



CCICED SPS 1-2 • Special Technical Report 2021

The crosscutting nature of biodiversity

The role of mainstreaming and synergies in the
context of the post-2020 global biodiversity
framework

December 2021

Foreword

As biodiversity is of a crosscutting nature, mainstreaming it across sectors and fostering synergies is essential for its conservation, restoration and sustainable use. I am pleased to be in the position to submit this Special Technical Report to the Co-Chairs of the Special Policy Study (SPS) on Post 2020: Global Biodiversity Conservation of the China Council on International Cooperation on Environment and Development (CCICED).

Since the establishment of the SPS in 2018, the German Federal Agency for Conservation (BfN) aimed to contribute its expertise and experience with integrative nature conservation, restoration and management. The integrative approach to nature conservation, practised in Germany, is partly due to the fact that almost all landscapes in Central Europe have been influenced and used by humans for generations. Following many years of experiences in small and medium scale biodiversity conservation projects, we learned that the integration of biodiversity concerns into other sectors is crucial for a long-term success. We are convinced that transformative change towards a green economy is only possible if nature is not separated but considered as an integral part of human beings and their activities. Hence, this also means that siloed approaches in e.g. economic activities, financing, urban planning and climate policies should be overcome in order to minimise trade-offs for biodiversity or even deliver co-benefits when actions are being taken.

The SPS on Post 2020: Global Biodiversity Conservation had a clear mandate to support the development of the post-2020 Global Biodiversity Framework (GBF), currently negotiated under the Convention on Biological Diversity (CBD) with clear goals and targets for 2030 and beyond. In this context we set a focus on crosscutting issues, in particular mainstreaming and synergies. In the mainstreaming part in this report, which concentrates on the integration of biodiversity concerns into other sectors, we focused on areas that are 1) relevant to the GBF, 2) part of the Chinese-German biodiversity cooperation and 3) are of relevance to other areas of work carried out by CCICED. These specific areas are climate policy, urban planning, financing and eco-environmental accounting. In the synergies-part of this report, the emphasis was on integrated global environmental governance efforts. Here, we focused on the SDG's, the CBD, UNFCCC, UNFCCC and other biodiversity-related agreements. In the report, we analysed the current situation and developed recommendations for action – both of general character and targeted to the ongoing negotiations.

Reference is made to the draft versions of the GBF, but the brief analyses and general recommendations will be valid beyond the adoption of the GBF. We are grateful that parts of this special technical report have been integrated into the 2021 annual report of the SPS on Post 2020: Global Biodiversity Conservation. Some of the recommendations could also inspire the ongoing CCICED work on international biodiversity financing or Nature-based Solutions.

I would like to give my sincere thanks to CCICED's international Chief Advisor Scott Vaughan and the SPS-Co-Leads Ma Keping, Gao Jixi, Li Lin and especially Art Hanson for their valuable advice and constructive exchanges in the past years. Further, I would like to thank the reviewers of this report for their substantial contributions, the GiZ China office for their continuous support as well as the CCICED Secretariat's team around Mr Zhang Huiyong. Finally, I'd like to thank the team of authors composed by the Berlin-based think tank adelphi research for drafting the chapters.

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CCICED SPS 1-2 on Post 2020: Global Biodiversity Conservation

The crosscutting nature of biodiversity - The role of mainstreaming and synergies for the post-2020 global biodiversity framework and its implementation

This report has been prepared on behalf of the German Federal Agency for Nature Conservation (BfN) for the China Council on International Cooperation on Environment and Development's (CCICED) Special Policy Study (SPS 1-2) on "Post 2020: Global Biodiversity Conservation" to inform the development of the post-2020 global biodiversity framework (GBF) under the Convention on Biological Diversity (CBD). The report will also inform the CCICED work stream on Nature-based Solutions and could be used to inform the work of the Task Force on Global Governance and Ecological Civilisation as well as other SPS's.

Further, the report intends to inform the wider biodiversity community regarding the preparation for the 24th meeting of the Subsidiary Body on Scientific, Technical and Technological Advice to the Convention on Biological Diversity (SBSTTA-24), the 3rd meeting of the Subsidiary Body on Implementation (SBI-3), the 3rd meeting of the Open-ended Working Group on the post-2020 global biodiversity framework (OEWG-3) and CBD COP 15 in their meetings in the second half of 2021 and in 2022.

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Suggested Citation

CCICED/BfN 2021: The crosscutting nature of biodiversity. The role of mainstreaming and synergies in the context of the post-2020 global biodiversity framework. A Special Technical Report to SPS 1-2.



Imprint

Publisher: CCICED SPS 1-2 special technical report

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Status: December 2021; The main content of the report has been finalised in autumn 2021, minor refinements have been made thereafter.

This report was commissioned by the Federal Agency for Nature Conservation (BfN) with funds from the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV). The views expressed in this publication are those of the authors and/ or reviewers and do not necessarily represent those of BfN and BMUV nor of the CCICED.

Executive Summary

This report analyses to what extent mainstreaming and synergy agendas are reflected in the preparatory process towards the post-2020 global biodiversity framework (GBF) and in related documents, particularly the Updated Zero and First Drafts of the GBF, as well as the draft Long-term Approach to Mainstreaming (LTAM). Consequently, the report provides recommendations on how mainstreaming and synergy agendas could be further strengthened within the GBF and its implementation, including by parties to the CBD and especially China, as the host of CBD COP-15¹.

Prepared for the China Council on International Cooperation on Environment and Development's (CCICED) Special Policy Study 1-2 "Post 2020: Global Biodiversity Conservation", the first part of the report draws lessons for biodiversity mainstreaming from case studies in climate policy, cities, the financial sector and national accounts. In a second part, the report analyses the different sections of the Updated Zero Draft to identify entry points for realising synergies between biodiversity-related conventions and processes.

Mainstreaming biodiversity across government and society as well as enhancing synergies among environmental and sustainable development agendas are key contributions to realising transformative change.

The Global Sustainable Development Report (2019) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) (2019) called for transformative change to initiate a pathway for achieving the Sustainable Development Goals (SDGs) in 2030. The GBF needs to trigger the transformations identified by IPBES and lay out how international organisations, governments and stakeholders can successfully mainstream biodiversity in their operations. Both mainstreaming and synergies, need to be anchored strongly in the outcome to be negotiated at the 15th Conference of the Parties (COP 15) of the Convention on Biological Diversity (CBD) (scheduled to be finalized in May 2022).

KEY FINDINGS RELATED TO THE MAINSTREAMING AGENDA WITHIN THE GBF

To realize transformative change, mainstreaming needs to be strengthened as part of the GBF and the LTAM.

Several goals and targets of the Updated Zero Draft, released by the co-chairs of the Open-Ended Working Group on the GBF in August 2020 and the First Draft (July 2021) have mainstreaming relevance. However, the mainstreaming agenda should feature more strongly in the GBF by directly addressing all governance levels, relevant sectors and non-state actors in GBF Targets and indicators. Furthermore, important components of the GBF, in particular the sections "means of implementation" and "transparency mechanisms", are not yet sufficiently developed and ways for sectors and non-state actors to engage in the development and later implementation need to be laid out. Additionally, the concrete integration of the LTAM in the GBF and the follow-up of implementation require further specification. The LTAM's lack of more specific guidance for other sectors beyond finance may hinder uptake by other relevant sectors.

¹ Please note that the Updated Zero Draft has been replaced by a First Draft in July 2021 and also the LTAM is undergoing further negotiations by the Parties to the CBD. The negotiation texts could be modified substantially by the upcoming CBD meetings in the first half of 2022. However, this report, with its analyses and case studies is and will still be informative and valid to inform questions of mainstreaming esp. in climate and urban policy, the financial sector and in national accounts as well as on questions on synergies between biodiversity-related conventions.

The GBF could make better use of the Nature-based Solutions (NbS) concept and highlight the multiple benefits of NbS beyond the climate sphere

The use of the NbS concept is still under discussion within the GBF process itself and in the July 2021 First Draft, the concept is not mentioned anymore². The use of an accurately defined NbS concept in the GBF and/or monitoring system could strengthen the perception and use of NbS as instruments for achieving multiple benefits, including socio-economic ones. A clear definition in line with the IUCN Global Standard on Nature-based Solutions could help ensure that NbS comply with biodiversity safeguards while also generating nature-positive outcomes alongside socio-economic considerations for relevant stakeholders.

Excluding the NbS concept from the GBF would be a missed opportunity. Updated Zero Draft Targets 7 (climate change; First Draft Target 8) and Target 10 (nature's contributions to people; First Draft Target 11) could explicitly take up NbS in the context of climate change. At the same time, the contribution of NbS to a wide range of societal challenges could be highlighted. Currently, also the urban biodiversity Target 11 (First Draft Target 12) does not mention NbS. Linking Updated Zero Draft Targets 10 and 11 by taking a broader approach to NbS would make the multiple benefits of biodiversity visible to more sectors beyond the climate community.

The updated Zero Draft Target 11 (First Draft Target 12) could address urban biodiversity with a broader perspective considering not only access for people but also urban ecosystem restoration, disaster risk reduction, quality of green spaces, species richness and put a stronger focus on urban biodiversity in general. It would establish the NbS concept as a bridge and operationalisation opportunity that supports the convergence of the global frameworks GBF, SDGs, the Paris Agreement and Sendai framework.

Explicitly anchoring nature's contribution to climate change mitigation and adaptation in the GBF can help ensure that climate policies consider biodiversity synergies and trade-offs

If the GBF is to function as an overarching framework that highlights the fundamental relevance of biodiversity for achieving other societal objectives, mitigation and adaptation opportunities through biodiversity action should be anchored firmly in the GBF. This way, existing climate change policy, including Nationally Determined Contributions (NDCs), would need to consider biodiversity objectives, ensuring that measures to tackle climate change adequately consider biodiversity synergies and trade-offs, in line with the IUCN Standard on Nature-based Solutions. Highlighting the benefits biodiversity generates in terms of climate adaptation and mitigation also opens up the possibility of accessing climate finance for biodiversity action.

The role of cities and subnational government is increasingly reflected in CBD processes but could be further strengthened in the drafts of the GBF.

Targets 11 (First Draft's Target 12) and 13 (First Draft's Target 14) of the Updated Zero Draft refer to the subnational level³ and the LTAM and its Action Plan include a number of actions that directly address cities and subnational governments. As of now, the urban sector is not fully represented in the Target system and monitoring framework of the GBF. The Updated Zero Draft's Target 11 (First Draft's Target 12) could be strengthened referring to green/blue

² The concept of Nature-based Solutions has been excluded from the First Draft of the post-2020 global biodiversity framework, released on 5 July 2021. (CBD/WG/2020/3/3 - <https://www.cbd.int/doc/c/abb5/591f/2e46096d3f0330b08ce87a45/wg2020-03-03-en.pdf>)

³ The goals and targets included in the First Draft of the post-2020 global biodiversity framework do not mention the subnational level explicitly. Target 12 refers to urban areas.

spaces, and integrating biodiversity-inclusive planning in cities, including building and infrastructures. Further, the role of urban spaces for other GBF Targets could be made more explicit: If relevant Targets such as the proposed Targets on pollution (Update Zero Draft Target 6, First Draft Target 7), climate change (Update Zero Draft Target 7, First Draft Target 8) or nature's contributions to regulation services (Update Zero Draft Target 10, First Draft Target 11) would explicitly include 'all levels of government' as responsible actors, this would help communicate the relevance of these targets at city level and stress the valuable contributions subnational governments can make.

Despite increasing uptake, the financial sector is still not where it needs to be when it comes to integrating biodiversity objectives into investment decisions

In the LTAM, the financial sector is the only sector that is treated as one of five action areas. Besides the 2030 Milestone on green investments (Goal B.2 in Updated Zero Draft; excluded from First Draft), the Updated Zero Draft does not explicitly speak to private financial institutions at Target level. Promising developments such as ASN Bank's Biodiversity Footprint for Financial Institutions methodology or EU Taxonomy which includes a dedicated biodiversity objective are underway that can contribute to the further integration of biodiversity risks in financial sector decision-making. However, in order to meet the target of leveraging private finance as one component of meeting the implementation needs of the GBF (First Draft Target 19), there is still a long way to go. The financial sector's capacities in biodiversity mainstreaming and developing market infrastructure still need to be further strengthened. Central banks and other financial regulators can help establish effective incentive and restraint mechanisms. In this context, some experiences and lessons from other areas of green finance may be transferable to biodiversity finance.

While ecosystem accounting features prominently in the drafts of the GBF, implementing ecosystem accounting still faces a number of challenges

National accounting is firmly anchored in the Updated Zero and First Drafts, the LTAM and its Action Plan. While with the System of Environmental-Economic Accounting - Ecosystem Accounting (SEEA-EA)⁴ and China's Gross Ecosystem Product (GEP)⁵ much progress has been made to reflect biodiversity considerations in national accounting and decision-making, there are still a number of challenges ahead when it comes to implementing biodiversity-related national accounting. In order to effectively implement the accounting-related objectives of the GBF and LTAM, accounting efforts need to be tailored to their specific purposes and data availability at national and regional levels needs to be improved. When negotiating the capacity building components of the GBF (e.g. under Section F), these needs should be taken into account.

KEY FINDINGS RELATED TO SYNERGIES BETWEEN THE GBF AND BIODIVERSITY-RELATED CONVENTIONS

Seizing the opportunity of the GBF to enhance international biodiversity governance by making use of synergies between biodiversity-related conventions

The development of the GBF provides opportunities at the global policy level to strengthen synergies among biodiversity-related conventions, including the Land Degradation Neutrality objective of the United Nations Convention to Combat Desertification (UNCCD), the Strategic Vision 2021-2030 of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (CITES 2019) or the natural heritage sites of the World Heritage

⁴ SEEA-EA is "a spatially-based, integrated statistical framework for organizing biophysical information about ecosystems, measuring ecosystem services, tracking changes in ecosystem extent and condition, valuing ecosystem services and assets and linking this information to measures of economic and human activity" (SEEA-EA 2021)

⁵ GEP is „a measure that summarizes the value of the contributions of nature to economic activity“ (Ouyang et al 2020)

Convention (WHC). This will require provisions within the text of the framework itself, accompanying decisions by the CBD and other biodiversity-related conventions and possible other multilateral bodies.

Cooperation at the level of secretariats of biodiversity-related MEAs is well established, however it is only institutionalised to a limited extent and governments play a small role so far. In order to make significant progress regarding the potential for synergies, governments and the entities within governments responsible for the different Multilateral Environmental Agreements, need to take consistent and mutually supportive decisions in all conventions they are party to.

