) of the EU Habitats Directive as an Unusual Ally to Restore Natura 2000?', 13(1) *Utrecht Law Review* (2017) 124-154.
[131] *Commission of the European Communities v Ireland, supra* note 129.
[132] *Cascina Tre Pini s.s. v Ministero dell'Ambiente e della Tutela del Territorio e del Mare and Others*, 3 April 2014, Case C-301/12, ECLI:EU:C:2014:214.
[133] Conclusion Advocate-General J. Kokott, 20 June 2013, Case C-301/12, ECLI:EU:C:2013:420, para. 50.
[134] *Cascina Tre Pini s.s. v Ministero dell'Ambiente e della Tutela del Territorio e del Mare and Others, supra* note 132, at para. 32.

Restoration measures are also possible within the framework of Article 6(3-4) of the Habitats Directive, as part of compensatory measures in case of a plan or project with a negative impact on a site.[135] The case law on this will not be discussed here, as the focus of this contribution is on positive restoration measures taken by the authorities.

Restoration measures can also be part of connectivity measures: Article 3 and Article 10 of the Habitats Directive provide a legal basis for taking measures in the wider countryside. 'Member States shall endeavour to improve the ecological coherence of Natura 2000 by maintaining, and where appropriate developing, features of the landscape which are of major importance for wild fauna and flora, as referred to in Article 10'.[136] 'Development' also implies the implementation of restoration measures. Articles 3 and 10 are usually considered to be rather weak obligations.[137] Nevertheless, these articles are important as a legal basis for restoration measures, in combination with the general objective in the Directive of maintaining or restoring habitats and species at a favorable conservation status. Given that landscape fragmentation is a major reason for biodiversity loss in Europe, connectivity measures are often indispensable to achieve favorable conservation status.

Finally, restoration measures are also required under the species protection provisions. Articles 12 and 13 of the Habitats Directive require Member States to take the requisite measures to establish a system of strict protection for Annex IV species in their natural range, prohibiting a number of activities such as killing and disturbing animal species and collecting and destroying plants. The species protection measures are not limited to the areas of the Natura 2000 network but apply to the whole territory. Although these species protection provisions appear to be an example of classical prohibition rules, they nevertheless also provide a legal basis for restoration measures.

According to the Commission guidelines on the protection of species, the strict protection measures taken on the basis of Article 12 must contribute to achieving the main objective of the directive, which is to maintain or restore a favorable conservation status.[138] The Court has held

[135] Hendrik Schoukens, 'Proactive Habitat Restoration and the Avoidance of Adverse Effects on Protected Areas: Development Project Review in Europe After Orleans?' 20(2) *Journal of International Wildlife Law & Policy* (2017) 125-154; Hendrik Schoukens, 'Habitat Restoration Measures as Facilitators for Economic Development Within the Context of the EU Habitats Directive: Balancing No Net Loss with the Preventive Approach?', 29(1) *Journal of Environmental Law* (2017) 47–73; Hendrik Schoukens and An Cliquet, 'Biodiversity Offsetting and Restoration under the European Union Habitats Directive: Balancing between No Net Loss and Deathbed Conservation?' 21(4) *Ecology and Society* (2016) 10.

[136] Article 3(3) of the Habitats Directive.

[137] Jonathan Verschuuren, 'Connectivity: Is Natura 2000 Only an Ecological Network on Paper?' in Born et al (eds), *The Habitats Directive in, supra* note 7, 285-302.

[138] European Commission, *Guidance document on the strict protection of animal species of Community interest under the Habitats Directive*, C(2021) 7301 final (2021) 13.

on various cases that the system of strict protection requires the adoption of consistent and coordinated measures of a preventive nature.[139] According to the Commission guidelines, Article 12(1) does not, by itself or in conjunction with Article 2, oblige Member States to take proactive habitat management measures; it just requires measures to effectively prohibit all activities listed in Article 12(1). Active management measures in a specific Natura 2000 site may, however, be required if the species concerned is also listed in Annex II of the Directive in line with Article 6(1).[140] In the so-called European Hamster case[141], the Advocate General stated that prohibitions are defensive in nature and thus primarily seek to prevent the deterioration of an existing situation. However, prohibitions can also contribute to the restoration or improvement of habitats in so far as they allow positive natural developments to take place.[142]

3 Revolution of restoration law

From the overview given in section 2, it is clear that restoration is a well-known and regularly used strategy within international law. We notice a positive evolution from more general and implicit references to restoration, to more concrete and explicit documents on restoration, usually in the form of resolutions or COP decisions. Explicit attention for restoration is seen in several multilateral biodiversity conventions, as well as in the climate change regime. The scope is thus broadened and restoration is seen as an important solution for biodiversity conservation and climate change mitigation and adaptation. Also at the regional level, it is clear from the above overview that EU biodiversity law includes various restoration obligations.

However, most of these instruments lack a definition of restoration. As it is not clear in the legal framework what can be understood by restoration, there is little guidance for states and other actors what can be considered as restoration activities, and what outcome can be expected from their restoration obligations. Most legal instruments lack clear and binding quantitative targets, or quality requirements for restoration measures. It is unclear where restoration measures should be taken, how much of the land or sea should be restored or how restoration should be done.

[139] See, for instance, *Commission of the European Communities v Hellenic Republic*, 16 March 2006, Case C-518/04, ECLI:EU:C:2006:183, para. 16.
[140] European Commission, *Guidance document* on, *supra* note 138, at 15.
[141] *European Commission v French Republic*, 9 June 2011, Case C-383/09, ECLI:EU:C:2011:369; see Hendrik Schoukens, 'Saving the Common Hamster from Extinction Through the EU Habitats Directive: a Mandatory Recovery Effort, a Remediation of Past Non-compliance or an Exercise in Futility?', 1 *Nordic Environmental Law Journal* (2017) 59–97.
[142] Conclusion Advocate-General J. Kokott, *supra* note 133, at para. 45.

As there are usually no detailed obligations, there are also no targeted monitoring and reporting obligations.

There are some quantitative targets, such as the Aichi Targets and the targets from the EU Biodiversity Strategy. These are non-binding, and none of these international and regional targets on restoration have been met. Also, several initiatives are taken for restoration of forests, but no equal attention is paid to equally important ecosystems such as wetlands and peatlands. In light of the biodiversity and climate crisis, and the shortcomings in the current legal framework, there is need for a serious upscaling of restoration obligations: a restoration 'revolution'.

3.1 Revolution of restoration law at the international level

A call for upscaling restoration has been brought about by the declaration in 2019 of the UN Decade on Ecosystem Restoration (2021-2030) in a Resolution of the United Nations General Assembly.[143] The UN Decade aims to support and scale up efforts to prevent, stop and reverse global ecosystem degradation and to raise awareness of the importance of successful ecosystem restoration. The Decade is led by UNEP and FAO. The Decade is supported by a Strategy, which lists both barriers to restoration and transition paths.[144] In support of the Decade, principles of ecosystem restoration have been elaborated,[145] based on the principles worked out by the SER.[146] The UN Decade can give an enormous impulse to the upscaling of ecological restoration, as it provides a global forum for attention to restoration. At the institutional level, the two leading organizations (FAO and UNEP) are cooperating with and are supported by several other international organizations, including UNESCO, United Nations Development Programme (UNDP) and the World Health Organisation (WHO). The UN Decade offers a forum for initiatives, events and publications on restoration. The Decade has also inspired many scientists to publish on restoration. For instance, two major organizations, the British Ecological Society and SER, have joined forces for a cross-journal and cross-society joint Special Feature on Ecological Restoration in several journals, seeking papers on research that addresses how best to capitalize on the Decade of Ecosystem Restoration.[147]

Nevertheless, a strengthening of the international legal framework is necessary to make the required acceleration of ecological restoration

[143] 'United Nations Decade on Ecosystem Restoration (2021–2030)', UNGA Res. 73/284 of 6 March 2019.
[144] Available at <https://www.decadeonrestoration.org/strategy> (visited 10 July 2022).
[145] FAO, IUCN CEM & SER, *Principles for ecosystem, supra* note 24.
[146] *SER Principles and Standards, supra* note 15.
[147] See <https://onlinelibrary.wiley.com/doi/toc/10.1111/(ISSN)1526-100X.decade_of_ecosystem_restoration> (visited 30 October 2022).

possible. The Kunming-Montreal Global Biodiversity Framework under the Biodiversity Convention offers some hope in this regard. This framework has been approved at COP 15 in December 2022 in Montreal.[148] The Global Biodiversity Framework should provide a response to the failed Aichi Targets.

Already in the run-up to COP 15, world leaders committed themselves in the Leaders Pledge for Nature,[149] to the development and full implementation of an ambitious and transformational Post-2020 Global Biodiversity Framework for adoption at CBD COP 15, including commitments 'to significantly increase the protection of the planet's land and oceans through representative, well connected and effectively managed systems of Protected Areas and Other Effective Area Based Conservation Measures, and to restore a significant share of degraded ecosystems'. The Pledge was endorsed by leaders from 94 states, as well as the EU. This political attention for biodiversity protection and restoration and the acknowledgment of the need to speed up actions for reversing biodiversity loss was a hopeful signal for a successful outcome at COP 15. However, political promises are easy make and as we saw in section 2, other promises, such as the ones on forest restoration, were not reached in practice.

The Kunming-Montreal Global Biodiversity Framework shows a renewed attention for restoration. The overall 2050 vision in the Framework states: 'by 2050, biodiversity is valued, conserved, *restored* and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people.'[150] The mission of the Framework for the period up to 2030, towards the 2050 vision is: 'To take urgent action to halt and reverse biodiversity loss *to put nature on a path to recovery* for the benefit of people and planet by conserving and sustainably using biodiversity and by ensuring the fair and equitable sharing of benefits from the use of genetic resources, while providing the necessary means of implementation.'[151] As it is clear from the definition of ecological restoration, restoration is the process that assists to the recovery of damaged ecosystems.

The 2050 global goals include relevant elements that can contribute to restoration. The first goal is that the 'integrity, connectivity and resilience of all ecosystems are maintained, *enhanced, or restored*, substantially increasing the area of natural ecosystems by 2050'.[152] Another 2050 global

[148] 'Kunming-Montreal Global Biodiversity Framework', Annex to CBD Dec. XV/4. (2022).
[149] Leaders' Pledge for Nature, 28 September 2020, opened for signature in September 2020, available at <https://www.leaderspledgefornature.org/>; For the text of the Pledge, see <https://www.leaderspledgefornature.org/wp-content/uploads/2021/06/Leaders_Pledge_for_Nature_27.09.20-ENGLISH.pdf> (both visited 30 October 2022).
[150] 'Kunming-Montreal Global Biodiversity Framework', Annex to CBD Dec. XV/4. (2022) at 10 (emphasis added).
[151] *Ibid.* at 11 (emphasis added).
[152] *Ibid*. at 12 Goal A (emphasis added).

goal is on ecosystem services: 'Biodiversity is sustainably used and managed and nature's contributions to people, including ecosystem functions and services, are valued, maintained and enhanced, with those currently in decline being restored, supporting the achievement of sustainable development for the benefit of present and future generations by 2050'.[153]

The Global Biodiversity Framework also includes 23 action-oriented targets for measures to be taken up to 2030. These global targets include a specific quantitative target for restoration: 'Target 2. Ensure that by 2030 at least 30 per cent of areas of degraded terrestrial, inland water, and marine and coastal ecosystems *are under effective restoration*, in order to enhance biodiversity and ecosystem functions and services, ecological integrity and connectivity.'[154] Compared to the Aichi Targets, there is a rise from 15 to 30 per cent. The formulation differs from 'restoration of at least 15 per cent of degraded ecosystems' to 'ecosystems are under effective restoration'. We presume that this means that restoration measures are in place, but not necessarily that ecosystems are fully recovered.

Other 2030 targets also explicitly refer to restoration: Target 4 is on recovery of species and restoring genetic diversity. Target 11 is to 'restore, maintain and enhance nature's contributions to people, including ecosystem functions and services'. Several other targets are relevant for restoration as well: Target 3 wants to increase protected areas or other effective area-based conservation measures to 30% for both terrestrial and marine areas. These areas should be 'effectively conserved and managed', which will necessitate restoration measures in many protected areas, in light of their unfavourable conservation status. Target 8 aims to minimize the impact of climate change on biodiversity and 'increase its resilience', including through 'nature-based solution and/or ecosystem-based approaches'. Target 12 mentions to significantly *increase* the area and quality, and connectivity of, access to, and benefits from green and blue spaces in urban and densely populated areas sustainably.[155]

The most important difference with the Aichi targets is that the Global Biodiversity Framework also provides goals and targets for implementation, including providing for adequate financial resources.[156] It furthermore includes measures that should support implementation of the framework, including the responsibility for Parties to the Convention to implement mechanisms for planning, monitoring, reporting and review[157], as well as

[153] *Ibid*. at 12 Goal B.
[154] *Ibid*. at 13 (emphasis added).
[155] *Ibid.* at 13.
[156] *Ibid.* Goal D, targets 14-23.
[157] *Ibid.* at sections I-J.

measures for communication, education and awareness.[158] The Global Biodiversity Framework is supported by several other decisions, such as on the monitoring framework of the Global Biodiversity Framework,[159] on planning, monitoring, reporting and review,[160] on resource mobilization[161] and on capacity-building.[162]

The targets of the Global Biodiversity Framework are global targets, and each Party to the Convention has to contribute to attaining the goals and targets in accordance with national circumstances, priorities and capabilities.[163] This entails the risk that states will only do the minimum and that the sum of the actions do not add up to reach the overall goals. Also, the Framework is based on a COP decision, which means that more concrete and binding targets for ecological restoration at the international level are again lacking, so it is uncertain if this will actually lead to a revolution in restoration law at the international level (see *infra* in conclusion). When it comes to a revolution in restoration law, the real revolution might be the EU proposal for a nature restoration law, which will be discussed in more detail in the next session.

3.2 Revolution of restoration law at EU level

The EU Biodiversity Strategy to 2020, adopted by the European Commission in 2011,[164] included a concrete restoration target of restoring 15 per cent of degraded ecosystems by 2020,[165] in line with Aichi Target 15. A 2015 mid-term review[166] showed that no real progress had been made towards this objective, and several issues remained unclear regarding the restoration target.

The new EU Biodiversity Strategy to 2030, 'Bringing nature back into our lives',[167] was adopted by the European Commission in 2020. The Biodiversity Strategy 2030 is part of the EU Green Deal, an ambitious

[158] *Ibid*. at section K.
[159] 'Monitoring framework for the Kunming-Montreal Global Biodiversity Framework', CBD Dec. XV/5 (2022).
[160] 'Mechanisms for planning, monitoring, reporting and review', CBD Dec. XV/6 (2022).
[161] 'Resource mobilization', CBD Dec. XV/7 (2022).
[162] 'Capacity-building and development and technical and scientific cooperation', CBD Dec. XV/8 (2022).
[163] 'Kunming-Montreal Global Biodiversity Framework', Annex to CBD Dec. XV/4. (2022) at 7 (d).
[164] European Commission, *Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions, Our life insurance, our natural capital: an EU biodiversity strategy to 2020*, COM(2011) 244 final (2011).
[165] Target 2: 'By 2020, ecosystems and their services are maintained and enhanced by establishing green infrastructure and restoring at least 15 % of degraded ecosystems'.
[166] European Commission, *Report from the Commission to the European Parliament and the Council. The Mid-term review of the EU Biodiversity Strategy to 2020*, COM(2015) 478 final (2015).
[167] European Commission, *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. EU Biodiversity Strategy for 2030. Bringing nature back into our lives,* COM(2020) 380 final (2020); endorsed by the Council, 23 October 2020; welcomed by the European Parliament in a Resolution of 9 June 2021, <https://www.europarl.europa.eu/doceo/document/TA-9-2021-0277_EN.html> (visited 10 July 2022).

plan to make Europe a climate-neutral continent by 2050.[168] Like its predecessor, the Biodiversity Strategy 2030 is a non-binding document. The Strategy 2030 consists of four pillars: 1. Protect nature; 2. Restore nature; 3. Enabling transformative change; and 4. EU action to support biodiversity globally.

The provisions of the first pillar on nature protection are also relevant for ecological restoration. These provide, among other things, that at least 30 per cent of the land and 30 per cent of the sea should be protected, of which one third should be strictly protected. Clear conservation objectives and measures must be established for all protected areas. As many of the (European) protected habitats are in an unfavorable conservation status, restoration measures will be necessary in many of the protected areas.

The Biodiversity Strategy noted that although there are already restoration obligations under EU law, there are significant implementation and regulatory gaps that hinder progress.[169] Restoration is a cornerstone of the strategy, including the commitment to adopt legally binding targets on restoration within the EU by 2021. The Commission proposed a Nature Restoration Law on 22 June 2022.[170] Although this is not yet a final law, as the proposal needs to be approved by the European Parliament and Council, it is worth examining the restoration law proposal, as it is – to our knowledge – the most detailed and comprehensive international legal document on restoration, which is not only relevant in EU context, but also can serve as inspiration outside the EU.

A first striking element is the choice of legal instrument. The EU has two types of binding legal instruments: regulations and directives.[171] Whereas most EU environmental rules are established through directives, this proposal takes the form of a regulation, which means that the law, once accepted, is directly applicable in Member States and doesn't need to be transformed into national laws first. Restoration measures thus can start sooner on the ground. According to the explanatory memorandum of the proposal the actions to be taken by the Member States are described

[168] European *Commission, Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, The European Green Deal*, COM(2019) 640 final (2019).
[169] Biodiversity Strategy 2030, *supra* note 167, at 6.
[170] European Commission, Proposal for a Regulation of the European Parliament and of the Council on nature restoration, COM(2022) 304 final, 2022/0195 (COD), Brussels, 22 June 2022, available at <https://environment.ec.europa.eu/publications/nature-restoration-law_en> (visited 10 July 2022) (further referred to as the EU restoration law proposal).
[171] A regulation is a binding legislative act. It must be applied in its entirety across the EU. A directive is a legislative act that sets out a goal that all EU countries must achieve. However, it is up to the individual countries to devise their own laws on how to reach these goals. See EU, 'Types of legislation', available at <https://european-union.europa.eu/institutions-law-budget/law/types-legislation_en> (visited 10 July 2022).

in more detail and precision, which leads to better consistency and coherence across the EU.[172]

The regulation will contribute to the recovery of biodiverse and resilient nature across the EU; achieving the objectives of climate change mitigation and adaptation; and meeting the EU's international commitments.[173]

The restoration law proposal includes a definition of 'restoration', as well as other terms such as 'good condition', 'favourable reference area', 'sufficient quality of habitat', and 'sufficient quantity of habitat'.[174] 'Restoration' is defined as:

> the process of actively or passively assisting the recovery of an ecosystem towards or to good condition, of a habitat type to the highest level of condition attainable and to its favourable reference area, of a habitat of a species to a sufficient quality and quantity, or of species populations to satisfactory levels, as a means of conserving or enhancing biodiversity and ecosystem resilience.[175]

The definition makes thus a distinction between restoration of an ecosystem, a habitat, a habitat of a species, and species populations. It is the first piece of international law wherein such a detailed definition of restoration and other terms are given. This is crucial, as it will help determine whether the actions of Member States can actually qualify as restoration (as opposed to some 'mere' greening).

The proposal includes an overall restoration target and ecosystem specific targets. The overall target requires Member States to put in place, without delay, effective and area-based restoration measures which together shall cover, by 2030, at least 20 per cent of the Union's land and sea areas and, by 2050, all ecosystems in need of restoration. Although this overall target is important and is written in strong language ('shall', 'without delay'), it is unclear how much Member States will have to contribute to this target. The 20 per cent is a target for the whole EU. Does this mean that each Member State will have to restore 20 per cent of its territory and sea? As is the case for the targets under the Global Biodiversity Framework, the danger exists that (some) Member States will expect the other States to take the restoration measures in their territory. An explicit effort sharing mechanism, such as we know for emission reductions, could maybe be helpful.

[172] Explanatory memorandum, EU restoration law proposal, at 8.
[173] Article 1(1) of the EU restoration law proposal.
[174] *Ibid.* Art. 3.
[175] *Ibid.* Art. 3(3).

Chapter 2 (Articles 2-10) of the proposal, include the ecosystem specific targets. Restoration of terrestrial, coastal and freshwater ecosystems include the obligation that restoration measures shall be put in place for Annex I habitats that are not in good condition. The proposal includes concrete quantitative targets and deadlines: restoration measures are required on 30 per cent of the area of habitats not in good condition by 2030; 60 per cent by 2040; 90 per cent by 2050.[176] Also, restoration measures are required for the re-establishment of habitats to reach a favorable reference area of each habitat type (30 per cent by 2030, 60 per cent by 2040, 100 per cent by 2050).[177] Restoration measures are also required for habitats of species listed in the Habitats and Bird Directives. Areas subject to restoration measures must show a continuous improvement until good condition is reached. Areas that reached good condition, and areas that include Annex I habitats cannot deteriorate.[178] Very similar restoration obligations are proposed for marine ecosystems.[179]

Furthermore, the proposal contains detailed obligations for the restoration of urban ecosystems (including a minimum of 10 per cent urban tree canopy cover in all cities and in towns and suburbs by 2050); the restoration of the natural connectivity of rivers and natural functions of the related floodplains (including the restoration of at least 25,000 km of rivers into free-flowing rivers by 2030); the restoration of pollinator populations; the restoration of agricultural ecosystems (including concrete targets for rewetting of peatlands); and restoration of forest ecosystems.

The implementation of the targets must be done by Member States through the establishment of national restoration plans. The proposal contains concrete obligations on the preparation of the national plans, as well as their contents. The national plans need to be assessed by the European Commission and should be revised at least every 10 years.[180] The proposal also includes detailed provisions on monitoring and reporting.[181]

[176] *Ibid.* Art. 4(1).
[177] Ibid. Art. 4(2). A 'favourable reference area' is defined as

> the total area of a habitat type in a given biogeographical region or marine region at national level that is considered the minimum necessary to ensure the long-term viability of the habitat type and its species, and all its significant ecological variations in its natural range, and which is composed of the area of the habitat type and, if that area is not sufficient, the area necessary for the re-establishment of the habitat type.

[178] *Ibid.* Art. 3(5).
Ibid. Art. 4 (6-7).
[179] *Ibid.* Art. 5.
[180] *Ibid.* Chapter III, Arts 11-16.
[181] *Ibid.* Chapter IV, Arts 17-18.

The law proposal is ambitious and promising and has already led to positive reactions.[182] The proposal is indeed 'revolutionary' in the sense that it moves beyond merely stating that nature should be restored, as we see in many international instruments. The law gives a number of definitions, contains binding deadlines for taking restoration measures and binding quantitative and qualitative targets for restoration. It is additional to existing legislation, as it also provides for restoration obligations outside Natura 2000 areas. The implementation obligations for Member States to work out detailed national restoration plans are a huge step forward, as are the detailed monitoring and reporting obligations.

But before having a restoration revolution, the law needs approval. It remains to be seen if the political process will weaken (or strengthen) the proposal. If an ambitious law would get approved, the implementation at Member State level will still face legal bottlenecks, such as conflicting property rights, spatial planning instruments and other conflicting sectoral legislation.[183]

4 Conclusion and future outlook

Many MEAs contain implicit or explicit obligations for restoration. We have included in this paper examples of these provisions in the framework of the CBD, the Ramsar Convention, the World Heritage Convention, the Bonn Convention, the Desertification Convention and the international climate regime. We have noticed an increase in attention for restoration in recent years, both as a means for biodiversity conservation and climate mitigation and adaptation. Although there are many references to restoration in hard and soft international legal documents, these are mostly not very detailed and give little guidance on where and how to restore. It is very unclear whether restoration activities undertaken by states or other actors can actually be described as 'ecological' restoration, aimed at attaining the highest level of recovery possible. Even when quantitative targets have been agreed upon, we see a lack of implementation and restoration targets, such as the Aichi Targets, have not been met. The current international regime has been insufficient to stop the biodiversity crisis and has not been able to sufficiently help contribute to mitigating

[182] European Environmental Bureau (EEB), 'EU nature restoration law: Huge opportunity to fight biodiversity and climate crises – NGO reaction' (22 June 2022), available at <https://eeb.org/eu-nature-restoration-law-huge-opportunity-to-fight-biodiversity-and-climate-crises-ngo-reaction/>; IEEP et al, *Policy brief. Restoring EU ecosystems: Recommendations for the successful implementation of the proposed EU Nature Restoration Law* (30 June 2022), available at <https://ieep.eu/uploads/articles/attachments/dd54c589-568a-4e6f-adb1-e1786a60b846/Nature%20Restoration%20-%20Think2030%20policy%20brief.pdf?v=63830355334> (both visited 5 September 2022).

[183] See Cortina-Segarra et al, 'Barriers to Ecological Restoration', *supra* note 34.

and adapting to the climate crisis. Substantial increase of restoration efforts is necessary to stay within a 'safe operating space' for humankind.

Some recent initiatives at the global level could be promising to accelerate the commitments and implementation of restoration. The UN Decade on Ecosystem Restoration is certainly an important step forward on awareness raising and international cooperation. The Kunming-Montreal Global Biodiversity Framework under the CBD proposes higher restoration targets than the previous Aichi Targets and points to the necessity of monitoring and reporting mechanisms for implementation. It remains to be seen if this non-binding framework will be able to actually upscale restoration actions on the ground, and whether the restoration activities are done in the right place and according to scientific quality standards. More binding quantitative and qualitative provisions at the global level are as important for biodiversity, as they are for climate change. Scientists call for a 'Paris' deal for nature.[184] The most ideal option is that this would take the form of a binding protocol under the Biodiversity Convention,[185] including binding targets and a binding timeframe for restoration, as well as guidance on where, how and how much to restore.

A new legal principle on ecological restoration could also help to upscale the ecological quality of restoration activities.[186] A legal principle of ecological restoration would require States to do more than just clean up and rehabilitate degraded land. The introduction of a legal principle on ecological restoration would oblige States to carry out restoration aimed at achieving the highest possible level of recovery. Recovery is defined as the process by which an ecosystem regains its composition, structure and function relative to the levels identified for the reference ecosystem.[187] This would prevent, for instance, reforestation programmes with monocultures or the greening of a certain number of hectares without aiming at the highest possible level of recovery. A legal principle on ecological restoration should be the basis for setting ambitious restoration targets in legislation and policy (how much and what kind of restoration) and should also guide the development of codes of good practice on restoration (how restoration activities should be carried out). A legal principle on ecological restoration could also be an important complement to the prevention principle.[188] While the prevention principle is intended to prevent damage to the environment, a principle of ecological restoration would immediately come into play if the best

[184] Eric Dinerstein et al, 'A Global Deal for Nature: Guiding Principles, Milestones, and Targets', 5(4) *Science Advances* (2019) eaaw28.
[185] An Cliquet et al, 'Upscaling Ecological Restoration: Towards a New Legal Principle and Protocol on Ecological Restoration in International Law', 30(4) *Restoration Ecology* (2022) e13560.
[186] *Ibid.*
[187] *SER Principles and Standards, supra* note 15, at 83.
[188] Bastmeijer, 'Ecological Restoration', *supra* note 27.

efforts to prevent damage fail to protect the environment. Ideally, such a principle would be explicitly mentioned in international legal documents, such as a new protocol on restoration under the CBD. As it takes time to develop a new legal principle, legal scholars could start advocating for such a principle, and it could be picked up at the national level and in international soft law. Even without explicitly naming a 'principle' on ecological restoration, elements of the reasoning behind the necessity for such as principle can be included in law. Although the proposal for the EU restoration law is not including an explicit reference to this principle, many of the elements in the law proposal actually implement this principle in many of its provisions.

At the EU level, we see more detailed provisions on restoration in existing legislation, especially for European protected areas. But even in EU law, there are some shortcomings, including the lack of concrete deadlines to reach a favorable conservation status for protected species and habitats, and the lack of specific restoration obligations outside protected areas.[189] The EU restoration law proposal aims to address these shortcomings. If the proposal will survive the political process, and gets approved, it can be a groundbreaking change for restoration law within the EU,[190] but also serve as an example for restoration law at the global level and in other regions. It can be the revolution in restoration law, we desperately need to face the biodiversity and climate crisis.

[189] See also explanatory memorandum, EU restoration law proposal, at 8.
[190] UNEP, 'European Union proposes law to bring back nature' (29 June 2022), available at <https://www.unep.org/news-and-stories/story/european-union-proposes-law-bring-back-nature>; IUCN, 'EU Nature Restoration Law: A boost for biodiversity and climate' (22 June 2022), available at <https://www.iucn.org/news/europe/202206/eu-nature-restoration-law-a-boost-biodiversity-and-climate> (both visited 10 July 2022).

Strengthening Synergies for Transformative Change: Implementing the Kunming-Montreal Global Biodiversity Framework through Existing Biodiversity Agreements

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1 Introduction

A new framework has been adopted – the 'Kunming- Montreal Global Biodiversity Framework (GBF)'[9] – to halt and reverse biodiversity loss and achieve the sustainable development goals (SDGs).[10] The vision of 'living in harmony with nature' where 'by 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people'[11] is shared by all Parties to the Convention on Biological Diversity (CBD).[12] To support the GBF negotiation process, an Open-Ended Working Group was established in 2018,[13] which worked on a draft proposal over five meetings and the intersessional period. Following the CBD's Strategic Plan for Biodiversity 2011-2020 and its Aichi targets,[14] Parties adopted the GBF in December 2022, at the 15th Conference of the Parties (COP15) of the CBD in Montreal, Canada, under the presidency of China.

The GBF covers goals to a) enhance the integrity of all ecosystems; b) value nature's contributions to people; c) fairly and equitably share benefits from the utilization of genetic resources; and d) close the gap between available financial and other means of implementation. To do so, it sets out specific action targets to be met by 2030 in three themes: reducing threats to biodiversity; meeting people's needs through sustainable use and benefit-sharing; and tools and solutions for implementation and mainstreaming.

The GBF bases its methodology around *the theory of change*, referring to the need to strive for a holistic paradigm shift in global policy action, identifying the economic, social and financial factors and bringing about transformative change for the conservation and sustainable use of biological diversity. This approach is considerably welcome as it recognizes that our current system is not suitable to achieve the conservation goals. The 5th Global Biodiversity Outlook (GBO-5) documented the failure to achieve the 2011-2020 global biodiversity conservation targets and revealed the grim reality that none of the set goals and subsequent targets were met.[15] Despite increasing political efforts, biodiversity has been

9 'Kunming-Montreal Global Biodiversity Framework', CBD Dec. 15/4 (2022), Annex.
10 'Transforming our world: The 2030 Agenda for Sustainable Development', UNGA Res. 70/1 of 25 September 2015.
11 GBF, para. 28.
12 Convention on Biological Diversity, Rio de Janeiro, 5 June 1992, in force 29 December 1993, 31 *International Legal Materials* (1992) 822, <http://www.biodiv.org>.
13 'Comprehensive and participatory process for the preparation of the post-2020 global biodiversity framework', CBD Dec. 14/34 (2018).
14 'The Strategic Plan for Biodiversity 2011–2020 and the Aichi Biodiversity Targets', CBD Dec. X/2 (2011).
15 CBD Secretariat, Global Biodiversity Outlook 5 (2020), available at <https://www.cbd.int/gbo5>.

decreasing between 2011 and 2020, which calls for a different approach.[16] We therefore appraise the GBF's theory of change for acknowledging that operating under the status quo or business-as-usual with our current economic, social and financial models will not be sufficient. Since the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Global Assessment Report,[17] it is undisputable that tackling the biodiversity crisis will require addressing direct and indirect drivers of biodiversity loss.[18] This, in itself, is a significant matter to be considered not only for achieving conservation, sustainable use and benefit-sharing goals and targets at the national level but also for the effective implementation of the GBF as a whole.

While the Aichi targets have not been achieved, there are lessons learned to set nature on the path to recovery with the new framework. The GBF has the potential to reverse biodiversity loss through a) a higher target of area protection and a link to climate change mitigation and adaptation;[19] b) clarity in wording to avoid ambiguity, complexity and redundancy and to increase quantifiability of the targets;[20] and c) an obligation of reporting of progress,[21] given it is implemented with the necessary political will and capacity of governments to enact the transformative actions at the national level. While reality is that our current economic, social and financial systems have led to dramatic biodiversity loss and decline, immediate policy-actions can also reverse this trend.

There are various international efforts for biodiversity conservation and sustainable use, which will play a key role in implementing the GBF targets. For effective implementation of the GBF, it is crucial to consider synergies with existing multilateral environmental agreements (MEAs) that aim at aspects of conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.[22] This paper focuses on synergies between the GBF and biodiversity-related MEAs which work towards the targets of the former and contribute to their successful implementation.

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16 International Union for Conservation of Nature (IUCN), 'Post-2020 Global Biodiversity Framework', IUCN Issues Brief (2022), available at <https://www.iucn.org/sites/default/files/2022-11/iucn-issues-brief_post2020_final.pdf> (visited 14 February 2023).

17 IPBES, Global Assessment Report on Biodiversity and Ecosystem Services (2022), available at <https://ipbes.net/global-assessment> (visited 14 February 2023).

18 Sandra Díaz et al, 'Pervasive human-driven decline of life on Earth points to the need for transformative change', 366(6471) Science (2019) eaax3100; Sandra Díaz et al, 'Set ambitious goals for biodiversity and sustainability', 370(6515) *Science* (2020) 411-413.

19 Callum M. Roberts, Bethan C. O'Leary and Julie P. Hawkins, 'Climate change mitigation and nature conservation both require higher protected area targets', 375(1794) *Philosophical Transactions of the Royal Society B: Biological Sciences* (2020) 20190121.

20 Stuart H. M. Butchart, Moreno Di Marco and James E. M. Watson, 'Formulating Smart Commitments on Biodiversity: Lessons from the Aichi Targets' 9(6) *Conservation Letters* (2016) 457-468.

21 'The United Nations must get its new biodiversity targets right. Editorial', 578(7795) *Nature* (2020) 337-338.

22 CBD, Art. 1.

We limit the analysis to 'biodiversity-related conventions (BRCs)',[23] defined under the CBD:

- Cartagena Protocol on Biosafety;[24]
- Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization;[25]
- International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA);[26]
- International Plant Protection Convention (IPPC);[27]
- Ramsar Convention on Wetlands;[28]
- Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES);[29]
- Convention on Migratory Species (CMS);[30]
- World Heritage Convention (WHC);[31]
- International Whaling Convention (IWC);[32] and

In addition, the legally-binding instrument for the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction (BBNJ) under the United Nations Convention on the Law of the Sea (UNCLOS)[33] will be included in the analysis.

Following this introduction, the paper introduces the reader to synergies in global biodiversity governance. Thereafter, it explores the links between the GBF and existing biodiversity agreements. It does so by giving an overview of the mandates of the MEAs and by identifying how they can contribute to the implementation of the GBF and how synergies can be strengthened. Finally, the paper gives recommendations for not only *bilateral* synergies with the GBF, but also how to encourage *multilateral* synergies among the MEAs.

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[23] CBD, 'Biodiversity-related Conventions', available at <https://www.cbd.int/brc/> (visited 14 February 2023).
[24] Cartagena Protocol on Biosafety, Montreal, 29 January 2000, in force 11 September 2003, 39 *International Legal Materials* (2000) 1027, <http://www.cbd.int/biosafety>.
[25] Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity, Nagoya, 29 October 2010, in force 16 October 2014, <http://www.cbd.int/abs/>.
[26] International Treaty on Plant Genetic Resources for Food and Agriculture, Rome, 3 November 2001, in force 29 June 2004, <http://www.planttreaty.org/>.
[27] International Plant Protection Convention, Rome, 6 December 1951, into force 3 April 1952, 150 *United Nations Treaty Series* 67.
[28] Convention on Wetlands of International Importance, Ramsar, 2 February 1971, in force 21 December 1975, 11 *International Legal Materials* (1972), 963, <http://www.ramsar.org>.
[29] Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington DC, 3 March 1973, in force 1 July 1975, 993 *United Nations Treaty Series* 243, <http://www.cites.org>.
[30] Convention on the Conservation of Migratory Species of Wild Animals, Bonn, 23 June 1979, in force 1 November 1983, 19 *International Legal Materials* (1980) 15, <http://www.cms.int>.
[31] Convention Concerning the Protection of the World Cultural and Natural Heritage, Paris, 16 November 1972, in force 17 December 1975, 11 *International Legal Materials* (1972) 1358, <http://whc.unesco.org>.
[32] International Convention for the Regulation of Whaling, Washington D.C., 2 December 1946, in force 10 November 1948, 161 *United Nations Treaty Series* 72.
[33] See <https://www.un.org/bbnj/> (visited 14 February 2023).