National level synergies through National Biodiversity Strategies and Action Plans (NBSAPs) and other means

Coherent and mutually supportive biodiversity strategies, goals and targets at the international level will foster cooperation, coordination and synergies at regional and national levels. After the GBF is adopted, the CBD Parties are likely to be required to revise their National Biodiversity Strategies and Action Plans (NBSAPs) to align their Targets and ambition to those of the GBF. This revision provides opportunities to countries or regions to strengthen implementation of biodiversity-related conventions by making use of synergies, such as when enhancing systems for monitoring, reporting and review of biodiversity, when revising biodiversity-related legislation or when conducting capacity development activities. Furthermore, NBSAPs can take a stronger role in mainstreaming biodiversity into different productive sectors like agriculture or tourism. For that, relating NBSAPs to the SDGs is an opportunity to link biodiversity with other policy areas and to create new narratives for the importance of biodiversity (Obrecht et al. 2021) which could also be included in the Voluntary National Reviews on the implementation of the SDGs.

CBD COP15: many agenda items provide opportunities for enhancing synergies

The ongoing process of developing the GBF presents opportunities and options for enhancing synergies, cooperation and coordination – either in the text of the GBF itself or in multiple other decisions to be taken by the CBD COP-15, such as on the long-term strategic framework for capacity development, the monitoring framework for the GBF, on resource mobilisation and on knowledge generation, management and sharing. All those decisions are related to the GBF, but there is a risk that they remain under the radar of the negotiations of the GBF. Also, governing bodies of biodiversity-related conventions other than the CBD have limited opportunities to engage.

A promising option to achieve mainstreaming and promote synergistic implementation of the GBF is the establishment of new, revitalisation of, or expansion of existing joint work programmes by two or more MEAs and potentially other international organisations or partners. Such work programmes could be either thematic or linked to one or more new GBF Targets and constitute implementation plans for the GBF. Such thematic and/or Target-based work programmes would increase ownership of all actors with the GBF, set out milestones, clarify responsibilities and help managing the complexity of the GBF. A clear and thorough reflection of goals, Targets, and approaches of other biodiversity-related conventions than the CBD in the GBF would facilitate this.

As the host of COP-15, China can play an important role in promoting both mainstreaming and synergies agendas as key elements of the GBF

How to effectively advance synergies is subject to many debates but it is clear that governments need to speak with one voice in all conventions they are party to, make sure they use potentials for synergies, cooperation and coordination at national level but also take a driving seat when advancing synergies among the biodiversity-related MEAs. This report lays

out some areas: Target setting, biodiversity indicators, guidance for NBSAP, monitoring and reporting and improving the government structures.

China as the host of CBD COP-15 could ensure that mainstreaming and synergies are high on the agenda and considered in the final negotiations of the GBF.

A high-level uptake event with the executive secretaries of the Rio conventions, biodiversity-related conventions and UN agencies after the adoption could send a strong message of joint commitment to the GBF. Such an event would also be an opportunity to commit to relevant MEAs and to encourage other countries to join or to re-join. China could engage with the host of United Nations Framework Convention on Climate Change (UNFCCC) COP-27 to ensure that the outcomes of CBD COP-15 are conveyed to COP-27 and receive the necessary attention.

The CCICED could lead for example by coordinating biodiversity-related recommendations of the different SPS and by carrying out a mapping exercise to show how the recommendations relate to draft GBF goals and Targets as well as to the SGDs and objectives of relevant MEAs.

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List of Abbreviations

BFFI	Biodiversity Footprint for Financial Institutions
BfN	German Federal Agency for Nature Conservation
BIP	Biodiversity Indicators Partnership
BLG	Liaison Group of Biodiversity-related Conventions
BMUV	German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection
CBD	Convention on Biological Diversity
CCICED	China Council on International Cooperation on Environment and Development
CDM	Clean Development Mechanism
CEN	European Committee for Standardization
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	Convention on the Conservation of Migratory Species of Wild Animals
COP	Conference of the Parties
DaRT	Data Reporting Tool for MEAs
EA	Ecosystem Accounting
EbA	Ecosystem-based Adaption
Eco-DRR	Ecosystem-based Disaster Risk Reduction
ECR	Ecological Conservation Redline
EMG	Environment Management Group
EU	European Union
FAO	Food and Agriculture Organization
FOEN	Swiss Federal Office for the Environment
GBF	Global Biodiversity Framework
GBIF	Global Biodiversity Information Facility
GBO	Global Biodiversity Outlook
GBRI	Green Belt and Road Initiatives
GCP	Global Canopy Programme
GEF	Global Environment Facility
GEP	Gross Ecosystem Product
GFGP	Grain for Green Program
IAG	Informal Advisory Group

IAS	Invasive Alien Species
ICLEI	Local Governments for Sustainability
ICRW	International Convention for the Regulation of Whaling
IFC	International Finance Corporation
INCA	Integrated System for Natural Capital and Ecosystem Services Accounting
InforMEA	Access information on Multilateral Environmental Agreements
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organization for Standardization
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
IUCN	International Union for Conservation of Nature
IWC	International Whaling Commission
JLG	Joint Liaison Group of the Rio Conventions
LC	Least Concern
LDN	Land Degradation Neutrality
LTAM	Long-term Strategic Approach to Mainstreaming
MEAs	Multilateral Environmental Agreements
NAPA	National Adaptation Programme of Action
NAPs	National Action Programmes
NbS	Nature-based Solutions
NBSAPs	National Biodiversity Strategies and Action Plans
NDCs	Nationally Determined Contributions
OECD	Organisation for Economic Co-operation and Development
OECM	Other Effective Area-based Conservation Measures
OEWG	Open-Ended Working Group
PPF	Project Preparation Facility
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SBI	Subsidiary Body on Implementation
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice
SDGs	Sustainable Development Goals
SEEA	System of Economic and Environmental Accounting
SLCP	Sloping Land Conversion Programme
SNA	System of National Accounts
SPS	Special Policy Study

TCFD	Task Force on Climate-related Financial Disclosures
TNFD	Taskforce on Nature-related Financial Disclosures
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNCEEA	United Nations Committee of Experts on Environmental-Economic Accounting
UNDP	United Nations Development Programme
UNDRR	United Nations Office for Disaster Risk Reduction
UNEP	United Nations Environment Programme
UNEPFI	United Nations Environment Programme Finance Initiative
UNEP-WCMC	United Nations Environment Programme World Conservation Monitoring Centre
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNISDR	United Nations International Strategy for Disaster Risk Reduction
USAID	United States Agency for International Development
VfU	Association for Environmental Management and Sustainability in Financial Institutions
WHC	World Heritage Convention
WWF	World Wide Fund for Nature

1 Introduction

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) found in its 2019 Global Assessment that species extinction rates have taken on unprecedented levels with 1 million animal and plant species (25% of non-insect species) now threatened with extinction. Human activities have significantly altered three quarters of the world's terrestrial and two thirds of marine area, while over 85 percent of wetland area has been lost (IPBES 2019). Biodiversity loss is increasingly perceived as a material risk for sustainable economic development. In the 2021 Global Risks Report by the World Economic Forum, respondents identified biodiversity loss as a top risk and an existential threat in the coming ten years (WEF 2021).

In five out of six types of policy scenarios explored by IPBES, biodiversity loss will continue to 2050 and beyond, although with significant differences between regions. The only scenario type where negative trends can be contained is the IPBES scenario which includes actions and developments that reflect a transformative change. IPBES defines transformative change as „a fundamental, system-wide reorganisation across technological, economic and social factors, including paradigms, goals and values” (IPBES 2019, p.14). The scope of transformative change is therefore broad and includes addressing direct as well as indirect drivers of biodiversity loss.⁶

The Updated Zero Draft (CBD 2020 POST2020/PREP/2/1) as well as the First Draft (CBD 2021 WG2020/3/3) of the post-2020 global biodiversity framework (GBF) also formulate “transformative action” as its main purpose. The GBF is currently being negotiated by the Parties of the Convention on Biological Diversity (CBD) and is to be adopted at the 15th Conference of the Parties (COP-15). COP 15 was opened in October 2021 in Kunming, China, with the negotiations on the GBF to take place at the second part of COP 15 in April/May 2022.

The GBF holds the potential to function as an overarching framework which guides different actors across society and levels of government to take transformative actions and which covers relevant Multilateral Environmental Agreements (MEAs) to enhance synergies in their implementation. Successfully mainstreaming biodiversity into economic sectors is a precondition for achieving transformative change. Mainstreaming geared towards transformative change implies not only addressing the direct but also the indirect drivers of biodiversity loss by integrating biodiversity objectives into decision-making processes. Synergies with other relevant MEAs would not only contribute to conserving biodiversity but also highlight the contribution of biodiversity to a larger transformative change agenda. Designing sound accountability and transparency frameworks for the GBF's mainstreaming and synergy objectives would help translating the GBF's ambition of transformative change into practice.

Both the synergy and mainstreaming discussions take a crosscutting perspective highlighting that biodiversity objectives can only be fully realised if they are adequately linked and integrated into other sectors and policies at all levels, involving actors across society and

⁶ The IPBES Global Assessment identifies five main direct drivers of biodiversity loss: (1) changes in land and sea use; (2) direct exploitation of organisms; (3) climate change; (4) pollution and (5) invasive alien species. Key indirect drivers include economic, demographic, governance, technological and cultural developments, in particular formal and informal institutions, and patterns of production and consumption.

government. For the GBF to realize its transformative ambition, it will be key that both mainstreaming and synergy agendas are well anchored within the GBF.

Mainstreaming

While mainstreaming has long been a topic of discussion in the context of the CBD, the implementation of mainstreaming at all levels remains a considerable challenge. According to the Global Biodiversity Outlook 5 (GBO 5), most Aichi Biodiversity Targets with high relevance for mainstreaming efforts have not been achieved (CBD 2020 GBO5).⁷

Although biodiversity is still insufficiently anchored in relevant sectors, promising developments can be observed in some areas: climate policy (Seddon et al. 2019a), cities (Kabisch et al. 2017), the financial sector (van Toor et al. 2020) and environmental accounting (SEEA, n.d.). The First Draft includes overarching goals for 2030 related to climate change, environmental accounting and the financial sector. The importance of cities and subnational governments is for the first time included in a CBD framework. In addition, COVID-19 and the economic recovery plans provide a window of opportunity for transformative actions. In many countries, green stimulus packages were integrated into the economic recovery plans. However, to date, biodiversity objectives do not play a strong role in most green recovery plans (Vivideconomics 2020).

In chapter 2, this report aims to summarise and analyse biodiversity mainstreaming efforts in the climate domain, cities, the financial sector and environmental accounting. It draws special attention to the links to the GBF and related mainstreaming discussions under the CBD. Based on this, it formulates recommendations and suggestions on how to strengthen the mainstreaming agenda within the GBF as well as its implementation.

Synergies between relevant conventions and processes

The question of how to enhance synergies between MEAs relevant to biodiversity has been discussed for years on different levels and in different fora. It is widely understood that the GBF should be an overarching framework with relevance to all biodiversity-related conventions, international organisations and stakeholders. Already the global Strategic Plan for Biodiversity 2011–2020, developed under the CBD, was later endorsed by biodiversity-related conventions and the UN General Assembly. Some of the biodiversity-related conventions aligned their strategies accordingly and already took decisions to respond to the GBF in ongoing and future strategies.⁸

In chapter 3, this report aims to summarise and analyse the ongoing development processes of the GBF in relation to synergies between relevant conventions. It draws special attention to existing links between the strategies, goals and Targets of relevant conventions and the envisaged GBF. Based on these, it formulates recommendations and suggestions on how to increase synergies as part of this process as well as during implementation, reporting and monitoring and biodiversity governance as a whole.

Objectives of the report

The report has been prepared as part of the CCICED's Special Policy Study "Post 2020: Global Biodiversity Conservation" (CCICED SP 1-2) as a contribution regarding non-area-based aspects of the GBF. It specifically focuses on biodiversity mainstreaming and synergies with

⁷ Aichi targets with relevance for the mainstreaming agenda that were not met include: Aichi target 2, 3, 4, 5, 6, 7, 8, 10, 20

⁸ For instance, the 18th Conference of the Parties of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) recognised at its meeting in August 2019 in its resolution 18.3 that the CITES Strategic Vision 2021-2030 can make an important contribution to the GBF. The 13th meeting of the Conference of the Parties of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) directed its secretariat to engage in the process.

relevant conventions in the context of the GBF. The report analyses to what extent the mainstreaming and synergies are currently reflected in the Updated Zero Draft and First Draft and in related preparatory documents. Further, the report aims to provide recommendations on how the mainstreaming and synergy efforts could be further strengthened within the GBF and beyond, e.g. in its implementation.

Outline of the report

The report is organised as follows: Following this introduction (Chapter 1), Chapter 2 condenses key messages regarding mainstreaming advances in climate policy, cities, the financial sector and environmental accounting. The case studies use illustrative examples from China and other regions and culminate in a number of recommendations for national policy makers, the global biodiversity community and the GBF. Chapter 3 focuses on synergies between biodiversity-relevant conventions and processes. The chapter is organised along the subsections of the GBF and outlines synergy potentials and recommendations for each section. Special attention is given to strategy/goals/Targets, indicators, implementation, monitoring and reporting, and governance. Chapter 4 subsumes the findings of chapter 2 and 3 in a final conclusion.

2 The mainstreaming agenda within the post-2020 global biodiversity framework and entry points for its implementation

2.1 Introduction

Biodiversity loss is driven by the configuration of the economic and financial system, consumption and production patterns as well as sectors such as agriculture, forestry, fisheries or extractive industries. Measures to reverse biodiversity loss need to target these areas and sectors to address these indirect and direct drivers. The integration of biodiversity concerns into decisions, policies, strategies and plans of the public and private sectors is often referred to as mainstreaming. According to the CBD⁹, biodiversity mainstreaming is understood as “ensuring that biodiversity, and the services it provides, are appropriately and adequately factored into policies and practices that rely and have an impact on it.” IPBES defines biodiversity mainstreaming as “integrating actions or policies related to biodiversity into broader development processes or policies such as those aimed at poverty reduction, or tackling climate change” (IPBES¹⁰).

Mainstreaming in the context of the CBD

The mainstreaming debate within the context of the CBD has evolved over the past three decades since the Convention was signed. In the early days of the Convention, mainstreaming did not play such a strong role and was almost exclusively understood in the context of policy integration and coherence within the public sector. With the Strategic Plan for Biodiversity (2011-2020) (CBD 2010 COP/DEC/X/2), mainstreaming gained a much stronger role: discussions focused on mainstreaming in productive sectors with a continued emphasis on the role of governments in enabling mainstreaming. COP-13 and COP-14 focused specifically on key productive sectors and also increased visibility of the role of companies and non-state actors. Within the GBF negotiations, mainstreaming is understood as a key element of transformative change which does not only aim to trigger change in productive sectors but also at a macro level (e.g. whole-of-government and whole-of-society approach, financial sector), addressing the indirect drivers as well.

The GBF echoes the call from IPBES (2019) for transformative change to slow down and eventually halt biodiversity loss. Mainstreaming is a key strategy to achieve transformative change, Targeting the direct and indirect drivers of biodiversity loss. The transformative change concept increases the level of ambition compared to the previous Strategic Plan with respect to mainstreaming.

The mainstreaming agenda in the GBF and the CBD’s Long-term Approach to Mainstreaming (LTAM)

Mainstreaming is central to the First Draft’s Theory of Change to achieve transformative change. States are called upon to implement the GBF through a whole-of-government approach to integrate biodiversity concerns coherently into policies, strategies and plans

⁹ <https://www.cbd.int/mainstreaming/>

¹⁰ <https://ipbes.net/glossary/mainstreaming-biodiversity>

across sectors and levels of government. At the same time, a whole-of-society approach aims to ensure that all relevant actors, including the private sector, participate in the implementation of the GBF.

The Updated Zero Draft of the GBF (CBD 2020 WG2020/3/3) addresses mainstreaming under the 2050 Goals B (contributions of nature to people) and D (means of implementation). At Target level (section E of the GBF), several entry points exist across all three areas (“reducing threats”, “meeting people’s needs”, “tools and solutions”) (CBD 2020 SBI/3/13). Figure 1 illustrates GBF Targets and goals and highlights those with high relevance to the mainstreaming agenda. Under “Reducing threats”, Target 4 (First Draft Target 4) on management of wild species (linked to economic cycles), Target 6 (First Draft Target 7) on pollution (a direct consequence of unsustainable production processes), and Target 7 (First Draft Target 8) on climate change, provide important entry points for mainstreaming action. Under “Meeting people’s needs”, Targets 9 (managed ecosystems, agriculture, First Draft Target 10) and 11 (access to green infrastructure, particularly in cities; First Draft Target 12) also provide important entry points. Target 9 on sustainable food systems is critical for mainstreaming biodiversity into the agricultural sector. Under “Tools and Solutions”, five Targets of the Updated Zero Draft are key to the mainstreaming agenda (Targets 13 on integrating biodiversity values (First Draft Target 14), 14 on sustainability of economic sectors and businesses (First Draft Target 15), 15 on sustainable consumption and lifestyles (First Draft Target 16), 17 on incentives & environmentally harmful subsidies (First Draft Target 18) and 18 on resource mobilisation (First Draft Target 19)).

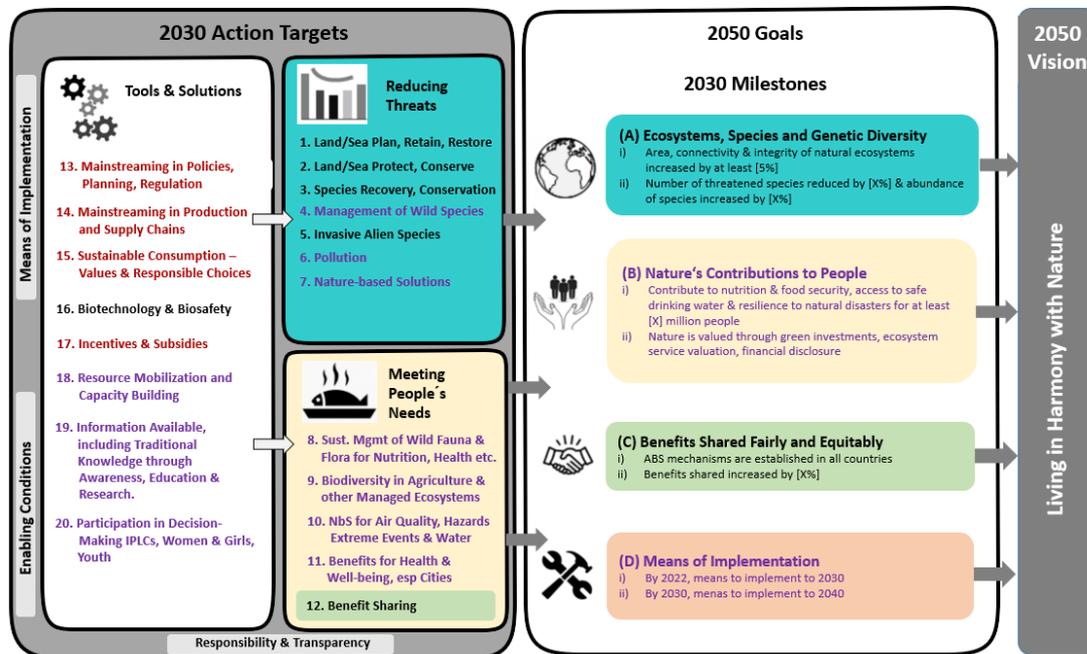


Figure 1: Entry points for mainstreaming in the Updated Zero Draft (red: Targets integral to mainstreaming, purple: Targets with strong mainstreaming relevance)

Source: Adapted from CBD webinar of the Informal Advisory Group on Biodiversity Mainstreaming on 7.10.2020 to present the LTAM; based on Figure 1 (Theory of change of the framework) of the Updated Zero Draft

In decision XIV/3, Parties at COP-14 decided to establish an Informal Advisory Group (IAG) on Mainstreaming Biodiversity for further developing the LTAM (CBD 2020 SBI/3/13). The draft LTAM is divided into three strategy areas, broadly focused on government at all levels, the private and financial sector as well as society. Strategy areas are then further divided into five action areas and related actions. The LTAM Action Plan (CBD 2020 SBI/3/13/Add.1) further proposes actions and milestones for each action outlined in the LTAM.

While the GBF aims to stay at a strategic level, the LTAM and its Action Plan intend to provide further operational guidance to support implementation of the GBF's mainstreaming elements. The Updated Zero Draft and the draft LTAM are broadly aligned with GBF Targets 13, 14, 15 and 17 (First Draft Targets 14, 15, 16 and 18) under "Tools and Solutions", reflecting four of the five action areas of the LTAM. However, the concrete integration of the LTAM in the GBF and the follow-up of implementation still need to be discussed. Some Parties fear the duplication of structures and therefore want to prevent ambitious mainstreaming goals and efforts from being outsourced from the GBF to the LTAM. The next rounds of negotiations by the Open-Ended Working Group (OEWG) before COP-15 will be crucial to clarify these points and to implement the necessary adjustments in the further development of the GBF.

Linkages with other biodiversity-relevant conventions could be made more apparent in the Updated Zero and First Draft, draft LTAM (cf. OEWG second meeting report, February 2020) and the LTAM Action Plan. These linkages are still under discussion. Particularly in the LTAM and its Action Plan, linked SDG Targets are only partially included and could be further elucidated. Additionally, aligned indicators for Targets similar to the SDGs could be included in the GBF monitoring framework.

Compared to the guidance and indicators provided for the financial sector, the LTAM is less specific on other economic sectors beyond finance. It was argued that guidance on how mainstreaming in other economic sectors should take place was already provided during COP-13 and COP-14 as well as the IPBES Global Assessment (CBD 2020 SBI/3/13; CBD 2020 SBI/3/13/Add.1). The LTAM's lack of more specific guidance for other sectors has been criticised by some Parties and stakeholders. The guidance provided during COP-13 and COP-14 is not coherent between sectors and therefore might be insufficient to generate continued momentum and directionality for the respective sectors. Similar concerns have been raised for the Action Plan which should outline specific actions for the most relevant economic sectors and adjust proposed timeframes for more feasibility according to some Parties.

Reflecting the critique on the LTAM, some Parties and actors criticised that the mainstreaming agenda could feature more prominently in the GBF. One of the main points raised is that relevant sectors and non-state actors are only addressed indirectly and not explicitly enough by GBF Targets and indicators. Furthermore, means of implementation and transparency mechanisms are insufficiently developed.

Limited progress so far and barriers to mainstreaming

While mainstreaming has long been a topic of discussion in the context of the CBD, the implementation of mainstreaming at all levels remains a considerable challenge. Most of the Aichi Targets with high relevance for mainstreaming efforts (cf. Whitehorn et al 2019) have not been achieved (CBD 2020 GBO5). Public awareness on biodiversity values is still insufficient (Aichi Target 1), evidence that biodiversity has been integrated into national development plans has been limited (Aichi Target 2) and little progress was made in eliminating, phasing out or reforming incentives harmful to biodiversity (Aichi Target 3). At the project implementation level, mainstreaming interventions are highly context-specific which makes identifying lessons learnt more challenging (Smith et al. 2020). In addition, indicators used

across countries to monitor biodiversity mainstreaming are often insufficiently consistent and comparable (OECD 2018).

There are many reasons for limited progress on mainstreaming biodiversity (Karlsson-Vinkhuyzen et al. 2017) with a key factor being lack of political will and engagement of relevant policy areas, economic sectors and the participation of society (OECD 2018). Mainstreaming efforts often have to prevail against strong economic and political interests. Economic sectors still have difficulties with understanding the relations between biodiversity and their key interests. Countries developing their NBSAPs have found it challenging to mainstream biodiversity into economic development (Prip et al. 2010; Leadley et al. 2014; Karlsson-Vinkhuyzen et al. 2017). Key barriers identified in assessments of the fourth and fifth national reports were short-term economic gains by the primary production sector, fragmented decision-making, and limited communication among stakeholders (Chandra & Idrisova 2011; Leadley et al. 2014). Limited communication links to the lack of involvement of stakeholders in the post 2010 NBSAP development process (Whitehorn et al. 2019). In addition, lack of information on biodiversity-related expenditures constitutes a barrier to mobilize support for biodiversity in national budgets (OECD 2018).

Promising examples of mainstreaming

While biodiversity is still insufficiently anchored in relevant policy areas and sectors, promising developments can be observed in individual areas. These include climate policy (Seddon et al. 2019a), cities (Kabisch et al 2017), environmental accounting (SEEA, n.d.) and the financial sector (van Toor et al. 2020). For instance, countries are increasingly including ecosystem-based approaches in their Nationally Determined Contributions (NDCs) under the Paris Agreement, but without necessarily prioritising biodiversity or sufficient specificity for implementing national strategies in a coherent manner (OECD 2020). Ecosystem-based approaches such as green roofs or the renaturation of inner-city water bodies have also proven to be successful models for promoting social, political and economic commitment at city level. Ecosystem Accounting (EA) as part of the System of Economic and Environmental Accounting (SEEA) is increasingly becoming a standard framework for national accounting and has had first impacts on policy making in Europe (e.g. Netherlands, United Kingdom). In June 2020, the European Parliament adopted Regulation 2020/852 ("Taxonomy Regulation") on sustainable finance, planning to include technical assessment criteria for biodiversity and ecosystem services.

All of these four crosscutting areas stretch across a number of economic sectors. For instance, cities often involve several sectors such as housing, infrastructure, water management or health. In addition, all four areas are widely recognised to play a key role in transformative change: Mainstreaming biodiversity in the financial sector and in environmental accounting could generate a major leverage to transform economies as they also address indirect drivers of biodiversity loss. Climate change and cities are areas where the benefits of biodiversity are increasingly understood. Cities also have unique leverage for addressing direct and indirect drivers at local levels as many biodiversity-relevant processes come together in the urban space: from consumption and production to values, pollution and climate impacts.

The following sections of this chapter condense a few key messages regarding mainstreaming advances in the four areas. The case studies use illustrative examples from China and elsewhere and culminate in a number of recommendations for national policy-makers, the global biodiversity community and the GBF.

2.2 Mainstreaming biodiversity in climate policy

Climate change and biodiversity loss are closely linked: Climate change and biodiversity collapse mean that our world is facing a double crisis (UN Climate Action Summit 2019), and climate change is one of the major drivers of biodiversity loss (IPBES 2019). At the same time, conservation and sustainable use of biodiversity can contribute to the reduction of atmospheric greenhouse gas concentrations and is indispensable as support for the adaptation to climate change. The conservation of the most carbon-dense and biodiversity-rich natural ecosystems is a key priority for raising a climate change ambition in the United Nations Framework Convention on Climate Change (UNFCCC), a principle reflected in both UNFCCC and CBD decisions (Barber et al. 2020).

During the Rio Summit in 1992, states paved the way for two separate international agreements on climate change and biodiversity, and a third one on combatting desertification. In the 1990s, mainstreaming biodiversity into the climate arena was not high on the agenda and rather seen as a potential risk. For instance, in the context of the Clean Development Mechanism (CDM) under the Kyoto Protocol, biodiversity experts feared that including forest restoration measures under the CDM might lead to negative results for biodiversity. Although the United Nations formally committed to biodiversity mainstreaming in a wide range of its environment-related programmes and policies (CBD 2020 SBI/3/13), both the 1992 UNFCCC and 2015 Paris Agreement hardly mention biodiversity and ecosystems.

At the same time, with the rise of the ecosystem services concept, programmes such as payments for ecosystem services and REDD+ pointed to the contribution of biodiversity to mitigate and adapt to climate change. In the adaptation realm, Ecosystem-based Adaptation (EbA) approaches received growing attention as a cost-effective means for climate change adaptation. The IPBES Global Assessment (2019) and the IPCC Special Report “Global Warming of 1.5°C” (2018) contributed to further build momentum on the need for a joint implementation of climate and biodiversity objectives, and the UN Climate Action Summit 2019 called Nature-Based Solutions (NbS) “a fundamental part of action for climate and biodiversity”.

Most recently, NbS have emerged as a key entry point for mainstreaming biodiversity into climate policy in the NDCs under the Paris Agreement, providing a key framing for mobilising biological systems for adaptation to climate change and in climate mitigation. NDCs articulate the national commitments countries make in the context of the Paris Agreement, thus providing an entry point for mainstreaming and subsequent translation into national policies, strategies, plans and local implementation.

NbS as a framing for effective mainstreaming of biodiversity in climate policies

The International Union for Conservation of Nature (IUCN) defines NbS as “actions to protect, sustainably manage, and restore natural or modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits” (IUCN 2016, p. XII). The concept is closely related to what has been called ‘Ecosystem-based Approaches’ in the CBD context, but the focus on solutions indicates that not every measure using ecosystems is an NbS, but has to fulfil specific criteria. For instance, afforestation of non-forest areas can even enhance carbon emissions, and palm or rape plantations for biofuels endanger biodiversity (IPBES 2019).