This paper highlights that various legal and policy efforts for the conservation and sustainable use of biodiversity exist and are constantly emerging. The new GBF is an opportunity to holistically approach global biodiversity governance, using what is already in place, considering different actors, interests and processes, calling for strengthening synergies with and within the existing biodiversity governance framework and encouraging transformative change.

2 Synergies in environmental governance

The international legal and political architecture of environmental governance is made up of international organizations, numerous legally-binding environmental agreements and non-binding instruments, declarations, decisions, resolutions, and other international law documents, as well as other global arrangements, including multilateral conferences.[34] It constructs a maze-like set of institutional settings, decision-making processes, substantive obligations, planning instruments, and monitoring arrangements. Comprehensive databases provide compilations of currently over 1400 multilateral and 2200 bilateral environmental agreements.[35] As a response to the increasing complexity and overlaps among the different instruments and fora,[36] there is a growing number of initiatives aiming at identifying and enhancing links and commonalities to efficiently use human, temporal and biophysical resources and to achieve goals, implement strategies, and execute action plans as cost-efficiently as possible, to avoid MEAs working in silos.[37]

2.1 Importance of synergies

Synergies between two and among several MEAs, as well as with agreements of other sectors, are paramount.[38] At international environmental policy-making level, synergies can be defined as 'all activities that aim at enhanced collaboration of MEAs through linking processes in a way that increases

[34] María Jesús Ovalle Barros, 'Análisis de la pólitica global ambiental. Una Evaluación del Cumplimiento por parte del Estado de Chile (2019). 2-2019 *Cuadernos Estudios Internacionales* (2019) 5-66, available at <http://www.iei.uchile.cl/publicaciones/156080/analisis-de-la-politica-global-ambiental> (visited 14 February 2023).

[35] Ronald B. Mitchell, 'International Environmental Agreements Database Project' (Version 2020.1) (2002-2022), available at <http://iea.uoregon.edu/>.

[36] Joshua Philipp Elsässer et al, 'Institutional Interplay in Global Environmental Governance: Lessons Learned and Future Research', 22 *International Environmental Agreements: Politics, Law and Economics* (2022) 373–391.

[37] Rogalla von Bieberstein et al, 'Improving collaboration in the implementation of global biodiversity conventions', 33(4) *Conservation Biology* (2019) 821-831.

[38] Tuomas Kuokkanen, 'Relationships between Multilateral Environmental Agreements and Other Agreements', in Tuula Honkonen and Ed Couzens (eds), *International Environmental Law-making and Diplomacy Review 2011*, University of Eastern Finland – UNEP Course Series 11 (University of Eastern Finland, 2012) 19-33.

the effects of the sum of the joint activities beyond the sum of individual activities, and thus making efforts more effective and efficient'.[39]

Synergies between international processes have significant advantages for the successful implementation of policies. Seeking synergies is beneficial for Parties, as it can reduce the burden during national planning, implementation, monitoring, reporting and review. As there are overlapping aims among biodiversity-related MEAs, synergies allow consistent use of indicators that can lessen the reporting burden on the signatories of the conventions. The implementation of these agreements does not usually take place in isolation.

Synergies are also beneficial to MEAs' technical or scientific bodies and secretariats as they allow for the coordination of capacity development and knowledge exchange.[40] By way of an illustration, an MEA may repurpose information deriving from processes under other MEAs to inform its own decision-making. A prominent example, and recognized at the GBF-process, is the close coordination within the chemical cluster with the Rotterdam Convention[41] empowering its Compliance Committee to utilize conclusions from other waste and chemicals-related MEAs and even present them to its COP.[42] Time and resource efficiency, thus, arises as one of the most advantageous by-products of harnessing synergies among different MEAs.

Yet, synergies should not simply be considered a matter of legal and procedural necessity or institutional convenience. Much more importantly, they represent the policy corollary to the complexity of interdependencies among the biophysical systems of the planet, which cannot be circumscribed by the siloed approach of international environmental governance.[43] Developing synergies in this context should also provide arrangements to enable common strategies among all participants, particularly when the matters deal with common-pool resources and global public goods. When it comes to collective

[39] UNEP World Conservation Monitoring Centre, 'Promoting synergies within the cluster of biodiversity-related multilateral environmental agreements' (UNEP-WCMC, 2012), available at <https://www.cbd.int/doc/nr/Promoting_synergies_in_the_biodiversity_cluster.pdf> (visited 14 February 2023); UNEP, 'Sourcebook of Opportunities for Enhancing Cooperation among the Biodiversity-related Conventions at National and Regional Levels' (UNEP, 2015), available at <https://www.unep.org/resources/report/sourcebook-opportunities-enhancing-cooperation-among-biodiversity-related2015EN_Sourcebook_2.pdf?sequence=6&amp%3BisAllowed=y%2C%20Chinese%7C%7Chttp> (visited 12 March 2023).

[40] Judith Wehrli, 'Clustering Assessment: Enhancing Synergies among Multilateral Environmental Agreements', Governance and Sustainability Issue Brief Series: Brief 3 (Center for Governance and Sustainability, University of Massachusetts Boston, 2012), available at <https://scholarworks.umb.edu/cgi/viewcontent.cgi?article=1004&context=cgs_issue_brief_series> (visited 14 February 2023).

[41] Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Rotterdam, 11 September, 1998, in force 24 February, 38 I*nternational Legal Materials* (1999) 1, <http://www.pic.int>.

[42] *Ibid*., Annex VII, para. 28.

[43] Andreas Duit and Victor Galaz, 'Governance and Complexity – Emerging Issues for Governance Theory', 21(3) *Governance: An International Journal of Policy, Administration, and Institutions* (2008) 311–335.

decision-making bodies (usually the COP), harnessing synergies can help deliver globally-set targets and priorities, profound examples of which are the ones contained in the GBF that go beyond the strict objectives and mandate of the MEA under which they are adopted and would thus benefit from coordinated action. Many collective decision-making processes, especially those working on global and transboundary environmental issues, require collective-action solutions to cope with collective-actions problems. Therefore, synergies help coordinate 1) target-setting; 2) implementation; 3) progress monitoring; and 4) transformation.

2.2 Strengthening synergies in global biodiversity governance

The GBF provides an opportunity for overall biodiversity protection – a common guidance for global efforts on halting and reversing biodiversity loss. However, this framework can only be successful if its targets are implemented timely, by taking advantage of the existing governance infrastructure in coordination and by introducing transformative change. The need for greater synergies among MEAs and for enhancing implementation at global, regional and national levels was already explicitly stated in the Rio+20 outcome document of 2012, 'The Future We Want',[44] which encourages further measures to promote policy coherence at all relevant levels, improve efficiency, reduce duplication and enhance coordination and cooperation among the MEAs, including the three Rio conventions − the CBD among them.[45]

In the same vein, the United Nations Environment Programme (UNEP)[46] has the mandate to 'further the development of its international environmental law aiming at sustainable development, including the development of coherent interlinkages among existing international environmental conventions'.[47] UNEP leads a multi-stakeholder process to identify options for enhancing synergies and cooperation among the global biodiversity conventions. Recognizing the need to enhance synergies, the United Nations Environment Assembly (UNEA)[48] has encouraged the BRCs COPs to strengthen efforts by drawing on prior experiences, while respecting their independent legal status and mandates.[49] The governing bodies of all eight

[44] Rio +20 Outcome Document 'The Future We Want', UNGA Res. 66/288 of 11 September 2012, available at <https://sustainabledevelopment.un.org/content/documents/733FutureWeWant.pdf> (visited 15 February 2019).
[45] *Ibid.* para. 89.
[46] See <https://www.unep.org/>.
[47] 'Nairobi Declaration on the Role and Mandate of the United Nations Environment Programme', UNEP Governing Council Dec. 19/12 (1997), para. 3(b).
[48] See <https://www.unep.org/environmentassembly/>.
[49] UNEP, 'Enhancing Synergies across Global Biodiversity Conventions − Experiences from the Global South Workshop. Proceedings and Country Reports' (UNEP, 2016), available at <https://wedocs.unep.org/bitstream/handle/20.500.11822/11296/Enhancing-Synergies-Global-Conventions.pdf?sequence=1&isAllowed=y> (visited 12 March 2023) at 96.

global BRCs have adopted decisions or resolutions calling for enhanced synergies with other conventions, and individual strategic planning documents of MEAs already carry provisions for implementing synergies.[50]

CBD COP14 in 2018 emphasized the importance of engaging BRCs in the preparatory process for the development of the GBF,[51] which was materialized at Bern I and II consultation workshops (2019, 2021). Not only secretariats, but also Parties of 13 MEAs, including all eight secretariats of the BRCs that participate in the Liaison Group of BRCs[52] contributed to the consultation workshops. Important conclusions arose from the synthesis of the workshop discussions, namely the need for:

- *integration of objectives of all relevant MEAs into the GBF*, so that all relevant MEAs can recognize their place and role in its future implementation;
- *active participation in developing the post-2020 monitoring framework* by including relevant indicators already used in other conventions and processes, such as the SDGs, and ensure active participation from MEA experts;
- *reviewing and reporting*, ensuring clarity on how the objectives, roles and responsibilities of each MEA are integrated into the GBF and its implementation, national reports and communication, ensuring a global review of implementation progress (global stocktake);
- *cooperation and collaboration*, developing jointly cost-effective and integrated approaches or work programmes;
- *implementation of synergies at the national level*, enabling close interaction amongst the national focal points for the different MEAs to strengthen cooperation and collaboration in implementation, as well as using the opportunity of additional benefits provided by the national mechanism that coordinates actions on the SDGs and the role of National Biodiversity Strategies and Action Plans (NBSAPs); and
- *operationalization of the GBF* to be picked up in the strategies and work plans of MEAs, building, wherever possible, on existing mechanisms, not limited to those of the CBD.[53]

[50] See, for instance, 'Strategic Plan for Migratory Species 2015-2023', CMS Res. 11.2 (2014); Ramsar Convention Secretariat, 'The Fourth Ramsar Strategic Plan 2016–2024. Sub-series I: Handbook 2: international Cooperation on Wetlands (Ramsar Convention Secretariat, 2016), available at <https://www.ramsar.org/sites/default/files/hb2_5ed_strategic_plan_2016_24_e.pdf>; UNEP, 'Elaboration of options for enhancing synergies among biodiversity related conventions. United Nations Environment Programme (UNEP, 2016), available at <https://wedocs.unep.org/bitstream/handle/20.500.11822/9967/elaborations-options-enhancing-synergies.pdf?sequence=1&isAllowed=y> (both visited 14 February 2023).

[51] 'Comprehensive and participatory process for the preparation of the post-2020 global biodiversity framework', CDB Dec. 14/34 (2018) para. 6.

[52] See <https://www.cbd.int/blg/>.

[53] UNEP, 'Second Consultation Workshop of Biodiversity-related Conventions on the Post-2020 Global Biodiversity Framework (Bern II) (2021), available at <https://wedocs.unep.org/bitstream/handle/20.500.11822/35906/Bern2rep21.pdf?sequence=3&isAllowed=y> (visited 16 February 2023).

Overall, these efforts address two main goals: a) to increase coherent implementation of MEAs through collaboration and cooperation among Parties, secretariats and key partners; and b) to mainstream biodiversity objectives into other policies and sectors, including through the United Nations development assistance frameworks and in furtherance of the SDGs.[54]

While there is agreement on the importance of synergies in environmental governance, there are still challenges in its practical operation. The heterogeneity of actors, preferences, capabilities, information, beliefs, and institutions worldwide and among the CBD Parties are self-evident. In this context, synergies are a possible way to sustain cooperation to overcome collective-action problems.[55] Synergies have to be conceived under innovative and integrative governance, as whole-of-government and whole-of-society approaches to advance in implementing solutions to biodiversity-related issues.

The GBF reinforces its role as a framework for all MEAs, encouraging synergies by referring to the 2030 Agenda for Sustainable Development and the long-term strategies and targets of MEAs, specifically mentioning biodiversity-related and Rio conventions, 'to ensure synergistic delivery of benefits from all the agreements for the planet and people.[56] Moreover, it recognizes that 'efficiency and effectiveness will be enhanced for all by integration with relevant MEAs and other relevant international processes, at the global, regional and national levels, including through the strengthening or establishment of cooperation mechanisms'.[57]

In the following section, we introduce important multilateral biodiversity agreements whose mandates directly link to the GBF targets and contribute to its successful implementation.

3 GBF and other biodiversity-related agreements

In the complex and diverse landscape of MEAs,[58] various agreements cover GBF goals and targets. While synergies to all multilateral agreements is recommended, links to *biodiversity* agreements are particularly evident and crucial for successful implementation of the GBF. This section

54 *Ibid*.
55 Robert O. Keohane and Elinor Ostrom (eds), *Local Commons and Global Interdependence: Heterogeneity and Cooperation in Two Domains* (SAGE Publication, 1995).
56 GBF, Section D, para. 8.
57 Section I, para 16.
58 Rakhyun Kim and Klaus Bosselmann, 'International Environmental Law in the Anthropocene: Towards a Purposive System of Multilateral Environmental Agreements', 2(2) *Transnational Environmental Law* (2013) 285-309; Bieberstein, et al, 'Improving collaboration in', *supra* note 37.

introduces relevant biodiversity-related MEAs and highlights links to the new GBF. The analysis will be limited to biodiversity agreements, identified by the UN as current *BRCs*, and the marine biodiversity agreement of areas beyond national jurisdiction (BBNJ). In a second step, this section suggests ways for existing agreements to implement the GBF in accordance with a holistic approach to global environmental governance.

3.1 Protocols of the CBD

Since 1992, 150 governments have committed to the objectives of the CBD, covering the conservation and sustainable use of biological diversity and the fair and equitable sharing of benefits arising out of the utilization of genetic resources. We focus specifically on its Protocols: the Cartagena Protocol on Biosafety and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable sharing of Benefits from their Utilization.

The Cartagena Protocol on Biosafety was adopted in 2000 and entered into force in 2003, now including 173 Parties. It aims to:

> to contribute to ensuring an adequate level of protection in the field of the safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focusing on transboundary movements.[59]

The Nagoya Protocol, adopted in 2010, entered into force in 2014 with the objective to guarantee:

> the fair and equitable sharing of the benefits arising from the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding, thereby contributing to the conservation of biological diversity and the sustainable use of its components.[60]

[59] Art. 1.
[60] *Ibid*.

3.1.1 Topics of GBF relevant to Cartagena and Nagoya Protocols

3.1.1.1 Synthetic biology

In the CBD context, it is not entirely clear whether 'synthetic biology (synbio)' falls within or beyond the biotechnology scope. At COP15, it was decided not to conclude − nor to analyze further − whether synthetic biology is a new and emerging issue.[61] There are still foggy areas in relation to synbio, including the understanding of the process and products obtained, long-term potential effects, if they are equivalent to the living modified organisms (LMOs) produced by biotechnology techniques and would therefore be regulated under the Cartagena Protocol, and if they are genetic resources generating benefits that should be regulated under the Nagoya Protocol.

Due to the complexity of the issues covered by the Cartagena and Nagoya Protocols, and since LMOs are not typical genetic resources, issues of strengthening synergies are not always on the surface. The need for this synergistic relationship is often unclear, as at first glance it seems that each Protocol meets its purpose through the fulfilment of its separate objectives. However, multiple CBD experts or ad-hoc groups, including on synbio, LMO risk assessment, digital sequence information and socio-economic considerations, have made thematic connections for holistic implementation of the Convention's objectives more apparent. For the CBD and the Cartagena Protocol, synbio is emerging as one such issue. From the CBD's operational definition of synthetic biology, it is clear that synbio organisms are developed by biotechnology methods within the CBD meaning of the term biotechnology.[62] In 2017, the Ad Hoc Technical Expert Group (AHTEG) on synthetic biology concluded that 'most living organisms already developed or currently under research and development through techniques of synthetic biology, including organisms containing engineered gene drives, fell under the definition of LMOs as per the Cartagena Protocol', and in 2019, the AHTEG noted that the outcomes of that decision remain relevant. However, some future developments may not fall within the scope of the Cartagena Protocol,[63] but under the CBD. In this case, the question arises how and by which agreement they will be regulated. This is an important issue, since several

[61] IISD Earth Negotiations Bulletin, 'Summary of the UN Biodiversity Conference: 7-19 December 2022' (2022), available at <https://enb.iisd.org/sites/default/files/2022-12/enb09796e_0.pdf> (visited 14 February 2022).

[62] See CBD, 'Portal on Synthetic Biology', available at <https://bch.cbd.int/synbio/> (visited 14 February 2023); Felicity Keiper and Ana Atanassova, 'Regulation of Synthetic Biology: Developments Under the Convention on Biological Diversity and Its Protocols', 8 *Frontiers in Bioengineering and Biotechnology* (2020) 310–310.

[63] 'Report of the Ad Hoc Technical Expert Group on Synthetic Biology. Montreal, Canada, 5-8 December 2017', CBD Doc. CBD/SYNBIO/AHTEG/2017/1/3 (2017).

organisms derived from synbio may not fall under the definition of an LMO under the Cartagena Protocol, but may be covered by the terminology and regulation of the CBD.

The draft COP15 decision on synthetic biology exemplified the need for a coordinated, complementary and non-duplicative approach on issues related to synbio under the Convention and its protocols, and for the approval of the procedure for regular and wide horizontal scanning, monitoring and evaluation of the latest developments.[64] However, it was also decided that the procedure of horizontal scanning should not be permanent.[65] Considering that synbio is still a new field of biology, with constantly evolving techniques for developing synbio organisms[66] and many diverse organisms developed annually that could be released into the environment,[67] new agreements at upcoming COPs will be required on screening and monitoring.

Even though synbio was not explicitly mentioned in the GBF, Target 17 addresses biotechnology, using previously agreed upon language. The final discussion focused on whether the target should include benefit-sharing along with LMO biosafety issues, organisms derived from new biotechnologies or new biotechnologies formulation per se, which would determine the regulation of synbio organisms. The first part of the adopted target, concerning the biosafety of LMOs, literally refers to Article 8(g) of the CBD,[68] which should have positive effects on the regulation and safe use of LMOs. First of all, it directly applies to each CBD Party, and not only to Parties to the Cartagena Protocol. Secondly, it refers to the LMOs resulting from 'biotechnology', based on a broad understanding of the term in the context of the Convention (Art. 2)[69], allowing the inclusion of biosafety measures and measures for distribution of benefits of those

64 'Synthetic biology. Draft decision submitted by the Chair of Working Group II', CBD Doc. CBD/COP/15/L/18 (2022) recital.

65 *Ibid.* para. 3.

66 Rachel Wynberg and Sarah A. Laird, 'Fast Science and Sluggish Policy: The Herculean Task of Regulating Biodiscovery', 36(1) *Trends in Biotechnology* (2018) 1-3.

67 CBD Secretariat, 'Synthetic Biology', CBD Technical Series No. 100 (2022), available at <https://bch.cbd.int/synbio/open-ended/discussion/Technical_Series.shtml> (visited 14 February 2023) at 54.

68 Accordingly, Each Contracting Party shall, as far as possible and as appropriate:

> Establish or maintain means to regulate, manage or control the risks associated with the use and release of living modified organisms resulting from biotechnology which are likely to have adverse environmental impacts that could affect the conservation and sustainable use of biological diversity, taking also into account the risks to human health;

69 Accordingly, biotechnology means 'any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use'.

synbio organisms that will not fall in the scope of the Cartagena Protocol's definition of 'modern biotechnology'.[70]

3.1.1.2 Digital sequence information

A genetic resource code is 'written' following a data sequence. What happens, who owns it, and who should benefit from that information when digitalized and broadly used remains an unresolved issue under the CBD. Related conventions refer to this with different names, as 'in silico genetic resources' or 'digital sequence information (DSI)', and the scientific community adds further options. Notwithstanding the name, nucleotide sequences (DNA and RNA) are now used by many countries in a range of basic and applied research, including the creation, monitoring and control of LMOs, synbio organisms, molecular markers development to select new traits and accelerate traditional selection, tracking trade and wildlife, detecting pathogens spread, and analyzing the availability of genetic resources (individual families, genera, species).[71] Therefore, the value of DSI and the benefits they can bring are not to be underestimated. The CBD COPs and the Meetings of the Parties (MOPs) to the Nagoya Protocol first addressed the term and the issue of DSI at their respective COP-MOP meetings held in December 2016.[72] At the same time, despite the value of this type of resource and the very close relationship between the nucleotide sequences and the genetic resource itself, the issue remains one of the most discussed among Parties, as well as at the expert level.

The difficulty of understanding the importance of DSI for the objectives of the Convention seems to be subject to three key questions. First, the scope and terminology, as there are differences in the material referred to, its linkage to the technological developments, and, as a consequence, to the regulatory mechanisms. The term DSI was first used by the CBD, while the scientific community and databases rather refer to 'genetic sequence data', 'nucleotide sequence data', 'nucleotide sequence information', and 'genetic sequences'.[73] A second key question concerns what kind of information- and benefit-sharing mechanism should be established and how it should

[70] Article 3(i) of the Cartagena Protocol:

> "Modern biotechnology" means the application of: a. In vitro nucleic acid techniques, including recombinant deoxyribonucleic acid (DNA) and direct injection of nucleic acid into cells or organelles, or b. Fusion of cells beyond the taxonomic family, that overcome natural physiological reproductive or recombination barriers and that are not techniques used in traditional breeding and selection;

[71] 'Fact-finding and scoping study on digital sequence information on genetic resources in the context of the Convention on Biological Diversity and the Nagoya Protocol. Note by the Executive Secretary', CBD Doc. CBD/DSI/AHTEG/2018/1/3 (2018).

[72] 'Digital sequence information on genetic resources', CBD Dec. XIII/16 (2016) and 'Digital sequence information on genetic resources' Nagoya Dec. 2/14 (2016).

[73] Sipke Joost Hiemstra, Martin Brink and Theo van Hintum, 'Digital Sequence Information (DSI). Options and impact of regulating access and benefit sharing − stakeholder perspectives', Centre for Genetic Resources (CGN) Report 42 (2019), available at <https://edepot.wur.nl/470286> (visited 14 February 2023) at 8.

function. Third, the issue of DSI itself requires clarification at the level of all groups that are relevant to and involved in the 'access and benefit-sharing (ABS)' mechanism. The COP15 decision on DSI[74] recognizes that there are divergent opinions with regard to the scope of the CBD and whether DSI is a part of it. The discussion thereof is not further advanced, yet the focus has turned towards the aspects of benefit-sharing arising from DSI. This is a change that should be noted, since this was not the case during the many years of initial discussions regarding DSI. In other words, the discussions at COP13 and COP14 mainly focused on the technical aspects of DSI, including whether it could be considered as a genetic resource under the definition of the CBD, whereas at COP15, the discussions were mainly based on how a benefit-sharing mechanism can be established and operationalized and how its fairness and equity can be ensured.

It is important to find consensus on these issues, since the definition of DSI alone is important for the negotiation process under the CBD and its protocols, and influences global discussions on ABS. Nucleotide sequences are already regulated by national laws, nucleotide and protein database regulations, patent laws, and treaties on the ownership of nucleotide sequences concluded during the implementation of scientific projects. In addition to the CBD, other UN bodies and instruments, such as the Food and Agriculture Organization (FAO),[75] the ITPGRFA, the World Health Organization (WHO),[76] the World Intellectual Property Organization (WIPO)[77] and the United Nations General Assembly (UNGA) are conducting relevant discussions on DSI and related issues. During COP15, Parties agreed to include DSI into the GBF and to establish a global multilateral fund with the aim of distributing benefits arising from the utilization of DSI.[78] However, the decision notes that there will be exceptions.[79] This can be understood to mean that the provider countries may continue to regulate access to DSI in national or regional frameworks, since the Parties have not specifically come to a decision on fully excluding the DSI from the definition of genetic resources.

3.1.1.3 LMOs and DSI

There is no doubt that LMOs fall within the definition of a genetic resource, and constitute valuable resources from which many countries benefit, especially those with less biodiversity but well-developed biotechnologies. However, if mechanisms are developed to regulate LMOs as a genetic

74 'Digital sequence information on genetic resources', CBD Dec. 15/9 (2022).
75 See <https://www.fao.org>.
76 See <https://www.who.int/>.
77 See <https://www.wipo.int>.
78 CBD Dec. 15/9, para. 16.
79 *Ibid.* para. 7.

resource within the framework of the Nagoya Protocol, there is a need to avoid duplication of efforts. The Cartagena Protocol itself already establishes rules and regulations for the movement of LMOs, monitoring, control, and traceability. Within the Cartagena Protocol an 'advance informed agreement procedure (AIA)', and a Biosafety Clearing-house Mechanism that collects information, including on built-in sequences of LMOs, defining new valuable features, as well as on DNA identification of LMOs, have already been developed. Therefore, mechanisms for accessing and benefiting from LMOs as a genetic resource may require strengthening synergies between the two protocols. The COP 15 draft decision on synthetic biology highlighted the relevance of DSI for synthetic biology and the need for a coordinated, complementary and non-duplicative approach.[80] It is hoped that the specifics of LMO-regulation and the possibility of using existing databases, such as the Biosafety Clearinghouse (BCH) database,[81] will be considered when developing regulatory mechanisms for LMOs, DSI and benefits distribution.

3.1.1.4 Access and benefit-sharing

International law provides mechanisms for conservation and restoration of biodiversity resulting from the utilization of nature. One of these is fair and equitable sharing of benefits arising from genetic resources (GR) regulated by the Nagoya Protocol. The system of access and benefit-sharing aims to fairly distribute benefits between the providers (such as biodiversity-rich countries) and users of GR (such as biotechnology or pharmaceutical companies, universities, collections, such as botanical gardens or genebanks) deriving from research and development on GR. The ABS system prescribes to the CBD Parties to implement national legislation on providing fair access to users of GR while receiving fair and equitable monetary benefits (such as access fees, royalties, licence fees), as well as non-monetary benefits (such as technology transfer, participation in research, recognition of a country of origin or capacity-building). These benefits should then be channelled into biodiversity restoration and conservation.

However, as the issue of benefit-sharing is concerned, we have been long witnessing the inability of the Nagoya Protocol, as well as the ABS framework as a whole, to result in a significant amount of benefits. We do not base this argument solely on the GBO-5, but also on the academic literature which has been criticizing the ineffectiveness of the ABS

[80] CBD Doc. CBD/COP/15/L/18, *supra* note 64.
[81] See <https://bch.cbd.int/en/>.

framework in achieving its goals.[82] We witness the academic literature debating whether this international legal framework, aiming at building trust-based relationships under the principles of fairness and equity between the Global North and the Global South, is currently achieving more than the bureaucratization of obtaining the prior informed consent of the holders of sovereign rights over genetic resources.

3.1.2 Strengthening synergies of GBF with Cartagena and Nagoya Protocols

3.1.2.1 Cartagena Protocol

The importance to include biosafety in the GBF and to develop a post-2020 Implementation Plan for the Cartagena Protocol that is linked to GBF targets was already highlighted at the 2018 Cartagena COP-MOP.[83] In the final negotiations, the LMO biosafety component was included as Target 17 of the GBF. As the LMO biosafety issue had not been addressed in the Strategic Plan for Biodiversity 2011 – 2020, Parties may not have given it due importance, and thus, did not include the biosafety of LMOs in their NBSAPs. Consequently, regulators may not have been aware of the importance of the issue with the result of a lack of funding at the national level and the lower priority given to the issue within international funds. Hence, the inclusion of a biosafety component in the GBF was important to bring this issue to the attention of regulators.

In the GBF working groups, this topic had been subject to divergent views, such as those emphasizing the precautionary principle, questions of synthetic biology, and socio-economic issues, including the question of potential benefits. In their future work, Parties to the CBD and its protocols will need to support a continuous science-policy process on the important inter-MEA issues, such as the new varieties of synbio organisms, including further discussions on which international treaty would govern each new species of such an organism (the Cartagena Protocol or the CBD), how to ensure synergies for their AIA and ABS mechanisms, and on the continuing of the process of horizontal scanning of the new biotechnological developments.

[82] Sarah Laird et al, 'Rethink the expansion of access and benefit sharing', 367(6483) Science (2020) 1200-1202; Stefano Pagiola, Joshua Bishop and Natasha Landell-Mills, Selling Forest Environmental Services: Market-based Mechanisms for Conservation and Development (Routledge, 2002); Aysegul Sirakaya. 'A balanced ABS system: Stakeholder Perception on ABS Goals' 28(3) *Sustainable Development* (2020) 495-503.

[83] 'Preparation for the follow-up to the Strategic Plan for Biodiversity 2011-2020 and the Strategic Plan for the Cartagena Protocol on Biosafety 2011-2020', CP Dec. 9/7 (2018).

On the topic of DSI, DNA sequences (or, for some organisms, RNA), which are the most obvious constituents of DSI, are the primary hereditary material, in which the attribute genes are encoded. DSI is relevant to both the creation of LMOs and synbio organisms, their biosafety and the distribution of benefits from LMOs because in this case valuable nucleotide sequences or information obtained from the sequencing of the corresponding nucleotide sequences are taken from one organism and embedded into another. In addition, the number of decoded nucleotide sequences of genomes and decoded genes is increasing, resulting in often embedded gene sequences to produce LMOs being synthesized *de novo*.[84] In this regard, in the case of the development of a mechanism to regulate LMOs as a valuable genetic resource, DSI should be considered. At the same time, it is necessary to consider the current specifics of the LMO regulation (Cartagena Protocol). The link between LMOs and DSI is not explicit in the GBF, and there is no mention of DSI in the Implementation Plan of the Cartagena Protocol.[85] To strengthen synergies, this topic could be included into the training provided under the Convention, the Nagoya and Cartagena Protocols and clarified during the next revision of the GBF and the implementation plans of the Convention and the Protocols.

3.1.2.2 Nagoya Protocol

The implementation of the GBF provides an opportunity to strengthen the successful implementation of the Nagoya Protocol as well as the ABS Framework (including the CBD, Bonn Guidelines[86] and relevant COP decisions) in achieving its objectives. It is currently assumed that the international ABS Framework, through the implementation of the Nagoya Protocol, contributes to biodiversity conservation; yet, is the Nagoya Protocol actually designed to conserve biodiversity? A recent study,[87] which subjects the text of the Protocol to a legal review and analyzes all of the negotiations that led to the adoption of the Nagoya Protocol, concluded that there are no legally-binding measures under the Nagoya Protocol that obliges Parties to channel benefits into biodiversity conservation, except for Article 10 on Global Multilateral Benefit-sharing Mechanism (GMBSM). Since the modalities of GMBSM are still under consideration by the Parties, the benefit-sharing we foresee under the GBF is therefore that related to bilateral benefit-sharing.[88]

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84 Phillip Kuhn et al, 'Next generation gene synthesis: From microarrays to genomes' 17(1) *Engineering in Life Sciences* (2016) 6-13; Yueqiang Wang et al, 'Genome Writing: Current Progress and Related Applications', 16(1) *Genomics, Proteomics & Bioinformatics* (2018) 10-16.

85 'Implementation Plan of the Cartagena Protocol on Biosafety', CP Dec. 10/3 (2022), Annex.

86 'Access and benefit-sharing as related to genetic resources. A. Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization', CBD Dec. VI/24 (2002).

87 Aysegul Sirakaya. 'Is the Nagoya Protocol designed to conserve biodiversity?' 4(1) *Plants, People, Planet* (2022) 68–75.

88 *Ibid*.

The aforementioned study furthermore sheds light on how the benefit-sharing was conceptualized during the negotiations of the Nagoya Protocol. As such, benefit-sharing was foreseen in a two-fold manner. While some negotiators conceptualized benefit-sharing as a generator of economic incentives, others emphasized the role of certain actors in conserving biodiversity and therefore perceived those actors to be the main beneficiaries of benefits due to their role in conservation. The former argument of benefit-sharing as an economic incentive generator stipulated that the providers of genetic resources would automatically be incentivized to conserve biodiversity, should those genetic resources have a price on them. This meant that the more a user accesses a specific genetic resource, the more benefits that genetic resource would bring and therefore more conservation would happen. Therefore, these negotiators emphasized that supporting trade of genetic resources would support the conservation thereof.[89] The second argument, prioritizing the actors involved in conservation as the primary beneficiaries, discussed that indigenous peoples and local communities were the actors who lived in harmony with nature, and thus those who de facto contributed to the conservation of biodiversity with their inherently eco-centric livelihoods.[90] The final text of the Nagoya Protocol, even though it contains a reference to both of these approaches, fails to effectively establish a language that legally binds Parties to channel benefits into conservation. We deem it crucial that the implementation of the GBF takes note of this paradigm, in order not to base targets on assumptions or voluntary goodwill of actors on ABS to channel benefits into conservation of biodiversity.

The theory of change under the GBF acknowledges the need for appropriate recognition of gender equality, women's empowerment, youth, gender-responsive approaches, and the full and effective participation of indigenous peoples and local communities in the implementation of this framework. Even though the draft text of GBF refrained from specifying the synergies between conservation and

89 See 'Compilation of Submissions Provided by Parties and Other Relevant Organizations on Issues of Relevance to the International Regime on Access and Benefit-sharing', CBD Doc. UNEP/CBD/WG-ABS/5/INF/1 (2007); and 'Compilation of Submissions Provided by Parties, Governments, Indigenous and Local Communities and Stakeholders on Concrete Options on Substantive Items on the Agenda of the Fifth and Sixth Meetings of the Ad Hoc Open-Ended Working Group on Access and Benefit-Sharing', CBD Doc. UNEP/CBD/WG-ABS/6/INF/3/Add.3 (2008).

90 See 'Collation of Operative Text Submitted by Parties, Governments, International Organizations, Indigenous and Local Communities and Relevant Stakeholders in Respect of the Main Components of the International Regime on Access and Benefit-Sharing Listed in Decision IX/12, Annex', CBD Doc. UNEP/CBD/WG-ABS/7/4 (2009); 'Collation of Operative Text Including related Explanations and Rationale Submitted by Parties, Governments, International Organizations, Indigenous and Local Communities and Relevant Stakeholders on Traditional Knowledge associated with Genetic Resources, Capacity and Nature', CBD Doc. UNEP/CBD/WG-ABS/8/4 (2009); and 'Collation of Any Other Views and Information Submitted by Parties, Governments, International Organizations, Indigenous and Local Communities and Relevant Stakeholders with Respect to Traditional Knowledge Associated with Genetic Resources, Capacity-Building and the Nature of the International Regime', CBD Doc. UNEP/CBD/WG-ABS/8/5 (2009).

human rights, the final text makes explicit reference thereof,[91] as well as to the human rights based approach in conservation.[92] It also details the meaning of intergenerational equity as it stipulates the crucial role of the younger generations taking part in decision-making.[93]

Today, we are aware that the world's major centres of biodiversity coincide with the habitats of indigenous peoples. While indigenous people comprise the minority of the global population, indigenous territories make up for the majority of the global biodiversity hotspots.[94] The value of the eco-centrism of indigenous peoples towards biodiversity conservation is increasingly recognized at the national level, where we see cases in which indigenous peoples act as the custodians and representatives of nature.[95] We therefore submit that the indigenous communities, as well as their habitats are those that benefit majorly from the funding for biodiversity conservation.[96] This is also recognized in the final text of the GBF.[97] We hope to see this recognition materialized when it comes to respecting and protecting the rights of indigenous peoples to their territories and their rights to free, prior informed consent when providing access to genetic resources in their territories or associated traditional knowledge. Additionally, we hope to see that indigenous peoples and local communities become key beneficiaries of the global multilateral benefit-sharing mechanism deriving from the utilization of DSI.

Consequently, enactment of both the human rights based approach and the principle of intergenerational equity at the level of implementation, as well as the effective participation of indigenous peoples and local communities are of direct and palpable relevance to benefit-sharing, both under the CBD as well as the Nagoya Protocol. In fact, it is not a surprise that the theory of change framework includes the equitable sharing of benefits as one of its targets by 2030 as well as one of the goals for 2050. We consider the inclusion of benefit-sharing under Goal C and Target 13 relevant. However, we regret the lack of agreement on the headline indicators and baselines determined for monitoring national

91 Para. 24, speaking of '[e]nhanced collaboration, cooperation and synergies between the Convention on Biological Diversity and its Protocols, other biodiversity-related conventions, other relevant multilateral agreements and international organizations and processes'.
92 Para. 14.
93 Para. 21.
94 Claudia Sobrevila, 'The Role of Indigenous Peoples in Biodiversity Conservation. The Natural but Often Forgotten Partners (World Bank, 2008), available at <https://documents1.worldbank.org/curated/en/995271468177530126/pdf/443000WP0BOX321onservation01PUBLIC1.pdf> (visited 15 February 2023).
95 Victoria Reyes-García et al, 'Recognizing Indigenous peoples' and local communities' rights and agency in the post-2020 Biodiversity Agenda', 51 *Ambio* (2022) 84–92 (2022); and Justine Townsend et al, 'Rights for nature: How granting a river 'personhood' could help protect it', The Conversation Canada (3 June 2021), available at <https://theconversation.com/rights-for-nature-how-granting-a-river-personhood-could-help-protect-it-157117?utm_source=dlvr.it&utm_medium=twitter> (visited 15 February 2023).
96 See also Reyes-García et al, 'The Role of Indigenous', *supra* note 95.
97 Para. 6.

implementation. We hope to see the holistic and practical embedment of the theory of change applied to benefit-sharing in which both the rights of indigenous peoples, as well as their participation in conservation, is recognized and enshrined into the language. We argue that only then we will be able to talk about a benefit-sharing mechanism which results in biodiversity conservation.

3.2 International Treaty on Plant Genetic Resources for Food and Agriculture

3.2.1 Introduction

With the aim to conserve and sustainably use plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use, the International Treaty on Plant Genetic Resources for Food and Agriculture was adopted in 2001 and has been in force since 2004. It seeks to contribute to sustainable agriculture and food security.[98]

With the mandate of the ITPGRFA being the conservation of, access to and sustainable use of plant genetic resources for food and agriculture, obvious links between the Treaty and the CBD exist.[99] While the CBD covers all genetic resources, the ITPGRFA explicitly applies to a subset of species relevant to agriculture and food security.[100]

Similar to the CBD, the aim of the ITPGRFA is to keep a system of open access to plant genetic resources for food and agriculture and to ensure that those who have contributed to the conservation and development of genetic resources will receive commercial benefits generated by the products that make use of the genetic resources.[101] The CBD covers a wider range of plant genetic resources. It has been argued that the scopes of application of both agreements need to be and continue to stay clear.[102]

Apart from differences in the scope, the ITPGRFA and the CBD have distinct approaches regarding access and benefit sharing. While the CBD focuses on a bilateral approach between providers and recipients/provider and

[98] FAO, 'International Treaty on Plant Genetic Resources for Food and Agriculture. About us', available at <https://www.fao.org/plant-treaty/overview/en/> (visited 20 April 2023).
[99] Christiane Gerstetter et al, 'The International Treaty on Plant Genetic Resources for Food and Agriculture within the Current Legal Regime Complex on Plant Genetic Resources', 10(3-4) *The Journal of World Intellectual Property* (2007) 259–283.
[100] Sylvain Aubry, 'The Future of Digital Sequence Information for Plant Genetic Resources for Food and Agriculture', 10 *Frontiers in Plant Science* (2019) 1046-1046.
[101] Gerstetter, et al, 'The International Treaty', *supra* note 99.
[102] *Ibid.*

user countries, assuming that each genetic resource has exactly one country of origin, the ITPGRFA rests on a multilateral approach.[103]

3.2.2 Topics of GBF relevant to ITPGRFA

The GBF's section on *meeting people's needs through sustainable use and benefit-sharing* applies directly to the conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable benefit sharing thereof. Several scholars regard the ITPGRFA's multilateral system for access to and fair and equitable benefit sharing as 'the most sophisticated ABS system in international law'.[104] Yet, challenges in setting up ABS systems, mentioned above, hold equally true for the implementation of the ITPGRFA. The Treaty focuses on physical genetic resources, whereas regulation of DSI information remains unclear.[105] This shows the immediate connection to the GBF both in terms of ensuring fair and equitable use and benefit sharing of genetic resources, but also as regards questions on DSI.

The GBF explicitly invites the FAO to contribute to the implementation of the Framework.[106] Several targets of the GBF refer to the mandate of the ITPGRFA: particularly, Target 10 on food security; Target 11 on regulation of air, water, and climate, soil health, pollination and reduction of disease risk, as well as protection from natural hazards and disasters; Target 12 on benefits from green and blue spaces; and Target 13 on the fair and equitable sharing of benefits.

3.2.3 Strengthening synergies of GBF and ITPGRFA

As regards agricultural biodiversity, fair and equitable benefit sharing is linked to the principle of national sovereignty. It aims to balance injustices from the system of intellectual property rights and generally serves to benefit from biodiversity.[107]

The ITPGRFA recognizes farmers' rights and draws links to conservation, conceptualizing benefit-sharing as 'a tool to reward farmers and enable their continued contribution'.[108] In the continued implementation of the ITPGRFA, it will be important – similarly to the Nagoya Protocol – to not lose sight of the *conservation* aspect, apart from access to and fair and equitable

[103] *Ibid*.
[104] Elsa Tsioumani, 'Beyond access and benefit-sharing: Lessons from the Emergence and Application of the Principle of Fair and Equitable Benefit-Sharing in Agrobiodiversity Governance' in Fabien Girard and Christine Frison (eds), *The Commons, Plant Breeding and Agricultural Research: Challenges for Food Security and Agrobiodiversity* (1st ed., Routledge, 2018).
[105] Aubry, 'The Future of Digital', *supra* note 100.
[106] Preamble, para 12.
[107] Tsioumani, 'Beyond access and', *supra* note 104.
[108] *Ibid.*

sharing of benefits. Moreover, as exemplified in the GBF, importance should be given to restoring, maintaining and enhancing nature's contributions for the benefit of *all people and nature* (Target 9) and emphasizing indigenous peoples and local communities' cultures and rights over lands, territories, resources, and traditional knowledge (Target 22), as well as women's equal rights and access to land and natural resources (Target 23).

3.3 International Plant Protection Convention

3.3.1 Introduction

Plant pests are significantly affecting biodiversity, food security and economic prosperity at international levels.[109] With 180 contracting Parties, the IPPC is an international plant health treaty for protecting plant resources (including forests, aquatic plants, non-cultivated plants and biodiversity) from both direct and indirect damage by plant pests.[110] Its history dates back to 1951, with current law now being based on the revised text, which was adopted in 1997 and has been in force since 2005. Through the prevention of the introduction and the spread of pests, the IPPC protects cultivated and wild plants and ensures cooperation among states in this regard. The Convention covers cultivated plants, as well as natural flora and plant products, seeking to promote agricultural sustainability through the regulation of the movement and international trade of plants and plant products that might introduce invasive pests and diseases and thus endanger global food production.[111]

3.3.2 Topics of GBF relevant to IPPC

The IPPC is – like the ITPGRFA – also hosted by the Secretariat of the FAO, and thus the specific mention of the Organization in the GBF text refers directly to the implementation of the IPPC as contributing to meeting the targets of the GBF.

Of particular and direct relevance is GBF Target 5 which aims to ensure that harvesting, trade and use of wild species is sustainable, legal, and safe for human health. Equally important for the IPPC is Target 6 on reducing the rate of invasive species introduction and establishment

[109] IPPC Secretariat, 'Strategic framework for the International Plant Protection Convention (IPPC) 2020–2030. Protecting global plant resources and facilitating safe trade', FAO on behalf of the Secretariat of the International Plant Protection Convention (FAO, 2021), available at <https://www.fao.org/3/cb3995en/cb3995en.pdf> (visited 15 February 2023).
[110] *Ibid.*
[111] Anthony Parker and Deana Namuth-Covert, 'International Plant Protection Convention (IPPC)', Plant and Soil Sciences eLibrary (PASSeL) Lesson (2014), available at <https://digitalcommons.unl.edu/passel/71/> (visited 15 February 2023).

by at least 50 per cent, and on controlling, or eradicating invasive alien species to eliminate or reduce their impacts, focusing on priority species and priority sites.

3.3.3 Strengthening synergies of GBF and IPPC

As the GBF sets numerical targets in the topics relevant for the IPPC, strengthening synergies between the GFB and IPPC, as well as between the IPPC and other related agreements, is paramount. A numerical target can only be achieved if a clear direction and aim is established in the competent organizations and their contributions to meeting the GBF target are determined. A joint monitoring and reporting program could serve to keep track of progress and identify opportunities for mutual implementation. Moreover, a timeline of implementation within the IPPC could be oriented at the milestones of the GBF, in this way ensuring that targets are met by 2050.

3.4 Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat

3.4.1 Introduction

The Ramsar Convention, adopted in 1971, is in force since 1975 and therefore one of the earlier global environmental agreements. Its mission is 'the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world'.[112] Ramsar uses a broad definition of wetlands. It includes 'areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres'.[113] Under 'the three pillars' of Ramsar, it commits to: work towards the wise use of all their wetlands; designate suitable wetlands for the list of Wetlands of International Importance (the Ramsar List) and ensure their effective management; and cooperate internationally on transboundary wetlands, shared wetland systems and shared species.[114]

Wetlands are among the most diverse and productive ecosystems. Healthy wetlands are an important freshwater supply and play a vital role in climate change mitigation and adaptation. Implementation of global

[112] Ramsar Convention Secretariat, 'The Convention on Wetlands and its mission', available at <https://ramsar.org/about/the-convention-on-wetlands-and-its-mission> (visited 15 February 2023).
[113] Art. 1.
[114] Ramsar Convention Secretariat, 'The Convention on', *supra* note 112.

commitments has failed, and wetlands continue to be the most degraded ecosystems and converted to other uses. The area covered by natural wetlands has continued to decline, with the Wetland Extent Trends index having reduced by an average of 35 per cent worldwide between 1970 and 2015.[115] According to the GBO-5, the overall progress on more sustainable policies and practices relating to freshwater ecosystems has also remained low.[116]

Long-term collaboration exists between Ramsar and CBD, which has been cemented in both CBD Decisions[117] and Ramsar Resolutions,[118] but the collaboration only concerns freshwaters (the inland waters biodiversity programme of the CBD).[119] Ramsar supports numerous collaborations with formal written and signed agreements. One of them is the Memorandum of Understanding (MoU) with international agencies and organizations and the CBD Secretariat on implementation of the Strategic Plan for Biodiversity 2011-2020 and the achievements of the 2020 Aichi Biodiversity Targets (2011 – 2020).[120] The MoU includes objectives, areas and modalities of cooperation, financial aspects, reporting, use of logos and entry into effect, review and termination. Additionally, there is a 5th CBD-Ramsar Joint Work Plan,[121] which covers the time-period of the Strategic Plan for Biodiversity and operates in the context of the Ramsar Convention's lead implementation role for wetlands for the CBD and the CBD-Ramsar Memorandum of Cooperation (from 1996, renewed in 2011). Today, these collaboration agreements are no longer valid and need to be updated.

3.4.2 Topics of the GBF relevant to Ramsar

Drafting the GBF has been a long process that has allowed in-depth dialogue between Parties and a variety of different stakeholders. The theory of change of the framework and its vision, and goals A, B and D are

[115] Ramsar Convention, 'Global Wetland Outlook: State of the World's Wetlands and Their Services to People' (Ramsar Convention Secretariat, 2018), available at <https://medwet.org/wp-content/uploads/2018/09/ramsar_gwo_english_web.pdf> (visited 15 February 2023) at 19.

[116] CBD Secretariat, *Global Biodiversity Outlook 5, supra* note 15, at 152.

[117] 'Relationship of the Convention with the Commission on Sustainable Development and biodiversity-related conventions, other international agreements, institutions and processes of relevance', CBD Dec. III/21 (1996); 'Cooperation with other conventions and international organizations and initiatives', CBD Dec. X/20 (2010).

[118] 'Partnerships and synergies with Multilateral Environmental Agreements and other institutions', Ramsar Res. X.11 (2008); 'Partnerships and synergies with Multilateral Environmental Agreements and other institutions', Ramsar Res. XI.6 (2012).

[119] CBD, 'Inland Waters Biodiversity', available at <https://www.cbd.int/waters/> (visited 15 February 2023).

[120] 'Memorandum of cooperation between international agencies, organisations, conventions and the Secretariat of the Convention on Biological Diversity on the implementation of the Strategic Plan for Biodiversity 2011-2020 and the achievement of the 2020 Aichi biodiversity targets' (CBD, 2011), available at <https://www.ramsar.org/sites/default/files/documents/pdf/moc/MoU_Aichi2020_final.pdf> (visited 12 March 2023).

[121] 'The Convention on Biological Diversity (CBD) and the Ramsar Convention on Wetlands (Ramsar) 5th Joint Work Plan (JWP) 2011 – 2020', available at <https://www.ramsar.org/sites/default/files/documents/pdf/moc/CBD-Ramsar5thJWP_2011-2020.pdf> (visited 15 February 2023).

not contradicting the vision and strategic aims of the Ramsar Convention. The goal C, to fairly and equitably share benefits from the utilization of genetic resources, is not a focus in the general Ramsar discourse, but addressed thematically in the agriculture-related work. When taking a closer look at the 2030 action targets, headline indicators and planning, monitoring, reporting and review mechanisms, there are several themes that are important for Ramsar and the benefit of wetlands.

The current Ramsar Strategic Plan (2016-2024)[122] includes four goals and 19 targets. First goal with targets 1-4 addresses wetland loss and degradation, targets 5-7 focus on conserving and managing the Ramsar site network effectively, targets 8-13 are about wise use of wetlands in general, and targets 14-19 aim to enhance implementation. The GBF provides a wider framework also to Ramsar, while introducing eight action targets to reduce threats to biodiversity, five targets to meet people's needs through sustainable use and benefit sharing, and ten targets for tools and solutions for implementation and mainstreaming. Additionally, the GBF stresses implementation support mechanisms, enabling conditions, responsibility and transparency and communication, education, awareness and uptake.

GBF Targets 1-8 aim to reduce threats to biodiversity. Target 1 lays down an important concept of biodiversity-inclusive spatial planning addressing land- and sea-use change, which includes multifunctionality (not only targets set for biodiversity, but also for water and climate), multi-stakeholder participation and cross-sectoral involvement. All of the targets address impacts from water basins to key biodiversity hot spots, highlighting the importance of complete national wetland inventories under Ramsar. Target 2 of the GBF addresses the need for restoration which applies to all wetlands, not only wetlands that are designated as Ramsar sites or are designated as a part of the protected area network. Target 3 sets a new level of ambition related to protected area networks (30 per cent), which also applies to wetland ecosystems and the Ramsar site network. Additionally, Target 3 reinforces the concept of 'other effective area-based conservation measures', which supports protected area networks with the wider land- and seascapes. This so-called OECM-tool provides an opportunity for wetland conservation and wise use. Targets 4-7 address management actions for threatened species, sustainable use and application of the ecosystem approach, eliminating, minimizing and reducing risks related to invasive alien species and pollution, which are familiar to Ramsar. Target 8 underlines the role of natural and healthy

[122] 'The Ramsar Strategic Plan 2016-2024', Ramsar Res. XII.2 (2015).

ecosystems in the climate crisis, which is also addressed in Ramsar as an additional argument to the criteria for the designation of a Ramsar site.[123]

GBF Targets 9-13, meeting people's needs through sustainable use and benefit-sharing, resonate with Ramsar by acknowledging ecosystem services, quality and quantity of water (concerning the whole cycle of water), increasing resilience and adding blue spaces. It recognizes sectoral industries that have a direct impact on biodiversity, but does not explicitly mention all.

Targets 14-23 of the GBF, tools and solutions for implementation and mainstreaming, are important to the Ramsar discourse as well. Not only is there a need to fully integrate biodiversity values into policies, regulations and different decision-making processes, but also to simultaneously address wetlands' role in climate change mitigation and adaptation and to water quality. As Ramsar shares the concerns about adequate financing and ensuring equitable and effective participation, we need to empower everyone to act for nature. Therefore, the role of the business sector is critical, not to forget about the possibilities of civil society in general.

3.4.3 Strengthening synergies of the GBF with Ramsar

Before the current GBF-process, the content of how synergies could be strengthened were based on the findings from the UNEP project entitled 'Improving the effectiveness of and cooperation among BRCs and exploring opportunities for further synergies' as described above in section 2.2. If the definition of the enhancing synergies is linking processes in a way that increases the effects of the sum of the joint activities beyond the sum of individual activities, and thus making efforts more effective and efficient, what could be the input of Ramsar to the GBF?

Ramsar COP12 (2015) made the decision of its Fourth Strategic Plan (2016-2024) and decided to strengthen synergies as a part of Goal 4 'Enhancing implementation', its 18th target which states that 'international cooperation is strengthened at all levels'. Key, but non-exhaustive, tools were described to be Ramsar Regional Initiatives, multilateral and bilateral agreements and MoUs. In addition, non-exhaustive key actors were addressed, including the Ramsar Secretariat, Contracting Parties, International Organization Partners, Regional Centres and MEAs.[124] The assessment of the progress and challenges in implementing the Ramsar Convention Strategic Plan takes place every three years. For the Strategic Plan 2016-2024, the global

[123] 'Guidance on identifying peatlands as Wetlands of International Importance (Ramsar Sites) for global climate change regulation as an additional argument to existing Ramsar criteria', Ramsar Res. XIII.12 (2018).
[124] Ramsar Res. XII.2 at 27-33.

implementation report was presented at COP13 in 2018 based on the national reports submitted by the Contracting Parties.

As part of the Ramsar strategy process, Parties decided on an indicator and baseline for evaluating change at the Party level. Several Parties have national coordination mechanisms for the implementation of MEAs. The national reports also included the question of whether mechanisms are in place at the national level for collaboration between the Ramsar Administrative Authority and the focal points of UN and other global and regional bodies and agencies (for instance, UNEP, the United Nations Development Program (UNDP),[125] WHO, FAO, the United Nations Economic Commission for Europe (UNECE),[126] the International Tropical Timber Organization (ITTO)[127]). According to the latest report of global implementation of the Ramsar Convention,[128] presented at COP14, the areas in which less progress has been made are establishment of collaborative mechanisms to involve national focal points of other MEAs and global and regional bodies and assessment of national and local training needs for the implementation of the Convention.[129]

The current arrangement of the Secretariat of the Ramsar Convention being hosted by IUCN is seen as an obstacle to be fully acknowledged at the high-level political forums. The Standing Committee (SC) has instructed the Secretariat to bring forward a structured proposal regarding the possibility of the Convention to obtain an observer status at the UNGA.[130] The continuity of the Observer Status Working Group was endorsed by SC57 and it recommends to continue its work until the completion of the financial and legal status analyses of the Secretariat of the Convention on Wetlands and the presentation of its findings with final recommendations on the observer status matters to SC60 (in 2022). The SC59 took a note of the financial analysis of the legal status of the Ramsar Secretariat presented three options (an independent intergovernmental organisation, a treaty a Secretariat linked to the UN or Secretariat administered by UNEP).[131] The Ramsar COP14 in its sixth resolution of Enhancing the Convention's visibility and synergies with other multilateral environmental agreements and other international institutions, requests the Secretariat to present

[125] See <https://www.undp.org/>.
[126] See <https://unece.org/>.
[127] See <https://www.itto.int/>.
[128] 'Report of the Secretary General on the implementation of the Convention: Global implementation', Ramsar COP14 Doc. 9.1 (2022).
[129] *Ibid.* at 2.
[130] 'Agenda item 10: Observer status in the United Nations General Assembly', Ramsar Dec. SC55-11 (2019).
[131] Lorena Martínez Hernández, Léa Badoz and Lydia Slobodian, 'Financial Analysis of the Legal Status of the Ramsar Secretariat' (L4EARTH, 2022), available at <https://www.ramsar.org/sites/default/files/documents/library/financial_analysis_legal_status_secretariat_2020_e.pdf> (visited 12 March 2023).

the report with recommendations to the SC62 for discussion and a subsequent draft resolution to SC63 for its consideration.[132]

One way to evaluate if the GBF process has reached the level of ambition in strengthening the MEA synergies, is to compare the outcome with 12 conclusions from Bern I and II consultation workshops. How were the objectives of the MEAs integrated into the GBF, are there indicators from MEAs included in the monitoring framework, are reviewing, and reporting processes integrated, are there elements for joint approaches and work programmes? Much has laid on processes of national implementation, the crucial and integrating role of the NBSAPs, but also MEAs to operationalize the GBF in their future work. How did the Secretariat and Parties manage to integrate the aims of the Ramsar Convention? What Ramsar decisions need to follow to operationalize the GBF? What is the niche of Ramsar in the future ecosystem of MEAs?

The inputs made by different Secretariats of MEAs give light to efforts made to post-2020. During the post-2020 process, the Ramsar Secretariat's four submissions mainly highlighted wetland trends, change in the extent of water-related ecosystems over time[133] and the list of Wetlands of International Importance, but failed to address additional issues. It seems that not at least Ramsar has seized the opportunity set out by Bern I and II workshops and added new means to reverse the deciding curve of the most degraded ecosystem of wetlands. If so far Ramsar's niche has been freshwater ecosystems, it seems that there are important themes that have not yet been adequately addressed, like a percentage target for freshwater protection network. Moreover, Ramsar seems to be looking over the crucial OECM-tool as the tool for managing water basins. Not to forget the broad concept of Ramsar wetlands, freshwater being one type of wetlands among other types of wetlands. Building on the work done within wetland management in the course of 50 years of the Ramsar Convention and taking the responsibility of wetland conservation, management and wise use, implementing Ramsar could reduce overlapping responsibilities at the global, regional and national level.

Based on decisions made and adoption of the GBF at CBD COP15, Parties to the Ramsar Convention have their next momentum to renew the forms of MEA collaboration and operationalization of the GBF in its forthcoming Strategic Plan for the next decade in Ramsar COP15, in 2025.

[132] 'Enhancing the Convention's visibility and synergies with other multilateral environmental agreements and other international institutions', Ramsar Res. XIV.6 (2022).
[133] Ramsar custodian SDG Indicator 6.6.1, see UN Stats, 'SDG indicator metadata. Indicator 6.6.1: Change in the extent of water-related ecosystems over time' (2022), available at <https://unstats.un.org/sdgs/metadata/files/Metadata-06-06-01a.pdf> (visited 15 February 2023).

3.5 Convention on International Trade in Endangered Species of Wild Fauna and Flora

3.5.1 Introduction

The Convention on International Trade in Endangered Species of Wild Fauna and Flora, which was adopted in 1963 and entered into force in 1975, is an international agreement between 184 Parties. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species.

The CBD COP adopted decision VII/26,[134] calling for an enhanced cooperation between the CBD and other BRCs, such as CITES. The decision was adopted to strengthen existing cooperative arrangements, enhance synergies, reduce inefficiencies, and to improve the implementation of both conventions.[135] It was at the CITES COP18 in 2019 that the Parties adopted a Decision on cooperation with other BRCs[136] and a decision on the CITES Strategic Vision.[137]

The CITES Strategic Vision: 2021-2030 recognizes, inter alia, that Parties' efforts to implement the Convention may also provide benefit to, and draw strength from, the GBF.[138] Furthermore, its Goal 4 is that CITES policy development also contributes to and learns from international efforts to achieve sustainable development. Objective 4.2 of the vision document specifically notes the importance of achieving CITES' aim as a contribution to the GBF.

3.5.2 Topics of GBF relevant to CITES

Some of the goals, targets, and enabling conditions in the GBF are particularly relevant for CITES. Further, the monitoring framework also includes proposals for indicators to measure species' status, including the Red List Index, the Living Planet Index, and the Species Protection Index.[139]

GBF Target 5 is of direct relevance to CITES. It states: 'Ensure that the harvesting, trade, and use of wild species is sustainable, legal, and safe preventing overexploitation, minimizing impacts on non-target species

[134] 'Cooperation with other conventions and international organizations and initiatives', CBD Dec. VII/26 (2004).
[135] See also CITES, 'Promoting CITES-CBD Cooperation and Synergy Proceedings of the Workshop 20 – 24 April 2004 held at the International Academy for Nature Conservation of the Federal Agency for Nature Conservation' (2004), available at <https://cites.org/sites/default/files/common/cop/13/inf/vilm.pdf> (visited 15 February 2023).
[136] 'Cooperation with other biodiversity-related conventions', CITES Dec. 17.56 (Rev. CoP18) (2016).
[137] 'CITES Strategic Vision', CITES Dec. 18.23 (2019).
[138] CITES Strategic Vision: 2021-2030', CITES Res. 18.3 (2019).
[139] 'Monitoring framework for the Kunming-Montreal Global Biodiversity Framework', CBD Dec. 15/5 (2023).

and ecosystems, and reducing the risk of pathogen spill-over, applying the ecosystem approach, while respecting and protecting customary sustainable use by indigenous peoples and local communities'. Target 5 also covers traded wild species that is legal and safe (not poached, illicitly trafficked or unsustainable), which is supportive of CITES' objective to address threats to wildlife posed by international trade. In addition, the Targets 9, 12 and 20 and their proposed indicators are also of relevance to CITES, as these cover wild species conservation, sustainable management and use.

3.5.3 Strengthening synergies of the GBF with CITES

In support of the development of the GBF, the CITES Secretariat has provided inputs on capacity-building and technical and scientific cooperation, on sustainable use of biological diversity, on CBD COP process on the identification of possible targets, indicators, and baselines, and several others.[140] The synergies can be strengthened by identifying cooperative actions for the conservation and sustainable use of wildlife and by articulating trade-specific activities, such as strengthening enforcement and operations. Overall, to strengthen synergies at the national level, consolidation of resources and coordination of efforts under the various treaties will be crucial, especially the broad alignment of the tasks of all the multilateral environmental and biodiversity-related agreements. For GBF implementation, a checklist or tool could be developed to facilitate efforts to support these synergies between the conventions.

3.6 The Convention on Migratory Species

The Convention on the Conservation of Migratory Species of Wild Animals (CMS) is the only global convention specializing in the conservation of migratory species, their habitats and migration routes. Since its entry into force in 1979, the Convention has brought together the states through which migratory animals pass, the 'range states', and laid the legal foundation for internationally coordinated conservation measures throughout a migratory range.

3.6.1 Topics of GBF relevant to CMS

Various topics of the GBF are of relevance to the CMS. Particularly evident is GOAL A on the management of areas, with regard to the integrity of ecosystems and connectivity. However, the wording of GOAL A omits

[140] 'Cooperation with other biodiversity-related conventions: CITES input to the post-2020 global biodiversity framework', CITES doc. SC73 Doc. 12 (2021).

non-contiguous areas − a major aspect of connectivity for migratory species.[141] Relevance to CMS is also seen in the inclusion of provisions to promote 'enabling conditions' and 'responsibility and transparency' in the GBF[142] as per the recommendation of the CMS.

3.6.2 Strengthening synergies of the GBF with the CMS

At its 12th meeting, in 2017, the CMS COP adopted a Resolution on synergies and partnerships.[143] The Resolution provides comprehensive and wide-ranging guidance for CMS Parties and the Secretariat, among others, to strengthen cooperation and synergies with other BRCs and organizations, including in the framework of the Liaison Group of BRCs, the Strategic Plan for Biodiversity 2011-2020 and its follow-up, the Strategic Plan for Migratory Species 2015-2023[144] and the 2030 Agenda for Sustainable Development.

Cooperation between CMS and CBD was guided by a Joint Work Plan for the CBD and CMS Secretariats initially adopted during CMS COP8 and the Secretariats continued cooperating under the auspices of the Biodiversity Liaison Group (BLG).[145] [146] Activities under the Joint Work Plan are set in the framework of the Conventions' contribution to the targets of the Strategic Plan for Migratory Species 2015-2023 and the Aichi Biodiversity Targets. They cover such areas as: communications; area-based conservation measures; energy sector developments with migratory species conservation; reciprocal attention to the issues of underwater noise and marine debris addressed under the two conventions; fisheries and sustainable wildlife management; and cooperation with respect to other relevant aspects of marine biodiversity, including the process for the description of 'ecologically or biologically significant marine areas (EBSAs)'.[147]

The CMS Secretariat has been actively participating in the meetings of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) and of the Subsidiary Body on Implementation (SBI) of the CBD, and other relevant meetings, to identify and raise attention to CMS priorities. The CMS Secretariat reviewed and analyzed key documents on the goals and targets, and related indicators and baselines, of the GBF draft and undertook work to address the lack of adequate indicators

[141] 'CMS Secretariat analysis of the first draft of the post-2020 global biodiversity framework and its proposed indicators´, CMS notification 2021/011 (2021).
[142] Sections I and J.
[143] 'Synergies and partnerships', CMS Res. 11.10 (Rev.COP12) (2017).
[144] 'Strategic Plan for Migratory Species 2015-2023', CMS Res. 11.2 (2014).
[145] Joint Work Plan for the CBD and CMS Secretariats for the period 2016-2018, available at <https://www.cms.int/sites/default/files/uploads/pdfs/CMS-CBD_JWP_2016-2018_e.pdf> (visited 16 February 2023).
[146] 'Cooperation between CMS and CBD', CMS doc. UNEP/CMS/StC44/18.1 (2016).
[147] Joint Work Plan for the CBD and CMS Secretariats for the period 2016-2018, *supra* note 145.

in the proposed monitoring framework for ecological connectivity.[148] A document 'Ecological Connectivity Indicators for the Post-2020 Global Biodiversity Framework'[149] was prepared to ensure that connectivity was meaningfully addressed as part of implementation of the GBF at national and global levels. The inputs and recommendations were submitted to inform the GBF negotiation process. Enhancing ecological connectivity is a CMS priority, and it has become one of the key concepts in the GBF, for example through inclusion in Goal A, in Target 1 on spatial planning, Target 2 on restoration, and Target 3 on area-based conservation among others.[150] Other indicators of relevance to CMS include those related to Target 4 on the harvesting, trade and use of wild species of fauna and flora.

3.7 World Heritage Convention

The World Heritage Convention (WHC) was adopted in 1972 and entered into force 3 years later with the aim to ensure 'the protection, conservation and presentation of the cultural and natural heritage'.[151] As, apart from cultural values, also sites of *ecological* significance are preserved, the Convention contributes to the protection of natural habitat, including global biodiversity sites, such as tropical forest.[152] Holding responsibility for the preservation of the World Heritage sites, there is great potential for the WHC to contribute to biodiversity protection through the conservation of wilderness areas.[153]

3.7.1 Topics of GBF relevant to WHC

Of particular relevance for the World Heritage Convention are GBF targets that relate to protected areas, and the general conservation of natural habitat. In this regard, this would refer to Target 3, seeking to conserve by 2030 at least 30 per cent of terrestrial, inland water, and of coastal and marine areas, especially areas of particular importance for biodiversity and its contributions to people, by ensuring they are effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures.

[148] 'CMS contribution to the post-2020 global biodiversity framework (prepared by Secretariat', CMS Doc. UNEP/CMS/ScC-SC5/Doc.4.2 (2021).
[149] *Ibid.*
[150] CMS, 'High-Level Segment − UN Biodiversity COP15: Statement from CMS Executive Secretary' (2022), available at <https://www.cms.int/en/news/high-level-segment-un-biodiversity-cop15-statement-cms-executive-secretary> (visited 22 February 2023).
[151] Art. 5.
[152] Jeffrey Sayer et al, 'Tropical Forest Biodiversity and the World Heritage Convention', 29(6) *AMBIO: A Journal of the Human Environment* (2000) 302-309.
[153] James R. Allan et al, 'Gaps and opportunities for the World Heritage Convention to contribute to global wilderness conservation', 32(1) *Conservation Biology* (2018) 116-126.

Target 11 on maintaining and enhancing nature's contributions to regulation of air quality, quality and quantity of water, and protection from hazards and extreme events for all people also talks to the World Heritage Convention and considers intergenerational aspects.

3.7.2 Strengthening synergies of GBF with WHC

The GBF Goal A highlights the importance of integrity, connectivity and resilience of all ecosystems. Moreover, Target 2 aims to put at least 20 per cent of degraded freshwater, marine and terrestrial ecosystems under effective restoration, ensuring connectivity among them and focusing on priority ecosystems. As suggested by Kormos et al,[154] World Heritage Sites need to be connected to other protected areas under the GBF to ensure meeting a comprehensive and holistic biodiversity protection. Recommendations encompass the inclusion of the full coverage of Earth's wilderness areas with outstanding universal value in the World Heritage List and more effective protection of the ecological integrity of existing sites.[155]

3.8 International Convention for the Regulation of Whaling and its Commission

3.8.1 Introduction

To date, we are aware of the importance of whales for marine ecosystems. Whales shape the ecological structure of marine ecosystems in many ways: they consume large amounts of biomass and act as prey; they transport nutrients vertically and horizontally and play a key role in supporting nutrient cycles by a) initiating zooplankton production near surface, and b) serving as a food source for a number of deep-sea species after death (whale falls).[156]

With the aim to establish a system of international regulation for the whale fisheries to ensure proper and effective conservation and development of whale stocks,[157] the International Convention f.for the Regulation of Whaling was signed in 1946 and is implemented through the International Whaling Commission (IWC).

3.8.2 Topics of GBF relevant to IWC

[154] Cyril F. Kormos et al, 'A Wilderness Approach under the World Heritage Convention', 9(3) *Conservation Letters* (2016) 228-235.
[155] *Ibid.*
[156] Joe Roman et al, 'Whales as marine ecosystem engineers', 12 *Frontiers in Ecology and the Environment* (2014) 377-385.
[157] Preamble of the Convention.

Even though the IWC is specific to the species of whales, it belongs to the group of BRCs. Apart from links to the broader mandate and goals of the GBF, one specific target, Target 9, is relevant to the IWC. Target 9 seeks to 'ensure the management and use of wild species are sustainable, thereby providing social, economic and environmental benefits for people [...] and protecting and encouraging customary sustainable use by indigenous peoples and local communities'. This specifically highlights the role of the IWC in ensuring sustainable practices as regards whaling, while recognizing indigenous peoples and local communities.

3.8.3 Strengthening synergies of GBF with IWC

While the IWC mandate includes both the management of whaling and the conservation of whales, it seeks to address new conservation concerns by including bycatch and entanglement, ship strikes, ocean noise, pollution and debris, and sustainable whale watching into the IWC work plan.[158] Still, when defining 'sustainability', it is crucial to not only consider the 'western worldview that understands animals and nature as separate from and subordinate to humans', but also alternative views by indigenous peoples, for instance, who see humans as part of it.[159] The IWC has been criticized for limited agency for indigenous people and local communities in the regulation of sustainable whaling and for a 'superficial' introduction of other worldviews apart from 'Western Science'.[160]

The GBF emphasizes the importance of equal participation in decision-making by all, mentioning in particular indigenous peoples and local communities, women, and youth (Targets 21, 22 and 23). In this way, the GBF offers an opportunity to initiate change within the IWC as regards the integration of different knowledge systems for future governance of biodiversity.

[158] See the IWC website at <https://iwc.int/en/>.
[159] Lotta Viikari, 'International Whaling Commission as a Natural Resource Management Regime. Quest for Balance Between Western Science, State Governance and Indigenous Self-Determination' *International Journal on Minority and Group Rights* (published online ahead of print, 2023)
[160] *Ibid.*

3.9 Emerging Agreement for the Conservation and Sustainable Use of Marine Biodiversity of Areas beyond National Jurisdiction

3.9.1 Introduction

Under the United Nations Convention on the Law of the Sea (UNCLOS),[161] a new international legally-binding instrument for the conservation and sustainable use of marine biological diversity beyond national jurisdiction was recently concluded. The BBNJ process started with an Ad Hoc Open-Ended Working Group and Preparatory Committee meetings" or "an Ad Hoc Open-Ended Working Group and a Preparatory Committee and a meetings before the decision for a formal negotiation of the new instrument was made by the UNGA.[162] Four Intergovernmental Conferences (IGCs) then followed, with a prolonged process due to the Covid-19 pandemic and additional two meetings, currently awaiting adoption, ratification, entry into force and implementation.[163]

The aim of the BBNJ instrument is the conservation and sustainable use of marine biodiversity of 'areas beyond national jurisdiction (ABNJ)', to be achieved through four main pillars that were agreed upon as part of 'the package': marine genetic resources (MGRs); area-based management tools (ABMTs), including Marine Protected Areas (MPAs); environmental impact assessments (EIAs); and capacity-building and the transfer of marine technology (CB&TT).[164] The agreement's mandate, thus, entails the fair and equitable access to and sharing of benefits deriving from marine genetic resources, the establishment of ABMTs, including MPAs, the conduct of EIAs and strengthening ocean science and capacity-building.[165]

3.9.2 Topics of GBF relevant to BBNJ

While the CBD has the mandate for the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the use of genetic resources, UNCLOS regulates the ocean. The overlaps between them include marine biodiversity governance. Obvious links between the GBF and the future BBNJ instrument become apparent already in their titles, and this section looks

[161] United Nations Convention on the Law of the Sea, Montego Bay, 10 December 1982, in force 16 November 1994, 21 *International Legal Materials* (1982) 1261.
[162] 'International legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction', UNGA Res. 72/249 of 19 January 2018.
[163] Alice B. M. Vadrot et al, 'Marine Biodiversity Negotiations During COVID-19: A New Role for Digital Diplomacy?', 21(3) *Global Environmental Politics* (2021) 1-18.
[164] UNGA Res. 72/249, para. 2.
[165] Ina Tessnow-von Wysocki and Alice B. M. Vadrot, 'The Voice of Science on Marine Biodiversity Negotiations: A Systematic Literature Review', 7 *Frontiers in Marine Science* (2021) 614282.

more closely into the synergies between them. Several topics of the BBNJ are linked to the GBF and require consideration in other fora, namely benefit-sharing of marine genetic resources, DSI, marine protected areas and other ABMTs, and information and data sharing. A holistic approach to biodiversity governance requires considering both processes in their negotiation and for implementation.