Discussions on how the term should be treated under the GBF are still ongoing. While the Updated Zero Draft included several Targets mentioning NbS, the First Draft of the GBF does not mention NbS. This is regarded by many as a missed opportunity because many policy makers (cf. The Leaders Pledge for Nature 2020) as well as larger parts of the scientific community consider further linking climate and biodiversity action indispensable for carbon sequestration and climate change adaptation (Pörtner et al. 2021). However, the joint 2021 IPBES/IPCC Workshop Report also points to potential challenges related to NbS. The report states that “measures intended to facilitate adaptation to one aspect of climate change without considering other aspects of sustainability may in practice be maladaptive and result in unforeseen detrimental outcomes” (Pörtner et al. 2021, Synopsis § 22) and that “technical and technological measures that are narrowly focused on climate adaptation can have large negative impacts on nature and nature’s contributions to people but can also be complementary to nature-based solutions” (Pörtner et al. 2021, Synopsis § 21). In order to ensure that NbS reach their full potential, IUCN has developed the Global Standard for NbS, which is supported by guidance for implementation to use by all agents searching for NbS to societal and environmental problems, including climate (IUCN 2020a). This operational framework defined eight criteria for NbS action, prominently the need for biodiversity net-gain. This was necessary as some interventions wrongly labelled NbS have harmed biodiversity (Seddon et al. 2019a). To avoid this, actions taken should not only be economically feasible, but should balance environmental and social trade-offs, be designed at appropriate scale and be based on inclusive and adaptive governance (IUCN 2020b). For example, restoring a mangrove forest as a natural flood control could be doomed from the start if upstream and downstream social and political processes are not sufficiently considered. Therefore, coordinated action is needed in order to ensure that transformative action for climate change does not come at the expense of biodiversity or people and vice versa.

However, regarding the economic feasibility, standard economic approaches included in the IUCN Standard, like cost-benefit analysis, face the limits of their applicability, as both the monetisation of environmental and social impacts is disputed, and the basic discounting rules can be in contradiction to biological determinants (Gowdy et al. 2013; Clark 1973). Taking a broader perspective and monitoring not only produced but also natural, social and human capital would be a significant step forward, despite the prevailing difficulties in comprehensively addressing complex systems like society and nature with the capital stock concept (Serageldin, Steer 1996; Dasgupta 2021). Accounting and valuation standards for NbS could be supported by the SEEA EA accounting system, and be enshrined in the GBF or the LTAM, with the indicator systems adjusted to the method of choice. One of the most prominent and large-scale examples of NbS which started over two decades ago is China’s Sloping Land Conversion Programme (SLCP). Also known as the Grain for Green Programme (GFGP), it is the world’s largest tree planting programme, reverting long standing deforestation trends by reforestation. Running for 20 years, it reaches across 25 provinces involving 124 million people and aims at addressing climate change, land degradation and, increasingly, biodiversity loss, while also improving social conditions (Song et al. 2014). The programme focuses on motivating farmers to increase vegetative cover, to enhance carbon sequestration and to reduce the emission of dust to other countries by controlling soil erosion (Liu et al. 2008). GFGP converted 28 million ha of cropland on steep slopes to forest and grassland, thereby enhancing carbon sequestration for the foreseeable future (Song et al. 2018). GFGP provides farmers with grain and cash subsidies financed by the central government, and offers tax reductions.

Simplified contract structures, and lack of sufficient consultation with local communities were identified as key weaknesses in the early phase (Bennett 2008). Hua et al. (2016) examined the tree composition of reforested regions and found that the vast majority of GFGP forests are intended to be used for production of timber, tree fruits and other cash crops, with biodiversity restoration only as a secondary consideration. While GFGP forests across China use a wide range of tree species, forest stands at individual locations are overwhelmingly monocultures and, to a lesser extent, compositionally simple mixed forests. As a result, GFGP reforestation using monocultures generally results in net losses of bird diversity while GFGP using mixed forest generally results in net gains. All current forms of GFGP reforestation result in overwhelming losses of bee diversity. Carbon storage and biodiversity enhancement appeared hence to be decoupled. Planting of non-native tree species in arid areas decreased local groundwater levels and lowered the overall water table in drought-vulnerable regions, undermining resilience to climate change. In the past years, however, GFGP increasingly shifted to an approach that allowed for realising gains for biodiversity with the aim to realise social benefits at the same time. By 2016, erosion was limited, carbon storage enhanced, and the forest area increased by more than 10%. The considerable scope for additional biodiversity gains if GFGP were to incentivise the conservation and restoration of native forests over structurally and compositionally simple forests is yet to be exploited (Hua et al. 2016).

Additionally, the programme offered a significant safety net for poor households and the majority of participating farmers experienced small improvements of their livelihoods, dependent on (a) the opportunity for gainful investment of the available time after taking land out of agricultural production (substitution capacity, work opportunities in urbanised areas) and (b) the time interval over which payments are made for de-linking economic constraints from ecological degradation, which is frequently considered too short (Uchida et al. 2009; Song et al. 2014). The December 2020 NDC update includes a commitment to increase forest stock volume by around 6 billion cubic metres in 2030 (previously 4.5 billion cubic metres).

However, the Climate Target Update Tracker CAT classifies this as “highly insufficient” as it would only lead to a small increase in ambition compared to current policies, meaning China is likely to achieve or overachieve the new Targets without substantial increase in implementing mitigation policy. The GFGP example shows that NbS can unfold their potential when they ensure that actions do not only increase biomass/vegetation but also contribute to biodiversity, while a one-sided focus can – as underlined by IPBES/IPCC - be maladaptive and result in unforeseen detrimental outcomes. The IUCN NbS Standard provides an important opportunity to ensure that current and future programmes take these dependencies into account from the beginning. Contributions to biodiversity in turn increase ecosystem resilience and enable social benefits for natural resource dependent communities such as the SLCP farmers.

Mainstreaming biodiversity in the NDCs and their implementation

Countries have started to reflect the contributions of biodiversity to climate mitigation and adaptation in their NDCs. At least 66% of Paris Agreement signatories include NbS in some form (i.e. not necessarily conforming to the operational framework) to help achieve their climate change mitigation and/or adaptation goals (Seddon et al. 2019). The revised NDCs, initially planned to be submitted by December 2020, are expected to place even stronger emphasis on the contributions of biodiversity to climate mitigation and adaptation (NDCP Webinar 2020).

As NbS contribute to reducing the risks of climate change impacts, they are indispensable for climate adaptation. Ecosystem management efforts to stabilise the gains from ecosystems

under changing climate conditions are predominant, with details most often left to be defined in existing biodiversity strategies. The most frequently mentioned area of application is forest management, followed by coastal management. Such Ecosystem-based Adaptation measures (EbA, i.e. NbS measures for adaptation) also include changing farmed varieties, restoring mangroves and modifying or relocating agriculture to cope with sea level rise. Actions need to consider species richness, abundance, local endemic and symbolic species and functional diversity to enhance resilience in order to ensure the long-term effectiveness of EbA measures. For instance, Mexico's NDC adaptation chapter foresees the increase of ecological connectivity and the reforestation of high, medium and low watersheds with special attention to riparian zones while taking into account native species in the area.

Regarding mitigation, research suggests that NbS could provide about a third of the cost-effective options needed by 2030 to stabilise warming to below 2°C (Griscom et al. 2017). However, NbS are no panacea: focussing not on how much carbon NbS can remove from the atmosphere, but on how they will affect global temperatures, Girardin et al. (2021) found that NbS can have a powerful role in reducing temperatures in the long term, beyond peak warming, while before the mid-century, NbS can provide real but limited mitigation benefits ($\leq 0.1^\circ$ in the 1.5° scenario). The more ambitious the climate Target, the shorter the time frame for such solutions to have an effect on peak warming. Achieving the significant long-term benefits requires NbS of good quality to be scaled up rapidly — and not at the expense of other robust strategies. So far, high-quality NbS receive a small proportion of existing climate-mitigation financing which does not reflect their potential.

In this context, NDCs refer to forest management, afforestation, and restoration of ecosystems, as growing biomass enables (temporary) carbon sequestration. 42% of signatories to the Paris Agreement include afforestation and/or restoration in terrestrial forest in the mitigation components of their NDCs, only 19% do the same for coastal habitats. Meanwhile, conservation actions in grasslands appear in only 11% of NDCs, and for mountain habitats, in only 4% (Seddon et al. 2019b). Some kinds of biodiversity-supporting measures, e.g. in the agricultural sector with wider co-benefits, such as enhancing soil carbon content as well as soil fertility and harvests, are hardly ever mentioned. Avoiding greenhouse gas emissions is a co-benefit of certain biodiversity conservation measures such as deforestation prevention and the conservation and restoration of wetlands (including peatlands, mangroves, seagrass meadows etc.). However, mobilisation of these co-benefits by specific additional measures is hardly addressed in the NDCs; the logging concessions ban and the Biodiversity Action Plan for Peat Swamp Forests (one of the most effective carbon sinks with high biodiversity) in Brunei Darussalam, the zero deforestation and the sea grass and dunes rehabilitation Targets of Mexico, and the enhanced use of REDD+ from Vietnam are exceptions from that rule.

Unfortunately, referring to NbS in the current NDCs generally does not translate into robust evidence-based Targets. For example, only around 17% of NDCs with current or planned actions involving ecosystem-based adaptation set quantifiable and robust Targets. Similarly, although over 70% of NDCs are estimated to contain references to efforts in the forest sector, only 20% of these include quantifiable Targets, and only 8% include mitigation Targets expressed in tonnes of carbon dioxide equivalent (Seddon et al. 2019a).

However, despite the lack of quantifiable and robust Targets, there are promising examples of how the contribution of biodiversity to climate mitigation and adaptation, which is outlined in the NDCs, has been further operationalised and implemented. For example, Uganda's implementation of the NDC's adaptation and mitigation components builds on the National Adaptation Programme of Action (NAPA), National Climate Change Policy, Climate Smart

Agriculture Programme and a forest conservation strategy. The 2013 Uganda National Climate Change Policy already made explicit reference to the necessity of mainstreaming, in particular as biodiversity and wildlife are major assets for the tourism sector (Kupika & Nhamo 2016). Uganda's 2018 NDC Support Programme focuses on reducing greenhouse gas emissions in the sectors forestry and wetlands, energy, transport and agriculture (UNDP 2018). Biodiversity ranks high on the agenda when developing a national wildlife adaptation strategy helping wildlife to adapt to climate change, and promoting measures to preserve the integrity of ecosystems providing critical wildlife habitats and hosting endangered species (Kupika & Nhamo 2016). Regarding deforestation, NDC measures in Uganda include reducing deforestation (with reference to co-benefits), afforestation, reforestation, agro-forestry, conservation of forests (Climate Watch 2016) and a National REDD+ Strategy (DIE 2020).

Finally, the biodiversity and climate crises, but also a plethora of other unsustainable trends, show clearly that more than a number of new technologies, social innovations and NbS is required – transformative change is necessary to end that our demands far exceed its capacity to supply us with the goods and services we all rely on. We need to change how we think, act and measure success, including economic success and transform our institutions and systems – in particular our finance and education systems – accordingly (Dasgupta 2021). The very logic of the systems of production, trade and consumption, and the formal and informal institutions regulating them will have to be adapted if ambitious programmes and plans, like the Paris Agreement and the GBF Targets are not to be overwhelmed. A human system not adapted to the planetary boundaries is maladapted, and hence not resilient (Turnhout et al. 2021; Visseren-Hamakers et al. 2021).

2.2.1 Recommendations for GBF negotiation and implementation

The First Draft explicitly refers to climate change just once, in Target 8: “Minimize the impact of climate change on biodiversity, contribute to mitigation and adaptation through ecosystem-based approaches, contributing at least 10 Gt CO_{2e} per year to global mitigation efforts, and ensure that all mitigation and adaptation efforts avoid negative impacts on biodiversity”, using the terminology of “ecosystem based approaches” instead of NbS.

Integrating climate change as a core concern of the GBF is essential due to the direct threat it poses to biodiversity, its impacts on the resilience of ecosystems and the necessity to take it into account in the designation and management of protected areas. However, while in the Zero Draft there was some focus on mitigation, which shifted to adaptation with the Updated Zero Draft. The First Draft, however, with target 8 mentioning a concrete number of gigatons CO₂, puts the focus back on mitigation, doing potential harm to biodiversity. However, there is still room for strengthening the role of climate in the measures suggested, in particular in Target 11 and the LTAM.

The LTAM so far does not include many references to climate change while many actions bear relevance to climate without being explicitly mentioned (e.g. action area 1). Under action area 1 (biodiversity mainstreaming across policy and planning), the LTAM includes one indicator that specifically refers to climate change (mainstreaming biodiversity in national climate action plans). LTAM action 1.2 focuses on policy coherence through inter-ministerial and cross-sectoral collaboration and coordination of biodiversity-related programmes and policies at all levels. Under action 1.2.1, the LTAM Action Plan suggests governments to “align their CBD, UNFCCC and UNCCD components related to the SDGs in general and to mainstreaming in

particular” (CBD 2020 SBI/3/13/Add.1, p.3). For realising action 1.2.1, the LTAM Action Plan sets two milestones related to review and Target-setting at global and national level.

Using NbS as a potential framing for the joint implementation of climate and biodiversity agendas

NbS have emerged as a key frame to highlight the important contribution of biodiversity to climate change mitigation and adaptation, being referred to as cost-effective solutions. This contributed in a focus on NbS in the preparatory process for the November 2021 Glasgow UNFCCC COP-26.

However, safeguards for biodiversity and ecosystem health are necessary to avoid trade-offs resulting in biodiversity damages. For instance, while ‘nature based’ climate mitigation can be realised either through intensive biomass production, or through well-managed biodiversity conservation and restoration, only the latter will be a NbS enhancing resilience and durability of the respective ecosystem and its mitigation functions, minimising long-term costs (see figure). As a result, many of the biomass-based energy policy options discussed by the IPCC (2018) have been found to pose threats to biodiversity by Future Earth (Pihl 2021) and others (e.g. Spangenberg et al. 2021). In particular, biomass burning with carbon capture (bioenergy with carbon capture and storage, BECCS) has been characterised as requiring “vast areas of land – compromising food security and biodiversity” (Girardin et al. 2021: 192). While a dominant mitigation strategy in earlier IPCC reports, it is still emphasised as key solution in the 2018 Special Report, albeit with decreasing enthusiasm. One reason is that for carbon sequestration to reach climate-relevant dimensions, the area planted would have to be enormous, and for efficiency reasons monocultures would be the preferred option, with devastating effects on biodiversity. The negative effects, which, according to the IUCN NbS Standard, render BECCS a non-NbS, have led to the negative assessment by the joint IPBES/IPCC report (Pörtner et al. 2021).