Similar to the GBF, the BBNJ agreement seeks to achieve fair and equitable access to and sharing of benefits from genetic resources − in this case, looking only at *marine* genetic resources in *areas beyond national jurisdiction*. It is, therefore, important to align efforts in both processes early on.

In the BBNJ negotiations, the discussions concerned the access to and fair and equitable sharing of benefits of MGRs in ABNJ, however there are several overlaps with the aims of the GBF. While under the CBD, MGR access and benefit-sharing is handled under the Nagoya Protocol, MGRs from ABNJ do not fall under existing regulations. Prior to the conclusion of the new treaty, there were little to no regulations for the access to MGRs in ABNJ, meaning that any state or private entity could collect samples in the High Seas, undertake research and develop products from this knowledge without a need to share benefits. This was particularly problematic considering the gap between the technological and financial capacities of states to undertake such research cruises and follow up with the research until the final product development.[166] Thus, the BBNJ agreement seeks to regulate access to and benefit sharing of MGRs in ABNJ in a fair and equitable manner.

Besides questions on the terminology of DSI, and the ABS system, there is the urgent need to address ABS and DSI issues in areas *beyond* national jurisdiction. These discussions cannot be separated, since it is not always clear if a DSI is if a DSI originated from a MGR from within or outside within or outside the national jurisdiction.[167] There are various benefit sharing issues that − with new technological advances – would improve of being handled by UNCLOS, such as the MGRs issue, but also data collection and sharing practices. A clearing house mechanism for BBNJ will be developed, which would benefit from best practice examples and lessons learned from other processes, such as the CBD, or even integrate the existing infrastructure and avoid duplicating information within two

[166] Harriet Harden-Davies, 'Deep-sea genetic resources: New frontiers for science and stewardship in areas beyond national jurisdiction' 137 *Deep-Sea Research Part II: Topical Studies in Oceanography* (2017) 504-513; Muriel Rabone et al, 'Access to Marine Genetic Resources (MGR): Raising Awareness of Best-Practice Through a New Agreement for Biodiversity Beyond National Jurisdiction (BBNJ)', 6 *Frontiers in Marine Science* (2019) 520; and Petro Tolochko, Alice B. M. Vadrot, 'The usual suspects? Distribution of collaboration capital in marine biodiversity research', 124 *Marine Policy* (2021) 104318.

[167] Sylvain Aubry et al, 'Bringing access and benefit sharing into the digital age', 4(1) *Plants, People, Planet* (2022) 5-12.

different clearing house mechanisms on genetic resources. DSI has been included into the new BBNJ agreement, however, leaving modalities for access and benefit sharing open to further discussions in future COPs, while encouraging recommendations by the newly established ABS Committee under the agreement. Further coordination with other existing biodiversity agreements will be required for the realization of a holistic ABS framework.

The BBNJ process has also obvious links to the GBF in the aim to establish ABMTs, including MPAs. With the GBF setting a 30 per cent target for protected areas, the BBNJ establishes the process for such (coherent network of) ABMTs/MPAs in areas *beyond* national jurisdiction and their implementation. The BBNJ agreement empowers the BBNJ COP to establish ABMTs, including MPAs in ABNJ. Yet, effective implementation will require cooperation and coordination with existing instruments, frameworks and bodies with competences on these areas, such as Regional Fisheries Management Organizations regulating fisheries, the International Seabed Authority[168] authorizing or prohibiting deep seabed mining activities or the International Maritime Organization (IMO)[169] governing shipping activities, to name a few.

The CBD has contributed with the identification of EBSAs, which also include areas *beyond* national jurisdiction. Tensions can be observed when it comes to the role of EBSAs for high seas governance.[170] While there are clear links (scientific identification of areas in need of protection (CBD) vs. the political decisions of establishing high seas ABMTs, including MPAs (BBNJ)), synergies between the processes are lacking and they are mainly kept as two distinct processes with different Secretariats overseeing and guarding responsibility over them. The processes will need to be linked to achieve holistic (ocean) biodiversity conservation and sustainable use.

The legally-binding instrument foresees facilitated data collection and sharing through a clearing house mechanism and advice from a scientific and technical body. It will be crucial that marine biodiversity data of areas *within* and *beyond* national jurisdiction is not separated but looked at holistically to make sense of the ecological connections.[171] Moreover, for informing regulation of areas beyond national jurisdiction, it is particularly important to ensure an inclusive all-of-society-approach, considering

[168] See <https://www.isa.org.jm/>.
[169] See <https://imo.org/>.
[170] Christian Prip, 'Identifying and Describing Ecologically or Biologically Significant Marine Areas (EBSAs): A Key Tool for the Protection of Ocean Biodiversity in Dispute', 13 *Arctic Review on Law and Politics* (2022) 171-190.
[171] Ina Tessnow-von Wysocki and Alice B. M. Vadrot, 'Governing a Divided Ocean: The Transformative Power of Ecological Connectivity in the BBNJ negotiations', 10(3) *Politics and Governance* (2022) 14-28.

multiple voices from state and non-state actors, with the incorporation of other forms of knowledge, apart from scientific findings.[172]

3.9.3 Strengthening synergies of GBF with BBNJ

The GBF is a global framework for biodiversity. It will therefore be crucial to align definitions and terminology of BBNJ and the GBF, for instance, with regard to DSI. Communication and information exchange among national focal points and representatives for both processes are important, as not all delegations can send the same people to the negotiations that are yet so connected.

To facilitate this, it is advisable to not hold the meetings simultaneously. Communication and alignment of terminology is more difficult when proceedings happen at the same moment in different parts of the world, not to speak of small country delegations that would need to choose one of the processes or miss parts of the negotiations, as was the case in 2022, when meetings to negotiate the BBNJ agreement and the GBF overlapped. Yet, following both processes is important for stakeholders.

Enhancing synergies between the GBF and the BBNJ agreement also include the recognition of marine biodiversity in the ocean as *one*, as opposed to separating biodiversity in areas within and beyond national jurisdiction. By recognizing the EBSA process for potential establishment of marine areas in the world's ocean, this could support the BBNJ process in their efforts to identify AMBTs, including MPAs in ABNJ. Both CBD and UNCLOS processes could go hand in hand, mutually supporting the global process of conserving and sustainably using biodiversity.

Data collection and sharing, as well as scientific advice to global processes is already ongoing in both marine and terrestrial biodiversity issues. Existing institutional frameworks from other MEAs and best practice examples are valuable for the successful design and implementation of the new treaty.

The BBNJ negotiations offer a particularly interesting angle, as they show the importance of establishing synergies early on in the negotiation process of a new agreement. To integrate a new agreement into the exciting landscape of frameworks, conventions and resolutions is crucial for holistic implementation of the targets on national levels. Only in this way, global aims can be successfully translated into national and local policy-making plans.

[172] Clement Yow Mulalap et al, 'Traditional knowledge and the BBNJ instrument' 122 *Marine Policy* (2020) 104103.

4 On the path to enhancing synergies

4.1 Introduction

While the need for synergies between the GBF and other MEAs is evident in academic literature and policy circles, there are several shortcomings and potential for strengthening such links for more effective implementation. We outlined valuable ways to enhance synergies between the GBF and relevant biodiversity-related MEAs. The GBF is an opportunity to provide existing biodiversity conventions common guidance on how to achieve living in harmony with nature by 2050. It can point to emerging issues, relevant to the implementation of the agreements, which were not addressed – maybe not yet even known – at the time of adoption of the agreements, such as the consideration of DSI, and can encourage further and more ambitious actions when updating their strategic plans.

However, bilateral synergies between the GBF and the biodiversity-related agreements will not suffice for effective implementation. Even if individual mandates are clear and connected to the GBF, it is also important to enhance *multilateral* synergies (*among* the individual biodiversity-related agreements). Overall, there are key take-aways that can hold true for synergy enhancement among multilateral agreements more generally, ones that can inform effective GBF implementation. The following section provides recommendations for synergies among MEAs in 1) target-setting; 2) implementation; 3) progress monitoring; and 4) transformation.

4.2 Target- setting

The first step of synergizing MEAs is the setting of targets. That includes questions on the participation of actors in the design of, as well as legal drafting to facilitate, synergistic cooperation in its implementation.

4.2.1 Drafting synergies from the beginning

The involvement of different actors from biodiversity conventions in the negotiations for the new framework was crucial. Environmental civil society organizations are relevant stakeholders in fostering and strengthening synergies among BRCs. Non-governmental organizations (NGOs) involved in the negotiation process can push governments to agree on practices, to improve collaboration and coordination and better share environmental burdens and benefits.

Besides inclusive participation in the negotiation process, also references in the legal text can carry weight. The need for the enhancement of synergies was repeatedly stated by the participating Parties, including the Secretariats of the BRCs. Wherever the GBF makes explicit reference to the relevant MEAs (and their corresponding strategies), it encourages them to operationalize the GBF under their respective decision-making processes and outlines the most pertinent synergies for each MEA. Opportunely, as indicated above, also a series of MEAs have made explicit reference to the GBF to date in their COP decisions and resolutions.[173] Direct mentions of biodiversity-related agreements in the GBF text are limited (e.g. reference to the FAO in para 12), and the individual targets remain without direct reference to existing institutions. While explicit links between individual actions with the delivery of the GBF goals & targets could have facilitated implementation, direct links between the GBF targets and the biodiversity agreements' mandate are highly visible, as outlined in this article.

Inclusion of strong language on the progressive and coherent integration of synergies in the context of GBF implementation and reference to specific institutions, both in the body of the GBF, as well as in the targets could have additionally contributed to strengthening synergies and need to be considered in future framework drafting. As the BBNJ case shows, besides strengthening synergies with existing MEAs, also *ongoing* processes and *emerging* MEAs need to be considered. In this way, synergies to future biodiversity-related MEAs can already be prepared in the negotiation stage.

4.2.2 Knowing synergies

Information exchange on how to enhance synergies is crucial throughout the process. Ideas include the creation of a global database of the case studies on synergies and making sure all Parties, stakeholders of MEAs and other relevant agreements are aware of this database. Additionally, training materials, including e-learning materials based on the existing case studies, can be developed. Focus would need to be on the training of the national specialists and on promoting and facilitating constant training of the target groups.

It will be important to ensure sustainability in the development of synergy mechanisms and tools after completion of the projects on synergies. For

[173] A list of MEAs references to the post-2020 Global Biodiversity Framework: 'review of the fourth Strategic Plan for the Ramsar Convention', Ramsar Res. XIII.5 (2018); 'Migratory Species in the Post-2020 Global Biodiversity Framework', CMS Decs 13.7 and 13.8 (2020); 'Report of the World Heritage Centre on its activities and the implementation of the World Heritage Committee's decisions', WHC Dec. 43 COM 5A (2019); 'Integration of Sustainable Development Goal 15 and related target 15.3 into the implementation of the United Nations Convention to Combat Desertification and land degradation neutrality', UNCCD (United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and or Desertification, Particularly in Africa, Paris, 17 June 1994, in force 26 December 1996, 33 *International Legal Materials* (1994) 1309, <http://www.unccd.int>) Dec. 14.3 (2020); and CITES Dec. 18.23.

example, the pilot project 'Capacity-building to promote the integrated implementation of the Cartagena Protocol and the CBD at the National Level'[174] could have gone beyond the creation of a fact-finding report[175] and development of the e-training modules,[176] which many countries were not aware of, and only nine countries participated in. Therefore, the uniqueness of country contexts may require the conduction of a thorough analysis of implementation mechanisms that consider national specificities.

4.3 Implementation

4.3.1 Coordination of Secretariat actions

After adoption, the implementation of the GBF needs to happen on global, regional and national levels with the participation by a number of actors. There are several ways in which synergies can be strengthened among MEAs for successful implementation.

It should be reiterated that, given the absence of a 'World Environmental Organization', or other high-level institutional structure mandated to coordinate the implementation and delivery of all the objectives of the different MEAs,[177] it is up to each individual MEA to undertake the task of operationalizing the GBF under its own decision-making processes. This model of 'horizontal coordination'[178] may derive from a COP decision (as is the case of the CBD),[179] or, less frequently, from a normative provision of a legally binding instrument. In the latter case, the synergies may simply seek to coordinate Secretariat actions with those of other MEAs, or rather explicitly attempt to proactively avoid normative conflicts between different legal obligations.[180] Pursuant to that, MEAs would choose at the highest decision-making level (most often, the COPs) to associate their Parties actions' taken for the implementation of their long-term planning processes (or, if applicable, obligations deriving from their Convention texts) with individual goals and targets of the GBF.

[174] 'Capacity-building to promote the integrated implementation of the Cartagena Protocol and the CBD at the National Level: the Desk Study findings related to the CBD Secretariate Project, the Round Table and Seminar materials/ under the general editorship of A. Valiantsina et al (Pravo & Economica, 2017).
[175] Miranda Geelhoed, Elisa Morgera and Elsa Tsioumani, 'Synthesis Report – National Desk Studies: Capacity-building to promote integrated implementation of the Cartagena Protocol on Biosafety and the Convention on Biological Diversity at the national level' (University of Strathclyde, 2017), available at <https://strathprints.strath.ac.uk/67244/> (visited 12 March 2023).
[176] CBD, 'Biodiversity e-learning platform: Biosafety. Mainstreaming Biosafety', available at <https://scbd.unssc.org/course/index.php?categoryid=14> (visited 12 March 2023).
[177] Laurence D. Mee, 'The Role of UNEP and UNDP in Multilateral Environmental Agreements', 5(3) *International Environmental Agreements: Politics, Law and Economics* (2005) 227-263.
[178] Kim and Bosselmann, 'International Environmental Law', *supra* note 58.
[179] See, for instance, 'Cooperation with other conventions, international organizations and initiatives', CBD Dec. 14/30 (2018).
[180] For illustrative purposes, see, respectively, Arts 19.2(c) of the Rotterdam Convention and 237 of the UNCLOS.

With universal membership, UNEA would be in the position to enhance MEA synergies and, consequently, as reiterated earlier, UNEP has acted in this regard through organizing the Bern workshops, for instance. With its mandate to 'further the development of its international environmental law aiming at sustainable development, including the development of coherent interlinkages among existing international environmental conventions',[181] UNEP has respective responsibility, also in the case of the GBF implementation. Bilateral work plans between the biodiversity-related MEAs coordinate Secretariat actions. Moreover, in the international chemicals and waste cluster, the COPs of the relevant Basel, Rotterdam and Stockholm Conventions[182] regularly adopt a trilateral joint work programme and budget to guide Secretariat work.[183] These initiatives already constitute best practices, but need to be extended.

4.3.2 Communication between focal points

Coordination and communication between focal points (globally, regionally, nationally and locally) is recommended to stay informed about negotiation developments, and use of terminology. Exchange of best practice examples from other MEAs, where available, can be a valuable source for inspiration and going forward. Through regular contact between focal points, successes and challenges can be discussed, which might relate to the work of other agreements. Such communication can prevent duplication of efforts, exchange solutions for dealing with challenges and achieve more effective implementation of the common vision.

4.3.3 Synchronization of actions and budget

Besides clear mandates among BRCs fostering synergies, it is essential to put in place coordinated actions in terms of timing and available resources in concrete instruments. With the approved GBF, the BRC should agree on resolutions or decisions in their next COPs, pointing to synchronizing actions and, accordingly, allocating appropriated resources to this end.

Most MEAs organize their work using action plans, strategic plans, or equivalents. The idea is to synchronize actions. To do so, one action for a particular time period could be developed in all agreements to enhance overall impact, whether they are specific conservation measures,

[181] UNEP Governing Council Dec. 19/12, para 3b.
[182] Basel Convention (Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Basel, 22 March 1989, in force 5 May 1992, 28 *International Legal Materials* (1989) 657, <http://www.basel.int>); Rotterdam Convention; and Stockholm Convention (Convention on Persistent Organic Pollutants, Stockholm, 22 May 2001, in force 17 May 2004, 40 *International Legal Materials* (2001) 532, <http://chm.pops.int>).
[183] See <http://www.brsmeas.org/>.

communication strategies or other implementation actions. By applying this synchronization, it will help Parties to the different agreements to focus on obtaining results on the same issues simultaneously. Alternatively, plans with concatenated actions between MEAs could be developed in such a way that the outcomes of a measure under one agreement can be the input of activities in other agreements, allowing efficient use of the resources necessary to implement the measures and securing the use and continuity of the results obtained.

Financial considerations as regards enacting the changes need to come from environmental funds, as well as other sources (domestic, international, public, private). Moreover, questions on liability will be important to continuously address, particularly when it comes to areas beyond national jurisdiction or areas with impacts on other states; future generations; or nature in its own right.

4.4 Progress monitoring

4.4.1 Standardization of national planning, reporting, monitoring and review across MEAs

As mentioned, the monitoring of progress is crucial when it comes to international agreements. As there is no universal enforcement, monitoring of progress does not only support critical assessment of progress made, but also avoids double counting of progress indicators across MEAs and can serve as a tool to politically incentivize successful implementation, due to global transparency of action (or inaction).

Standardized national planning, reporting, monitoring and review serve to holistically evaluate progress of implementation. NBSAPs act as the key entry point to achieving synergies among the BRCs. NBSAPs, as the main national implementation mechanism of the CBD provisions, are one of the most important practical tools for ensuring synergies in the implementation of MEAs at the national level, and the adoption of the GBF has only elevated their role and importance. While various issues related to the implementation of the three goals of the CBD, and those of other MEAs, may be considered unequally and not given due attention, options for improvement include collaboration between countries and capacity-building for better NBSAPs implementation.[184]

[184] UNEP, 'Enhancing cooperation among the seven biodiversity related agreements and conventions at the national level using national biodiversity strategies and action plans' (UNEP, 2016), available at <https://wedocs.unep.org/bitstream/handle/20.500.11822/9965/Synergies-and-NBSAPs.pdf?sequence-=1&isAllowed=y> (visited 12 March 2023).

To enhance synergies, significant steps have been taken over the past decades to, for instance, effectively carry out NBSAPs at the national level. At the same time, the Interim Assessment of Revised National Biodiversity Strategies and Action Plans[185] indicates that very few NBSAPs systematically consider policy, legal and implementation options for enhancing national-level cooperation and synergies across the biodiversity conventions,[186] possibly still owing to a lack of clarity about how synergies would promote the effective implementation of biodiversity- and ecosystem-related actions at the local and national levels. Streamlined, simple guidelines and tools to facilitate the development, revision and implementation of NBSAPs across MEAs can support the exchange of experiences on the development and implementation and voluntary peer-review of NBSAPs, with a particular focus on the coherent implementation of biodiversity-related agreements.

Regional approaches can be explored to address transboundary issues identified in NBSAPs, and to enhance collaboration between national focal points, authorities and stakeholders involved in the implementation of NBSAPs in different countries. How NBSAPs can be used to promote synergies, mainstreaming and cooperation among the MEAs[187] was reviewed during the Workshop on NBSAPs and synergies among Biodiversity Convention[188] by the national focal points, government representatives and biodiversity experts from several regions[189] as well as MEA Secretariats.

Harmonization of national reporting[190] and tracking progress against targets through science-based indicators, through the Red List Index and Red List of Ecosystems as headline indicators for Goal A and Targets 1 and 4, for instance, are highly recommended.[191] National reports and communications to each MEA are crucial to assess progress in implementing the GBF. It is recommended that MEA strategic plans are aligned with the GBF to achieve more coherent reports.[192] Moreover,

[185] Balakrishna Pisupati and Christian Prip, 'Interim Assessment of Revised National Biodiversity Strategies and Action Plans (NBSAPs)' (UNEP-WCMC and Fridtjof Nansen institute, 2015), available at <https://www.cbd.int/doc/nbsap/Interim-Assessment-of-NBSAPs.pdf> (visited 16 February 2023).
[186] *Ibid.*
[187] UNEP, 'Enhancing cooperation among', *supra* note 184.
[188] Kenya, March 15-17, 2016. See UNEP, 'Enhancing Synergies across', *supra* note 49.
[189] Africa (Comoros, Cote d`Ivoire, Guinea Bissau, Kenya, Sierra Lione), Latin America and the Caribbean (Brazil, Mexico, Saint Lucia, Saint Kitts and Nevis), the Pacific (Kiribati, Samoa, Tonga, Vanuatu)
[190] UNEP-WCMC, 'Preconditions for harmonization of reporting to biodiversity-related multilateral environmental agreements' (2009), available at <https://www.cbd.int/cooperation/preconditions-harmonization-unep-wcmc-en.pdf> (visited 16 February 2023).
[191] IUCN, 'IUCN welcomes Post-2020 Global Biodiversity Framework as an important step towards addressing the nature crisis', IUCN Statement (2022), available at <https://www.iucn.org/iucn-statement/202212/iucn-welcomes-post-2020-global-biodiversity-framework-important-step-towards> (visited 16 February 2023).
[192] UNEP, 'Second Consultation Workshop', *supra* note 53.

a more integrated system for reporting on the global level can avoid duplication.

New reporting tools for MEAs, such as the 'Data Reporting Tool (DaRT)'[193] and the 'Online Reporting System (ORS)'[194] seek to facilitate a comprehensive overview of progress in meeting targets from different MEAs. With DaRT, which is currently only open to governments, progress – and lack thereof – can be analyzed and areas of successful implementation across agreements identified. With the upload of national reports for individual MEAs, contributions to the same goals reached through different agreements can be monitored over time and graphically captured. It provides a way for Parties to collect and organize relevant information for national reporting to biodiversity-related MEAs, store this knowledge for the use on a long-term basis, and share it among national experts and collaborators.[195] The ORS tool also provides such advantages, whereby real-time national data, on, for instance, identified nationally and internationally important sites for protection in percentage and hectares, or management of human activities, can be mapped and overall progress towards goals and targets be evaluated.[196]

Tools such as DaRT and ORS are particularly helpful when it comes to meeting the global targets of the GBF, such as Target 2 on ensuring 'at least 30 % of areas of degraded terrestrial, inland water, and coastal and marine ecosystems are under effective restoration'; Target 3 on effectively conserving managing 'at least 30 % of terrestrial, inland water, and of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem functions', or Target 6 on 'reducing the rates of introduction and establishment of other known or potential invasive alien species by at least 50 %'. In order to meet these targets, national data on the total areas will need to be reported by all Parties to create a global overview and evaluation of progress. Yet, it will be important to streamline efforts and avoid duplication or confusion concerning which tools are to be used by the BRC Secretariats.

When it comes to reviewing Parties' progress in the achievement of targets of biodiversity-related MEAs, outcomes of country-by-country reviews under one MEA can provide useful insights on the cross-cutting, institutional and other challenges and shortcomings that a Party has been encountering. Addressing such challenges may lead to improved compliance and better implementation outcomes for other MEAs, further

[193] See <https://dart.informea.org/>.
[194] See <https://ors.ngo/>.
[195] DaRT, 'About Dart' (2020), available at <https://dart.informea.org/about> (visited 16 February 2023).
[196] UNEP-WCMC, 'AEWA National Reports 2012-2014', available at <http://ors-api-demo.ort-staging.linode.unep-wcmc.org/> (visited 16 February 2023).

underscoring the need for proper communication among National Focal Points and the emulation of best practices from the implementation of one MEA to another.[197]

The new GBF sets mechanisms for planning, monitoring, reporting and review and emphasizes their role in synergy enhancement. Section J of the GBF (aptly titled 'Responsibility and Transparency') and its associated COP Decision[198] set the foundations for a progressive multilateral enhancement of synergies and constitute a significant improvement to their predecessor in the Strategic Plan for Biodiversity 2011-2020. The guidance on national planning and implementation[199] cement the role of NBSAPs as a living 'umbrella' document incorporating all biodiversity-related actions that Parties are bound to take, while recognizing that national targets can also 'leverage commitments made under other intergovernmental processes, relevant MEAs, including the Rio Conventions'.[200] The guidance document also recognizes that harnessing synergies will 'maximize efficiency and coherence'[201] in the delivery of the GBF. Parties are prompted to further explore synergies in national reporting by re-using relevant information submitted in line with reporting obligations under different MEAs, not only for the avoidance of additional burden, but predominantly as an additional means of assessing progress in the achievement of the GBF.[202] Furthermore, a strong encouragement for reporting tools is reiterated.

Yet, given the quite disparate trajectory of Parties' alignment with past COP decisions and thereby deriving 'guidance documents' (as non-legally binding documents), the actual transformation of NBSAPs and national reports as synergy-yielding and harnessing documents remains to be seen. An in-depth country-by-country review would have been particularly beneficial in this regard: not only would it enable the identification of Parties' shortcomings in harnessing synergies, but, consequently, it would lead to the elaboration of recommendations for necessary steps to be taken domestically in order to further tap into coordinated implementation of MEAs, while delivering the GBF.[203]

[197] Sandrine Maljean-Dubois, et al, 'Towards a better review mechanism under the post-2020 Biodiversity framework: legal options and possible institutional arrangements', Study N°03/22 (IDDRI, 2022), available at <https://www.iddri.org/sites/default/files/PDF/Publications/Catalogue%20Iddri/Etude/202203-ST0322-post2020review.pdf> (visited 16 February 2023).
[198] 'Mechanisms for planning, monitoring, reporting and review', CBD Dec. 15/6 (2022).
[199] *Ibid.* at Annex I.
[200] *Ibid*. at para. 6(a).
[201] *Ibid*. at para. 9.
[202] As can be shown in Annex II of CBD Dec. 15/6.
[203] Juliette Landry et al, 'For an effective implementation of the post2020 global biodiversity framework: what is needed at CBD COP15 and beyond', IDDRI Policy Brief N°10/22 (2022), available at <https://www.iddri.org/sites/default/files/PDF/Publications/Catalogue%20Iddri/Propositions/202211-PB1022_GBF%20implementation_0.pdf> (visited 16 February 2023).

4.5 Transformation

4.5.1 Updating strategic plans of MEAs

The transformation towards living in harmony with nature will require profound, committed, and long-lasting behavioural changes. Similarly, the GBO-5 emphasized the need to do things differently and the importance to develop transitions to sustainable pathways in key areas. The prioritization and implemented actions must include behavioural changes in societies and existing economic, financial and social systems.

Even though IPBES assessments,[204] scientific literature[205] and policy briefs[206] have highlighted the need for transformative change and it is recognized at the UN level, yet, biodiversity loss is continuing and human activities are continuously contributing to stresses on the environment. With this knowledge and the decision to take urgent actions to reverse biodiversity loss and 'live in harmony with nature', the GBF is now the opportunity to turn these words into action. This implies updating the strategic plans of existing MEAs to guide conservation for the coming decades and long-term, following a common vision and setting clear and implementable targets for the national level.

4.5.2 Enforcing transformation nationally

'Transformative' change also implies adjusting national laws so that such actions can be enforced. Biodiversity loss is not solely driven by human activities (direct drivers), but the roots are the societal structures (indirect drivers) that enable such activities.[207] Once enshrined in national laws, these structures that are currently the indirect drivers of biodiversity loss can be addressed.

Biodiversity loss needs to be tackled at its roots, which often are not as obvious and are deeply embedded in our current economic, financial and social systems. If 'business as usual' has led us near the no-return point, current processes in trade and commerce systems should be adapted accordingly. To make transformative change in societies a reality, non-economic valorization of nature (see the ecocentric approach in GBF Target 19 (f)) would need to be preferenced over profit in political

[204] IPBES, *Global Assessment Report, supra* note 17.
[205] Ingrid J. Visseren-Hamakers et al, 'Transformative governance of biodiversity: insights for sustainable development', 53 *Current Opinion in Environmental Sustainability* (2021) 20-28.
[206] IUCN, 'Post-2020 Global Biodiversity', *supra* note 16.
[207] Marine Elbakidze et al, 'Chapter 4: Direct and indirect drivers of change in biodiversity and nature's contributions to people' in Mark Rounsevell et al, *The IPBES regional assessment report on biodiversity and ecosystem services for Europe and Central Asia* (IPBES, 2018), available at <https://ipbes.net/sites/default/files/2018_eca_full_report_book_v5_pages_0.pdf> (visited 16 February 2023) 385-568.

decisions. To introduce these changes, it requires the willingness of national governments to take the initial risk of introducing that change, which might also mean short-term economic losses – for instance, when it comes to changing the energy mix or production chains. Legal changes will thus be necessary to have national laws enforcing compliance with the new regulations.

4.5.3 Recognizing humans as part of nature

The GBF created a common ground, from which humanity can transform actions in a way to recognize the intrinsic and inseparable link between humans and nature. The agreed final text of the framework refers not only to human benefits, but benefits to *all people and nature* (Target 11). Moreover, Target 12 emphasizes the *interlink between humans and nature* and Target 19 (f) refers to the 'role of collective actions, including by indigenous peoples and local communities, *Mother Earth centric actions* and non-market-based approaches including community based natural resource management and civil society cooperation and solidarity aimed at the conservation of biodiversity'. As much as we see ourselves able to explore and exploit the environment, to sustainably use it for human benefit and to put regulations in place to protect it – in any case we need to acknowledge that a life 'in harmony with nature' does not mean *alongside* nature, but *within it*. Unless we start seeing ourselves as a part of nature, our activities will continue to exploit the environment to unsustainable extents.

The GBF has to be considered as the smallest common denominator on which all CBD Parties agreed and should therefore not discourage more ambitious actions at the national level. On the international level – with no enforcement mechanism as such – this enforcement can be achieved through incentivizing compliance, education and awareness raising of the importance of biodiversity, and protecting nature in its own right – maybe through granting legal rights,[208] or acknowledging a moral obligation to live in harmony with nature. Valuing nature in its own right is not only ethically desirable, but also has a legal aspect to it when it comes to intra- and intergenerational justice and to upholding the human right to a clean, healthy, and sustainable environment.[209]

Currently the moral dimension of environmental protection is still not manifested in international environmental politics. However, the GBF could be an opportunity to introduce such a debate at the UN-level.

[208] Harriet Harden-Davies et al, 'Rights of Nature: Perspectives for Global Ocean Stewardship', 122 *Marine Policy* (2020) 104059.
[209] UNEP, 'In historic move, UN declares healthy environment a human right' (28 July 2022), available at <https://www.unep.org/news-and-stories/story/historic-move-un-declares-healthy-environment-human-right> (visited 16 February 2023).

This would entail ethical considerations to protect the environment a) for current generations, b) for future generations, and c) for the sake of the environment in itself (its own right). This would be achieved by guaranteeing no human-induced existential changes to ecosystems and a legal responsibility to not harm the environment and reverse and prevent its further damage.

4.5.4 Including global voices

While ethical responsibilities to protect nature are not prevalent in global negotiations; however, they should find room for discussion, particularly when it comes to spaces or resources that currently do not fall under the jurisdiction of any state (for instance, marine areas beyond national jurisdiction), or when they do, but have global implications when damaged (for instance, the Amazon rainforest).

In light of intra- and intergenerational justice, the governance of global commons implies that everyone has a voice when it comes to regulating, protecting and using the global commons and that no unilateral decisions over these spaces are made. When governing a global commons, there is a need for transparent and internationalized processes, including the participation all actors in the process (of negotiation and decision-making). Voices of not only the Parties to the conventions and the states to the UN system, but also indigenous peoples and local communities, non-state actors from NGOs, universities, and civil society with their diversity of generations and gender needing to be given a voice for implementing this transformative change. The UN already encourages states to establish a 'youth delegate programme'[210] to include youth in national delegations, to create new intergovernmental science panels to inform environmental policy,[211] to promote the inclusion of non-state actors in the target setting, monitoring and implementation and debates about going beyond human-centric approaches, considering non-humans in governance.[212] [213]

Moving beyond the status quo and introducing transformative change is guided by the new GBF, but will need to be implemented by regional programme directors, national government officials, city mayors, and citizens around the globe in an inclusive manner. A recent study identified

[210] UN Department of Economic and Social Affairs Youth, 'Establish a youth delegate programme', available at <https://www.un.org/development/desa/youth/what-we-do/what-can-you-do/establish-a-youth-delegate-programme.html> (visited 16 February 2023).
[211] Françoise Gaill et al, 'An evolution towards scientific consensus for a sustainable ocean future', 1 *npj Ocean Sustainability* (2022).
[212] Maria Ehrnström-Fuentes and Tiina Jääskeläinen, 'Responsibility is not only about humans' in Maria Sandberg and Janne Tienari (eds), *Transformative Action for Sustainable Outcomes: Responsible Organising* (1st ed., Routledge, 2022) 22-27.
[213] Linda Tallberg and Janne Tienari, 'Human and nonhuman animals in a posthuman reality − Accreditation schemes as voice?' in Sandberg and Tienari, *Transformative Action for, supra* note 212, 127-133.

56 transnational institutions contributing to reverse biodiversity loss by different actors, recommending a rather bottom-up approach for biodiversity governance by non-state actors (such as cities, regions, private sector, civil society) to contribute to implementation.[214] This will be important to let societies transform towards the future we want – when listening to all and creating change together.

5 Conclusion and outlook

The adopted GBF can be the roadmap and guidance document for all biodiversity-related agreements working on their individual biodiversity efforts – uniting all existing biodiversity conventions with a common purpose. After decades of facing the problem of biodiversity loss, this offers new hope to tackle the direct and indirect drivers of biodiversity loss and address them globally, using the range of international efforts already in place to counter this challenge.

This paper outlined how existing agreements can – in synergy – implement the GBF by pointing to a) which areas the GBF directly speaks to; b) how synergies *with the* GBF can be strengthened; and c) recommendations for *multilateral synergies* among the agreements throughout implementation of the GBF. Synergies between the GBF and existing conventions are crucial in order to avoid having a new framework that is disconnected from the current biodiversity agreement landscape, and to have it embedded in successful instruments to give a targeted guidance for action and can be implemented jointly – in synergy.

Based on the above analysis, it remains without doubt that the simultaneous fragmentation of the international environmental governance and the interdependence of its components (biodiversity-related MEAs and other processes) necessitate, and would significantly benefit from, synergistic coordination. In designing the GBF, input and expertise from existing bodies and the use of diverse knowledge systems was needed to support the drafting of the new roadmap, with actors who were aware of the realities of the individual issues, to help with developing indicators and learn from past policy and implementation challenges. With direct reference to other conventions and clear wording and targets, which are quantifiable, implementable, progress measurable and with an obligation to report over time, the new GBF can learn from the Aichi targets' challenges and guide into a future to live in harmony with nature.

[214] Philipp Pattberg, Oscar Widerberg, and Marcel T. J. Kok, 'Towards a Global Biodiversity Action Agenda', 10(3) *Global Policy* (2019) 385-390.

Bottom-up and top-down mechanisms are not mutually exclusive, calling for aligning the international decisions with local experience in a 'global' attitude. When it comes to the GBF itself, there is a limit to the extent to which it can advance unilaterally. Furthermore, shared knowledge, monitoring, and some degree of enforcement are necessary to deliver targets that work. Letting different knowledge forms contribute to creating the world we want to see is important to reflect on when drafting and implementing targets.[215]

While the status quo has brought us dangerously close to exceeding the tipping points of the planet,[216] the adopted approaches, goals, targets, indicators, and other measures included in the framework must be interpreted under this spirit, and align with the Rio Principles. For this to happen, actions will need to be put into place on national levels for a genuine transition to living in harmony with nature. Apart from quantifiable targets, however, there needs to be the realization of each and everyone of us – including negotiators, heads of government, CEOs of industry and business, scientists and the individual citizens – that the status quo cannot proceed if we jointly aim for global recovery of biodiversity. Transformative change implies a *transformation* and doing things *significantly differently* than before. Political will on each government to introduce these changes is a precondition for success.

However, the necessity and utility of enhancing synergies to address global problems are not new. For years, MEAs have intended to involve all actors, stakeholders, and rightsholders in implementing measures and achieving their objectives. The main difference now is the lack of time. The over-, mis- and uncontrolled use of biodiversity, ecosystems, and our natural resources based on the benefit of the few at the expense of the many, has brought us to the biodiversity crisis with dire consequences that we have only just begun to feel.

We hope that the available tight time to accomplish the GBF targets (and goals) will be understood as an incentive to successfully tackle the challenge of halting and reverting biodiversity loss. In that case, transformative education and a systemic shift can be set from an economic profit optimization system to one that actually sets in the center the well-being of all biodiversity, including humankind. The need to do things differently is evident and recognizing that planet Earth and its processes have limits, which, if crossed, can destroy and modify everything as we know it.

[215] Shannon Hagerman et al, 'Knowledge production for target-based biodiversity governance', 255 *Biological Conservation* (2021) 108980.
[216] Will Steffen et al, 'Planetary boundaries: Guiding human development on a changing planet', 347(6223) *Science* (2015) 1259855.

Synergies are an effective way to cooperate and foster the understanding that there is only *one* environmental agenda for the *one* planet Earth.

Annex

MEA	Mandate	Topics related to the GBF	Related GBF Targets	How to strengthen synergies
Cartagena Protocol on Biosafety	Ensure an adequate level of protection in the field of the safe transfer, handling and use of LMOs that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focusing on transboundary movements (Art.1).	Access and Benefit Sharing (ABS) mechanism for genetic resources	T9-13	• Recognition of existing AIA mechanism when considering ABS mechanism for LMOs, and their alignment. • Define terminology and its official adoption. • Training on LMOs and DSI. • Inclusion of a link to DSI issues in the relevant sections of the implementation plan for the Cartagena Protocol. • Anchor Cartagena Protocol implementation plan and capacity-building action plan to the GBF. • Development of a global database for all relevant MEAs with methodological guidelines, practical studies, training materials on mainstreaming. • Joint support by Secretariats of all relevant conventions and protocols for collaborative capacity-building trainings on mainstreaming biosafety into the NBSAPs and other national instruments. • Support of continuous science-policy process on inter-MEAs issues of the new varieties of synbio organisms. • Inclusion of biosafety component into the GBF.
		Digital Sequence Information	T13	
		Mainstreaming	T14-23	
		Synthetic biology		
		Biosafety	T17	

Nagoya Protocol	Fair and equitable sharing of the benefits arising from the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding, thereby contributing to the conservation of biological diversity and the sustainable use of its components (Art.1).	ABS mechanism for genetic resources	T9-13	• Link benefit sharing of genetic resources and biodiversity conservation. • Effective participation of indigenous peoples and local communities (IPLCs) of direct and palpable relevance to benefit-sharing, both under the Convention on Biological Diversity as well as the Nagoya Protocol. • Include training on LMOs and DSI. • Rights-based approach and the principle of intergenerational equity at the level of implementation. • Inclusion of an LMO concept into the Implementation plan for Nagoya Protocol.
		Mainstreaming	T14-23	

International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)	The conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use, in harmony with the Convention on Biological Diversity, for sustainable agriculture and food security (Art.1).	Reducing threats to biodiversity	T1-8	• Inclusion of the maintenance and restoration of the genetic diversity of domesticated species to maintain their adaptive potential. • Jointly ensure the fair and equitable sharing of benefits that arise from the utilization of genetic resources for food and agriculture.
		Food security	T10		
		Fair and equitable sharing of benefits	T12-13		
		Rights and access to land and natural resources for IPLCs and women	T22-23		

International Plant Protection Convention (IPPC)	Securing common and effective action to prevent the spread and introduction of pests of plants and plant products, and to promote appropriate measures for their control (Art 1).	Reducing threats to biodiversity	T1-8	• Link biodiversity conservation and plant health. • Joint monitoring and reporting program.
		Ensuring harvesting, trade and use of wild species is sustainable, legal, and safe for human health	T5	
		Reducing the rate of invasive species introduction and establishment by at least 50%, controlling, or eradicating invasive alien species to eliminate or reduce their impacts, focusing on priority species and priority sites	T6	
Ramsar Convention (Ramsar)	Conservation, sustainable use and management of wetlands of international importance.	Addressing wetland loss and degradation	T1-4	• Inclusion of this type of ecosystem in the GBF.
		Conserving and managing the Ramsar site network effectively	T5-7	
		Wisely using wetlands in general	T8-13	

		Aiming to enhance implementation Addressing management actions for threatened species, sustainable use and application of the ecosystem approach, eliminating, minimizing and reducing risks related to invasive alien species and pollution Integrated biodiversity incl. Spatial planning, restoration target, conservation and OECM target, management, pollution incl. Nutrients, IAS, climate crises, value ecosystem services, blue spaces	T14-19	
			Meeting people's needs through sustainable use and benefit sharing	T9-13

		Planning, Monitoring, Reporting and Review Mechanisms	T14-23	
The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	Ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species.	Reducing threats to biodiversity	T1-8	• Jointly address endangered species threaten by international trade. • Develop guidance for the sustainable, safe and legal use, harvesting and international trade of wild species • Provide inputs to the CBD consultation process.
		Preventing extinction of threatened and endangered species	T4	
		Harvesting, trade, and use of wild species is sustainable, legal, and safe for human health	T9-13	
		Communication, education, awareness and uptake	T21-23	
The Convention on the Conservation of Migratory Species of Wild Animals (CMS)	Conservation of migratory species, their habitats and migration routes. Taking action to avoid any migratory species becoming endangered (Art. 2).	Reducing threats to biodiversity	T1-8	• Connectivity throughout different agreements. • Foster data convergence when planning and executing the measures to ensuring the integrity connectivity and resilience of all of ecosystems. • Consider migration routes during the biodiversity-inclusive urban planning Improve the understanding of the land-ocean interface for the design and implementation of actions and measures for the conservation of migratory species. processes.
		Management of Areas/ Spatial Planning	T1-3	
		Meeting people's needs through sustainable use and benefit sharing	T9-13	
		Mainstreaming	T14-23	

World Heritage Convention	Ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage (Art. 4).	Considerations for the implementation of the framework	T14-23		• Application of the principle of intergenerational equity in the transmission of the heritage. • Involvement of all actors to achieve behavioural change.
		Communication, education, awareness and uptake	T21-23		
International Convention for the Regulation of Whaling	Desiring to establish a system of international regulation for the whale fisheries to ensure proper and effective conservation and development of whale stocks (Preamble).	Reducing threats to biodiversity	T1-8		• Consider underwater noise as a source of pollution. • Consider the whales population and ecology measures under the IWC for implementation of the GBF.
		Meeting people's needs through sustainable use and benefit sharing	T9-13		

BBNJ	Conservation & sustainable use of marine biodiversity of areas beyond national jurisdiction.	Reducing threats to biodiversity	T1-8	• Account for marine biodiversity as a whole in the GBF, including in ABNJ. • Recognition of outcomes of CBD and other processes for implementation (e.g. EBSAs). • Aligning definitions of terms in related parallel negotiations. • Avoid overlapping conference sessions with other relevant MEAs. • Enhancement of communication between focal points/representatives in GBF and BBNJ negotiations.
		Area-based management tools, including marine protected areas	T1-3	
		Fair & equitable benefit sharing of marine genetic resources	T9-13	
		Digital Sequence Information	T13	
		Communication, education, awareness and uptake	T21-23	

The (In)effectiveness of the Convention on Biological Diversity regarding Invasive Alien Species in Times of Climate Change

Manuel Eymers[1]

1 Introduction

Biodiversity is the basis for a healthy planet and human life. It provides essential ecosystem services, such as the basis for agriculture, food production, and the supply of freshwater.[2] A major driver of the loss of this essential basis of human life are Invasive Alien Species (IAS), which constitute the largest threat to the survival of three of the five main taxa: amphibians, reptiles, and mammals.[3] IAS are organisms that arrive with human assistance in an ecosystem where they are not native, establish a population, spread, and cause negative impacts, particularly on biological diversity and ecosystem services.[4] A species is considered as native, if

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2 Secretariat of the Convention on Biological Diversity, *Global Biodiversity Outlook 5* (2020) 2; M. P. Dahiya, *Biodiversity Conservation* (Pragun Publications, 2006) 2.

3 Céline Bellard, Philipp Cassey and Tim M. Blackburn, 'Alien Species as a Driver of Recent Extinctions', 12 *Biology Letters* (2016) at 2-3; Tim M. Blackburn, Céline Bellard and Anthony Ricciardi, 'Alien versus Native Species as Drivers of Recent Extinctions', 17 *Frontiers in Ecology and the Environment* (2019) 203-207 at 204-206.

4 Franz Essl et al, 'Drivers of the Relative Richness of Naturalized and Invasive Plant Species on Earth', 11 *AoB Plants* (2019) 1-13 at 4; James C. Russell et al, 'Invasive Alien Species on Islands: Impacts, Distribution, Interactions and Management', 44 *Environmental Conservation* (2017) 359-370 at 359; Daniel Simberloff, *Invasive Species: What Everyone Needs to Know* (Oxford University Press, 2013) 2-3, 25.

it evolved in the respective region or if it evolved in another place but arrived on its own in the new region without human assistance.[5] Next to the damage to biodiversity, IAS can also impact the economy, human well-being and health.[6] Certain ecosystems, like those of islands, are particularly vulnerable to the impacts of IAS.[7]

Climate change creates new introduction opportunities for IAS – for example, through more frequent extreme weather events[8] or with global warming making survival possible for introduced species in new regions.[9] In addition, climate change can also cause a shift in human behaviour that consequently leads to new introduction possibilities, for instance, via the increasingly passable Arctic shipping route.[10] The newly ice-free Arctic does not only provide a new route for natural dispersal but is also expected to increase traffic of transport vessels in that region and thus, increases the potential of invasions.[11] Climate change also imposes adaptation challenges on species. Those are often better addressed by IAS because they are mostly generalists with broader tolerances and, thus, are more flexible to adapt to environmental changes.[12] Consequently, even though not all IAS will become a more prevalent problem, climate change is expected to increasingly intensify the occurrence of IAS globally, and particularly in three regions of the world: New Zealand and the southern part of Australia, north-western North America, and Europe.[13] Climate change does not, however, only create new introduction possibilities but also increases the impacts of new introductions[14] and already existing problems and impacts of IAS.[15] For instance, climate change can decrease the competitiveness of a resident species by reducing its adaptation to the local environment. Thus, the opportunities for better adapted newly introduced species are increased.[16]

5 *Ibid*. at 3.
6 Corey J. A. Bradshaw et al, 'Massive Yet Grossly Underestimated Global Costs of Invasive Insects', 7 *Nature Communications* (2016) 1-8 at 2-5; David C. Cook et al, 'Predicting the Economic Impact of an Invasive Species on an Ecosystem Service', 17 *Ecological Applications* (2007) 1832-1840 at 1832-1833; Simberloff, *Invasive Species, supra* note 4, at 11.
7 Essl et al, 'Drivers of the Relative', *supra* note 4, at 10; Russell et al, 'Invasive Alien Species', *supra* note 4, at 366.
8 CBD Subsidiary Body on Scientific, Technical and Technological Advice, 'Invasive Alien Species: Draft recommendation submitted by the chair', UN Doc. CBD/SBSTTA/24/L.8 (2022) 11.
9 Gian-Reto Walther et al, 'Alien Species in a Warmer World: Risks and Opportunities', 24 *Trends in Ecology and Evolution* (2009) 686-693, at 688.
10 A. Withman Miller and Gregory M. Ruiz, 'Arctic Shipping and Marine Invaders', 4 *Nature Climate Change* (2014) 413-416 at 415; Walther et al, 'Alien Species', *supra* note 9, at 688.
11 Miller and Ruiz, 'Arctic Shipping', *supra* note 10, at 414.
12 *Ibid*.; Walther et al, 'Alien Species', *supra* note 9, at 687-688.
13 Céline Bellard et al, 'Will Climate Change Promote Future Invasions?', 19 *Global Change Biology* (2013) 3740-3748 at 3744; Hanno Seebens et al, 'No Saturation in the Accumulation of Alien Species Worldwide', 8 *Nature Communications* (2017) 1-8 at 5-6; CBD/SBSTTA/24/L.8, *supra* note 8, at 11.
14 Walther et al, 'Alien Species', *supra* note 9, at 690.
15 CBD/SBSTTA/24/L.8, *supra* note 8, at 11.
16 Walther et al, 'Alien Species', *supra* note 9, at 687-690.

The Convention on Biological Diversity (CBD)[17] is the most important instrument for the protection of biodiversity in international law. The overarching research question of this paper is therefore: Can the CBD effectively address IAS in a climate impacted world? To answer this question, the paper examines: 1. What are the current and future challenges for the regulation of IAS? 2. To what extent is climate change and its interactions with IAS recognised?

The paper argues that the current CBD framework fails to successfully regulate IAS. In particular, the risks of climate change have yet to be appropriately considered. Accordingly, the 'Subsidiary Body on Scientific, Technical and Technological Advice' (SBSTTA) of the CBD recently encouraged increased measures to cope with the present and predicted effects of climate change on the occurrence and impacts of IAS.[18] Climate change considerations are insufficiently included in the 'Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets'[19] (hereinafter SPB 2011-2020) as well as in the 'First Draft of the Post-2020 Global Biodiversity Framework[20] (hereinafter Post-2020 Draft). The Global Biodiversity Framework was scheduled to be adopted in Kunming, China in 2020 at the 15th Conference of the Parties of the CBD (COP15). However, due to multiple disruptions linked to the COVID-19 pandemic, the final phase of COP15 of the CBD will now be held in Montreal, Canada in December 2022. The article provides suggestions on how to amend the CBD framework, with a focus on the post-2020 draft.

In Section 2, this paper will focus on outlining the CBD's framework regarding IAS and particularly on analysing its achievements and major shortcomings. This will form the basis for understanding Section 3. Here, the paper digs deeper and evaluates the suitability of the CBD framework regarding IAS towards the challenges of climate change and its interplay with IAS as a threat to biodiversity.

2 IAS under the CBD

The habitat of many species is not restricted to the borders of a single country. International cooperation is thus often required for ecosystem management. This particularly applies to the management of IAS considering the increasing transnational transport, for instance, as one of

[17] Convention on Biological Diversity, Rio de Janeiro, 5 June 1992, in force 29 December 1993, 31 *International Legal Materials* (1992) 822, <http://www.biodiv.org>.
[18] CBD/SBSTTA/24/L.8, *supra* note 8, at 12-14.
[19] 'The Strategic Plan for Biodiversity 2011–2020 and the Aichi Biodiversity Targets', CBD Dec. X/2 (2011).
[20] Open Ended Working Group on the Post-2020 Global Biodiversity Framework 'First Draft of the Post-2020 Global Biodiversity Framework' (July 2021), CBD Doc. CBD/WG2020/3/3 (2021).

the main reasons for their introduction in new territories.[21] Furthermore, the loss of biodiversity with all its consequences is a global concern because extinct species as an irreversible harm do not concern one country alone.

Article 1 CBD states the conservation of biological diversity as one of its three main objectives. More concretely, the SPB 2011-2020 formulates the long-term goal that '[b]y 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people'.[22] Therefore, it is not surprising that the CBD also explicitly addresses the management of IAS as they are one of the main drivers of biodiversity loss.[23] The Convention approaches this management with an understanding of IAS that focuses on the eradication or reduction of their negative impacts.[24]

In its key provision regarding IAS, Art. 8(h), the CBD determines the general obligation that '[e]ach Contracting Party shall, as far as possible and as appropriate: Prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species.' The Convention thus imposes a legally binding obligation on Parties to manage IAS within their national legislations. However, as will be discussed in section 2.2 below, the effectiveness of this obligation is significantly limited with being restricted to possible and appropriate measures. The general, rather vague obligation of Art. 8(h) is concretized by strategic plans adopted in decisions of the Conference of the Parties (COP), notably by specific COP decisions on IAS as well as related subjects addressing IAS as a cross-cutting issue.[25]

2.1 From the SPB 2011-2020 to the Post-2020 Draft

The IAS management obligation of CBD Art. 8(h) was further specified in target 9 of the Aichi-targets, which were adopted within the context of the SPB 2011-2020.[26] Target 9 states that, '[b]y 2020, invasive alien

[21] Jianqing Ding et al, 'China's Booming Economy is Sparking and Accelerating Biological Invasions', 58 *BioScience* (2008) 317-324 at 318-319; Philipp E. Hulme, 'Trade, Transport and Trouble: Managing Invasive Species Pathways in an Era of Globalization', 46 *Journal of Applied Ecology* (2009) 10-18 at 11-12.

[22] CBD Dec. X/2 , *supra* note 19, at 7.

[23] Bellard, Cassey and Blackburn, 'Alien Species as', *supra* note 3, at 2-3; Blackburn, Bellard and Ricciardi, 'Alien versus native', *supra* note 3, at 204-206. See also IPBES, *Summary for Policymakers of the Global Assessment Report on Biodiversity and Ecosystem Services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services* (2019), available at <https://ipbes.net/global-assessment> (visited 15 July 2022).

[24] Essl et al, 'Drivers of the Relative', *supra* note 4, at 4.

[25] For an overview of these relevant IAS-related COP decisions compare: Convention on Biological Biodiversity, 'Invasive Alien Species: COP Decisions' (25 April 2019), available at <https://www.cbd.int/invasive/cop-decisions.shtml> (visited 24 September 2022).

[26] Jeffrey A. McNeely, 'Global Efforts to Address the Wicked Problem of Invasive Alien Species' in Llewellyn C. Foxcroft et al (eds), *Plant Invasions in Protected Areas: Patterns, Problems and Challenges* (vol. 7, Springer, 2013) 61-71 at 68.

species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment'.[27] This objective can be divided into four different aspects: identification and prioritization of IAS; identification and prioritization of pathways; control or eradication of prioritized species; and prevention of introduction and establishment through pathways management.[28]

Firstly, the identification and prioritization of IAS, means initially to collect data on biological invasions and subsequently to rank species according to their relative environmental impacts. Based on that, the order of actions to take is determined to either prevent or mitigate the impacts of IAS.[29] In this area, despite recent improvements, the lack of information and data remains problematic and hampers progress as it is the basis for all further steps.[30] Secondly, the identification and prioritization of pathways prevents intentional and unintentional introductions of IAS. Preventing introductions in the first place is the most cost-effective method[31] as it avoids the difficulties and high costs of eradication measures.[32]

Thirdly, if the prevention of introductions failed, meaning that the introduction and establishment of IAS has already occurred, the control and eradication of prioritized species becomes particularly important.[33] Eradication of species means 'the complete removal of every last individual from a distinct population, so that any recolonization of a site would have to come from another, spatially isolated population',[34] while control just limits the spread of a species. Eradications are extremely challenging, and numerous example-projects have failed, since simply reducing the size of the population is not sufficient to prevent the IAS to reproduce.

Fourthly, the prevention of introduction and establishment through pathway management under the CBD is done by utilization of a categorization scheme in which the most relevant pathways are classified. As the instruments to prevent introductions and establishments of invasive species depend on the introduction pathway, this classification scheme

27 CBD Dec. X/2, *supra* note 19, at 8-9.
28 Secretariat of the Convention on Biological Diversity, *Global Biodiversity, supra* note 2, at 75.
29 Melodie A. McGeoch et al, 'Prioritizing Species, Pathways, and Sites to Achieve Conservation Targets for Biological Invasion', 18 *Biological Invasions* (2016) 299-314 at 300.
30 Robert Crystal-Ornelas and Julie L. Lockwood, 'The "Known Unknowns" of Invasive Impact Measurement', 22 *Biological Invasions* (2020) 1513-1525 at 1519-1522.
31 'Alien Species that threaten ecosystems, habitats or species', CBD Dec. V/8 (2000); Philipp E. Hulme et al, 'Grasping at the Routes of Biological Invasions: A Framework for Integrating Pathways into Policy', 45 *Journal of Applied Ecology* (2008) 403-414; Secretariat of the Convention on Biological Diversity, *Global Biodiversity, supra* note 2, at 75.
32 CBD Dec. V/8, *supra* note 31; Franz Essl et al, 'The Convention on Biological Diversity (CBD)'s Post-2020 Target on Invasive Alien Species – What Should It Include and How Should It Be Monitored?', 62 *NeoBiota* (2020) 99-121 at 105; Simberloff, *Invasive Species, supra* note 4, at 175.
33 Simberloff, *Invasive Species, supra* note 4, at 175.
34 *Ibid*. at 183.

can provide guidance in the choice of instrument.[35] In general, intentional introductions are best managed by the regulation of possessing, importing, trading, and transporting species, while unintentional introductions require the identification of the most frequent and relevant introduction pathways.[36] Preventing unintentional introductions is particularly important because species introduced in this way tend to be more difficult to eradicate.[37]

The post-2020 draft already foreshadows major revisions compared to the SPB 2011-2020 regarding IAS. It states as the objective for 2030 to

> Eliminate, minimize, reduce and or mitigate the impacts of invasive alien species on biodiversity and ecosystem services by identifying and managing pathways of the introduction of alien species, preventing the introduction and establishment of priority invasive alien species, reducing the rates of introduction and establishment of other known or potential invasive alien species by at least 50 per cent by 2030, and eradicating or controlling invasive alien species, especially in priority sites, such as islands.[38]

Here, the provision on the identification of IAS was removed. Furthermore, the concrete, more stringent, quantitative goal of achieving a 50 per cent reduction in the IAS introduction and establishment rate through pathway management, and reducing the impacts of IAS, particularly in priority sites was added. The post-2020 GBF continues the approach focusing on the strategy to prevent IAS introductions which is particularly important as this is the most (cost)effective way to prevent their establishment and spread.[39] The post-2020 GBF also maintains the methods of pathway management. Consideration of the negative impacts of IAS remains a core part of the new framework as well, as it explicitly demands the reduction of the harmful impacts of IAS. Thus, the post-2020 GBF pursues a threefold focus on pathways control, impact management, and site protection.[40]

As a result, there are two main differences between the SPB 2011-2020 and the post-2020 draft. The first lies in directly addressing introductions

[35] For a comprehensive overview of all categories and sub-categories of introduction pathways, see Colin A. Harrower et al, 'Guidance for Interpretation of CBD Categories on Introduction Pathways', Technical note prepared by IUCN for the European Commission (IUCN, 2017), available at <https://op.europa.eu/en/publication-detail/-/publication/f8627bbc-1f15-11eb-b57e-01aa75ed71a1> (visited 29 November 2022) 7-8.
[36] Essl et al, 'The Convention', *supra* note 32, at 105.
[37] Petr Pyšek, Vojtěch Jarošík and Jan Pergl, 'Alien Plants Introduced by Different Pathways Differ in Invasion Success: Unintentional Introductions as a Threat to Natural Areas', 6 *PLoS ONE* (2011) 1-11, at 8-9.
[38] Post-2020 GBF, Target 6.
[39] Secretariat of the Convention on Biological Diversity, *Global Biodiversity, supra* note 2, at 75.
[40] Essl et al, 'The Convention', *supra* note 32, at 103.

of IAS through the formulation of a quantitative target regarding IAS introductions for 2030 as an interim goal on the way to the 2050 biodiversity vision of living in harmony with nature.[41] The significant progress in invasion science enabled the formulation of such a quantitative target relating to IAS for the first time.[42] Setting quantitative targets has the advantage that they can significantly contribute to policy implementation, and monitoring.[43] In addition to that, quantitative targets facilitate the communication of biodiversity protection policy objectives to the public.[44] Hence, this new target could contribute to the protection of biodiversity under the CBD.

The second key difference between the post-2020 GBF and the previous strategy is that the former now explicitly aims at protecting sites that are particularly at risk to suffer large harm from IAS and even states islands as example for such site. Similarly to the pathway management, the first step is to identify those threatened sites and based on that prioritize in which site the limited resources to avoid negative impacts of IAS should be used.[45] Interestingly, the initial 'zero draft' for the post-2020 GBF went further and proposed a quantitative target for reducing and eliminating the impacts of IAS in 50 per cent of priority sites.[46] This objective for priority sites was, however, removed in the post-2020 GBF.[47] The formulation of a quantitative objective regarding sites protection, as proposed in the 'zero draft', would have been useful as well because of the above-described advantages of quantitative targets. However, it is also understandable that the proposed 50 per cent target of the 'zero draft' was removed as the monitoring of such a quantitative target regarding site protection would have been rather difficult, particularly due to the challenges to quantify the impacts on sites. The 'zero draft' itself did not contain any scale or factor under which the impact should have been measured. Eventually, introducing a quantitative target regarding sites protection with further specifications on how to practically conduct monitoring could effectively contribute to sites protection. Beginning to not only prioritize certain particularly endangered species but also particularly endangered sites, as done in the post-2020 GBF, is the right step towards focussing on avoiding the large negative impacts of IAS.

41 CBD Dec. 15/4, *supra* note 20, at 4.
42 Essl et al, 'The Convention', *supra* note 32, at 113.
43 *Ibid*. at 108; Alice Hughes et al, 'Challenges and possible solutions to creating an achievable and effective Post-2020 Global Biodiversity Framework', 8 *Ecosystem Health and Sustainability* (2022) at 4.
44 Essl et al, 'The Convention', *supra* note 32, at 108.
45 McGeoch et al, 'Prioritizing Species', *supra* note 29, at 300-302.
46 Open Ended Working Group on the Post-2020 Global Biodiversity Framework, 'Zero Draft of the Post-2020 Global Biodiversity Framework' (January 2020), CBD Doc. CBD/WG2020/2/3 (2020).
47 CBD Dec. 15/4, *supra* note 20, Target 6.

2.2 Evaluation and suggestions for the future

On the one hand, the creation of the CBD framework regarding IAS was in general an important milestone towards the protection of biodiversity. It is a positive signal that an international agreement with such a great number of Parties like the CBD explicitly addresses the problem of IAS as one of its core sub-objectives.[48] In fact, significant progress has been made over the years on several points, particularly in identifying and prioritizing IAS, especially by increasing the availability of data and information regarding the occurrence of IAS.[49] Therefore, it is not alarming that this part of the IAS-related objective was removed from the post-2020 draft compared to the SPB 2011-2020 as those goals have been satisfyingly fulfilled. However, the efforts to maintain this progress must be continued to ensure its sustainability also in the future. Furthermore, achievement of the goal to successfully identify and prioritize IAS by improving the monitoring of the occurrence of IAS represents major progress in combatting IAS because only if an introduction is recognized, it can also be managed and controlled. Significant progress has also been made in the protection of islands from IAS.[50] The new inclusion as particularly vulnerable site in the post-2020 GBF ensures that efforts for the protection of islands are maintained.

On the other hand, these successes only refer to a small number of IAS occurrences and are, overall, not sufficient to appropriately achieve the targets of the CBD.[51] In general, the Convention itself does only impose very vague and limited obligations on the Parties, particularly because it restricts the actions against IAS in Art. 8(h) to possible and appropriate measures. This limitation leaves huge discretion for interpretation by the State Parties on how to implement the treaty and, thus, creates the opportunity for parties to only insufficiently enforce the provision on IAS and still be in line with its wording.[52] Furthermore, the USA, a major player in the management of IAS, has not ratified the CBD.[53] Hence, the opportunities of an engagement of the USA are missed, notably its knowledge, financial and leadership capacities.[54]

48 Claire Shine, Nattley Williams and Lothar Gündling, *A Guide to Designing Legal and Institutional Frameworks on Alien Invasive Species* (IUCN, 2000), available at <https://portals.iucn.org/library/sites/library/files/documents/EPLP-040-En.pdf> (visited 29 November 2022) 14.
49 Secretariat of the Convention on Biological Diversity, *Global Biodiversity, supra* note 2, at 74.
50 *Ibid*.
51 *Ibid*.
52 Shine, Williams and Gündling, *A Guide to, supra* note 48, at 14; Briony MacPhee, 'Hitchhikers' Guide to the Ballast Water Tank Convention: An Analysis of Legal Mechanisms to Address the Issue of Invasive Alien Species' 10 *Journal of International Wildlife Law and Policy* (2007) 29-54, at 36; Simberloff, *Invasive Species*, *supra* note 4, at 160.
53 CBD Secretariat, 'List of Parties' (no date), available at <https://www.cbd.int/information/parties.shtml> (visited 12 May 2022).
54 William J. Snape, 'Joining the Convention on Biological Diversity: A Legal and Scientific Overview of Why the United States Must Wake Up', 10 *Sustainable Development Law & Policy* (2008) 6-47, at 13-16.

Moreover, the CBD framework regarding IAS requires common guidelines to categorize and manage prioritized sites and pathways. Such guidelines would help to improve and harmonize the understanding, prevention, reporting, and prediction of IAS and their threats.[55] The SPB 2011-2020 and the post-2020 GBF do not contain such guidelines regarding sites protection, but, positively, the latter introduces a stronger focus on prioritized sites. However, there is no further specification or classification scheme for a common and harmonized determination and management of prioritized sites in the post-2020 GBF itself. This paper recommends developing such guidelines and to include the vulnerability of site, particularly the threat of species extinction as an irreversible harm, as the central determining factor.[56]

Regarding pathway prioritization and management, the SBSTTA has developed a categorization scheme,[57] which is commonly utilized with its guidance[58] describing the application of the scheme. It distinguishes between intentional and unintentional IAS introductions and consists of six main introduction mechanisms, which are further divided into numerous sub-categories.[59] However, this current categorization framework has flaws regarding its sub-categories and, therefore, requires certain amendments. Most importantly, it firstly fails to clearly distinguish all subcategories and thus, creates overlaps.[60] Secondly, the subcategories are of different widths, which results in imprecise data.[61] Furthermore, the categorization scheme is not suitable for all Parties of the CBD as the regional introduction pathways and patterns differ significantly, and thus, an approach that considers the particular regional circumstances is more suitable.[62] Moreover, despite Europe having available a rich amount of data on pathways of introduction of IAS, there is a large lack of data from other continents.[63]

Besides amending the current system, another possibility would be to develop a completely new scheme.[64] Alternatively, the well-tailored six main categories could be maintained and the Parties encouraged to develop national sub-category schemes according to their regional

55 Katelyn T. Faulkner et al, 'Classifying the Introduction Pathways of Alien Species: Are We Moving in the Right Direction?', 62 *NeoBiota* (2020) 143-159 at 146; McGeoch et al, 'Prioritizing Species', *supra* note 28, at 311.
56 Essl et al, 'The Convention', *supra* note 32, at 107.
57 Subsidiary Body on Scientific, Technical and Technological Advice, 'Pathways of Introduction of Invasive Alien Species, their Prioritization and Management', CBD Doc. UNEP/CBD/SBSTTA/18/9/Add.1 (2014).
58 Harrower et al, *Guidance for interpretation, supra* note 35.
59 *Ibid*. at 6.
60 Jan Pergl et al, 'Applying the Convention on Biological Diversity Pathway Classification to Alien Species in Europe', 62 *NeoBiota* (2020) 333-363 at 347-348.
61 *Ibid*.
62 Essl et al, 'The Convention', *supra* note 32, at 105; Faulkner et al, 'Classifying the', *supra* note 55, at 153-154.
63 Pergl et al, 'Applying the Convention', *supra* note 60, at 336.
64 Faulkner et al, 'Classifying the', *supra* note 55, at 153-154.

needs which would then have to be subject to approval through the CBD administration to ensure its quality.[65] However, independently from which option to revise the scheme regarding introduction pathways is chosen, an integrated approach of prioritization based on sites, IAS, and pathways to consider all interdependencies and create an effective and cost-efficient system should be pursued.[66] This approach should include the before-mentioned amendments and should be agreed on urgently to profit from its advantages as fast as possible and to prevent harm from IAS.

3 Climate change considerations in the CBD's IAS regulation

Climate change increases the number of IAS occurrences and intensifies their impacts. Consequently, the way to manage IAS within the CBD framework must be adapted to those changing circumstances as well. The following section argues that there is a clear lack of coordination between climate change and the biodiversity protection framework. It is apparent that both intertwined crises, climate change and biodiversity loss, cannot be addressed separately. This also applies to IAS as a driver of biodiversity loss. The CBD-framework does address IAS and also recognises climate change-related issues to a certain extent. For example, Target 8 of the 2030 action targets in the post-2020 GBF aims to '[m]inimize the impact of climate change [...] on biodiversity'.[67] However, the interactions between IAS and climate change are not sufficiently recognised. In order to address IAS comprehensively, managing those interdependencies is crucial. It is insufficient to manage one problem without considering the overall framework it is embedded in. This issue also exists on a bigger scale: the climate regime and the biodiversity protection framework do not sufficiently address their interactions either.

Hence, in the following section, this paper analyses three fields in which the CBD framework does not sufficiently consider climate change and its effects in regulating IAS. For those fields, this paper gives suggestions on how to clarify and improve the CBD framework. Those fields of IAS management that are analysed in the following, are the distinction of IAS and native species, the risk assessment conduction, and areas particularly affected by climate change.

65 *Ibid*.
66 McGeoch et al, 'Prioritizing Species', *supra* note 29, at 311.
67 CBD Dec. 15/4, *supra* note 20, Target 6.

3.1 Distinction between native species and IAS (and those in between)

Climate change is very likely to alter the distribution of many species:[68] native species will disappear from their original habitats and appear in new ones because of changing environmental circumstances, including, for example, warming temperatures, alterations in the composition of the air, or changes in the availability of water.[69] In these changing conditions, the definition of when a shift in habitat constitutes an invasion is becoming increasingly challenging.[70] Consequently, the distinction between native and invasive species becomes more difficult because the definition of the distinguishing factors become increasingly blurred.[71] However, providing the basis for all further management of species, and thus, being the starting point for all control and eradication measures or other drastic interventions in the ecosystem, this classification is of particular importance.

The CBD provisions themselves do not provide a definition of native species or IAS. However, the COP to the CBD has referred to IAS as a species whose introduction and/or spread outside its natural past or present distribution threatens biological diversity.[72] Introduction thereby means the indirect or direct movement of IAS by human agency.[73] This largely corresponds with the definition adopted in this paper and set out in the introduction. This definition refers to IAS as organisms that arrive with human assistance in an ecosystem where they are not native, establish a population, spread, and cause negative impacts, particularly on biological diversity and ecosystem services.[74] Compared to the latter definition, the CBD COP's definition only shortens the description of the way of introduction and narrows down the negative impacts towards those threatening biological diversity. However, the key elements regarding the altered distribution compared to the historical distribution, the non-natural way of introduction, and the negative impacts caused by the species are in essence congruent. Regarding the definition of native species, neither the CBD nor any related COP-decisions provide guidance. Nevertheless, by means of an *argumentum e contrario*, the CBD COP's definition for IAS corresponds largely with Simberloff's native species' definition, according to which a species is native if it evolved in

68 IPBES, *Summary for policymakers, supra* note 23, at 13.
69 Keith L. McDougall et al, 'Plant Invasions in Mountains: Global Lessons for Better Management', 31 *Mountain Research and Development* (2011) 380-387 at 385.
70 *Ibid*.
71 Walther *et al.*, 'Alien Species', *supra* note 9, at 687.
72 'Alien species that threaten ecosystems, habitats or species', CBD Dec. VI/23 (2002).
73 *Ibid.*
74 Essl et al, 'Drivers of the relative', *supra* note 4, at 4; Russell et al, 'Invasive Alien Species', *supra* note 3, at 359; Simberloff, *Invasive Species, supra* note 4, at 2-3, 25.

the respective region or if it evolved in another place but arrived on its own in the new region without human assistance.[75]

One of the core aspects of these definitions that distinguishes IAS and native species is the differentiation in the way of the introduction of the species: the distribution of native species changes naturally while the distribution of IAS shifts through human assistance. Under the CBD framework, the requirements for what constitutes human assistance are, however, not further specified besides including direct as well as indirect movements of IAS by human agency. Therefore, it remains questionable whether climate change can be understood as human assistance due to its anthropogenic causes. If so, strictly following this IAS definition, any species whose distribution is altered due to climate change, and which causes negative impacts would consequently have to be categorized as IAS.

On the other hand, one could argue that the climate has frequently changed throughout the Earth's history and that, therefore, migrations and distributional shifts of species caused by climate change must be understood as natural. Furthermore, it could be argued that the human assistance to the shift in habitat is merely indirect as only climate change is anthropogenically caused but not the habitat shifts directly. However, this argumentation is not convincing. To do so, would imply denying, or at least concealing, the existence of human-caused climate change despite science clearly stating that '[i]t is unequivocal that human influence has warmed the atmosphere, ocean and land'.[76] Climate change should, therefore, also in the CBD framework be recognized as what it is: a result of human greenhouse gas (GHG) emissions. Besides, claiming that the human influence on the habitat shift is only indirect conceals that without massive human GHG emissions there would not be such a dimension of habitat shifts. Furthermore, the CBD explicitly includes also indirect movements of IAS by human agency in its definition for the introduction within its IAS definition.[77] Hence, species whose geographical distribution was altered due to climate change should, following the current definition, be considered IAS if they cause negative impacts.