Consequently, countries need to design and implement integrated national strategies to achieve the goals of the three Rio Conventions to maximize co-benefits and help manage trade-offs to meet the SDGs (Schmidt-Traub et al. 2020). This way, existing climate change policy, including the NDCs, should come to be subject to biodiversity policy considerations, ensuring that measures to tackle climate change do not undermine the potential for achieving biodiversity goals. Highlighting the benefits biodiversity generates in terms of climate adaptation and mitigation also opens up the possibility of accessing additional finance for biodiversity action.

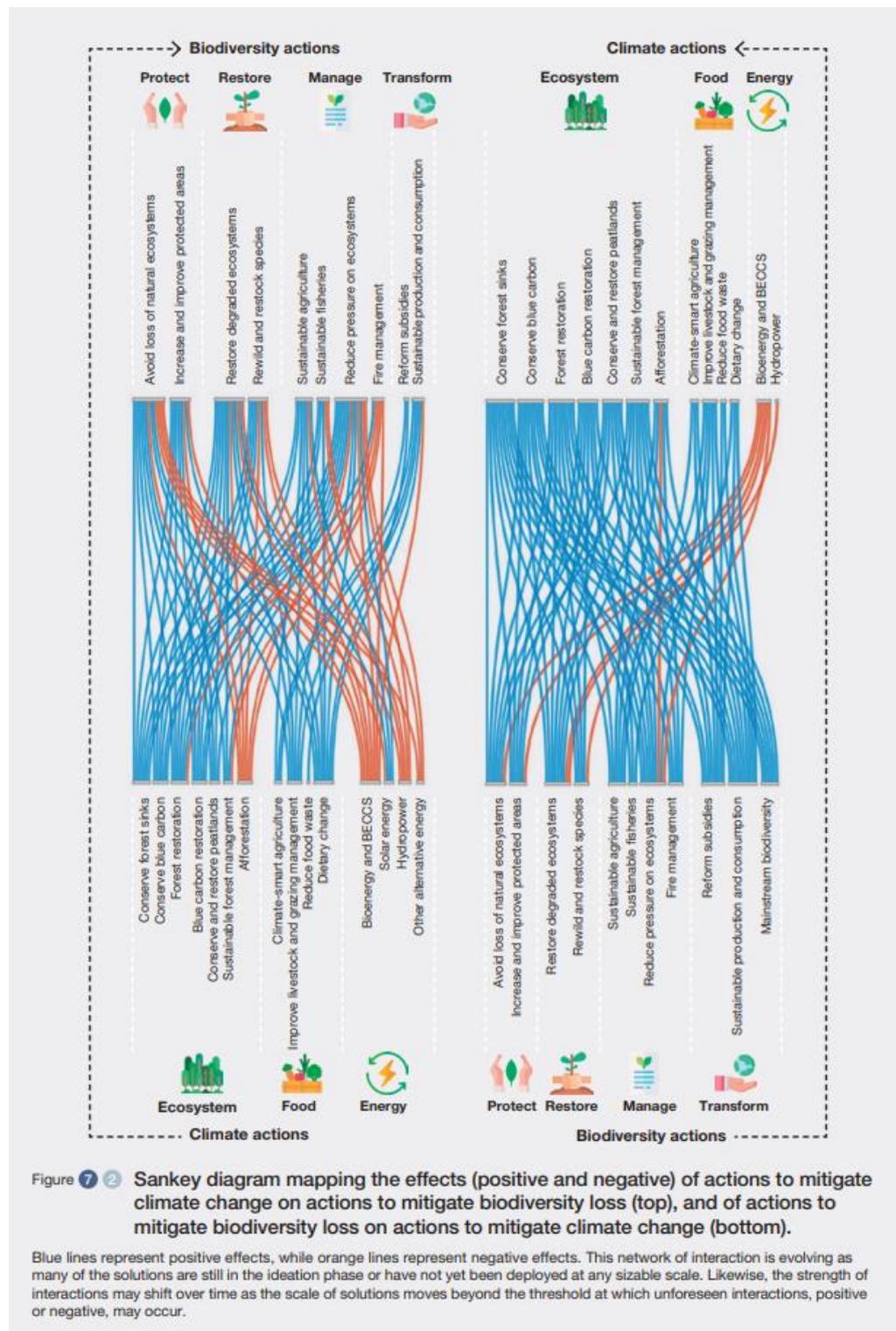


Figure 2: Sankey diagram mapping the effects (positive and negative) of actions to mitigate climate change on actions to mitigate biodiversity loss (top) and of action mitigate biodiversity loss on action to migitae cliamte change (bottom) (Pörtner et al. 2021)

In order to ensure the longer-term effectiveness of NbS measures, actions need to consider species richness, abundance, local endemic and symbolic species and functional diversity to enhance resilience. In this context, IUCN's NbS Standard and Guidance or the United Nations Development Programme's (UNDP) Pathway approach (UNDP 2019), designed as a framework for governments to identify potential NbS with the aim of enhancing their climate mitigation and adaptation action in a cost-effective manner and with multiple co-benefits including biodiversity, can be helpful when designing and implementing NDC plans including NbS interventions. For instance, China's GFPP could achieve improvements in biodiversity effects by prioritising local biodiversity enhancement instead of prioritising short-term cost considerations and focusing on biomass production for economic use.

The use of the concept of NbS is still under discussion within the GBF process itself. The pros and cons of the concept have been commented on especially with reference to EbA during first consultations on the Zero Draft. However, the EbA community supports the integration of NbS into the GBF (PEDRR & FEBA 2020), and this is reflected in the new monitoring framework (June 2020) currently under review. The First Draft of the GBF dating from July 2021 does not mention NbS any more.

Beyond doing no harm, towards net-gain

Biodiversity and ecosystem conservation have entered national climate policies mainly as a means of mitigation or adaptation. However, by understanding biodiversity exclusively as a means to achieve climate goals, such climate policies are at best able to achieve causing no harm, through adequate safeguards and realising co-benefits for biodiversity.

NbS have more to offer than just cost-effective climate interventions. They could make a more significant contribution to the biodiversity agenda and the wider SDGs by not merely focusing on doing no harm but aiming for net-gain instead, as demanded by the IUCN operational framework. Going beyond safeguards and no net loss, NbS actively contribute to biodiversity conservation (e.g. by reducing key direct pressures) and restoration (e.g. by restoring peatlands) if they are suitably specified. Empirically, most NbS are based on four elements with transformative potential: nature's values, knowledge types, community engagement, and nature management practices (Palomo et al. 2021). Empirically there is strong evidence that engaging local communities and indigenous peoples and their knowledge in NbS results in positive impacts in both biodiversity and socio-economic terms (IPBES 2019; Giardin et al. 2021).

We can implement a vast number of NbS, but the volume of carbon sequestered will remain finite. As long as consumerism and an economic system that relies on infinite growth remain essentially unchanged, even with technological efficiency improvements, they will continue to produce emissions beyond those sequestered by effective NbS. Like the Dasgupta report says there is the necessity to understand and act on the fact that the economic system is harming the environment. However, the solution proposed in this report: economic valuation and green accounting will not make the required difference if the metabolism of the current economic system is not reduced to fit the planetary boundaries. This topic and its importance remain gloomily under the radar of the CBD.

To exploit the full potential of mainstreaming, specific measures can and should be added to maximise the co-benefits for healthy ecosystems and public health (One Health Approach). This implies going beyond safeguards preventing biodiversity damage and to instead prioritise measures which are not necessarily the cheapest option but pay off due to the durability and resilience NbS can provide and the multiple co-benefits they offer as also emphasised by IUCN (IUCN, n.d.). This prioritisation should be made explicit in the GBF to overcome the current

imbalance. Emphasising the diverse co-benefits of such conservation strategies and their vital contributions to people (like disaster risk reduction, food security etc. - IPBES 2019), i.e. including but not limited to climate crisis prevention, should be a core message of the GBF. One monitoring option would be to go beyond species richness and abundance or habitat area and aim for the status of ecosystems affected to reach the Least Concern (LC) category of the IUCN Red List of Ecosystems, i.e. not fall into any of the three threatened categories of vulnerable, endangered or critically endangered ecosystems (IUCN CEM 2020).

Climate policies should consider biodiversity conservation as a key objective, and climate change strategies and action plans at all levels of government should not only avoid any adverse implications for biodiversity goals, but actively look for biodiversity improvements, both as an end in itself and as a contribution to longer term climate mitigation and adaptation. In this way, climate policies would not only be effective at achieving climate goals but could also contribute to biodiversity conservation. Additionally, integrating climate and biodiversity strategies, policies and financial instruments would constitute an opportunity to maximise both climate and biodiversity outcomes.

Seizing the win-win-win opportunity by further mainstreaming biodiversity in the NDCs

So far, few NDCs address the mutual dependency of climate change and biodiversity loss, by specifying that when choosing between effective mitigation and adaptation measures, those measures which also reduce key drivers of biodiversity loss should gain priority. As countries prepare the implementation of their new NDCs, there is a major opportunity to thoroughly make use of this selection criterion, thereby also increasing the global ambition and prospect of climate action, enhancing biodiversity and generating various co-benefits for other societal challenges. Furthermore, the updated NDCs could make even stronger reference to NbS and EbA, and facilitate their implementation and monitoring.

In its Biodiversity Strategy 2030, the European Union (EU) Commission announced that in its suggested legally binding biodiversity restoration Targets, measures with the highest potential for capturing and storing carbon will be prioritised. Symmetric pledges, going beyond safeguards and emphasising (co-)benefits for climate protection from programmes Targeting biodiversity conservation, are largely missing so far. Establishing them could turn the Paris Agreement and its stocktaking efforts into major contributors to the GBF.

2.3 Mainstreaming biodiversity in cities

With more and more people living in cities, the IPBES Global Assessment (IPBES 2019) identified urbanisation as a key challenge for meeting global biodiversity goals by 2030.¹¹ Urban areas rely on ecosystem services, such as air quality, climate regulation, food production, regulation of hazards, physical and psychological, religious or spiritual experiences and sense of place and belonging (IPBES 2019). Cities' expansion is causing profound changes in spatial patterns of land use and could affect biodiversity even more severely in the future (TNC 2018). Urban areas with their infrastructure networks for transportation, industry or waste have important impacts on green and blue spaces, their elements and functions and thus on biodiversity and the delivery of ecosystem services. With an increasing majority of the world's population living in cities, for many people urban

¹¹ IPBES reports urbanisation as indirect driver, infrastructures especially related to cities as direct drivers, land use change due to the expansion of cities as direct driver.

biodiversity is the main option to experience nature and this shapes how people will come to understand and value nature (Kalisch et al 2017/2021). This goes hand in hand with an increasing recognition of the importance of urban biodiversity for the local implementation of global biodiversity goals (cf. Urban Nature Atlas 2021).

The linkages between cities and biodiversity have received increasing recognition in the past two decades (Puppim de Oliveira et al. 2011), supported by studies such as the Cities and Biodiversity Outlook (CBD 2012) and the IPBES Global Assessment (IPBES 2019). Key actors including ICLEI - Local Governments for Sustainability supported the mobilisation of local and regional governments to play a stronger role at international level in the context of the negotiations of international environmental agreements.¹² Through the Edinburgh Process, for example, sub-national governments, cities and municipalities were involved in the development of the GBF. With the Edinburgh Declaration subnational actors expressed their support for an ambitious implementation of the GBF and at the same time called for a stronger involvement, and to replace CBD Decision X/22 (Plan of Action for Subnational Governments, Cities and Other Local Authorities for Biodiversity) by a renewed and more ambitious decision (CBD 2010 COP/DEC/X/22; CBD 2021 SBI/3/CRP.8; CBD 2021 SBI/3/19).

There are four entry points for mainstreaming biodiversity into urban policy making and planning: 1) vertical integration from global to local levels, 2) linking biodiversity to other urban challenges, 3) embedding NbS in urban planning and 4) NbS in city level monitoring. In these four areas, there have been important success stories.

Vertical integration of biodiversity objectives to allow for implementation at city level

Vertical integration of biodiversity objectives is crucial to link the national policy level with local implementation at city level. NBSAPs developed to implement the new GBF, therefore should already include such links to the local level. Mainstreaming biodiversity objectives in cities the requires translating international and national biodiversity policy frameworks into specific local target systems. Targets and implementation mechanisms need to be tailored to local contexts in order to accommodate unique geographic, political and regional considerations. Furthermore, reporting mechanisms that connect city-level with global agendas help to highlight the contributions of cities to biodiversity. For instance, the platform Cities4Nature¹³ maps subnational commitments and reviews their progress.

The example of China's green urbanisation policy demonstrates a holistic approach to urban planning and its potential in strengthening the rural-urban nexus. China has applied the concept of vertical collaboration through the construction of several urban clusters (20 clusters in 2017) regrouping small, medium and large-scale cities (Zhang et al. 2019). The green urbanisation approach aims at transforming existing cities, focusing notably on green transformation of urban infrastructure, while steering new urbanization projects towards sustainability. In new urbanisation projects, green spaces are integrated into grey infrastructure to better address environmental challenges and increase urban resilience to climate change. China's green urbanisation also relies on expanding the linkages between small and big cities. The Pearl River Delta in South China's Guangdong Province is already developing these concepts in the form of a forest city cluster and the construction of a demonstration area in green and low-carbon development. As nature does not stick to

¹² Especially through the Global Biodiversity Summits of Cities and Subnational Governments held as official parallel events to the CBD COPs since CBD COP-9 ; and through the Edinburgh Process for Subnational governments, Cities and other Local Authorities on the development of the post-2020 global biodiversity framework <https://cbc.iclei.org/edinburgh-process-for-subnational-and-local-governments-on-the-development-of-the-post-2020-global-biodiversity-framework/>.

¹³ <https://www.nature4cities.eu/>

administrative boundaries this vertical collaboration approach holds potential for biodiversity mainstreaming.

Linking biodiversity to other urban challenges

Instead of trying to address biodiversity as a stand-alone issue, cities have been most successful when they were able to link biodiversity with other pressing imperatives in cities.