The next step would be for governments to manage the population of such assumed IAS in their new distribution areas with the ultimate aim of their eradication. Whether such a result is desirable is, however, highly doubtful. Species that are forced into distributional shifts because

[75] Simberloff, *Invasive Species, supra* note 4, at 3.
[76] IPCC, 'Summary for Policymakers' in V. Masson-Delmotte et al (eds), *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press, 2021), available at <https://www.ipcc.ch/report/ar6/wg1/> (visited 15 July 2022) at 4.
[77] CBD Dec. VI/23, *supra* note 73.

of climate change may become endangered if they are – in addition to their challenges to adapt to climate change in their original habitats – pressured and diminished in their new habitats. To avoid this, it would be desirable to develop a common approach that determines management instructions for species forced into distributional shifts by climate change. These instructions should particularly include rules to ensure that the management measures do not endanger the assumed IAS themselves. Only if such management prescriptions are introduced, can the current definitions be maintained.

Alternatively, the definition for IAS could be modified in a way as to exclude species whose distributional changes are caused by climate change. Accordingly, those species would not be targeted through management measures as they would not be considered IAS. However, if following this approach, it must be ensured that such species that migrate due to climate change but are excluded from the definition of IAS do not cause negative impacts in their new habitat. This could, for example, be done by assessing their potential impacts and by managing their population on that basis. Nevertheless, the definitions should in any case be clarified to clearly distinguish native species and IAS, and to avoid harmful interventions against species that are forced to alter their distribution due to human activities, such as immense GHG emissions.

Considering the increase in the frequency of distributional shifts of species, the importance of clearly determining human-assisted and natural shifts increases as well. In particular, the distinction under which conditions climate change-related migration and distributional shifts of species should be considered natural and under which circumstances they should be considered as assisted by humans will become increasingly important. In addition to that, clarification is especially required because the target of identifying IAS was not taken over from the SPB 2011-2020 into the post-2020 draft as the former's goal to identify IAS had already been satisfyingly achieved.[78] Therefore, without this objective, it is important not to lose track of IAS identification considering the emerging challenges of climate change.

3.2 Risk assessment challenges

Risk assessment constitutes the basis for the prediction of the vulnerability of sites, and the threat of IAS and introduction pathways. Therefore, it builds the foundation for the evaluation of all data and, thus, for all decisions regarding prioritization and control of IAS as demanded in

[78] Secretariat of the Convention on Biological Diversity, *Global Biodiversity, supra* note 2, at 74.

target 9 of the SPB 2011-2020 and in target 6 of the post-2020 draft.[79] Climate change imposes significant uncertainties. For instance, the prediction of how the global temperature will increase depends on numerous factors that are difficult to predict, including climate action and governments' (degree of) passivity or when critical tipping points are reached. These uncertainties of climate change are also reflected in the IPCC Sixth Assessment Report, which, based on different scenarios and climate models, predicts an increase of global surface temperature varying between 1.0 °C and 5.7 °C degree until the end of the century.[80] Due to these tremendous uncertainties and additional factors relating to climate change that need to be considered in the evaluation, the risk assessment regarding the prediction of IAS-related threats becomes increasingly complex and challenging and hence, decreases in accuracy.[81] Considering these scientific uncertainties, this paper urges States to follow a stringent approach of the precautionary principle in order to utilize the cost-effective measure of preventing IAS introductions and avoiding their immense potential damages.

Furthermore, the results' accuracy of the risk assessments heavily relies on the choice of the species distribution model (SDM) utilized, how the model takes climate change into consideration and is eventually overall still significantly limited by the uncertainties of climate change.[82] For instance, assumed one uses a SDM that predicts quite accurately whether an expansion in territory with a suitable climate for a certain species is likely or not when considering the possible increase in temperature due to climate change (quantitative assessment). However, even if this SDM is correct in its quantitative assessment, it is not necessarily also accurate regarding the actual occurrence of the distributional shift of the species, because the actual occurrence is, inter alia, also influenced by if climate change modifies the qualitative suitability of regions.[83] For example, the areas suitable for the invasive European Fire Ant are expected to remain similar in the future.[84] Hence, one could assume that its distribution would not change drastically in the future as well. However, the European Fire Ant's areas of high climate suitability are likely to increase largely, and so does, consequently, the probability of establishment.[85] Considering this increase in areas of high climate suitability, the probability of spreading

79 CBD Dec. X/2, *supra* note 19, at 8-9; CBD Dec. 15/4, *supra* note 20, Target 6.
80 IPCC, 'Summary for Policymakers', *supra* note 75, at 14.
81 Lara Dutra Silva et al, 'Limitations of Species Distribution Models Based on Available Climate Change Data: A Case Study in the Azorean Forest', 10 *Forests* (2019) 1-29 at 21.
82 *Ibid*.; Miguel B. Araújo et al, 'Reducing Uncertainty in Projections of Extinction from Climate Change', 14 *Global Ecology and Biogeography* (2005) 528-538 at 534.
83 *Ibid*. at 534; Cleo Bertelsmeier, M. Luque Gloria and Franck Courchamp, 'Increase in Quantity and Quality of Suitable Areas for Invasive Species as Climate Changes', 27 *Conservation Biology* (2013) 1458-1467 at 1466.
84 *Ibid*. at 1462.
85 *Ibid*. at 1462-1466.

and establishing in new territories is going to be significantly higher.[86] This example demonstrates the importance to utilize the best available methods, and to align the choice of SDMs to achieve comparable results.

The challenges of the proper choice and utilization of SDMs in conducting the risk assessments, thus, increase with the complexities added by climate change. Hence, the impact of certain IAS and their spreading probability might be under- or overestimated if states use different SDMs or if these models do not sufficiently consider climate change and its implications. Therefore, this paper recommends determining a uniform approach towards modelling and predicting environmental changes – notably regarding the different climate change scenarios – when conducting the risk assessment in order to have an improved comparison of different IAS' risks. This common SDM should always utilize the best available methods of predicting future distributions. This is particularly important regarding the changes and different scenarios of climate change with its huge impacts on IAS.

3.3 Areas particularly affected by climate change

Climate change does not affect all regions in the same way. Its impacts range from increasing the probability for the occurrence of slow-onset environmental events like sea-level rise or ocean acidification to extreme weather events like tropical cyclones and heatwaves.[87] The effects depend, inter alia, on the geography or economic situation of the respective area. For instance, even though all coastal regions are endangered by rising sea levels, small island developing states are significantly more vulnerable than developed countries. Furthermore, the possibilities for many small island states are severely restricted to react to rising sea levels simply because of their geographical location with a small, often low-lying territory in the ocean like in the case of Kiribati, where the rising sea-level poses severe difficulties to access important natural resources including freshwater.[88]

As described above, particularly endangered areas receive new attention in the IAS-related targets of the post-2020 GBF. This target is in line with the CBD's understanding of IAS management that focuses on the eradication or reduction of their negative impacts.[89] However, when addressing this objective, climate change and its effects must be considered. Regions and habitats which are affected by both, rapid and slow changes of the

86 *Ibid*.
87 IPCC, 'Summary for Policymakers', *supra* note 75, at 8; UNFCCC, 'Slow onset events', Technical paper, UNFCCC Doc. FCCC/TP/2012/17 (2012) 8-10.
88 Sophie Webber, 'Performative vulnerability: climate change adaptation policies and financing in Kiribati', 45 *Environment and Planning A* (2013) 2717-2733 at 718-2719; see also the case: *Tetiota v. New Zealand* (2020) CCPR/C/127/D/2728/2016.
89 Essl et al, 'Drivers of the Relative', *supra* note 4, at 4.

environment caused by climate change should, therefore, receive special attention and additional preventive measures should be introduced in those areas.[90] This could be done by including climate change exposure as one of the factors through which to assess vulnerability in the site prioritization scheme, which this paper recommends to be introduced. Like this, it would be possible to identify particularly vulnerable regions at an early stage and consequently, be able to prevent costly IAS' impacts instead of only mitigating their negative effects. An example of such a particularly vulnerable ecosystem is mountains, which are especially at risk by climate change as along their increasing latitude there are rather rapid environmental and climatic changes.[91]

4 Conclusion

To conclude, it is apparent that the CBD framework regarding IAS to date remains insufficient. This is particularly worrying considering its great importance for the protection of biodiversity. The insufficiency also becomes visible in the assessment of whether the CBD was successful in achieving its goals: extinctions of species could not be prevented, the total number of IAS is globally still increasing, and almost three quarters of the State Parties make no or only insufficient progress.[92] The CBD has particularly failed to solve the problems in the context of the control and eradication of IAS, the management of its introduction pathways, and its national implementation.[93] Even though being increasingly regulated under the CBD, and despite the dedicated recent draft recommendation by the SBSTTA to it,[94] the challenges and failures in the management of IAS are severe and diverse. IAS do not receive sufficient attention, despite their crucial impact on biodiversity loss.

Hence, the global biodiversity framework must appropriately recognise climate change and its interactions with the management of IAS. Otherwise, its effectiveness, implementation, and success in achieving its goals are and will be limited. Despite its progress, particularly in identifying and prioritizing IAS and in the adoption of a quantitative target for the reduction in the introduction and establishment rate of IAS, as well as the newly introduced focus on prioritized sites protection for the post-2020 GBF, the CBD still only imposes vague obligations leaving national governments much room for broad interpretation and implementation.

90 McDougall et al, 'Plant Invasions', *supra* note 69, at 383-385.
91 *Ibid*.
92 IPBES, *Summary for policymakers, supra* note 23, at 13, 34; Secretariat of the Convention on Biological Diversity, *Global Biodiversity, supra* note 2, at 76.
93 IPBES, *Summary for policymakers, supra* note 23, at 34; Secretariat of the Convention on Biological Diversity, *Global Biodiversity, supra* note 2, at 74-76.
94 CBD/SBSTTA/24/L.8, *supra* note 8.

This large discretion should be oriented by introducing common guidelines to categorize and manage prioritized sites and pathways which could improve the understanding, prevention, reporting, and prediction of IAS and their threats.[95] This should include the vulnerability of site, and particularly the threat of species extinction as an irreversible harm as the central determining factor. Furthermore, the pathway prioritization and management scheme of the CBD creates overlaps,[96] imprecise data,[97] is not suitable for all Parties to the CBD,[98] lacks data for introduction pathways on other continents than Europe,[99] and should, thus, either be amended or replaced by pursuing an integrated approach of prioritization based on sites, IAS, and pathways to consider all interdependencies and create an effective and cost-efficient system.[100]

Furthermore, the SPB 2011-2020 and the post-2020 GBF fail to sufficiently consider climate change as an (increasingly) important driver of IAS occurrences and impacts. The post-2020 GBF shows progress but remains insufficient in several aspects. Firstly, there is an urgent need to develop a clear distinction between native species and IAS that determines under what conditions a habitat shift of native species caused by climate change is to be considered natural or assisted by humans. This can be done by supplementing the current definition of IAS with instructions ensuring that the IAS themselves are not endangered if they are pressured by climate change in their original habitat and by eradication measures in their new habitat. Alternatively, the present definition of IAS could exclude species experiencing distributional changes due to climate change and, thus, prevent eradication measures against those species. However, this option must also be supplemented with additional guidelines on how to avoid the negative impacts of such species migrating due to climate change.

Besides, climate change will cause immense environmental changes. These changes are, due to the complexity of climate change, particularly challenging to predict. These uncertainties complicate the conduction of risk assessments regarding IAS. Hence, a common, unified SDM to homogenously predict and consider the uncertainties of climate change in the risk assessment process should be agreed on. Moreover, these uncertainties of climate change should also be taken into account as an influencing factor in the above-suggested schemes for sites and in the

95 Faulkner et al, 'Classifying the', *supra* note 55, at 146; McGeoch et al, 'Prioritizing Species', *supra* note 29, at 311.
96 Pergl et al, 'Applying the Convention', *supra* note 60, at 347-348.
97 *Ibid*.
98 Essl et al, 'The Convention', *supra* note 32, at 105; Faulkner et al, 'Classifying the', *supra* note 55, at 153-154.
99 Pergl et al, 'Applying the Convention', *supra* note 60, at 336.
100 McGeoch et al, 'Prioritizing Species', *supra* note 29, at 311.

pathway prioritization and management. Like this, the focus on avoiding the impacts of IAS could be strengthened.

Considering the future climate-induced increase of IAS occurrences, the challenges for areas particularly vulnerable to climate change, for climate-induced migration of species as well as for climate risk assessment become even more drastic and urgent. This especially includes the effects of climate change through, inter alia, temperature increase, changes in the length of seasons, altered atmosphere composition, or changing precipitation, which pressure certain native species and reduce their resilience against new competitors or predators.[101] This is particularly problematic as IAS often address these new circumstances better because they often are generalists that are more flexible to adapt to environmental changes.[102] Hence, it is necessary to take effective action as soon as possible, to stop the ongoing trend of growing numbers of IAS. Further delays could result in numerous introductions of IAS, which are afterwards more difficult and more cost-intensive to manage than to prevent those introductions in the first place.[103] Hence, it is important to act immediately and to increasingly introduce preventive measures, particularly also in cases of scientific uncertainty. This urgency to act also includes that delays of future CBD COPs, as it happened to the Kumming-Montreal summit which was delayed by over two years, must be avoided to prevent regulatory chill, in times when most targets of the CBD have not been achieved, and climate change continues to threaten biodiversity.[104] The time to act and to prevent or at least mitigate the 6th global mass extinction is now.

[101] Scott J. Meiners and Steward T. A. Pickett, 'Plant Invasions in Protected Landscapes: Exception or Expectation?', in Llewellyn C. Foxcroft et al (eds), *Plant Invasions in Protected Areas: Patterns, Problems and Challenges* (vol. 7, Springer, 2013) 43-60 at 54; Walther et al, 'Alien Species', *supra* note 9, at 687-688.
[102] *Ibid.*
[103] Secretariat of the Convention on Biological Diversity, *Global Biodiversity, supra* note 2, at 75.
[104] IPBES, *Summary for policymakers, supra* note 23, at 34.

The EU Biodiversity Strategy for 2030: Is the European Union Leading by Example?

Erriketi Tla da Silva[1]

1 Introduction

During the last decades, the European Union (EU) has made significant steps in the field of environmental protection and has committed to become a leader in the fight against climate change and biodiversity loss.[2] A milestone in this process was the launching of the Communication on the European Green Deal[3] in 2018, an 'umbrella strategy' covering all fields of the EU's actions and competences and aiming to ensure climate neutrality by 2050. The European Green Deal was accompanied by two related strategies, the Farm to Fork Strategy[4] and the Biodiversity Strategy.[5] This paper will shed some light to the latter by exploring its potential to effectively tackle biodiversity loss and its shortcomings.

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2 'The European Green Deal', COM(2019) 640 final (11 December 2019) p. 2; and EU Commission, 'EU biodiversity strategy for 2030', COM(2020) 380 final (20 May 2020) at 19-22.
3 'The European Green Deal', COM(2019) 640 final (11 December 2019).
4 'A Farm to Fork Strategy", COM(2020) 381 final (20 May 2020).
5 'EU biodiversity strategy for 2030', COM(2020) 380 final (20 May 2020) (hereinafter: EU Biodiversity Strategy for 2030).

2 The EU Biodiversity Strategy for 2030 at a glance

Clearly influenced by the impact of the first wave of coronavirus in Europe, the EU Biodiversity Strategy for 2030 aims to contribute to Europe's recovery by increasing its resilience to future threats such as climate change, natural disasters, disease outbreaks and food insecurity. The EU Biodiversity Strategy, even from its headline 'Bringing nature back to our lives' swifts the target towards restoration and adaptation from simply avoiding degradation, compared to the Biodiversity Strategy for 2020,[6] and adopts an anthropocentric approach.[7] The Strategy contains specific targets that should be reached by 2030 in order to halt biodiversity loss and improve the current status of protected areas in the EU. It is worth noting at this point that the targets are technically (not yet) legally binding since the EU Biodiversity Strategy is a soft law document i.e., a Communication. The targets need to be included in a document with legal force in order to create binding obligations for the EU institutions and the Member States. On 22 June 2022, the European Commission issued a long-awaited proposal for a Nature Restoration Law[8] which will be the key legal document for the implementation of the EU Biodiversity Strategy, including binding targets for nature restoration. The proposal has been presented to the European Parliament and the Council of the EU, who will now negotiate its content before it gets adopted pursuant to the ordinary legislative procedure.[9]

The main elements of the Strategy are the following:

1. The extension of the existing network of protected areas. More specifically, at least 30 per cent of the land and 30 per cent of the sea should be protected in the territory of the EU. Within this percentage, at least 10 per cent of land and 10 per cent of sea should be under a strict protection regime, including all remaining primary and old-growth forests.[10] This obligation is reflected in Article 4 para. 2 and Article 5 para. 2 of the Proposal.

2. The launching of an EU Nature Restoration Plan in order to restore ecosystems that have been degraded due to biodiversity loss

6 'Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and The Committee of the Regions: Our life insurance, our natural capital: an EU biodiversity strategy to 2020', COM/2011/0244 final (3 May 2011).
7 'Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and The Committee of the Regions: Our life insurance, our natural capital: an EU biodiversity strategy to 2020', COM(2011) 244 final (3 May 2011).
8 'Proposal for A Regulation of the European Parliament and of the Council on nature restoration', COM(2022) 304 final (22 June 2022).
9 Consolidated version of the Treaty on the Functioning of the European Union, OJ L. 326/47-326/390 (26 October 2012), Art. 294 (hereinafter TFEU).
10 'EU biodiversity strategy for 2030' at 4.

with binding targets to ensure an efficient restoration process. As mentioned above, the Commission launched a proposal including a binding obligation for Member States to adopt Nature Restoration Plans as well as binding restoration targets in order to close the existing regulatory gaps. More specifically, the proposal aims to put an end to the problems caused by the lack of specific targets in the legislation currently in force (e.g. the Habitats Directives) and to the inefficiency of the voluntary targets that do not provide enough motivation for compliance (for instance, EU Biodiversity Strategy for 2020).[11] To this end, a non-regression obligation is added in both Articles 4 and 5 of the Proposal to ensure that the status of ecosystems does not deteriorate before or after restoration. The addition of a non-regression obligation is undoubtedly a positive development. However, the monitoring of the use of the exemption justifications for the non-compliance with the obligation of the continuous improvement is fundamental in order to prevent their misuse by the Member States. In addition, pursuant to Article 11 of the Proposal, Member States will have to design their National Nature Restoration Plans that will set out the measures to be taken in order to attain the objectives of the Proposal. The National Restoration Plans will have to be approved by the Commission.

3. The introduction of an obligation of the Member States to take steps so that at least 30 per cent of species and habitats that are not in favorable conservation status reach that status or at least show a positive trend.[12] However, this does not seem to be in line with the Nature Directives[13] which require that all species and habitats shall be brought to favorable conservation status.[14] A percentage of only 30 per cent does not seem to reflect the current urgency to halt biodiversity loss. In the Proposal, this obligation is reflected in Articles 4 and 5 regarding both terrestrial and marine ecosystems. In both Articles, incremental targets are added reaching up to a binding obligation to ensure the improvement of 90 per cent of protected areas to good condition by 2050.

[11] 'Commission Staff Working Document Impact Assessment accompanying the proposal for a Regulation of the European Parliament and of the Council on nature restoration', SWD(2022) 167 final (22 June 2022) at 31-33.
[12] 'EU biodiversity strategy for 2030' at 6-7.
[13] This paper refers to the Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds and to the Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora as 'Nature Directives'.
[14] Articles 2 and 3 of Directive 92/43/EEC and Article 1 of Directive 2009/147/EC.

4. The inclusion of biodiversity considerations in the Common Agricultural Policy,[15] such as the reverse of the decline of pollinators by reducing by 50 per cent the overall use of chemical pesticides and by 50 per cent the use of more hazardous pesticides by 2030.[16] In addition, the new Strategy promotes farmland biodiversity by ensuring that at least 10 per cent of agricultural areas include high-diversity landscape features and at least 25 per cent of agricultural land is under organic farming management.[17] Article 9 para. 4 of the Proposal contains quantified, time-bound targets for the restoration of peatlands under agricultural use. However, in order to achieve better restoration results, it would be beneficial to expand the restoration targets to other land uses such as forestry. Another very positive development is that the Proposal renders, in Article 8, the commitment of the Strategy to reverse the decline of pollinators legally binding.

5. Further steps to protect and enhance land and marine biodiversity by planting 3 billion trees[18] and restoring 25,000 km of free-flowing rivers.[19] It should be noted, however, that there are no provisions in the Biodiversity Strategy regarding the protection regimes of the trees that are planted to restore or create forests in order to ensure the long-lasting positive impact of tree planting for biodiversity and climate change mitigation. The river restoration target is reflected in Article 7 of the Proposal, where it is mentioned that Member States will be required to remove the barriers to longitudinal and lateral connectivity of surface waters. It should be noted, however, that the Proposal does not include quantifiable and time-bound targets for the restoration of rivers.

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[15] The Common Agricultural Policy (hereinafter CAP) was established in 1962 and is one of the oldest policies of the EU. According to Art. 39 of the TFEU (Consolidated version of the Treaty on the Functioning of the European Union, OJ C. 326/49 (26 October 2012) the CAP aims:

a) to increase agricultural productivity by promoting technical progress and by ensuring the rational development of agricultural production and the optimum utilisation of the factors of production, in particular labour; (b) thus to ensure a fair standard of living for the agricultural community, in particular by increasing the individual earnings of persons engaged in agriculture; (c) to stabilise markets; (d) to assure the availability of supplies; (e) to ensure that supplies reach consumers at reasonable prices.

The CAP currently in force is composed of two pillars. The first pillar is funded exclusively by the EU and includes direct payments, i.e., annual payments to farmers to help them have stable revenues in spite of the variable market princes and weather conditions. The second pillar is co-financed by the Member States and concerns rural development, aiming to achieve a balanced and sustainable territorial development. The CAP is essentially a comprehensive subsidy system that supports financially the farmers of Europe and since its launching it has undergone many reforms in order to mitigate its detrimental impact on the environment. For more information, see Berkeley Hill, *Understanding the Common Agricultural Policy* (Earthscan, 2012) at 137-181.

[16] 'EU biodiversity strategy for 2030' p. 7.

[17] *Ibid.* at 8.

[18] *Ibid.* at 9.

[19] *Ibid.* at 12.

6. The increase of the funding[20] for biodiversity and the enhancement of the role of the EU as a global leader in addressing biodiversity loss worldwide.[21]

These measures aim to show that the EU is ready to lead by example to address the global biodiversity crisis by working towards the successful adoption of an ambitious global biodiversity framework. However, there are plenty of challenges that need to be addressed in order to ensure the effectiveness of biodiversity management within the EU, so that it can be ready to act as a global leader in the fight against biodiversity loss.

3 Exploring the challenges and the possibilities of the EU Biodiversity Strategy for 2030

The EU has built over the years a strong legal framework to ensure the protection of biodiversity with its most prominent instruments being the Birds and Habitats Directives,[22] that receive financial support through EU funds such as the LIFE Program. At the same time, the EU is a global actor, representing its 27 Member States with one strong voice. The Union has played a leading role in the international policy-making, contributing significantly to the adoption of the UN Sustainable Development Goals[23] and to the adoption of the UN Convention on Biological Diversity.[24]

However, the urgency to take serious action to protect the environment and prevent its further damage as well as the targets set on an EU level call for greater ambition. In the following, these challenges will be discussed with a focus on coordination, integration and enforcement.

3.1 Lack of coordination and territorial disparities between Member States

One of the main challenges of the current framework regulating nature conservation is the lack of effective coordination between the Member States and between them and the EU.[25] The protected areas and species are part of an EU wide network, all parts of which are interconnected. Therefore,

[20] *Ibid*. at 17.
[21] *Ibid*. at 19.
[22] Suzanne Kingston, Heyvaert Veerle, and Aleksandra Čavoški, *European Environmental Law* (Cambridge University Press, 2017) at 410.
[23] 'Transforming our world: The 2030 Agenda for Sustainable Development', UNGA Res. 70/1 of 25 September 2015.
[24] Convention on Biological Diversity, Rio de Janeiro, 5 June 1992, in force 29 December 1993, 31 *International Legal Materials* (1992) 822, <http://www.biodiv.org>.
[25] Antonios D. Mazaris et al., 'Gaps and Challenges of the European Network of Protected Sites in the Marine Realm', 75(1) *ICES Journal of Marine Science* (2018) 190-198 at 195-196.

assessments made on a Member State level tend to overlook the connectivity of the various areas and species that are under protection regimes.

In addition, the coordination of various agencies and public bodies within a Member State is essential. For instance, for the effective management of a protected area, cooperation is required between bodies responsible for the marine and the terrestrial management of the area.[26] The assessment of the biodiversity status in a specific area needs to be made taking into account the position of the area inside the Natura 2000 network.[27] Protected areas do not follow the borders of the Member States and thus special attention should be paid to the holistic assessment on a 'network level' of areas or species with a biodiversity interest shared between two Member states, e.g. transboundary watercourses or protected migratory birds. There are also many cases where such areas are shared between Member States and non-Member States. In that case, transboundary cooperation in order to extend the environmental *acquis* in the neighboring states is fundamental.[28]

At the same time, there are significant disparities between the coverage of the land of the Member States designated as protected areas − taking of course into account the significant differences in the size of the territories of the Member States.[29] However, an increase of the percentage of protected areas will not suffice by itself if it is not accompanied by efficient management of the protected areas and species and by sufficient control over the choice to include an area to the Natura 2000 network or not.

The Natura 2000 network needs to offer enough protection to the areas belonging to it in order to tackle the cumulative effects of various threats,[30] such as climate change, invasive species, land use change, agriculture and natural disasters. The coherence of the network, that can be achieved through better coordination, will be beneficial for its resilience and adaptability to the aforementioned challenges.

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[26] Virgilio Hermoso et al, 'The EU Biodiversity Strategy for 2030: Opportunities and Challenges on the Path towards Biodiversity Recovery', 127(3) *Environmental Science & Policy* (2022) 263-271 at 265.

[27] The Natura 2000 network is the largest network of protected species and habitats in the world and covers the terrestrial and marine territory of all Member States. The Natura 2000 Network was established in 1992 with Directive 92/43/EEC on the conservation of natural habitats of wild fauna and flora, more commonly known as the Habitats Directive, and is composed by the Sites of Community Importance that are protected areas designated by the Member States and approved by the European Commission and the Special Protection Areas, which are habitats of wild bird species covered by the Birds Directive. For more information, see Kingston et al, European Environmental Law', *supra* note 22, at 416-428.

[28] See, for instance, the program 'Strengthening the capacities for effective implementation of the acquis in the field of nature protection' (available at <http://natura2000.gov.mk/en/zajaknuvanje-na-kapacitetite-za-efektivno-sproveduvanje-na-evropskoto-zakonodavstvo-vo-oblasta-na-zashtitata-na-prirodata/> (visited 27 July 2022) which aims to assist the Republic of North Macedonia to develop its nature conservation legislation in order to meet the requirements of the Habitat and Bird Directives.

[29] Mazaris et al, 'Gaps and Challenges', *supra* note 25, at 195-196.

[30] Joanna R. Bernhardt and Heather M. Leslie, 'Resilience to Climate Change in Coastal Marine Ecosystems', *5 Annual Review of Marine Science* (2013) 371-392 at 372.

The EU Biodiversity Strategy puts forth territorial targets and states, more specifically, that by 2030, the Natura 2000 network should include one third of the territory of the EU as protected terrestrial and marine areas. However, only expanding the network without ensuring that the areas added are in need of protection will not manage to effectively halt biodiversity loss. Without adequate monitoring, there is a risk that the Member States would add to the network isolated areas driven by their commercial and not by their ecological value.[31] This possibility jeopardizes the attainment of the desired results by the EU Biodiversity Strategy and increases the importance of adequate monitoring by the Commission.

The proposal for the Nature Restoration Law is a very positive development in mitigating the lack of coordination between Member States, since because of its legal nature, it will ensure the consistent and uniform implementation of the legislation. More specifically, the Nature Restoration Law will be a Regulation and it will become part of the national legal order with the exact same wording and without any intervention of the Member States through implementing measures.[32] Therefore, its content will be identical in all Member States, facilitating its consistent application.

3.2 Integration, policy coherence and silo thinking

Biodiversity considerations are omnipresent in other policies of the EU, mainly the CAP and the Common Fisheries Policy (CFP).[33] It is essential to regulate the conflicts between protecting biodiversity and other legitimate uses of the terrestrial and marine environment, such as agriculture as well commercial and recreational fishing that might have adverse effects in effective biodiversity management. At the same time, most of the areas belonging to the Natura 2000 network are destined for multiple uses such as various permitted economic and recreational activities.[34] Therefore, it is important to integrate biodiversity concerns into the regulation of those activities as well.

The CAP and the CFP benefit from special attention by the Member States since they are inextricably linked to their national interests and are subject to influence by various lobbies. At the same time, both policies

[31] Hermoso et al, 'The EU Biodiversity Strategy', *supra* note 25, at 266.
[32] Article 288 TFEU.
[33] The Common Fisheries Policy is the framework of rules to ensure the sustainable management of European fishing fleets and the conservation of fishing stocks. It was originally part of the Common Agricultural Policy and obtained a separate identity with the Common Market Organization introduced in 1970. Its main aim is to balance the need of the fishermen to have access to fisheries and maximize catches and gain profit while conserving fish stocks. For more information, see The Pew Charitable Trusts, 'Lessons From Implementation of the EU's Common Fisheries Policy' (2021), available at <https://www.pewtrusts.org/en/research-and-analysis/reports/2021/03/lessons-from-implementation-of-the-eus-common-fisheries-policy> (visited 13 September 2022).
[34] Hermoso et al, 'The EU Biodiversity Strategy', *supra* note 2, at 266.

suffer from underenforcement against activities that could harm the environment and have detrimental effects for biodiversity.[35]

In accordance with the principle of environmental integration which is enshrined in Article 11 TFEU[36] and reinforced by the Charter principle in Article 37 of the CFREU,[37] there is a legally binding obligation to integrate environmental objectives into sectoral policies. To this end, it is important to strike the balance between achieving legitimate goals, such as guaranteeing food security, which is of vital importance especially due to the current geopolitical situation and ensuring effective environmental protection.

Regarding agriculture, the protection of biodiversity is now one of the explicit goals of the recently adopted Strategic Plans Regulation.[38] The new Regulation is an integral part of the reform of the CAP and aims to simplify the policy by adopting a results-based and flexible approach, granting flexibility to the Member-States. Member States are responsible for the drafting of their National Strategic Plans which will contain the measures to be taken in order to reach the objectives of the new CAP and will have to be approved and monitored by the Commission. The Strategic Plans Regulation introduces a new green architecture of the CAP, which consists of an enhanced conditionality mechanism in order to ensure that direct payments are granted to farmers who respect certain environmental standards, eco-schemes and payments for agri-environmental measures. All mechanisms include biodiversity considerations and will support the attainment of the environmental objectives of the new CAP. More specifically, contributing to the halting of biodiversity loss will be one of the conditions that will have to be respected pursuant to the enhanced conditionality mechanism of the new CAP in order to receive direct payments.[39] In addition, farmers can receive additional support by adopting eco-schemes, which have to go beyond the enhanced conditionality objectives and can aim to the protection of farmland biodiversity.[40] Biodiversity considerations can also be included in the agri-environmental measures of the second pillar of the CAP, which is designed to support rural areas of the EU and is co-financed by EU, regional and national funds.[41] Therefore, it becomes evident that biodiversity objectives are technically fully integrated in all of the greening

35 *Ibid*.
36 Article 11 TFEU.
37 Charter of Fundamental Rights of the European Union, OJ C 364/1 (18 December 2000), Art. 37.
38 Article 6(1)(f) of Regulation (EU) 2021/2115 of the European Parliament and of the Council of 2 December 2021 establishing rules on support for strategic plans to be drawn up by Member States under the common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulations (EU) No 1305/2013 and (EU) No 1307/2013, OJ L 435 (6 December 2021) (hereinafter 'Strategic Plans Regulation').
39 *Ibid*. Art. 12.
40 *Ibid*. Art. 31.
41 *Ibid*. Art. 70.

mechanisms of the CAP. However, in the new Strategic Plans Regulation, the system of direct payments that continues to support harmful industrialized farming is retained. This system seems to be incompatible with the European Green Deal and consequently with the EU Biodiversity Strategy as it incentivizes intensive agricultural production that increases GHG emissions as well as nutrients surpluses and the use of pesticides.[42] In addition, during the negotiations between the co-legislators for the adoption of the new CAP, animal welfare was added to the goals to be attained through eco-schemes.[43] Notwithstanding the fundamental importance of the improvement of animal welfare, livestock farming responsible both for climate change and biodiversity loss, through land use change.[44]

Article 31 of the Strategic Plans Regulation provides that eco schemes shall cover in at least two areas of actions for the climate, the environment, animal welfare and combatting antimicrobial resistance. The two latter issues correspond only to one area of action. Therefore, on a positive note, Member States while designing their eco-schemes shall combine the improvement of animal welfare and antimicrobial resistance with another area of action related to biodiversity and climate change. However, the wording of the provision and in particular the phrase 'in principle' may indicate the existence of a margin for exceptions for eco-schemes that aim to cover only one area of action. Therefore, the addition of animal welfare, if not monitored adequately, can facilitate the use of EU funds to subsidize environmentally harmful activities. Thus, the inconsistencies between agricultural and environmental policy seem to stand at odds with the obligation of coherence between the various policies of the Union, enshrined in Article 13 TEU and Article 7 TFEU.

Furthermore, the delays during the negotiations between the European Parliament and the Council of the EU for the adoption of the new greener CAP, which resulted in a situation where the entry into force of the new Regulation will take place in 2023, will probably cause in a subsequent delay in the attainment of the targets of the EU Biodiversity Strategy, given that agriculture has an extremely significant role to play in it.

Most importantly, in the new Strategic Plans Regulation, there is no concrete and legally binding link with the European Green Deal and its relation to the Farm to Fork and Biodiversity Strategies. Despite the inclusion of three environmental objectives in the new CAP, it is

[42] European Court of Auditors, 'Common Agricultural Policy and climate: Half of EU climate spending but farm emissions are not decreasing', Special Report 16/2021, available at <https://www.eca.europa.eu/Lists/ECADocuments/SR21_16/SR_CAP-and-Climate_EN.pdf> (visited 7 October 2022) at 25-27.
[43] Article 31 of the Strategic Plans Regulation.
[44] European Court of Auditors, 'Common Agricultural Policy', *supra* note 42, at 5-10.

surprising that the only references to the EU Biodiversity Strategy in the Regulation are made in few non-binding recitals (Recitals 122-124). This raises doubts regarding the Commission's ability to reject a Strategic Plan based on its non-compliance with the EU Biodiversity Strategy. According to Article 118 of the Strategic Plans Regulation, soft-law documents are excluded from bases of the Commission's assessment while approving the National Strategic Plans. This omission could be solved in an indirect way, by interpreting Article 118, which provides for the assessment by the Commission of the effective contribution of the Strategic Plans to the attainment of the objectives laid down in Article 6 of the Regulation, in the light of the EU Biodiversity Strategy, but the wording of Article 118 definitely renders a rejection on this ground more difficult. This problem will be resolved after the adoption of the Nature Restoration Law. However, negotiations between the European Parliament and the Council of the EU might be lengthy.

Thus, it becomes evident that it is extremely important to end the 'silo thinking' between environment and agriculture and take a look at the synergies that can be achieved, because agriculture, apart from its unavoidable negative impact on the environment, can play an important role in achieving biodiversity objectives. However, the lack of effective integration of environmental objectives in agriculture seems to intensify the problem and to contribute to biodiversity loss rather than nature restoration.

Concerning, the CFP, the poor integration of marine biodiversity objectives seems to have led to a decline of the marine populations in the European seas, despite the fact that the CFP aims to promote sustainable fishing by ensuring a minimal impact on the marine environment following an ecosystems-based approach. The harmful subsidies given to fishers motivate them to travel further or stay at the sea longer than they would otherwise, promote intensive fishing and seem to be incompatible with the objectives of the EU Biodiversity Strategy,[45] as well as with Article 11 of the TFEU.