Cities face many sustainability challenges such as poverty, urban sprawl, water management, natural disasters or air quality. At city level, biodiversity hence competes with issues which are inevitably regarded as more pressing. At the same time, cities also have unique leverage for addressing direct and indirect drivers at local levels precisely because of the many competing claims on urban space. Urban nature contributes to health and well-being of people, offering an opportunity to demonstrate how biodiversity action can enable cities to thrive by pursuing more inclusive, equitable pathways to development.

Mainstreaming biodiversity into a city's overall development strategy including social and health policies has gained increased attention over the past decade. The environmental justice approach understands the natural environment as the city's resource base and urban nature at the core of an urban planning agenda. For instance, Berlin is implementing an innovative "social-spatial environmental policy" (Berlin Senate, n.d.) to simultaneously address health, climate-change, population growth, mobility and biodiversity challenges through integrated planning. The first step is to map and analyse the distribution of environmental burdens (such as noise, poor air quality and pollution) and environmental benefits (such as green areas reducing the effect of urban heat islands and pollution, allowing for outdoor activity and socialising, providing habitats for rare and protected species and strengthening species diversity). These data are then analysed in combination with the spatial distribution of key social and health data (considering for instance mortality rates, income or dependency of inhabitants on social welfare). This allows the zoning of city spaces for further use in planning steps of other sectors, e.g. building or social sectors.

Embedding NbS in urban development strategies and plans

NbS emerged as a framework for addressing multiple challenges and fostering of co-benefits not only but notably in urban areas. NbS to address climate impacts constitute a major opportunity for cities to tackle several challenges simultaneously. However, mainstreaming of biodiversity in cities is not reduced to incorporating biodiversity goals or "safeguards" into climate mitigation or adaptation strategies and measures or to use natural elements as solutions for addressing climate change. It requires the consideration of biodiversity from the outset of urban development or urban regeneration strategies and throughout the development of land use as well as in building strategies, instruments and guidelines, considering e.g. green building options that provide co-benefits (Parris et al. 2018). The digitalisation of urban planning and management supports the interconnection of green technologies, grey architecture elements and urban infrastructures through interoperability and digital interfaces.

NbS in city level monitoring

The effects of NbS on biodiversity are not always considered or made explicit. More generally, the knowledge gaps between ecologic research and economic, socio-cultural or health aspects have been identified as a barrier to sound assessments as well as the integration and balance of quantitative and qualitative parameters. Multiple NbS classifications and data platforms exist, such as [Oppla](#), [Naturvation](#), [Nature4cities](#) or the recently launched

NetworkNature in the European Union, Biopolis in Canada, or CitiesWithNature.¹⁴ Increasing efforts are made to align terminologies and methodologies.

The development of indicators to assess NbS impacts for biodiversity is complex: multiple scales and elements of ecosystem services and biodiversity conservation statuses need to be considered, and physical and qualitative parameters to be integrated in biodiversity assessments. The IUCN launched a Global Standard for the Design and Verification of NbS in July 2020 (IUCN 2020a). The EU has launched a handbook for NbS indicators. The International Organisation for Standardization (ISO) addresses sustainable, resilient and smart cities including the topic of biodiversity and the European Committee for Standardization (CEN) considers standardisation possibilities for NbS in the context of cities (ISO, n.d.). The Singapore Index on Cities Biodiversity (or Cities Biodiversity Index) is a globally applicable self-assessment tool that provides a set of indicators to assess a city's effort to protect biodiversity. It has been replicated in over 50 cities (Chan 2019). It was revised and updated in 2019 to add pertinent indicators of topical relevance like biodiversity and climate change, as well as align and synergise with discussions on the GBF. It includes 9 indicators on Biodiversity (for instance protected areas surface, connectivity measures or number of native species), 6 indicators on Ecosystem Services and NbS (such as water availability, climate regulation, area of parks per habitants) and 13 indicators focussing on Governance and Management (including education and awareness).

2.3.1 Recommendations for GBF negotiation and implementation

The CBD has increasingly recognised the importance of cities in the past decade (CBD 2021 SBI/3/19). However, the role of cities has remained limited within the CBD context, focusing mainly on the development and implementation of Local Biodiversity Strategies and Action Plans. A transformative change agenda would require that the GBF speaks to local authorities more directly to enhance implementation at local level (Kok and Bulkeley 2021).

While cities and urban biodiversity were not reflected in the Aichi Targets, the First Draft, the Updated Zero Draft as well as the LTAM and its Action Plan, mention the contributions of local and subnational governments. In the GBF drafts, there are two Targets with particular relevance for cities: Target 11 (Target 12 First Draft) directly addresses urban biodiversity. Target 13 (Target 14 First Draft) refers to integrating biodiversity values “at all levels”. The LTAM and its Action Plan more frequently refer to cities and subnational governments, particularly under action area 1. For instance, the Action Plan's measures 1.2.3 (developing and reviewing subnational biodiversity strategies, action plans and Targets, aligned with the GBF and as a part of NBSAPs) and 1.2.4 (build more sustainable cities by revising urban planning, design and construction at all scales, addressing critical needs while conserving nature) define subnational governments as the key target group. The GBF First Draft in its section on enabling conditions (section I, para 15) explicitly mentions “subnational governments, cities and other local authorities” as actors that have to be engaged to implement the GBF.

Broadening the scope of the GBF's urban biodiversity Target

¹⁴ Cf. <https://oppla.eu/>, <https://naturvation.eu/>, <https://www.nature4cities.eu/>, <https://cordis.europa.eu/project/id/887396/en>, <https://wwf.ca/fr/biopolis/> and <https://www.citieswithnature.org/>

Target 12 of the First Draft directly addresses urban biodiversity: “Increase the area of, access to, and benefits from green and blue spaces, for human health and well-being in urban areas and other densely populated areas.”

Many other proposed targets in the First Draft relate to urban areas, such as Target 1 (land and sea areas under spatial planning) and Target 2 on restoration of degraded ecosystems. Target 11 addresses nature’s contributions for water and disaster risk reduction. Targets 1, 2 and 11 have the potential to provide entry points for mainstreaming biodiversity concerns at city level (CBD 2020 SBI/3/13; CBD 2020 SBI/3/13/Add.1).

Target 12 (urban green and blue spaces) and also Target 1 (spatial planning) directly address the aspect of space which is integral at city level where multiple interests on the use of limited space need to be balanced. Target 12 could be strengthened by referring not only to green/blue spaces, but also by integrating biodiversity-inclusive planning in cities, including building and infrastructures. Examples of biodiversity mainstreaming at city level demonstrate that integrated planning and management is key as it allows for taking a more holistic approach to urban nature. Integrated planning and management at city level can help to consider the interplay of green spaces with grey and smart architecture of cities’ infrastructure. Following an integrated planning approach, Target 12 could also reflect the importance of involving stakeholders and citizens in urban planning, thereby integrating different knowledge sources.

Strengthening the linkages with other GBF Targets and the Agenda 2030

As many biodiversity-relevant processes come together in the urban space – from consumption and production to values, pollution and climate impacts - cities also have unique leverage for addressing direct and indirect drivers at local levels.

Consequently, cities can also contribute to achieve a number of other GBF Targets including pollution (Target 6; First Draft Target 7), climate change (Target 7; First Draft Target 8), nature’s contributions (Target 10; First Draft Target 11), production (Target 14; First Draft Target 15), consumption (Target 15; First Draft Target 16), awareness & education (Target 19; First Draft Target 20) and participatory decision-making (Target 20; First Draft Target 21). If these Targets would explicitly include ‘all levels of government’ as responsible actors, this would help communicate the relevance of these Targets at city level and stress the value of contributions subnational governments can make.

In a similar vein, cities’ sustainability challenges link to a number of SDGs. Disadvantaged urban populations rely even more than other groups on the provision of ecosystem services. Biodiversity conservation and functioning ecosystems are key to implement socio-economic SDGs, such as SDG 2 on food security and sustainable agriculture, SDG 3 on healthy lives and well-being, SDG 6 on safe drinking water, sanitation and water quality, SDG 8 related to sustainable economic growth, as well as SDG 9 on industry, innovation and infrastructure, SDG 10 on reduced inequalities and SDG 11 on sustainable cities.

When strengthening the linkages to urban biodiversity across a number of GBF Targets, those multiple linkages with the SDGs can be made apparent and the corresponding SDGs’ indicators could be referred to within the GBF. In particular, SDG 11 on resilient and sustainable cities includes Targets on sustainable urbanisation and land use, protection of natural and cultural heritage, access to green spaces, the protection against climate change impacts, disaster, air pollution etc. The GBF could also build stronger linkages to SDG 6 which focuses on safe drinking water, sanitation and water quality, by including references at chapeau, Target and indicator level.

NbS can become a key implementation vehicle for SDG 11. NbS could function as the operational interface between the SDGs with a socio-economic focus (SDGs 1-11) and more environmentally focused SDGs (SDGs 12-16). For instance, NbS at city level can provide health benefits while fostering employment opportunities.

Clearly defining the NbS concept in the GBF

The use of the NbS concept is still under discussion within the GBF process itself. The pros and cons of the concept have been commented on especially compared to the use of the concept of “Ecosystem-based Approaches” during first consultations on the Zero Draft.

The use of an accurately defined NbS concept in the urban biodiversity Target and/or monitoring system could strengthen the perception and use of NbS as instruments for achieving multiple benefits including socio-economic ones. It would bring in the multiple benefits that urban green and blue spaces provide, including food provision, health and well-being, innovation and economic benefits, water quality and air quality. It can contribute to enhance the visibility of links between NbS and ecosystem services. While giving cities and urban local action more prominence, it acknowledges the role of local leadership for biodiversity conservation and builds a stronger argument for the priority consideration of urban nature and urban biodiversity within urban planning.

Taking a broader approach to NbS in the GBF

Despite several barriers for implementation and upscaling, NbS have proven to be a powerful approach to enhance policy integration in particular at city level. Using the NbS concept in the GBF might help to make best use of past and ongoing initiatives that showcased biodiversity mainstreaming in various urban settings.

While Target 11 mentions ecosystem-based approaches, its scope remains very narrow. The urban biodiversity Target 12 does neither mention NbS nor EBA. Linking the two Targets by taking a broader approach to NbS would enhance visibility of the multiple benefits of mainstreaming biodiversity at city level and beyond.

The targets of the GBF which could involve NbS (possibly Targets 11 and 12 if NbS were incorporated into them) could consider a broader approach of this concept, rather than a narrow approach reducing NbS to an instrument that only integrates biodiversity conservation and climate action (FEBA 2020). While mainstreaming at city level encompasses much more, having a too strong focus on NbS for climate action might hinder broader approaches and obscure mainstreaming within other sectors. Target 12 (First Draft) could address urban biodiversity with a broader perspective, considering not only access for people but also urban ecosystem restoration, disaster risk reduction, quality of green spaces, species richness and put a stronger focus on urban biodiversity in general. It would establish the NbS concept as a bridge and operationalisation opportunity that supports the convergence of the global frameworks: GBF, SDGs, the Paris Agreement and Sendai framework.

Using global reference indicators and monitoring frameworks

Urban biodiversity mainstreaming needs to be supported by a sound framework of indicators and monitoring. As of now, the urban sector is not fully represented in the Target system and monitoring framework of the GBF and could be strengthened if supported by recognised standards. The LTAM addresses local governments in one of its three strategic areas and could benefit from the inclusion of specific urban elements to its Target 1.1. (on assessment, valuation, and accounting tools and methodologies) taken from newly developed NbS standards.

If NbS are incorporated as a supportive concept for the urban biodiversity Target of the GBF, the NbS standards at international level (cf. the works of IUCN, ISO and CEN mentioned above) should be considered within the new monitoring framework of the GBF. To seek the integration of a global NbS reference framework for indicators and monitoring within the GBF monitoring approach should bring in the cities' perspectives more tangibly.

2.4 Mainstreaming biodiversity in the financial sector

Transformative change for biodiversity cannot be financed through dedicated 'biodiversity finance' alone (CBD 2020 POST2020/WS/2020/3/3). Without defunding biodiversity-harmful activities, it will be difficult to address biodiversity loss and mobilise the financial resources needed to implement the GBF (CCICED 2020). The financial sector has a key function as all economic sectors rely on financial resources and services. The financial sector is increasingly seen as a lever in both scaling up finance and reorienting resources from activities harmful to biodiversity towards more friendly ones or to those under transition. Mainstreaming biodiversity objectives in the financial sector can therefore help address pressures and key indirect drivers of biodiversity loss (CBD, Business for Nature, Finance for Biodiversity Pledge and Foundation, PRI & UNEP FI 2021), contributing to steering away from the current limited paradigm of economic growth towards a more sustainable global economy.

Financial sector increasingly recognises biodiversity-related risks and opportunities

Although the financial sector's dependencies and impacts on biodiversity are mainly indirect (van Oorschot et al. 2020), the financial sector is exposed to biodiversity-related risks through loans, investment and underwriting activities (UNEP FI & UNEP-WCMC 2021). The risk exposure could harm the performance of financial institutions' portfolio and their continuity (AXA & WWF 2019; OECD 2019).

Biodiversity-related activities of the financial sector have been mainly driven by risk management (Smith et al. 2018; van Oorschot et al. 2020). Since 1990, international financial institutions encountered the consideration of biodiversity loss as a challenge and potential risk in project finance. With the ever-increasing awareness and ever-tighter legislation related to biodiversity, the financial sector has been exposed to risks resulting from biodiversity loss. In 1990, the Fleet Factors Corporation became the first case where a lender was considered liable for the environmental damage on its borrower's property under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) of the United States. More recently, well-known financial institutions such as Barclays, Deutsche Bank, HSBC, Goldman Sachs and Morgan Stanley were accused of financing deforestation in the Brazilian Amazon, the Congo Basin and Papua New Guinea between 2013 and 2019 (Global Witness 2019). This kind of negative press constitutes a reputational risk and implies potential financial damage for related banks and investment firms. Additionally, there is a growing liability risk directly linked to climate change inaction. Climate change litigation can be a driver of adaptation or consequence of a failure to adapt or maladaptation. Litigation and enforcement action may drive further action on adaptation and reduce barriers to adaptation finance (MinterEllison, 2021). Over time, such consequences have helped to raise the importance of incorporating biodiversity-related risks into existing risk management of financial institutions.

Biodiversity mainstreaming in the financial sector has developed in the context of an increasing trend towards sustainable and green finance, which aims at integrating social and environmental objectives more broadly (cf. Annex I for definitions).

Building on the financial sector's growing experience with sustainable and green finance, certain actors in the financial sector increasingly recognise the opportunities of biodiversity-friendly investments including risk diversification, new investment opportunities, enhanced competitiveness as well as better relationships with stakeholders (Finance Watch 2019; cf. Annex II for more detail).

To manage biodiversity-related risks and harness the opportunities, several sustainable and green finance principles that initially did not focus on biodiversity have started to integrate biodiversity to guide the financial sector in biodiversity-related risk management and investment. Most prominently, the Equator Principles, launched in 2003, identify, assess and manage environmental and social risk in project finance. In the latest version (EP4), biodiversity and ecosystem management were further strengthened in the principles. Other efforts emerged in the past decade that specifically focussed on mainstreaming biodiversity consideration in the financial sector such as the Biodiversity Principles or the Natural Capital Finance Alliance and the Finance for Biodiversity Pledge (cf. Annex III for more detail). Most recently, the WEF's Global Risk Reports have also started to stress the risk biodiversity poses for economies and businesses (WEF 2020; WEF 2021).

As a recent effort, the European Commission developed a taxonomy to support investors in assessing whether an economic activity is environmentally sustainable. The EU Taxonomy has been developed as a main part of the European Commission's Action Plan on Financing Sustainable Growth. The Taxonomy will help create the world's first-ever "green list," a classification system for sustainable economic activities, that will create a common language that enables investors to reorient investments toward more sustainable technologies and businesses. The Taxonomy sets out thresholds for economic activities so that investors can identify whether these activities contribute to one of the six environmental objectives and have done no significant harm to the other five objectives (EU Technical Expert Group on Sustainable Finance, 2020). Protection and restoration of biodiversity and ecosystems is one of the six environmental objectives. In April 2021, the EU Taxonomy Climate Delegated Act dealing with climate mitigation and adaptation objectives was released. The draft delegated acts for the protection and restoration of biodiversity and ecosystems objective are also underway.

Progress in mainstreaming biodiversity in the financial sector remains limited (OECD 2019) despite the efforts mentioned above. Key challenges include lack of capacities and market infrastructure for biodiversity risk management as well as lack of incentive and restraint mechanisms in financing and investment. At the same time, there are a growing number of examples that aim to address these challenges.

Limited capacities for biodiversity risk management in the financial sector and the required market infrastructure

Experiences with translating biodiversity-related risk into financial risk for financial institutions and categorising biodiversity-related financial risks are limited (PWC & WWF 2020). The Central Bank of the Netherlands is the first central bank measuring biodiversity-related financial risks for the Dutch financial sector. More work is needed to integrate biodiversity considerations into financial institutions' risk management frameworks.

Market infrastructure is underdeveloped. There is a lack of consistent and comparable metrics and frameworks for measuring and reporting on biodiversity impact, dependencies and related risks, as well as quantified biodiversity assessment standards in the mainstream investment decision-making process (CCICED SPS Green Finance Group Meeting Minutes 2020).

At the same time there have been some notable efforts. For instance, the Dutch retail bank ASN Bank has formulated the biodiversity ambition to have an overall net positive effect on biodiversity for all its investments by 2030. In order to achieve this, ASN developed the Biodiversity Footprint for Financial Institutions (BFFI) methodology to measure the biodiversity footprint of its investment portfolio. BFFI includes both a quantitative assessment of the pressure-impact relations for terrestrial, fresh water and salt-water biodiversity, and a qualitative assessment to enable a correct interpretation of the calculated footprint score. With the BFFI methodology, ASN contributes to consistency and uniformity regarding the impact assessment and reporting for biodiversity. In 2019 ASN further automated the BFFI methodology which thereby could now be employed more widely in the financial sector.

Lack of incentive and restraint mechanisms for the financial sector

There is a lack of motivation for financial institutions to incorporate biodiversity into their business lines and develop financial products for biodiversity or opportunities deriving from it (CCICED 2020). A significant share of financial resources still supports activities harmful to biodiversity. On the one hand, biodiversity conservation and sustainable use activities are characteristics of extensive positive externalities. On the other hand, the financing and investment decisions by financial institutions are generally driven by short-term financial analysis while the biodiversity-related risks and benefits will be financially materialised in the medium to long-term, which is referred to as the so called “tragedy of the horizon” (Finance Watch 2019). To internalise the externalities and tackle the “tragedy of the horizon” in biodiversity, incentive and restraint mechanisms for the financial sector are required, so that financial institutions take biodiversity into account in their asset allocation decisions.

There have been some notable efforts in structuring investment vehicles with the support of incentive mechanisms. For instance, BNP Paribas arranged a US\$95 million Sustainability Bond issued by the Tropical Landscapes Finance Facility in 2018. The United States Agency for International Development (USAID) has provided a partial credit guarantee on the transaction to mitigate risk. The bond funds PT Royal Lestari Utama, an Indonesian joint venture between France's Michelin and Indonesia's Barito Pacific Group, for climate- and biodiversity-friendly as well as socially inclusive production of natural rubber on heavily degraded land in Indonesia. Planted areas will serve as a buffer zone to protect a threatened national park from encroachment (World Agroforestry 2018). This investment will result in the protection of 9,700 hectares of wildlife conservation area and improve the livelihoods of 50,000 community members (Tropical Landscapes Finance Facility 2020).

2.4.1 Recommendations for GBF negotiations and implementation

Resource mobilisation and the financial sector feature prominently in the Updated Zero Draft as well as the LTAM and its Action Plan. There have been efforts from various sides to gather knowledge and further mainstream biodiversity in the financial sector. An expert panel advises Parties to the CBD on the resource mobilisation component of the GBF exploring various aspects, including ways to strengthen the engagement of a wider range of financial and private institutions. In the Chinese context, CCICED's SPS on Green Finance specifically focused on biodiversity finance in 2020.

The Updated Zero Draft and the First Draft of the GBF refer to the financial sector in the Theory of Change with respect to the role of finance in transformative change as well as resource mobilisation by governments and society.

The Updated Zero Draft addressed the financial sector under D. 2030 Milestones - Goal B.2 with a focus on green investments and public and private sector financial disclosures. With respect to the First Draft this sentence is no longer true. The goals do not mention green investment nor private sector financial disclosures any more. Also, in the First Draft, under E. 2050 Vision and 2030 mission, includes Goal D focused on financial resources for achieving the CBD's 2050 mission. The link to green investments appears less strong under section E than in the Updated Zero Draft.

At Target level, the Updated Zero Draft includes two Targets under E. 2030 Action Targets that relate to the financial sector and resource mobilisation from all sources: Updated Zero Draft Target 17 (Target 18 First Draft) focuses on harmful incentives and positive “public and private economic and regulatory incentives”. Updated Zero Draft Target 18 (Target 19 First Draft) addresses resource mobilisation including “through new, additional and effective financial resource”. Updated Zero Draft Target 13 (integrating biodiversity into policy and planning) now, in the First Draft, includes a reference to alignment of financial flows with biodiversity. Resource mobilisation appears as a key means of implementation under F. Implementation Support Mechanisms (Zero Draft section H). Components (ii) on financial flows causing harm to biodiversity and (iii) on financing from all sources, including the private sector, are of particular relevance to the financial sector (excluded in First Draft). Under H. Responsibility and Transparency, it is stated that NBSAPs should include a financing plan (18. (a) (ii) d) (excluded in First Draft). The financial sector is the only sector that is treated as one of five action areas in the LTAM. Action area 4 focuses specifically on the financial sector and addresses financial institutions to apply biodiversity risk assessments, to develop tools for biodiversity financing and to demonstrate decreasing negative impacts on ecosystems and biodiversity in their portfolios and increasing amounts of dedicated finance. For action area 4, the LTAM Action Plan includes 11 actions and related milestones. In addition, LTAM action area 2 is also relevant for the financial sector and focuses on mainstreaming biodiversity in fiscal, budgetary and financial instruments, in particular by addressing harmful incentives, and generating positive incentives. The LTAM Action Plan includes three actions and related milestones for implementing LTAM action 2.1.

For the financial sector to fully mainstream biodiversity in investment and financing decisions, the GBF's goals need to be translated into a language that is understood by the financial sector and that can inform strategy, governance, impact and dependency assessment and risk management, as well as due diligence. According to the LTAM, public and private finance should be aligned more effectively and the focus in the GBF should broaden to greening the financial system as a whole.

The following three recommendations identify entry points for addressing the challenges outlined above and how the financial sector can contribute to GBF implementation, highlighting linkages with the LTAM.

Promoting financial sector's capacities in biodiversity mainstreaming and developing market infrastructure

In order to further advance GBF implementation with respect to biodiversity mainstreaming in the financial sector, there is an urgent need to systematically enhance financial institutions' capacities in identifying, assessing and managing nature and biodiversity-related risks, reflecting LTAM Action Plan action 2.2.3, 3.1.2 and LTAM Action 4.2. To achieve this systematic change, a unified reporting standards and resources for capacity building as well as market infrastructure are required to be in place (Global Canopy & Vivid Economics, 2020). In the climate space, the Task Force on Climate-related Financial Disclosures (TCFD)

provides investors, lenders and insurers with consistent climate-related financial risk disclosures requirements, which have triggered changes in investment policies and practices. A similar Task Force for nature and biodiversity was launched in June 2021. The Task Force on Nature-based Financial Disclosures (TNFD) will provide a framework for firms and financial institutions to identify, assess, manage and also report on nature-related risks, so that to support the shift in global financial flows away from nature-negative outcomes to nature-positive outcomes (Global Canopy & Vivid Economics 2020). The framework will be delivered in 2023¹⁵.

The launch of the TNFD is an encouraging step in mainstreaming biodiversity in the financial sector (OECD 2021). The TNFD could usefully leverage existing international instruments for undertaking due diligence of adverse impacts on people and the planet, such as the OECD Guidelines for Multinational Enterprises and accompanying due diligence guidance (OECD, 2011). Developing technical guidance, dialogue and capacity building to help financial and non-financial companies undertake due diligence aligned with expectations to address adverse biodiversity impacts can contribute to mainstreaming biodiversity in financial markets (OECD 2021). This would be in line with LTAM Action Plan 4.2.5 in identifying and integrating biodiversity-related risks in portfolio risk analysis and associated lending decisions and LTAM Action 4.4 on partnerships to promote cooperation among financial institutions. The GBF could support TNFD by including more clear reference on developing a measurement, reporting and verification framework for public and private biodiversity finance flows, to promote more consistent and comparable data on biodiversity finance.

Central banks and other financial regulators can help establish effective incentive and restraint mechanisms

Central banks' macro-prudential instruments are designed to safeguard financial stability. They have the potential to incentivise financial institutions to take biodiversity-related risks into account and to shift investment away from biodiversity harmful activities (Finance Watch 2019). Under action 2.1.3, the LTAM Action Plan directly addresses central banks and other financial regulators to assess the financial risks arising from biodiversity loss to financial stability. For example, central banks can incentivise biodiversity-friendly investment by adding biodiversity conservation indicators in Macro Prudential Assessments; this is also reflected in the LTAM Action Plan's action 4.2.1 and 4.2.3.

Financial regulatory policies can guide financial institutions in financing and investments. For example, expanding the green credit scope would allow banks to pilot biodiversity-related asset-backed credit products (CCICED 2020). Further LTAM Action 4.2.2 calls on central banks to define the regulation and reporting framework for the financial sector.

Central banks and financial supervisors can help better understanding, addressing and managing nature-related risks at micro-level and assessing macro-level implications for financial stability (OECD, 2021). They can help develop and mainstream the use of forward-looking scenario analysis and stress tests related to biodiversity risks (van Toor et al, 2020) (Elderson, 2020) (Dasgupta, 2021).

Transferring lessons learned from green finance to biodiversity finance

The longer-standing experiences in green finance with integrating other environmental objectives into financing and investment decisions offer models and potential financial solutions for mainstreaming biodiversity in the financial sector, reflecting LTAM Action 4.3. For

¹⁵ <https://tnfd.info>

example, green bonds have already been used to support large numbers of small-scale green projects through securitisation, such as residential energy efficiency. Illiquid assets can be transformed into tradable financial instruments through securitisation, and the investment returns come from the cash flows generated by the underlying assets. Similarly, small size is also an obstacle for biodiversity projects financing. Although the majority of green bonds have been directed towards renewable energy and energy efficiency areas, and biodiversity projects are usually heterogeneous, an adapted securitisation approach has the potential to finance a number of biodiversity projects with support from intermediaries (TNC 2019).

2.5 Mainstreaming biodiversity in environmental-economic accounting frameworks

Integrating biodiversity and ecosystems into national environmental-economic accounting can be an effective way to mainstream biodiversity in national policy and planning. National accounts constitute the primary source of information about the economy and are widely used for assessment of economic performance and policy analysis in all countries.

In the traditional System of National Accounts (SNA) natural resources and ecosystems are only taken into account as far as they are considered part of economic activities. Norway introduced the first environmental accounts in the 1990s, followed by others, in particular European countries like France and the Netherlands in the following years and decades (Alfsen & Greaker 2007; Hecht 2007). The argument for introducing environmental accounts was that governments need to consider information on natural resources in order to integrate environmental considerations into economic and social planning. Hence all information collected must be organised and suitability judged in terms of its impacts on policy processes. The composite capital stock approach, comprising human-made, human, social and natural capital was popularised by the World Bank in the early 1990's (World Bank 1997) and has since been applied in both developed and developing countries.

Since the early-1990s, the UN Statistics Division took the lead in developing the System of Environmental-Economic Accounting (SEEA), complementing the SNA with satellite accounts following a similar accounting structure, e.g. for water or environmental protection measures, monetised and in physical units (Alfieri & Bartelmus 2000). Thus, it is providing an internationally agreed set of standard concepts, definitions, classifications, accounting rules and tables to produce internationally comparable statistics to measure the condition of the environment, the contribution of the environment to the economy and the impact of the economy on the environment. By doing so, the SEEA allows to develop indicators and conduct analysis on the economy-environment nexus.

The SEEA has been revised and extended numerous times since (Bartelmus 2007, United Nations et al. 2014). In its latest extension, the step from environmental to ecosystem accounting was taken, explicitly including biodiversity into national accounting for the first time, resulting in the SEEA-EA (EA for Ecosystem Accounting). Hence, the current SEEA consists of three parts:

- The SEEA Central Framework, adopted by the UN Statistical Commission as the first international standard for environmental-economic accounting in 2012.
- The SEEA Ecosystem Accounting of 2021 offers a synthesis of current knowledge in ecosystem accounting. It focusses on five core ecosystem accounts, covering ecosystem

extent, ecosystem condition, ecosystem services in physical and monetary terms, and the monetary value of ecosystem assets.