Policy coherence is extremely important also within various environmental policies. It has to be noted that biodiversity is inextricably linked to climate change mitigation since, on the one hand climate change is one of the main reasons of biodiversity loss as it can destroy the habitats of protected species threatening their extinction and, on the other hand, conserved or restored habitats, such as forests, can contribute to climate change mitigation by storing carbon dioxide and by reducing floods owed

[45] See, for instance, Art. 14 of the Council Directive 2003/96/EC of 27 October 2003 restructuring the Community framework for the taxation of energy products and electricity, OJ L 283 (31 October 2003). It provides a possibility to the Member States to exempt from taxation 'energy products supplied for use as fuel for the purposes of navigation within Community waters (including fishing), other than private pleasure craft, and electricity produced on board a craft'.

to climate change.[46] Therefore, many synergies could be achieved by a coherent environmental policy that sees biodiversity loss and climate change as two sides of the same coin and tackles them holistically.

In the European Climate Law,[47] the legal document that renders the targets posed by the European Green Deal legally binding, there are very few references linking climate change policy with nature restoration policy, and these can be found mostly in non-binding recitals. For instance, in Recital 3 climate change is mentioned as the third most important driver of biodiversity loss. However, even if the legislators seem to acknowledge the links between climate change and biodiversity, the only explicit reference to biodiversity considerations in the European Climate Law can be found in Article 4 para. 5(j), which includes biodiversity and more specifically the 'the need to maintain, manage and enhance natural sinks in the long term and protect and restore biodiversity' to the list of factors that the Commission shall consider while proposing the Union climate target for 2040.

Therefore, it becomes evident that a holistic and not siloed approach is fundamental in order to address both issues efficiently and coherently.

3.3 Enforcement

Effective enforcement is necessary to ensure that the obligations imposed by EU environmental legislation on biodiversity are complied with. According to a report by the European Environment Agency, by the end of 2018, 30 per cent of Natura 2000 protected areas did not have management plans, while not all of the remaining sites had plans that corresponded to the EU standards.[48]

Nature conservation is highly decentralized at the EU level with the enforcement being left entirely to the Member States. The role of the Commission is rather to exercise *ex ante* control of the transposition process and of the necessary steps to be taken in order to implement the various legal instruments related to biodiversity, such as the

[46] Secretariat of the Convention on Biological Diversity, 'Review of the Literature on the Links between Biodiversity and Climate Change − Impacts, Adaptation and Mitigation' (2009), available at <https://wedocs.unep.org/20.500.11822/7896> (visited 27 July 2022) at 49-75; The Royal Society, 'Climate Change and Biodiversity: Interlinkages and policy options' (2021), available at <https://royalsociety.org/-/media/policy/projects/bio-climate-interlinkages/interlinkages-between-climate-change-and-biodiversity.pdf> (visited 13 September 2022); and Malgosia Fitzmaurice, 'Biodiversity and Climate Change', 23(2/3) *International Community Law Review* (2021) 230–240.

[47] Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law'), OJ L 243 (9 July 2021).

[48] European Environment Agency, 'Management Effectiveness in the EU's Natura 2000 Network of Protected Areas' (2020), available at <https://www.eea.europa.eu/publications/management-effectiveness-in-the-eus> (visited 27 July 2022) at 8.

designation of the protected areas. After the complete transposition and the adoption of the national plans, the monitoring role of the Commission is rather marginal. Consequently, and in order to ensure the uniform implementation of EU law in the various Member States, the scrutiny exercised on an *ex ante* basis by the Commission as well as the coordination of the national authorities that are responsible for the monitoring of the correct implementation of the Directives are of critical importance.

Throughout the implementation of the Nature Directives, some Member States have shown unwillingness to comply with the EU environmental legislation. The Commission has had to initiate the Article 258 infringement procedure against them due to lacking designated Protected Areas, lacking adoption of conservation objectives and poor implementation of management measures.[49] However, the infringement procedure has many inherent deficiencies since the Commission does not possess inspection powers and resources to sufficiently monitor the situation of the implementation of all aspects of EU law in all the Member States.[50] Therefore, it has to depend on the national administrative and judicial authorities, which will be conflicted if they have to disclose information that may lead to the sanctioning of the Member State by the Court of Justice. At the same time, the decision whether to initiate a lengthy infringement procedure and whether to bring the case before the Court is under the Commission's discretion and thus it is inevitably influenced by political considerations, while at the same time there are no adequate accountability and transparency mechanisms to safeguard the process. Therefore, the incorrect implementation of biodiversity legislation by the Member States coupled with the inherent problems of the enforcement mechanisms of the Commission jeopardize the attainment of the objectives of the Biodiversity Strategy.

The ineffectiveness of the infringement procedure leaves judicial review as a last resource to ensure effective enforcement of EU Environmental Law. However, it is widely known that the Court of Justice itself has restricted the *locus standi* of individuals with its infamous Plaumann

[49] See, indicatively: Judgment of 17 December 2020, *European Commission v Hellenic Republic*, C-849/19, EU:C:2020:1047; Judgment of 17 April 2018, *European Commission v Republic of Poland,* Case C-441/17, EU:C:2018:255; European Commission, 'Nature: Commission refers Bulgaria to the Court of Justice of the European Union for failing to protect and manage its Natura 2000 sites', press release of 12 November 2021, available at <https://ec.europa.eu/commission/presscorner/detail/en/ip_21_5351> (visited 3 August 2022).

[50] Ludwig Krämer, 'EU Enforcement of Environmental Laws: From Great Principles to Daily Practice - Improving Citizen Involvement', 44(1) *Environmental Policy and Law* (2014) 247-256.

judgement.[51] The case law that followed regarding the standing of non-governmental organizations (NGOs) is also in compliance with Plaumann and makes access to justice for environmental matters extremely difficult, if not impossible.[52] These structural deficiencies render the preliminary reference procedure of Article 267 TFEU the only viable possibility left to ensure the effective and uniform application of EU Law.[53] Consequently, the role of national judges, who must act as watchdogs of the correct application of EU law is extremely important. Of course, the preliminary reference procedure suffers from its own deficiencies, as only courts of last instance are obliged[54] to send a reference for the interpretation of EU Law and only if the issue has not been yet clarified by the Court,[55] while the current ongoing rule of law crisis limits the credibility of the procedure in certain Member States.

Moreover, the absence of a substantial right to the environment in EU legislation limits even more the possibilities of individuals and NGOs to challenge an EU or a national act that does not respect EU environmental law. Article 37 of the Charter of Fundamental Rights is not a fully-fledged substantive and justiciable right to the environment, but a principle of the Charter of Fundamental Rights. In addition, it does not include procedural environmental rights such as access to environmental information or participation of individuals and stakeholders in the decision-making which concerns the environment. Notwithstanding its important interpretative value, the provision essentially repeats other provisions of the Treaty, namely the integration principle of Article 11TFEU and the requirement for a high level of environmental protection in Article 191 TFEU. Article 37 lays down a general policy objective using vague wording, which seems to

[51] Judgement of 15 July 1963, *Plaumann & Co. v Commission of the European Economic Community,* Case 25-62, EU:C:1963:17. In the judgment, the Court of Justice interpreted for the first time the criterion of 'individual concern' in the para. 2 of Art. 173 EEC Treaty (now para. 4 of Art. 263 TFEU). According to the judgment,

> Persons other than those to whom a decision is addressed may only claim to be individually concerned if that decision affects them by reason of certain attributes which are peculiar to them or by reason of circumstances in which they are differentiated from all other persons and by virtue of these factors distinguishes them individually just as in the case of the person addressed.

Therefore, the Court interpreted the criterion of individual concern very restrictively, providing for very limited standing opportunities to natural and legal persons.

[52] See, for instance: Judgment of 25 March 2021, *Armando Carvalho and Others v European Parliament and Council of the European Union*, C-565/19 P, EU:C:2021:252 as well as Judgment of 2 April 1998, *Stichting Greenpeace Council (Greenpeace International) and Others v Commission of the European Communities,* C-321/95 P, EU:C:1998:153.

[53] The Preliminary reference procedure provided in Art. 267 TFEU is a judicial mechanism designed to ensure the uniform application of EU law in all Member States. National courts can send questions regarding the interpretation of the EU Treaties and of the acts of the EU institutions as well as questions regarding the validity of EU acts. Therefore, the preliminary reference procedure can be an additional mechanism (on top of the action for annulment) to control the conformity of acts of the EU institutions with EU primary law by challenging the validity of EU acts indirectly. In that way it can act as an alternative remedy that mitigates the very limited standing of private parties in actions for annulment (Art. 263 TFEU).

[54] Article 267 TFEU.

[55] Judgment of 6 October 1982, *Srl CILFIT and Lanificio di Gavardo SpA v Ministry of Health,* 283/81, EU:C:1982:335.

preclude the possibility to be directly invoked by individuals before their national courts.

Therefore, in many cases individuals and environmental NGOs that wish to challenge the validity of an EU legal act that is incompatible with EU environmental law could be left without a judicial remedy under EU law. The very restricted access to environmental justice, combined with the lack of a substantive and justiciable right to the environment, preclude the effective control of EU acts that could be incompatible with EU environmental legislation. This state of affairs limits drastically the possibility of annulment of an EU measure that might have little environmental ambition or even negative consequences on biodiversity.

4 Concluding remarks

Undoubtedly, the EU Biodiversity Strategy for 2030 has a lot of potential to tackle biodiversity loss, but its success will depend on the willingness and the capacity of the Member States to implement the conservation measures, on the one hand, and on the readiness of the European Commission to exercise its enforcement powers in case that the Member States do not observe EU environmental legislation, on the other hand. The launching of the proposal for the Nature Restoration Law is an important milestone. However, its true capability to effectively contribute to the fight against biodiversity loss will depend on its final content after the negotiations between the Parliament and the Council, who might try to water down its environmental ambition.

In addition, the alignment of the various sectoral policies that affect biodiversity is of fundamental importance, so that they include legally binding, quantifiable and enforceable targets for the Member States in order to mitigate the impact of these policies on nature conservation. The monitoring of this process is vital, and it will be the duty of the Commission as the 'Guardian of the Treaties' to control the implementation of the biodiversity objectives and, as the holder of the power to propose legislation, to include nature considerations into legislative proposals that might affect biodiversity.

The EU possesses the largest network of protected areas in the world as well as many effective policy instruments that are supported by a strong legal construction to play an active role in biodiversity management on a global scale. However, there is an imperative need to overcome the challenges analysed in this paper to ensure that biodiversity is protected efficiently at a Union level in order to enable the EU to confidently lead by example.

Part II

Interactive Negotiation Skills in the Area of the Post-2020 Global Framework on Biodiversity

Virtual Negotiations and Multilateral Environmental Agreements

Catalina Pizarro[1]

1 Introduction

This paper describes some of the challenges and opportunities of virtual intergovernmental meetings. The paper identifies some of the operating procedures that can be adapted for participation in virtual meetings, and highlights some of the best practices multilateral environmental agreements (MEAs) have adopted to hold virtual meetings during the COVID-19 pandemic.

As COVID-19 restrictions have made in-person meetings impossible or restricted, many United Nations (UN) and multilateral environmental agreement meetings have been conducted virtually since 2020. Especially at the beginning of the pandemic, some meetings were shortened and took place with a more limited agenda, while others were postponed to a later date. However, the majority of meetings that were planned for 2020 and early 2021 took place at least in part virtually.

While virtual meetings remain fairly new within the UN, MEAs and regional environmental conventions had, prior to March 2020, already developed a significant amount of practice in this area, especially with respect to their subsidiary and intersessional bodies.

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In recent years, some UN subsidiary bodies, including within MEAs, have used online tools to enhance participation in a number of ways, for instance:

- draft decisions and resolutions submitted by Parties have been made available online and/or have been discussed in advance of intergovernmental meetings through a secure web portal or regional preparatory meetings;
- Parties, observers, and stakeholders not physically present have been able to connect remotely by telephone or video to an intergovernmental meeting held in-person; and
- bureaus of UN bodies and the subsidiary organs of certain treaty bodies have met virtually – i.e., where the presiding officer, participants, and the secretariat connect remotely from different locations.

In addition, the Rules of Procedure (ROP) of certain scientific and technical bodies have authorized electronic means of communication for conducting informal consultations as well as for certain limited decision-making. For instance, the ROP for the meetings of the Compliance Committee under the 2003 Cartagena Protocol on Biosafety[2] provide that 'electronic means of communication may be used for the purpose of conducting informal consultations on issues under consideration. Electronic means of communication shall not be used for making decisions on matters of substance.'[3]

Many MEAs continued to rely upon this practice, moving an increasing number of meetings online, including the meetings of their Conference of the Parties (COPs), Meeting of the Parties (MOPs), extraordinary meetings of the COPs, Working Groups, Expert Groups, Compliance Committees, Review Committees, Liaison Groups and Governing Boards as well as scientific and technical bodies.

Even though the tendency nowadays seems to be a gradual return to in-presence meetings, the developed best practices especially over 2020-2021 indicate that virtual meetings are here to stay. There seems to be a strong appetite to continue applying the virtual modality for many meetings, and possibly replace, in some instances, the in-presence meetings with online conferencing or at least by hybrid meetings.[4]

2 Cartagena Protocol on Biosafety, Montreal, 29 January 2000, in force 11 September 2003, 39 *International Legal Materials* (2000) 1027, <http://www.cbd.int/biosafety>.
3 'Rules of procedure for meetings of the Compliance Committee', Cartagena Protocol on Biosafety Dec. BS-II/1 (2005), Rule 15.
4 'Assessment and lessons learned from the online session of the fifth session of the UN Environment Assembly', UN Doc. UNEP/CPR/154/3 (2021).

2 Operating procedures for virtual meetings: general guidance

UN Member States and MEA Parties need to be assured that an intergovernmental meeting that meets virtually will be conducted in accordance with its ROP and grant member states and Parties the same rights, privileges and protections that they are afforded in an in-person meeting.

The following practical guidance can, as appropriate, be followed for a virtual intergovernmental meeting in order to ensure compliance with ROP. The guidance is general in nature and will need to be tailored to the specific ROP that apply to a meeting.

(1) ROP do not expressly require that meetings be held face to face or in-person, although they have been written with that understanding. The requirement of 'presence' can be met through online participation in a virtual meeting. A meeting that has been arranged in-person can, after a consultative process with Parties, or presiding officers, be moved to a virtual meeting.

(2) Parties or the presiding officers of the relevant body may wish to agree in advance to meet virtually/allow virtual participation when required or authorize their subsidiary bodies to do so. This step may not apply in instances where the convening of an intergovernmental body meeting by electronic means is already envisioned by a governing body, its relevant decisions and ROP. For instance, the COP of the Basel Convention[5] has decided that a subsidiary body may meet face-to-face or by electronic means, depending on the availability of financial resources, and that it may work by electronic means, i.e. by email correspondence. This is, for instance, the case for the Partnership on Plastic Waste working group, the Basel Convention Partnership on Household Waste working group,[6] the various Basel Convention intersessional working groups[7] on the development or updating of technical guidelines,[8] and the Implementation and Compliance Committee, which has held online sessions of its meetings since 2013.

5 Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Basel, 22 March 1989, in force 5 May 1992, 28 *International Legal Materials* (1989) 657, <http://www.basel.int>.
6 'Terms of reference for the Basel Convention Partnership on Plastic Waste and workplan for the working group of the Partnership on Plastic Waste for the biennium 2020-2021', UN Doc. UNEP/CHW.14/INF/16/Rev.1 (2019).
7 'Basel Convention Partnership Programme', Dec. BC-14/19 (2019).
8 Decisions BC-14/4, BC-14/6, BC-14/8 and BC-14/13 (2019).

(3) Forging early consensus among all relevant stakeholders on the format and expected outcomes of the session in a timely manner through intergovernmental preparatory work is crucial. For instance, effective and timely intergovernmental preparatory consultations and negotiations conducted under the Committee of Permanent Representatives, at the regional level and a number of stakeholder-led events and discussions were identified as key factors contributing to the successful outcome of UNEA-5.1.[9]

(4) It may be necessary to circulate in advance, operating procedures for virtual meetings that have been agreed on by the presiding officer(s) and the secretariat. These operating procedures should follow the relevant ROP as closely as possible.

(5) The Secretariat should ensure solid legal advice to respond to, inter alia, procedural questions about quorum, credentials, registration, voting, to ensure that the rules of procedure are respected at all times.

(6) Parties should register in advance of the meeting. A registration page online can facilitate the registration, allowing Parties to indicate who will represent them. Credentials from Parties would still be needed to be submitted for meetings requiring them. Given the virtual nature of the meeting, scanned copies of credentials would suffice ahead of the meeting or another official communication, such as a Note Verbale or letter from a Government Ministry or Permanent Mission. Depending on the circumstances of Parties and the Secretariat, physical credentials could be required to follow those submitted online, by post or by hand, as soon as COVID restrictions allow.

(7) Virtual meetings are deemed to be held at the Headquarters/seat of the Secretariat.

(8) Effective online meetings require timely and accessible background documentation.

[9] 'Assessment and lessons learned from the online session of the fifth session of the UN Environment Assembly', UN Doc. UNEP/CPR/154/3 (2021), para. 13.

(9) Presiding officer(s) and the Secretariat need to consider the different time zones from which participants will connect before deciding on the time of the meeting. Given the different time zones, it may be impossible to meet the whole day − as would have been the case for an in-person meeting.

(10) In order to maximize the impact of an online meeting, the Secretariat may wish to enhance online outreach of the event based on a communication strategy.[10]

(11) The presiding officer(s) or the Secretariat should at the outset make clear the 'ground rules' for requesting and giving the floor, something that should have also been communicated in advance. In most cases participants use the 'chat function' (or its equivalent) to indicate to the Secretary or presiding officer(s) their desire to make an intervention. Sometimes the 'raise hand' function is used, which then is visible to both the presiding officer(s) and the Secretariat.

(12) The ground rules may also mention the time limit for the interventions and statements.

(13) It may be also useful to clarify the use of the 'chat function' and that it is used for the purpose of the conduct of the meeting, such as requesting the floor. However, it should not be used to record the official positions of delegations. No record is usually kept of interventions made through the 'chat function'. It is for the virtual meeting only. For this reason, some secretariats disabled the chat and relied solely on the 'raised hand' function and prior-arranged speakers lists.

(14) Good moderation of virtual meetings is crucial. The presiding officer(s) of the meeting must, following ROP, establish firm protocols on how to request the floor and be sure that he/she identifies who is taking the floor at every single occasion. Delegations need to be informed that they may also need to identify themselves every time they take the floor to facilitate the work of note-takers and interpreters as well as to other participants.

(15) The duration of a virtual meeting may differ from an in-person meeting. A virtual meeting may have to be spread out over a longer

[10] For instance, UNEA-5.1 generated 887 articles published in 582 outlets across 71 countries in 21 languages. See 'Assessment and lessons learned from the online session of the fifth session of the UN Environment Assembly', UN Doc. UNEP/CPR/154/3 (2021) para. 11.

period to allow for off-line consultations, contact groups, regional group meetings, for preparing and revising documentation, and for collecting written input from participants. At COPs and MOPs, several meetings are conducted simultaneously, i.e., plenaries, subsidiary bodies and informal meetings. This would be difficult to organize in a virtual setting.

(16) It is important to have a clear understanding of the nature of the meeting, i.e., formal or informal in nature. Consultative and informal meetings can easily be arranged in a virtual format, with some immediate and tangible benefits (e.g., reduced costs, increased participation) and limited disadvantages, while formal governing body sessions would primarily take place in-person.

(17) It is important to have a clear understanding of the nature of the decisions to be taken, i.e., whether they be of a procedural and organizational nature or will also be of a substantive nature. This helps to keep the meeting focused and mitigates the risk of getting side-tracked and not achieving its intended outcomes.

3 Internet connection: the digital divide

A sound internet connection for an intergovernmental meeting to which all member states/Parties have access is crucial. The lack of a secure and stable internet connection in the territory of a member states/Party may limit or even eliminate their ability to participate at a meeting. It will also undermine confidence of member states/Parties in the virtual meeting. Questions may arise as to how the UN and treaty bodies will support participants who participate in virtual meetings for any additional costs associated with 'dial-in' or the upgrade of online facilities. Support to member states/Parties could include providing technical support/upgrade or data bundles or payment in order to enable them to participate in virtual meetings and avoid a 'digital divide'. The following guidance can be followed for internet connections:

(1) The chosen online platform should be reliable and user-friendly, ensuring full simultaneous interpretation in all UN official languages, if necessary. The platform should offer the possibility of organizing parallel formal and informal meetings and side events.

(2) The internet connection and video conference link should be secure in order to ensure that only the representatives of Parties,

observers, and stakeholders that had registered for the meeting would have access.

(3) Only those individuals who have had their registration approved pursuant to a credential or letter of accreditation can participate in a virtual meeting.

(4) In certain cases, given the high volume of participants and observers, a separate 'viewing channel' has sometimes been established that would allow for the viewing of proceedings, but without the ability to make interventions. For instance, for the online segment of the fifth session of the UN Environment Assembly (UNEA),[11] a specific Youtube Channel allowed viewing only of the meeting.

(5) In certain locations, there may be unstable internet connection and/or limited bandwidth. The internet application that is used may even be prohibited and blocked. A local UN office may provide a place and connection for virtual meetings if there is unstable internet connection and/or limited bandwidth from where participants are seeking to connect. Alternatively, a local hotel with internet connection could be booked to ensure participation. This may be especially relevant where there are no local UN offices in the participant's location.

(6) The internet link for the virtual meetings should allow for live interactive discussions.

(7) It is important to ensure that the meeting's Presiding Officers are familiar with the technology and meeting platform. Time may need to be set aside to brief them in advance of the meeting.

(8) If, in spite of all preparations, certain member states/Parties are not connected, then from a procedural point of view, this raises a question of quorum. If quorum is met, it would be up to the presiding officer(s) to decide whether to suspend/postpone or to proceed with the meeting, even if some participants are not connected. Factors to consider would include, for instance, whether, as a result of some participants not being able to connect, there is underrepresentation from a particular region or from developed or developing countries. However, the presiding officer(s) may see this as a technical question as some member states/Parties cannot connect to or use virtual meeting facilities

[11] See <https://www.unep.org/environmentassembly/>.

due to a limitation or prohibition of technology. Importantly, such a scenario and how it could be handled should be addressed ahead of a virtual meeting.

(9) The interpretation services will depend on the quality of the internet connection, and speeches will be interpreted (or not) on a case-by case basis. The decision will be made at the time by the team leader of the interpreters.

(10) If the connection fails for certain participants, the meeting may, depending on the decision of the presiding officer(s), be suspended until all participants are back online or at least enough in order to make a quorum.

(11) The secretariat should have a way to communicate with participants outside the virtual meeting platform, for instance, by phone or email in order to resolve connection failures and to ensure ease of platform use. It is thus important to have a direct channel for communication outside of the meeting. Such information should be provided during the registration phase.

(12) Before a virtual meeting, participants can be required or invited to join a training and/or technical trial to confirm the adequacy of the connection and to familiarize themselves with the link that will be used for the meeting. Importantly, training sessions should be offered to member states/Parties a few days before official sessions to increase know-how and experience among participants. Training materials in video animation format can be produced for states/Parties to learn to use the virtual meeting platform.

(13) The 'virtual meeting room' should be opened at least 30 minutes before the start of the official proceedings to ensure that connection problems can be resolved in good time. However, it may be important to distinguish between smaller meetings of about 50 to 100 people and bigger meetings for which a longer testing period may be needed.

(14) For developing and least developing countries, consideration can be made for sponsorship of internet connectivity costs. Certain secretariats planned for the provision of a communication allowance and data bundles and the coverage of costs for dial-in, if necessary.

(15) Dedicated online intranet platforms may also be developed for such meetings where registered participants can safely access all online sessions and relevant information.[12]

(16) The Secretariat should ensure as far as possible full and seamless integration between the meeting platform, the interpretation platform, and the registration platform (if different).

(17) The Secretariat should allocate sufficient human resources both from the Secretariat as well as the external online platform provider to ensure that adequate technical support is provided to delegations in advance as well as in-session, including through direct assistance to delegates encountering technical problems.

4 Quorum and decision-making, including voting

UNs and treaty body meetings require that there be a quorum of members present in order for a meeting to begin (i.e., the discussion phase). The quorum is usually a third of the members and a quorum for decisions to be taken (i.e., the decision-making phase) is usually a majority of the members who are required to be present. The requirement of 'presence' can be met through online participation in a virtual meeting.

'Presence' for the purpose of determining quorum for the beginning of a meeting and decision-making under the ROP is not physical presence but remote presence, via a secure internet or telephone or video link.[13] Quorum can be determined by the Secretariat by doing a roll call of members online or using the technology of the online system to determine the number of participants online, either for the purposes of beginning the meeting or at the time of decision-making.

In general, there have been discussions among members/Parties on the types of decisions that would be taken at virtual meetings. While no limitations exist in ROP, Parties often wanted to limit the decisions taken to decisions that were essential and that were mainly of a procedural nature, it being understood that this included decisions on elections,

[12] For instance, the First segment of the Fourth meeting of the Conference of the Parties to the Minamata Convention (Minamata Convention on Mercury, Geneva, 19 January 2013, in force 16 August 2017, <http://www.mercuryconvention.org/>) used an intranet that required a username and password. The intranet allowed for access to online sessions, agenda, schedule, pre-session documents, in-session documents, contact groups, side events, information for participants, announcements, IT supports, among others.

[13] For instance, the possibility of virtual meetings is expressly provided for in Rule 2, paragraph (i) of the ROP of the Minamata Convention's Implementation and Compliance Committee. For meetings through electronic means, '"present" means participation through teleconference, videoconference or other electronic means as decided'. 'Rules of procedure for the Implementation and Compliance Committee of the Minamata Convention on Mercury', Minamata Dec. MC-2/4 (2018).

budget, programme of work and the organization and dates of future meetings. The main reason was that Parties did not want to engage in substantive negotiations online. Accordingly, provisional agendas and the other documentation of virtual meetings were often revised to reflect the limited nature of the discussion and decision-making.[14] There are, however, examples of MEA bodies that, while meeting virtually, retained the same agenda and proceeded with the same decision-making as if the meeting had been held face to face.[15]

The practice indicates that almost all decisions taken by intergovernmental bodies meeting virtually, were taken by consensus. There continues to be no agreed practice for voting on-line. *In extremis*, there could be a roll call vote whereby Parties are called in alphabetical order to vote either, 'yes', 'no' or 'abstain'.

The ROP and practices of the body should apply with respect to quorum and decision-making. Set out below is guidance on how this can be achieved.

(1) A virtual meeting should follow the format of an in-person meeting and, in accordance with ROP be split between a 'discussion phase' and a 'decision-making phase'. During the discussion phase, agreement on substance, including on substantive proposals, may require several rounds of discussions, which can be held through virtual live discussions, negotiation of proposals via an online platform, and virtual discussions among subsets of members, such as regional or political groups. Greater use may have to be made of off-line tools such as questionnaires, 'chair's texts' that synthesize input from participants and summaries provided by the secretariat.

(2) Once views have been synthesized and consensus reached, a final virtual meeting may need to be held for decision-making only, whether by confirming consensus or by voting.

[14] For instance, at the 12 COP to the Vienna Convention for the Protection of the Ozone Layer (Convention on the Protection of the Ozone Layer, Vienna, 22 March 1985, in force 22 September 1988, 26 *International Legal Materials* (1985) 1529), part I, and the 32nd MOP to the Montreal Protocol (Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 16 September 1987, in force 1 January 1989, 26 *International Legal Materials* (1987) 154, <http://ozone.unep.org/>), the Parties agreed to address several procedural and administrative matters. Parties also agreed to address substantive matters that were extremely urgent like critical use exemptions of a controlled substance, compliance related issues and an interim budget for the Multilateral Fund. Other items were deferred to the meetings to be held in 2021.

[15] As far as the sixteenth meeting of the Persistent Organic Pollutant Review Committee (POPRC-16) of the Stockholm POPs Convention (Convention on Persistent Organic Pollutants, Stockholm, 22 May 2001, in force 17 May 2004, 40 *International Legal Materials* (2001) 532, <http://chm.pops.int>) is concerned, the Committee considered all items under the provisional agenda originally prepared for a face-to-face meeting and adopted its decisions, including those of a substantive nature, online.

(3) Decisions can be taken either by consensus or by a majority of those present and voting, in accordance with the body's ROP, with voting proceeding in alphabetical order and representatives indicating 'yes', 'no' or 'abstention'. This would be done verbally but could also be done in writing in the chat function. Quorum may need to be checked immediately prior to decision-making and voting should be in the form of an alphabetical roll call, when every representative is requested to indicate 'yes', 'no' or 'abstain'. In this regard, it is important that no decision be challenged after its adoption at a virtual meeting.

(4) It is important to ensure that proposals and final texts on which the body takes a decision are communicated to all those participating remotely. Following the relevant ROP, the presiding officer(s) should clearly introduce each proposal, announce which proposals have been adopted, and announce the results of any votes.

(5) In cases where member states/Parties are unable to participate due to an unstable connection, then they can authorize the representative of another member state/Party to vote/participate in the consensus on their behalf, provided that this authorisation has been communicated to the Secretariat in writing. This is the practice of 'proxy' that is used for in-person meetings. However, a representative would not be able to simultaneously represent his/her own member state/Party as well as another member state/Party at the same meeting.

For instance, the COP to the Convention on the Transboundary Effects of Industrial Accidents[16] is required by its ROP 'to make every effort to reach its decisions by consensus'. For its eleventh meeting, held in December 2020, the COP adopted and applied Operating Procedures[17] to facilitate remote participation and decision-making, which had hybrid participation.

[16] Convention on the Transboundary Effects of Industrial Accidents, Helsinki, 17 March 1992, in force 19 April 2000; <http://www.unece.org/env/teia.html>.

[17] 'Operating procedures to facilitate remote participation and decision-making in the eleventh meeting of the Conference of the Parties due to the extraordinary circumstances caused by the coronavirus disease (COVID-19) pandemic', UNECE Doc. ECE/CP.TEIA/42/Add.1 (2020).
The Operating Procedures introduced the Advance Circulation Procedure to foster consensus-building in advance of the meeting. The Advance Circulation Procedure includes the following steps: (1) the Secretariat, in agreement with the Convention's Bureau and respective subsidiary bodies, circulates draft decisions and documents (i.e. those planned to be adopted) to Parties; (2) Parties review the drafts and propose revisions or comments four weeks in advance of the meeting; (3) the Secretariat processes comments received and the Bureau's Chair holds informal discussions with the Parties that submitted comments (if no comments were received, consensus was expected); and (4) on this basis, the Secretariat, in cooperation with the Bureau, updated the drafts and re-circulated them to Parties one week before the COP (i.e. official versions with translations and track change versions with the comments received from the Parties). At COP-11, Parties adopted all decisions and documents in session within a very limited timeframe (three 2-hour sessions), without any further revisions or objections.

5 No objection/silence procedure

Certain UN bodies, while not meeting in-person or virtually, have adopted decisions through a 'no objection procedure' or 'silence procedure'. In accordance with this procedure, where a plenary meeting is not practical, a draft decision is circulated in writing by the Secretariat on behalf of a presiding officer to all members of the intergovernmental body under a silence procedure, usually lasting 48-72 hours. If the silence is not broken, the decision is formally adopted. This process of adopting decisions has recently been adopted by the UN General Assembly (UNGA) even though it is not foreseen in either the UN Charter[18] or the rules of procedure of UN bodies.[19]

For example, the Strategic Approach to International Chemicals Management (SAICM)[20] was able to adopt two procedural decisions via silence procedure. The first one was an enabling decision, namely the 'adoption of procedural decisions on organizational, administrative and budgetary matters during the Coronavirus disease 2019 (COVID-19) pandemic via a silent procedure when the International Conference on Chemicals Management (ICCM) is not in session'.[21] Approval of this decision allows the President of the 5th International Conference on Chemicals Management (ICCM5) to table any procedural decisions via a silent procedure. Also, the decision on the budget for the Strategic Approach Secretariat for the period 2021 was adopted via a silence procedure.

6 Report writing

The report of the meeting should indicate that Member States/Parties met virtually, provide a record of the online discussions and clearly indicate which decisions have been adopted. To improve the accuracy of the official records of a virtual meeting, in cases where such records are required, all formal interventions should be provided in writing to the secretariat. It is advisable to have a written record of all in-coming votes

18 Charter of the United Nations, 26 June 1945, available at <https://treaties.un.org/doc/publication/ctc/uncharter.pdf>.
19 'Procedure for taking decisions of the General Assembly during the Coronavirus disease 2019 (COVID-19)', UNGA Dec. 74/544 of 27 March 2020.
20 See <https://www.saicm.org/>.
21 'Proposal enabling the ICCM to adopt decisions during the Coronavirus disease 2019 (COVID-19) pandemic via the silent procedure. Draft decision 1: Adoption of procedural decisions on organizational, administrative and budgetary matters during the Coronavirus disease 2019 (COVID-19) pandemic via a silent procedure when the International Conference on Chemicals Management (ICCM) is not insession', available at <http://www.saicm.org/Portals/12/documents/2021-ICCM5/ICCM_DD1_silent_procedure_for_draft_decisions.pdf> (visited 16 July 2022).

either through the virtual platform or by email to avoid uncertainty and misunderstanding.

7 Interpretation

The ROP of intergovernmental meetings usually provide that there should be interpretation into the six official languages of the United Nations, i.e. Arabic, Chinese, English, French, Spanish and Russian. Simultaneous interpretation into the six official UN languages can be provided through online platforms. In the case of regional meetings, interpretation can be provided into two or three working languages, depending on their ROP. It is important that intergovernmental meetings comply with the rule on interpretation, as failure to do so can place certain member states/Parties at a disadvantage.

Alternatively, member states/Parties could decide to (i) suspend the rule in the Rules of Procedure on interpretation; or (ii) conduct business only in one, two, or three UN working languages.

8 Participation of observers

Generally, the participation by observers should, as far as possible, not change due to the online nature of a meeting. Depending on the ROP, a decision may need to be taken whether to grant observers access to the live interactive discussion and thus allow them to participate virtually or whether to allow them only to listen in to the broadcast of the meeting. In the case of treaty bodies that have UN member states participating as observers, this consideration is particularly important.

If providing for all observer and stakeholder participation is too complicated, or if there is insufficient time during the virtual meeting, then the following option could be considered: Observers could post their statements online and be allowed access to the meeting through a 'listening mode' only. Alternatively, a distinction could be made between those who are entitled to speak during the meeting on the one hand and, on the other, those who can participate through providing (i) questions and/or (ii) comments through the chat online and/or (iii) having their statements posted. Thus, alternatives for observer participation may have to be considered to ensure an appropriate level of transparency and inclusivity.

9 Conclusions

Virtual meetings or at least hybrid meetings are here to stay. There seems to be an interest to continue applying the virtual or hybrid modality for many meetings, specially those consultative or informal in nature.

The outcomes from meetings such as UNEA-5.1 demonstrate that organizing online negotiations and formal UN meetings can, under certain conditions, deliver, in a legitimate and inclusive manner, impactful outcomes. As for any negotiation, the success or failure of an online negotiation is defined by political willingness to negotiate. In the case of UNEA-5.1, this required from member states to collectively agree to accept online negotiations for a limited number of targeted outcomes, while ensuring compliance with requirements relating to transparency, inclusivity, universal participation and the UNEA rules of procedure.

The so called 'digital divide' is relevant for all parts of the world. Some representatives, both from developing and developed countries, have experienced connectivity challenges during virtual meetings, related to, among other issues, incorrect choice of browser, lack of proper equipment, electricity cuts and interruption of the internet service. While some of these issues may be unavoidable for an online or hybrid meeting, it can be expected that many of them can be effectively addressed in the future through improved and more user-friendly platforms, more stable IT infrastructure, and increased know-how and experience among delegates.

To ensure effective online or hybrid meetings, both cultural and technological factors need to be effectively addressed. First, there must be a broad acceptance to negotiate online. Second, there is a need for user-friendly and reliable online meeting platforms allowing for the decision process to be transparent and inclusive, including through full interpretation services and in full recognition of applicable rules of procedure.

For formal meetings which require decision-making, in-person meeting may still be necessary. Nevertheless, it may be useful to explore the possibility of combining a more limited in-person presence (e.g., with a maximum number of members per delegation) and an effective online digital platform, to allow for broader and more flexible and effective participation, with minimal environmental impacts and cost.

As long as the meeting follows the operating procedures and best practices described above, the meeting will be following the applicable ROP as closely as possible and thus assuring member states/Parties the same rights, privileges and protections that they are afforded in an in-person meeting.

A Multilateral Simulation Exercise: Post-2020 Global Framework on Biodiversity[1]

Tuula Honkonen[2]

1 Overview

1.1 Introduction

This paper describes the elements, structure, course and outcomes of a negotiation simulation exercise for the University of Eastern Finland – UN Environment Course on Multilateral Environmental Agreements (MEAs), held virtually on 18-26 November 2021.

The scenario for the negotiation simulation focused on substantive and procedural issues in the context of the post-2020 global framework on biodiversity.[3] The simulation was hypothetical but drew heavily on issues at play in the then ongoing negotiations.

The exercise began with the first day plenary of the virtual meeting of the resumed third session of the Open-ended Working Group on the Post-2020 Global Biodiversity Framework (WG2020-3). The draft text of the framework, under negotiation, had been divided into four parts and assigned to four negotiating contact groups as follows:

1 This paper is partly drawn from the description of negotiation exercises on the previous UEF – UN Environment MEA Courses.

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3 See 'First draft of the Post-2020 global biodiversity framework, Note by Co-Chairs', CBD Doc. CBD/WG2020/3/3 (2021).

1. Targets 1-8;
2. Targets 9-13;
3. Targets 14-21; and
4. Sections H-K.

The overall objective of the exercise was to strengthen participants' understanding of the challenges and opportunities related to international biodiversity governance. The theme also provided an opportunity for participants to gain a more general understanding about evolving legal architectures in international environmental governance.

This paper provides an overview of the negotiation simulation exercise. It describes the simulation scenario and reviews the general instructions of the exercise. Confidential individual instructions were provided separately to each negotiation simulation participant. Chairs were given specific additional instructions to help them manage their contact groups.

1.2 Simulation objectives

The simulation focused on the negotiations on the post-2020 global biodiversity framework. The general objectives were to promote among participants, through simulation experience:

1) Understanding of the challenges and opportunities related to negotiating new goals and targets and supporting policies in an existing MEA, both in general and in the specific context of the international biodiversity regime.

2) Understanding of the principles and practices of multilateral negotiations, and appreciation of the value and role of the rules of procedure.

3) Familiarity with specific substantive and negotiation issues; and

4) Discussion and appreciation of different perspectives on conceptual and substantive issues related to future international cooperation on the protection (and sustainable use) of biodiversity.

Within the exercise, the specific objective of the meeting was to produce an agreed text on the post-2020 global biodiversity framework as set out above.

1.3 Simulation scenario

The negotiation simulation scenario and the issues set out within it were hypothetical, but based on actual and recent discussions which had not yet concluded. For purposes of stimulating debate, the organizers had taken these issues and developed a series of texts designed to raise debate and enable participants to have a negotiating experience that would be as close to real life as possible. Some of the issues had been substantially simplified or changed as agreed to facilitate the exercise.

The scenario was set at the virtual meeting of the resumed third session of the Open-ended Working Group on the Post-2020 Global Biodiversity Framework. As participants convened in the opening plenary of the meeting, the Co-Chairs will reminded delegations of the previous agreement that the previously established four contact groups would resume their work and continue negotiating their respective parts of the post-2020 global biodiversity framework. Since the contact groups had already been established at previous sessions of the Working Group, their existence and mandate were not among the issues under negotiation. The Contact groups had the aim to producing agreed texts for the closing plenary of the meeting to recommend to the Fifteenth Conference of the Parties (COP-15) of the Convention on Biological Diversity (CBD)[4] for adoption.

At the beginning of the exercise, the Co-Chairs, after reminding the group of previous agreement on the organization of work, proposed that the four contact groups would begin their work immediately after the opening plenary. Each group had a pre-selected Chair and two resources persons to act as CBD Secretariat representatives to facilitate their work. The contact groups were to work on the four parts of the draft text of the post-2020 global biodiversity framework that remained open for negotiation. The negotiation texts were still heavily bracketed, showing lack of consensus among the Parties. The stated aim of the groups was to produce an agreed text ready to be considered and adopted by the WG2020-3 in its closing plenary. However, especially given the online nature of the negotiations, it was considered well possible that one or more groups would not be able to reach agreement on everything and to produce a clean text.

After the opening plenary, the exercise continued in the contact groups. The participants acted in the groups in accordance with their confidential individual instructions. The groups had 3-4 online negotiation sessions in the course of the following days. At the end of each negotiation session,

[4] Convention on Biological Diversity, Rio de Janeiro, 5 June 1992, in force 29 December 1993, 31 *International Legal Materials* (1992) 822, <http://www.biodiv.org>.

the resource persons of each group, in consultation with the respective Chairs, produced short summaries of the sessions. On the last day of the exercise, the delegates returned to the closing plenary for discussions and possible agreement on forwarding the agreed texts to the CBD COP for adoption.

The WG2020-3 plenary had two Co-Chairs previously elected who continued in office, so no elections were required. Chairs for the four contact groups had been identified in advance through consultations, noting that in real life chairs are identified in advance of meetings to facilitate preparation. The established MEA practice is to seek to balance developed country and developing country representation in these elected positions by having Co-Chairs, but in the exercise, due to lack of numbers, a single chair was confirmed for each of the four groups. An attempt was made to have a balance of regions and gender in these positions.

1.4 Participants' roles[5]

Each participant played a specific role of a country representative. Participants were expected to represent their national interests based on their individual instructions. Participants were to play their part in the overall scenario for the simulation following general and individual instructions. Where possible, it was a good idea to make alliances and develop coordinated strategies to intervene in support of others, or to take the lead in other cases. Some roles, namely the Co-Presidents, played a resource function and could be useful to participants. Those playing such roles were to serve all participants and work for a positive outcome in addition to their individual instructions.

Participants were to work hard to achieve their objectives. Participants were strongly urged to carefully follow their instructions, and to elaborate interventions with a compelling rationale to advance their positions. Participants were also encouraged to take the initiative and be inventive and to intervene in the contact groups and in plenary even if they had no specific instructions on a particular issue. Participants were further strongly encouraged to seek support from other participants for, and identify opposition to, their positions. To this end, participants had to consider developing joint drafting proposals and making interventions on behalf of more than one party, and they might wish to consider using regional and country negotiation groups as a point of departure.

[5] This section of the instructions was based on: Cam Carruthers, 'The Grenada Ad Hoc Joint Working Group. A Multilateral Simulation Exercise of an Ad Hoc Joint Working Group Meeting on Climate-related Geoengineering', in Ed Couzens, Tuula Honkonen and Melissa Lewis (eds), *International Environmental Law-making and Diplomacy Review* 2012 (University of Eastern Finland, 2012) 173-226.

However, because of the small numbers in each of the four groups, there was no attempt to organize along UN regional lines or established real-life negotiation groups, although these were acknowledged in some of the positions. Participants were encouraged to work constructively with other delegates to find compromise solutions.

Participants were to follow their interests and positions with respect to the issue assigned to their contact group. The groups were to narrow their focus as quickly as possible to identify the main issues to be addressed, and to dispose of issues (and agree on text) expeditiously where possible. Participants had to work hard to achieve their objective of providing the final WG2020-3 plenary with a clean text.

The simulation was designed to be difficult, with failure to reach agreement a real possibility. Unavoidably, a random distribution of positions was likely to result in making some parties appear more or less constructive, and indeed for simulation purposes some positions were designed to cause difficulties. It is important to note that the positions in individual instructions were developed and assigned randomly. They were entirely hypothetical and were not intended to reflect specific positions of particular parties or the views of organizations or individuals.

Individual delegates often face situations similar to this exercise, where they have little opportunity to prepare, but should still define objectives and develop a strategy. Informal diplomacy is where most progress toward agreement on concepts is made, while contact group and plenary discussion is often required for agreement on specific texts. Drafting often involves a fine balance between accommodation and clarity. Decision-making on the final text in plenary may be pro-forma, but there can be surprises. Decisions in the plenary are critical and can sometimes move very quickly, at times moving back and forth on an agenda, so that being prepared with an effective intervention at any moment is essential. While in the scenario of the exercise the WG2020 did not have final decision-making authority, it had to agree on the texts that it would forward to the CBD COP for further consideration.

The two Co-Presidents and the four contact group Chairs played an important role, setting up and managing the process – and managing time – to produce agreement. They were encouraged to consult broadly, including with each other and Party representatives (note that the simulation organizers could possibly provide advice acting as senior secretariat officials). The key to success was thoughtful organization of the work of the groups, including strategic management of how the smaller contact groups and the plenary sessions functioned and were linked.

Finally, participants were asked to think about issues for discussion in the feedback session following the exercise, including issues of both process and substance within the exercise, as well as issues relating to the structure and management of the exercise itself.

2 Instructions

2.1 Individual instructions[6]

The core of the simulation was set out in confidential individual instructions. They provided very brief positions and fall-back positions on each of the issues being negotiated and showed the positions of the Party with regard to the issues being negotiated in the contact group to which a participant had been assigned.

It was to be noted that the confidential individual instructions provided some guidance on the rationale for positions outlined (the rest was to be developed by each participant), but unanticipated issues could arise and negotiators needed to react in a manner that was consistent with their overall instructions. In some cases, the instructions could seem contradictory (this happens in real life, and is interesting to watch!). In some cases, instructions stipulated that a position could not be abandoned for a fall-back without consulting a designated senior official in the state's capital. For the purposes of this simulation, the simulation coordinators served in this capacity. For further guidance in dealing with procedural and strategic issues, the participants were advised to see the MEA Negotiators' Handbook.[7]

2.2 General instructions

The general instructions were conveyed as follows:

1) At a minimum, please review the general and confidential individual instructions and the negotiation texts.

2) Each participant is assigned a role as a Lead Negotiator for a particular Party or region (this is a 'speaking role').[8] The confidential

[6] This section of the instructions was based on *ibid*.
[7] *MEA Negotiators' Handbook*, available in English and French at <https://sites.uef.fi/cceel/wp-content/uploads/sites/185/Negotiators-handbook.pdf> and <https://sites.uef.fi/cceel/wp-content/uploads/sites/185/French-handbook.pdf> (both visited 10 October 2022).
[8] There are no non-Party states, intergovernmental or non-governmental organization roles in this exercise as current rules of procedure only allow for representatives of Parties to negotiate.

individual instructions will be provided to each participant well in advance of the start of the exercise.

3) Participants representing Parties have been sent with full credentials from their governments to participate in the WG2020-3, using their confidential individual instructions as a guide.

    a. Participants should do their best to achieve the objectives laid out in their instructions. You should develop a strategy and an integrated rationale to support your positions.
    b. On any issues on which you do not have a position in your confidential individual instructions, you should develop your own positions consistent with your other instructions, with a view to securing agreement on the issues where you do have a position.
    c. Do not share your confidential individual instructions with other participants.
    d. You can work with your fellow negotiators and allies – within the scope of your confidential individual instructions. If possible, consult with others before the session, to identify and coordinate with those who have similar instructions, and even prepare joint interventions. You should build alliances and try to support anyone with a similar position. You should try to identify participants with opposing views, and influence them both in formal negotiations, as well as in informal settings.
    e. Because the country names are made up, you will need to listen carefully to interventions to determine whether countries are developed or developing, least developed or small island developing states and other details about each country and its situation and needs.
    f. Participants should, of course, always be respectful of each other's views and background.

4) Questions on procedure, etc. should be addressed primarily to the plenary Co-Chairs or contact group Chairs in their respective sessions, who as necessary will be guided by the resource persons of the exercise.

5) The four groups must reach agreement on what to report back to the WG2020-3 plenary.

6) The WG2020-3 Co-Chairs and the contact group Chairs must play their role in the session of the body they manage, and in that body,

refrain from taking positions. For the purpose of the simulation, due to the small numbers in the four groups, the WG2020-3 Co-Chairs will be 'taking their Co-Chair hat off' and functioning as delegates with positions in the contact groups where they have been assigned to. Back in the plenary they will resume their neutral roles.

7) Please use the materials provided, as well as advice and information from other participants and found elsewhere. Do frequently consult the provisions of the CBD.

8) The exercise will take place over an eight-day period. Participants are encouraged to consult informally during the exercise to form alliances and broker solutions (as in real life).

2.3 Evaluation

Following the exercise, participants were requested to respond to the evaluation questions in the course evaluation in relation to the exercise. In addition, there was a specific wrap-up and evaluation session after the conclusion of the exercise.

3 Key simulation documents

3.1 Provisional Agenda of the WG2020-3 at its resumed third session

1. Opening of the session.
2. Organizational matters:
   (a) Adoption of the agenda;
   (b) Organization of the work of the session.
3. Post-2020 global biodiversity framework.
4. Adoption of the report.
5. Closing statements.

3.2 Negotiation texts

3.2.1 Negotiation text for contact group 1

Target 1: Spatial Planning
[Ensure] [Promote] [that [by 2030] at least [50] per cent of][all] [ecosystems] [forest, land, and sea and freshwater areas][terrestrial, marine and freshwater ecosystems] globally are under [biodiversity-driven spatial plans and integrated management] [land and marine planning and sectorial and development policies which include biodiversity and integrated landscape management approaches] including [equitable governance through a participative approach] [the ecosystem approach] [,] and [ensuring retention] [of][[functional][natural]ecosystems][and other areas of high biodiversity conservation value], [improving their connectivity and retaining existing intact] and wilderness areas.

Target 2: Restoration of Degraded Areas
[Ensure that] [By 2030,] [restore] at least [20 per cent] [X billion hectares] of [threatened][degraded] [freshwater, marine, [coastal] and terrestrial] [land and sea areas] ecosystems [are restored], and to [support][focus on] [climate change adaptation and mitigation], and [ecosystem connectivity] [the connectivity between them] [,] [processes at the landscape level] [with the objective to combat climate change, end poverty and prevent biodiversity loss], [securing] [ensuring] [their integrity and enhancing] connectivity among them and focusing on [priority] [key] [all][biodiversity areas] [ecosystems] [to enhance the system of life of mother earth] [to ensure the healthy, functioning connectivity and long-term viability of a full range of ecosystems].

Target 3: Conservation Through Protected and Other Areas
[Protect and conserve all][Ensure that [at least 30 per cent] [globally] of [terrestrial and freshwater ecosystems, and 30% of marine and coastal ecosystems], especially [key biodiversity areas][all areas of high importance for biodiversity, ecosystem functions, cultural diversity and [ecosystem services][nature's contributions to people]], are [effectively and equitably] conserved through [effectively and equitably managed] [gender responsive] [ecologically representative][networks of] [fully] protected areas and other effective area-based conservation measures [, areas conserved by indigenous peoples and local communities] and [[integrated] [promoting its integration] into the wider [ecological, cultural and educational] landscapes and seascapes [taking into account the free, prior and informed consent of indigenous peoples and local communities, as appropriate].

Target 4: Recovery and Conservation of Species and Genetic Diversity
[Implement] [Ensure] [Promote] [Take][effective] [and] [sustainable] management actions including through ex-situ conservation to [promote] [enable] [achieve] [maintain and restore] the conservation [and recovery] of species and of the genetic diversity of [threatened][endangered] wild and [[domesticated][native] species, [including through [ex-situ conservation] [in situ, on farm and ex situ conservation][urgent interventions to prevent extinctions]] and that the genetic diversity of populations is protected, maintained, managed, and monitored, at levels ensuring adaptive potential, and effectively and sustainably [manage][promote] actions [reducing human-wildlife [interactions][harm][conflict][disease transmissions]] [and compensate communities affected by human-wildlife conflict][, taking into account the local and cultural context].

Target 5: Harvesting, Trade and Use of Wild Species
[Take measures to make all] [Ensure that all] wildlife [both target and non-target] species [are] [is] harvested legally, sustainably, [and traceably], and that trade and use of [[all][wild][savage][terrestrial, freshwater and marine] species is [[ecologically] and [biologically][effectively regulated and enforced] [sustainable][and][promotes the One Health approach] [poses no risk to the health of humans, wildlife or other animals] [,] eliminating all unsustainable and all illegal harvesting, trade and use[, while safeguarding the customary sustainable use by indigenous peoples and local communities][respects customary law and customary sustainable use].

Target 6: Invasive Alien Species
[By 2030,] [P]athways for the introduction of invasive alien species are [managed][regulated][identified][monitored], thereby [preventing] [or] [reducing] their rate of [introduction][and][establishment][and related risks of negative impacts on biodiversity] [by at least [50][25] per cent], and control [or] [eradicate][eliminate] invasive alien species [[to eliminate or reduce] their [socio- economic] impacts [on human and animal health and ecosystem integrity][by at least [50%] [by focusing on]] [with particular attention to] priority species and priority sites.

Target 7: Pollution
[Prevent and] Reduce pollution from all sources [[,including] [light and noise][nutrients and pesticides]] to levels that are not [disruptive, detrimental or] harmful to biodiversity, [including ecosystem functions [and/or human and animal health,]] including by reducing [where appropriate] the quantity of chemicals, pesticides and nutrients [entering] [impacting] the environment [by at least half,] [and] [eliminating][reducing] the use of pesticides [by two thirds][one half] [, taking significant steps

to minimize risks from noise and light pollution,] and [eliminating] [significantly reducing] the discharge of [waste] plastic [pollution].

Target 8: Climate Change
[Minimize][Reduce] the impact of climate change on biodiversity [based on equity and common but differentiated responsibilities][by] [strengthening ecosystem resilience,] [limiting ocean acidification], [enhancing adaptive capacity,] [reducing vulnerability,] [and] contribute to [climate change] mitigation and adaptation [and disaster risk reduction] through [nature-based solutions with [social and] environmental safeguards][ecosystem-based approaches][human rights approaches], [contributing at least 10 GtCO2e per year to global mitigation efforts,][in line with priorities identified by countries in their respective nationally determined contributions,] and [wherever possible] ensure that all mitigation and adaptation efforts avoid negative impacts on biodiversity.

3.2.2 Negotiation text for contact group 2

Target 9: Benefits to People
[Ensure][sustainability of] [Increase] benefits, including nutrition, food [and water] security, [access to] [medicines][health care], and livelihoods for [all] people [especially for the most vulnerable] [and dependent on biodiversity] through sustainable [and equitable participatory] management of wild [terrestrial, freshwater and marine] species and protecting customary sustainable use [and the rights of][by] indigenous peoples and local communities [, in particular women].

Target 10: Food Production Systems
Ensure all areas under agriculture, [livestock,] aquaculture [, fisheries] and forestry are managed sustainably, [for current and future generations,] in particular through the conservation and sustainable use of biodiversity [including participatory governance approaches], while [promoting agroecological approaches and indigenous food systems that generate positive interactions with biodiversity] [,] [phasing out all unsustainable production forms, such as systems based on monoculture production and on agrochemical and excessive natural fertiliser inputs] increasing the productivity and resilience of these production systems [, inter alia by protecting pollinators and soil ecosystems] [and] [employing ecosystem approaches].

Target 11: [Nature's Contributions to People][Ecosystem Services]
[Strengthen and restore] [Maintain and enhance] [nature's contributions] [ecosystem services related] to regulation of [climate] air quality, quality and quantity of water, [and soil fertility,] and protection from hazards

and [extreme events][disasters] for all people [, particularly the most vulnerable][, including future generations] [, and protect the rights of indigenous peoples and local communities].

Target 12: Urban Areas
Increase the area of, [safe and equitable] access to, and benefits from [biodiverse] green and blue spaces, for human health and well-being in urban areas and other densely populated areas [,][taking into account marginalized areas and social groups,] [and mainstream the comprehensive management of biodiversity and ecosystem services in urban and spatial planning, governance and development to achieve resilient cities][and address drivers of zoonotic outbreaks to avoid or reduce risks to the health of humans, wild and domesticated species, and ecosystems][and strengthen the One Health approach uniting human, animal and environment for enhancing biodiversity and improving both human and nature health].

Target 13: Access and Benefit-Sharing
Implement [legal and other] measures [at global level and] [national level] [in all countries] to facilitate access to genetic resources and to [ensure][promote] the fair and equitable sharing of benefits arising from the [use][utilization] of genetic resources [and digital sequence information], and as [relevant][appropriate], of associated traditional knowledge[,] [including through mutually agreed terms and [free,] prior and informed consent] [[including by establishing and implementing [a global multilateral benefit sharing mechanism][a mechanism to ensure the fair and equitable sharing of benefits arising from the utilization of digital sequence information on genetic resources].

3.2.3 Negotiation text for contact group 3

Target 14
[Fully] [integrate] [and mainstream] [and institutionalize] [the diverse] [the intrinsic, instrumental and relational] [values of] biodiversity [values] into policies, [strategies,] regulations, [programmes,] [budgeting,] [development plans, foreign aid and investment,] planning, development processes, poverty reduction strategies, accounts, and assessments of [cultural,] environmental [and social] impacts at all levels of government and across all sectors of the economy, ensuring that all activities and financial flows are [aligned with] [follow] [biodiversity values] [goals and targets of the post 2020 GBF] [shared goals for biodiversity] [as far as possible and as appropriate] [consistent and in harmony with the convention and other relevant international obligations] [in accordance

with countries' different approaches, visions and, models to achieve sustainable development].

Target 15
[All] [A percentage of] [relevant] businesses [and financial institutions] [(public and private, large, medium and small)] [, especially those with significant impact on biodiversity] [regardless of their size, sector, location, operational context, ownership and structure] [, in particular large and transnational corporations] [regularly] assess and report on their dependencies and impacts on biodiversity, from local to global, [making the reports available to the public] and progressively [prevent and] reduce negative impacts[, by at least half] and increase positive impacts, reducing biodiversity-related risks to businesses and moving towards the full sustainability of extraction and production practices, sourcing and supply chains, and use and disposal [, in accordance with environmental, health, social, human and labour rights,]and other international standards and agreements]].

Target 16
Ensure that people are [aware of] encouraged and enabled to make responsible choices and have access to [relevant] information [education] and alternatives [to consumption and production patterns], taking into account [cultural preferences] [and context]] [individual and national socio-economic and cultural conditions consistent with the conservation of biological diversity and its sustainable use], to reduce [by at least half] the waste and, where relevant the overconsumption, of [biodiversity derived products] [food] [and other materials].

Target 17
Establish, strengthen capacity for, and implement measures in all countries to prevent, manage or control potential adverse impacts of biotechnology on biodiversity and human health, reducing the risk of these impacts.

Target 18
[Document, map, eliminate] [Redirect, repurpose, reform [or] [and] eliminate] [all] incentives harmful for biodiversity, [taking into account national socio-economic conditions [as appropriate]] in a [just] [effective] and [equitable] way, reducing them [by at least [US$ 500 billion]] per year, including all of the most harmful subsidies, and ensure that incentives, including public and private economic and regulatory incentives, are either positive or neutral for biodiversity [, in a manner fully consistent with international obligations].

Target 19
Increase financial resources from all sources to at least US$ 200 billion per year, including new, additional and effective financial resources, increasing by at least US$ 10 billion per year international financial flows to developing countries, leveraging private finance, and increasing domestic resource mobilization, taking into account national biodiversity finance planning, and strengthen capacity-building and technology transfer and scientific cooperation, to meet the needs for implementation, commensurate with the ambition of the goals and targets of the framework.

Target 20
Ensure that [all] relevant [education] [communication] [research] [and] knowledge, including the traditional knowledge, [culture,] innovations and practices of indigenous peoples and local communities with their [free, prior, and informed consent] [or] [approval and involvement] [subject to national legislation], [guides] [contributes to] decision making for the effective [and equitable] management [, conservation and sustainable use of] of biodiversity, enabling monitoring [through comprehensive biodiversity monitoring, data and information sharing], and by promoting awareness, education and research.

Target 21
Ensure [equitable] [full] [meaningful] and effective participation [of all relevant stakeholders[, including of indigenous peoples and local communities,] [as well as women, girls and youth]] in [all] decision-making [at all levels] related to [the management of conservation and sustainable use of] biodiversity by indigenous peoples and local communities, and [respect] [take into account] their rights over [lands,] [territories] and resources, as well as by [local communities] women and girls, and youth [and all relevant stakeholders [in accordance with [national circumstances[[relevant national legislation]].

3.2.4 Negotiation text for contact group 4

H. Implementation support mechanisms
Implementation of the framework and achievement of its goals and targets will be supported through h support mechanisms under the Convention on Biological Diversity, including the financial mechanism, and strategies for resource mobilization, capacity-building and development, technical and scientific cooperation and technology transfer, knowledge management as well as through relevant mechanisms under other conventions and international processes.

I. Enabling conditions

14. The implementation of the global biodiversity framework requires integrative governance and whole-of-government approaches [including at all levels of government] to ensure policy coherence and effectiveness, political will and recognition at the highest levels of government. [Sound environmental governance is essential[, including a well-functioning judicial and enforcement system].]

15. It will require a participatory and inclusive whole-of-society approach that engages actors beyond [national] Governments, [including subnational governments, cities and other local authorities,] intergovernmental organizations, non-governmental organizations, indigenous peoples and local communities, women's groups, youth groups, the business and finance community, the scientific community, academia, faith-based organizations, representatives of sectors related to or dependent on biodiversity, citizens at large, and other stakeholders.

16. [The] Efficiency and effectiveness [of the implementation] will be enhanced [by mainstreaming biodiversity in all sectors] for all by [integration] [strengthening cooperation and coordination] with relevant multilateral environmental agreements [and other relevant international processes], at the global, regional and national levels[, including through the strengthening or establishment of cooperation mechanisms].

17. Further, success will depend on ensuring [greater] gender equality and empowerment of women and girls, reducing inequalities, [greater] [full] access to education, [recognizing and strengthening the collective action of indigenous peoples and local communities] [employing rights-based approaches], and addressing the full range of indirect drivers of biodiversity loss.

J. Responsibility and transparency

18. The successful implementation of the framework requires responsibility and transparency, which will be supported by effective mechanisms for planning, monitoring, reporting and review. [Countries,] Parties to the Convention, have a responsibility to implement mechanisms for planning, monitoring, reporting and review. These [enhanced] mechanisms [must be effective, comprehensive and cyclical and] allow for transparent communication of progress to all, [revised or updated National Biodiversity Actions plans following the adoption of the global

biodiversity framework, communication of national reports at regular intervals on measures which Parties have taken for the implementation of the provisions of the Convention and the global biodiversity framework] [timely course correction] and input in the preparation of the next global biodiversity framework, while minimizing the [administrative] burden at the national and international levels, by:

(a) Establishing [and revising and updating] national targets as part of national strategies and action plans and as contributions towards the achievement of the global [goals and] targets [in accordance with countries' different approaches, visions and models to achieve sustainable development];
(b) Reporting [communicating] [through national reports] on [how national efforts have contributed to the implementation towards the global biodiversity framework goals and targets] [national targets] to enable the collation of national targets in relation to [all] the global action [goals and] targets, as needed, and their adjustment to match the global action [goals and] targets; [and, as necessary, the ratcheting up of ambition and corresponding implementation efforts] [as appropriate, according to countries' national reporting systems and planning systems][in accordance with national circumstances]]
(c) Enabling the evaluation of national and collective [progress and barriers to the implementation of the [global] goals and] actions against targets.

19. These mechanisms are aligned with and, where appropriate, complemented by national reporting under the Protocols and integrated [in synergy] with other processes and other relevant multilateral conventions including the 2030 Agenda for Sustainable Development and the Sustainable Development Goals.

20. The development of additional and complementary approaches is encouraged to allow [other actors to] contribute to the implementation of the framework and report on commitments and actions.

[20.bis Developing and implementing national, regional and global targets and action plans for non-state actors, including all productive sectors and their national and trans-national supply chains.]

K. Outreach, awareness and uptake

21. Outreach, awareness and uptake of the post-2020 global biodiversity framework by all [stakeholders] [actors] is essential to effective implementation, including by:

(a) Increasing understanding, [education,] awareness and appreciation of the [multiple][intrinsic] values of biodiversity, including the associated knowledge[, values] and approaches used by indigenous peoples and local communities [with their free, prior and informed consent];
(b) Raising awareness of all actors of the [existence] [and relevance] of the goals and targets of the global biodiversity framework and progress [made] towards their achievement;
(c) Promoting or developing platforms and partnerships [and action agendas], including with media and civil society, to share information on successes, lessons learned and experiences in acting for biodiversity.

3.3 Rules of Engagement for the Negotiating Simulation in Video Negotiating Format

1. Please sign in 20 minutes early on November 24 so we can work out any technical issues. On subsequent negotiating days, please sign in 15 minutes early.

2. After you have signed in on the first day, and resolved any technical issues, please rename yourself with your assigned country name or the plenary Co-Chair title for the benefit of the chairs and other delegates.

3. Please ensure that you have the e-mail of the chair and resource persons handy.

4. If you wish to take the floor, please use the hand function or an exclamation point in the chat function, which will signal to the chair and resource person, who will then add you to the list of speakers.

5. Best practices to propose text in the video negotiating format:

    a. Request the floor.
    b. When given the floor, identify the paragraph and line, then read out your text at dictation speed.
    c. If the text is lengthy (e.g. more than one line), read it out and then offer to send it to the chair and resource person through the online "chat' function.

6. If you need to consult the capital according to your individual instructions, the resource people of the exercise will play that role. If this need arises during the course of the negotiations, you may indicate in the general chat that you need to consult the capital, and then send a targeted chat message to the resource people, asking for advice.

7. You are encouraged to enter into informal consultations with your fellow delegates between and during the negotiation sessions (by email or private chat) for joint text proposals, brokering a solution in a difficult issue in the negotiation group etc.

4 Review of the exercise

The following is a brief summary of the proceedings and analysis based on observation of the exercise, as well as written evaluations from participants.

There were 31 official participants in all, not including the facilitators and the other resource people who supported or played various roles in respect of the simulation. The participants were mainly from Ministries of Foreign Affairs or from ministries responsible for environmental matters of their respective countries. Academic, non-governmental organizations and intergovernmental organizations were also represented among the participants.

The simulation commenced with the first-day plenary of the resumed third session of the OEWG on the Post-2020 Global Biodiversity Framework. The session followed the agenda of the meeting. The Co-Chairs first established the quorum, and then opened each agenda item for a brief airing of views by item.

The Co-Presidents proposed that the OEWG would proceed on the basis of the agreement reached at the previous meeting that the four contact groups continue negotiating their respective parts of the post-2020

global biodiversity framework, with the aim of producing agreed texts for the closing plenary of the meeting to include in its meeting report to the Fifteenth Conference of the Parties. The Co-Presidents then invited the Parties to approve the Chairs proposed for each contact group, which were proposed on the basis of regional balance.

At agenda item 3, the participants were asked to provide their opening statements to reflect the most important issues to their delegation, and why they were so important. The Co-Chairs reminded the Parties of the importance of the negotiation session and of the need to work effectively for the following days of intense negotiations. Before ending the plenary, the Co-Chairs reminded the Parties that each contact group's mandate was to provide agreed texts before the closing plenary session for adoption, if possible. The Parties were also advised that the text has previously been negotiated, the outstanding issues are those in square brackets and clean text was not to be re-opened unless by doing so an issue in square brackets could be resolved. After that, the delegates broke immediately into the contact groups.

As regards reporting of the negotiation sessions, it was decided that the participants would not reconvene plenary each day to take progress reports. Instead, the Co-Chairs asked each contact group Chair to post their group's text on a daily basis on the Course's digicampus platform along with a short paragraph summarizing their progress. Participants were encouraged to contact the Co-Chairs in case that any assistance with regard to issues that might cross several groups, such as terminology, would come up.

The contact group 1 on Targets 1-8 (Group 1) stated in agreement at the beginning of their work that ambitious steps are needed to halt biodiversity loss. At the same time, it was recognized that different countries are at different steps. In the course of the negotiations, the parties held extensive discussions on how strong or realistic the wording of the text should be and on external support as a condition for more ambitious targets. among other issues. The group was not able to clear much text during the first negotiation session, but achieved significant progress subsequently. Chair's proposals were considered on Targets 1 and 2. In its final session, the group managed to secure consensus on a number of targets, aligning with CBD terminology in some of the contested wordings.

The contact group on Targets 9-13 (Group 2) started its work efficiently as it was successful in removing some brackets from the texts of Targets 9 and 10. However, negotiations were to continue on several key issues

such as on how to treat the rights of indigenous people. Several Parties were asked to deliberate on contentious issues informally to develop a compromise text for the following sessions. Progress was made with regard to several targets, but several issues remained unresolved. Overall, the group was very dedicated in its work, which several overnight consultations testified. The negotiators were also inventive in finding alternative wordings and softer expressions in contentious parts of the draft text.

The contact group on Targets 14-21 (Group 3) was able to remove some brackets in the text and found compromise text on, among other issues, the integration of biodiversity values on 'relevant and appropriate' policies whereas divergent views remained on several other issues. Target 15 on businesses assessing and reporting on impacts, reducing negative and increasing positive impacts turned out to be a subject for divergent views among Parties. Brackets remained in this part of the text all the way to the end of the negotiations. Instead, Target 20 on ensuring the traditional knowledge of indigenous peoples and local communities contribute to decision-making on biodiversity protection was relatively easy for the Parties to agree upon in the end.

The contact group on Sections H-K of the Framework (Group 4) was significantly smaller in the number of delegates compared to the other groups. The negotiations went relatively smoothly with no major points of conflict among the delegates. All brackets of the text were solved, and new text was proposed and agreed upon. For the following negotiation sessions, the group received an additional text to work on: 'Draft elements of a possible decision operationalizing the post-2020 biodiversity framework'. The Parties worked cooperatively, provided sound justifications and were able to find consensus on all matters remaining within the text. Parties consulted the Secretariat on a number of items to clarify procedural elements and to ensure textual coherence with other agreements under the CBD.

Following the conclusion of the work of the contact groups, all participants reconvened in the final plenary. In an ideal situation, they all would have had clean texts to present to the plenary. The contact group Chairs were asked to present their draft texts and to describe major areas of concern in case a group had not been able to reach a fully agreed text. A summary on the status of negotiated text for the contact groups looked as follows:

Contact Group 1: Targets 1-8

- Targets 1, 2 and 3 have completely clean text.
- Targets 4-8: while a number of disagreements have been resolved, a number of sets of brackets remain in each Target.

Contact Group 2: Targets 9-13

- Targets 9 and 10 have completely clean text, and Target 12 has only one word in brackets.
- While a number of disagreements have been resolved, several sets of brackets remain in Targets 11 and 13.

Contact Group 3: Targets 14-21

- Targets 17, 19 and 20 have clean text.
- Targets 14, 15 and 16 each have only one set of brackets.
- Targets 18 and 21 each have three sets of brackets; those in 21 are minor.

Contact Group 4: sections H-K; COP decision text; Goals A-C; Milestones A.1 to C.2

- Contact Group 4 returned its original text re section H-K fully agreed.
- They were next given a draft COP decision text and all brackets were successfully removed.
- Lastly, they were given Goals and Milestones to address, which they have returned with fully clean text.

5 Evaluation of the exercise

The resource people of the exercise were generally very satisfied with how the simulation turned out and with the performance of the participants. The exercise reached its objectives. The participants were well-prepared with their positions and tactics, were meticulous, proposed creative solutions, sought advice when needed and generally participated very intensively in the negotiations.

It is notable that this was the first time that the simulation exercise on the course was carried out totally online. For the organizers, the online format and lack of experience with it caused a lot of extra work, and some elements of the exercise just had to be improvised on the spot or on a short notice. The experience of an online simulation was certainly challenging for the participants as well.

The online format brought many challenges for the practical planning of the exercise, starting from the compilation of the negotiation groups across different time zones, timing of the negotiation sessions and

ending with technical clutches. Due to the challenges, the negotiation groups were not as balanced as they would have ideally been, the daily negotiation sessions had to be shorter than on a live course, possibilities for informal consultations were limited etc.

Based on written evaluations, participants were generally very satisfied with the exercise. They gave the exercise a rating of 4.7/5. In their feedback, many participants highlighted the usefulness and relevance of the negotiation exercise for their work. Many participants stated that the Course had significantly improved their skills, expertise and understanding of international environmental negotiations. They felt more confident to enter real-life negotiations after the course.

Participants appreciated the topic of the exercise as 'it was like a practical and concrete experiment for the post-2020 negotiations to come'. It was also pointed out that the exercise increased a participant's 'understanding in diplomacy of this issue' and 'really helped in sharpening our diplomacy skills'. Furthermore, the simulation made participants realize the value of the very basic functions of multilateral negotiations: 'I also learnt to listen to others to understand their concerns and positions and give my comment and position that can achieve my country's goal and get support from others.'

The organizers of the exercise were particularly glad to hear that despite the online format, many participants said that the simulation felt real, one participant describing it as '[p]erfect live experience in negotiations'. Then again, it was recognized that an on-site course would be preferable: 'I know that this year's course is exceptional, but I think the experience would be much more enriching when delegates attend in person. Delegates could really focus on the negotiations and take more in-depth approaches.'

The negotiation simulation was, together with drafting exercises, the most liked part of the MEA course. Despite various challenges, both the organizers and participants considered the simulation successful. It is to be hoped that next time around the negotiation exercise could be carried out in person again.