- The SEEA Applications and Extensions illustrates how the information can be used in decision-making, policy review and formulation, analysis and research.

The main motivation for integrating ecosystems and biodiversity into national accounts is that the SNA is a frequently used information base in many policy domains. With ecosystem and biodiversity data in the same system and in the familiar formats, it is hoped that decision-makers will take this information into account more systematically. This was why, in 2010, the CBD included national accounting into Aichi Target 2 (CBD 2020 SBI/3/13). While the Target was not met, by now, almost 100 countries have incorporated biodiversity values into national accounting systems (IISD 2020). Unlike the First Draft, which entailed the objective to mainstream biodiversity in accounting as part of Target 14, accounting is not mentioned in the First Draft. However, the number of countries reporting SEEA-based biodiversity values in their national accounting is part of the SDG indicator 15.9.1 (which is related to Achi Target 2).

One of the explicit aims is to contribute to the GBF, with the monitoring framework and the indicators to be included, for instance as annex. For this behalf, species, ecosystems and genetic varieties are accounted for (no genuine measure of diversity exists). These accounts are intended to assess the stocks for the different components, derive biodiversity indicators to link to ecosystem services, inform land use planning and opportunity cost calculation for biodiversity protection, inform sustainable use of biodiversity and ecosystem services and guide strategic investment in biodiversity. Using economic indicators for insurance, option, existence and bequest value is considered an opportunity to mainstream important aspects of biodiversity that are not well-reflected in ecosystem service accounts into decision-making (King 2020).

However, the SEEA's objective to establish an agreed statistical framework for ecosystem accounting including definitions and classifications for ecosystem assets and services in both physical and monetary terms is still discussed (Bordt 2018). Some authors argue that loose statistical frameworks are more suitable for presenting ecosystem data than rigid accounting systems (Bartelmus 2015), and that decision-makers and stakeholders prefer to use a variety of ecosystem service value metrics, not only monetary values (Ruckelshaus et al. 2015). In section E, the SEEA-EA discusses complementary approaches to valuation (chapter 12) and presentations to be combined with SEEA derived indicators (chapter 14).

SEEA and, more recently the EA extension, are the reference points of most national and regional ecosystem and biodiversity accounting, with individual systems adapting ecosystem accounting to local context and policy needs as foreseen in the SEEA-EA, for instance in China (Ouyang et al. 2020) and in Europe (EEA 2019; Rodriguez et al. 2019). Other countries adopt the standard rather unmodified (e.g. Stats NZ 2020). Generally, subnational accounts can be helpful to monitor the trends of regional development of nature's assets, from ecosystem extent to their biological and physical state and the resulting ecosystem services.

Accounting for and monetising of biodiversity and ecosystem value is also undertaken at the micro level, for instance for determining payments for ecosystem services or when calculating no net loss. Although, strictly speaking, they are not accounting approaches per se, they sometimes use SEEA data. However, while payment levels thus calculated may be economically efficient, they are not necessarily effective (Loft et al. 2020). If based on stated preferences or proxies not assessing probable market prices, they are hardly usable in a SNA based context and should not be confused with SEEA results.

SEEA-EA is increasingly becoming an important part of the standard framework for national accounting

Since the SEEA-EA has been adopted by the UN Statistical Commission in March 2021, the ambition is to elevate it to an agreed methodological document, i.e. an international statistical standard (UN Statistical Commission 2021). In the meantime, elements and principles are already used by nations and regions. In its European Green Deal, the European Commission presented a transition path leading to a climate-neutral Europe in 2050. The European Green Deal also contains the new EU Biodiversity Strategy. The implementation of the new strategy will be informed by the SEEA-EA through the EU's Knowledge Innovation Project on an Integrated System of Natural Capital and Ecosystem Services Accounting for the European Union (INCA) which develops a comprehensive accounting system in support of policy making (Rodriguez et al. 2019). To understand the bio-physical sustainability of society-ecosystem interactions more comprehensively, SEEA-EA accounts need to be combined with additional knowledge components not covered by it, using different analytical tools such as Life Cycle Assessments and biophysical knowledge, e.g. on planetary boundaries, that the accounts cannot provide by themselves (EEA 2019).

SEEA-EA has had first impacts on policy making

SEEA-EA has had first impacts on policy making in several EU member states. The Netherlands and the United Kingdom have published the most comprehensive accounts to date with the Dutch ecosystem accounts comprising 90 policy-relevant indicators, based on various datasets and models (Hein et al. 2020). New policies reducing drainage in peatlands and converting farmland back to natural ecosystems were informed by EA accounts (Hein et al. 2020).

China has 10 years of experience with integrating Gross Ecosystem Product (GEP) indicators into policy planning and performance evaluation, in particular since eco-compensation practices have evolved rapidly. GEP is a metric, an aggregate measure of the value added of all final ecosystem services, focusing on the flow of ecosystem services and constructed using similar methods as those underpinning GDP. In this respect, GEP is similar to the SEEA-EA, but some differences in valuation approach and actual value estimation exist (Ma et al. 2017). GEP also values ecosystem services like pollination (as in much of the ecological economics literature), which are considered intermediates in the EA approach and not counted separately. Discussions are ongoing how to reconcile these differences.

To inform different policy domains, the Chinese system presents its results in a different way than the SEEA-EA. While the SEEA-EA uses tables to link ecosystem data with sector accounts, the GEP system provides indices and headline indicators for the policy and appraisal process. (Ouyang et al. 2013).

Applying the SEEA-EA also comes with challenges

While being extremely supportive of mainstreaming biodiversity in decision-making, the EA is no panacea. The information requirements for decision support are likely to vary between different political systems and during different stages of the policy cycle. Tailoring information for decision support will likely always involve trade-offs between statistical accuracy, scientific solidity and political relevance (Schliep et al. 2018). For the use in government planning processes and balancing dimensions of sustainable development, sets of policy-relevant indicators, based on statistical data, may be easier, clearer and more comprehensive to communicate (Ruckelshaus et al. 2015).

Overall, the availability of the SEEA EA statistical framework is a significant step forward, but still a long way from a more holistic approach as recommended by the Dasgupta Review (Dasgupta 2021). Also any framework needs robust statistics – its potential benefits will only materialise if data gaps are closed through monitoring, baselines, etc. on all levels of government.

2.5.1 Recommendations for GBF negotiations and implementation

Overall, national accounting is not explicitly addressed in the First Draft, but is anchored in the LTAM and its Action Plan. In the First Draft, national accounting is no longer specifically mentioned, but Milestone B.1 reads “Nature and its contributions to people are fully **accounted** and inform all relevant public and private decisions”. Target 14 further requests to “Fully integrate biodiversity values into policies, regulations, planning, development processes, poverty reduction strategies, accounts, and assessments of environmental impacts at all levels of government and across all sectors of the economy, ensuring that all activities and financial flows are aligned with biodiversity values. Hence, the GBF requires integration across different aspects of biodiversity, emphasises that national ownership and national policy relevance is essential and requires a way to connect biodiversity accounts with policy and communication. Biodiversity accounting could underpin the new monitoring framework for the GBF.

The LTAM and its Action Plan also refer to national accounting as a key means of biodiversity mainstreaming in national policy and planning under LTAM Action area 1: “Fully integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts, integrating spatial planning and applying the principles of the ecosystem approach.” Indicator (b) focuses on national accounting according to SEEA. LTAM Action 1.1 states “Governments at all levels systematically apply strengthened biodiversity assessment, valuation, and accounting tools and methodologies for biodiversity mainstreaming, and use results to inform decision-making.” LTAM global goal 1 already suggests SEEA implementation as an indicator for success (CBD 2020 SBI/3/5).

The LTAM Action Plan specifically refers to the SEEA framework in Action 1.1.3 “Develop and implement nature and biodiversity reporting and implement ecosystem or natural capital accounting using the SEEA-framework as part of national accounts to inform decision-making and implementation.” The Action Plan proposes as a milestone for action 1.1.3 that Parties, in collaboration with national statistical offices and the UN Committee of Experts on Environmental-Economic Accounting (UNCEE) “produce adequate national metrics to track progress on the SDGs by assessing and accounting for their impacts and dependencies on nature” (CBD 2020 SBI/3/13/Add.1, p. 8)

By these references, the LTAM and its Action Plan contribute to establishing the SEEA framework as a standard approach for national environmental accounting. However, calculating market prices for goods which are not traded on markets is challenging, and will not provide a comprehensive picture of the broad range of values of biodiversity, such as intrinsic or relational values (IPBES 2019; CBD 2020 SBI/3/5) which must be assessed by additional means.

Reflecting on the challenges outlined above and in order to advance GBF implementation with respect to accounting, the SEEA framework should be applied taking into account four key considerations.

1. Accounting results need to be fit for purpose

All accounting results must be fit for purpose. Not necessarily one method fits all, but each needs a clear definition of purpose, way of use and transparent methods, to enhance comparability. For instance, the SEEA EA builds upon the SNA economic statistics, and figures from subjective estimates like stated or revealed preference experiments, while useful for preference analyses, cannot be integrated with SNA data. Hence, governments may be well advised to provide a toolbox, offering tools which are fit-for-purpose for different policy tasks, from reporting to planning, regulating, investing and prioritising. Doing so would contribute to LTAM Action Plan action 1.1.3. The Dutch experience shows that assessing species richness and extinction risk requires expert knowledge besides SEEA-EA data and for species abundance assessment-intensive (volunteer-driven) monitoring programmes were indispensable. The Chinese GEP metric is designed to inform and evaluate ecosystem management policy efforts.

2. Regional accounts can be helpful but require good regional data

While the SNA and with it the SEEA refers to the national level, the methods can be applied on the subnational level as well. However, to make such accounting feasible, a focus on a limited number of relevant and representative indicators may be required (including indicators relating biodiversity to the socio-economic dimension). Furthermore, standardisation of methods is required for inter-regional comparisons, including a common baseline to compare trends against, the suggested frequency of measurements and the scale of reporting.

3. Data availability needs to be improved

Improving data availability is crucial, including ecological and modelling knowledge of ecosystem processes, up to date in situ monitoring data for ecosystems and biodiversity, and related analytical tools helping to translate accounting data into policy advice. For mainstreaming and generating the right (i.e. feasible, relevant and representative) indicators, it is important that SEEA-EA is implemented in coordination with those responsible for national biodiversity assessments. It is recommendable to use data bases across the approaches to minimise data collection, processing and reporting requirements. Doing so would contribute to LTAM Target 1.1.

4. Clear communication of what EA data mean is needed

A clear communication of what EA data mean is crucial for their use across policy domains, not only in NBSAPs but in other policies as well. This requires clarifying which questions an EA is capable answering, and which not. In particular, it is crucial that monetary data in the EA are not misread as representing “the value of nature”. For decision-making, additional value categories not linked to the economy are relevant, like normative, cultural, spiritual, aesthetic, inherent and intrinsic values held by local communities and in particular by indigenous peoples (IPBES 2019).

3 Synergies between biodiversity-relevant conventions and processes

3.1 Introduction

Harnessing synergies implies creating programmatic, technical and institutional links between organisations and processes so that the combined results are greater than if each process had done its work separately (Cambridge Dictionary, n.d.). Governments and scientific bodies of conventions have repeatedly emphasised that strategies and measures aimed at addressing global challenges should be aligned in order to make use of synergies. Parties of biodiversity-related conventions and member states of the United Nations Environment Programme (UNEP) have taken multiple decisions and resolutions (e.g. UNEP 2016 and references in UNEP-WCMC 2018) to enhance international environmental governance in the biodiversity cluster by cooperation, coordination and synergies at global, regional, national and subnational levels.

The potential for synergies can be realised through programmatic cooperation (or collaboration) to produce certain specific results, or through coordination which implies that organisations work together in the long run efficiently, effectively and without duplication (UNEP 2015). To some extent, cooperation and coordination can be institutionalised (Figure 3). So far, in the biodiversity cluster, programmatic cooperation is the most widespread (cf. examples in Box 1 in Chapter 2.5.1).

The most recent effort under the CBD to achieve better coordination, cooperation and synergies originates in decision XIII/24 at COP-13 in 2016. The approach set out in this decision differentiates between national level synergies (Annex I) and an international level process set out in the form of a roadmap (Annex II), guided by an informal advisory group whose mandate was extended by the most recent Conference of the Parties, CBD COP-14¹⁶ in 2018.

The CBD COP-15, the UN Biodiversity Conference, is expected to adopt the GBF during the second part, currently scheduled for spring 2022. The GBF is currently being developed by the Open-Ended Working Group (OEWG). The deliberations of the OEWG are informed by a number of formal and informal technical meetings including a consultation process among biodiversity-related Multilateral Environmental Agreements (MEAs). With the development of the GBF, governments face a unique window of opportunity to enhance biodiversity governance and the integration and mainstreaming of biodiversity into sectoral policies (EMG 2020), national development plans and other national and subnational policies. This chapter develops policy recommendations (Chapter 3.5) on how synergies can be realised in the context of and through the GBF, according to the sections of the Updated Zero Draft¹⁷ of the GBF (CBD 2020 POST2020/PREP/2/1): strategies, goals and Targets (sections A-E of the Updated Zero Draft, chapter 3.5.1); implementation support mechanisms (section F, chapter

¹⁶ To which extent and how the process set up by CBD COP-13 will be incorporated or seconded by the post-2020 global biodiversity framework needs to be clarified.

¹⁷ The 'Updated Zero Draft' was published in August 2020 by the co-chairs of the OEWG and provides the basis for this study. As a next version of the GBF, the 'first draft of the post-2020 global biodiversity framework' will be negotiated for the first time at the third meeting of the OEWG. The 'first draft' will be released only after the meetings of the subsidiary bodies to the CBD, SBI-3 and SBSTTA-24.

3.5.2); enabling conditions (section G, chapter 3.5.3); responsibility and transparency – including the monitoring framework (section H, chapter 3.5.4); outreach, awareness and uptake (section I, chapter 3.5.5).

Governments who wish to ensure that the potential for synergies with the GBF is realised will be required to look at multiple agenda items of the meetings of the CBD subsidiary bodies and the CBD COP-15 in detail. In its Sections F-H, the Updated Zero Draft remains rather general and the details are expected to be fleshed out in the CBD COP decisions. They are, however, CBD focused. CBD Parties are challenged to develop negotiation texts from a synergies perspective for many agenda items. Governing bodies of the biodiversity-related conventions other than the CBD will, depending on their priorities, need to lead or respond to the GBF in order to make progress on synergies.

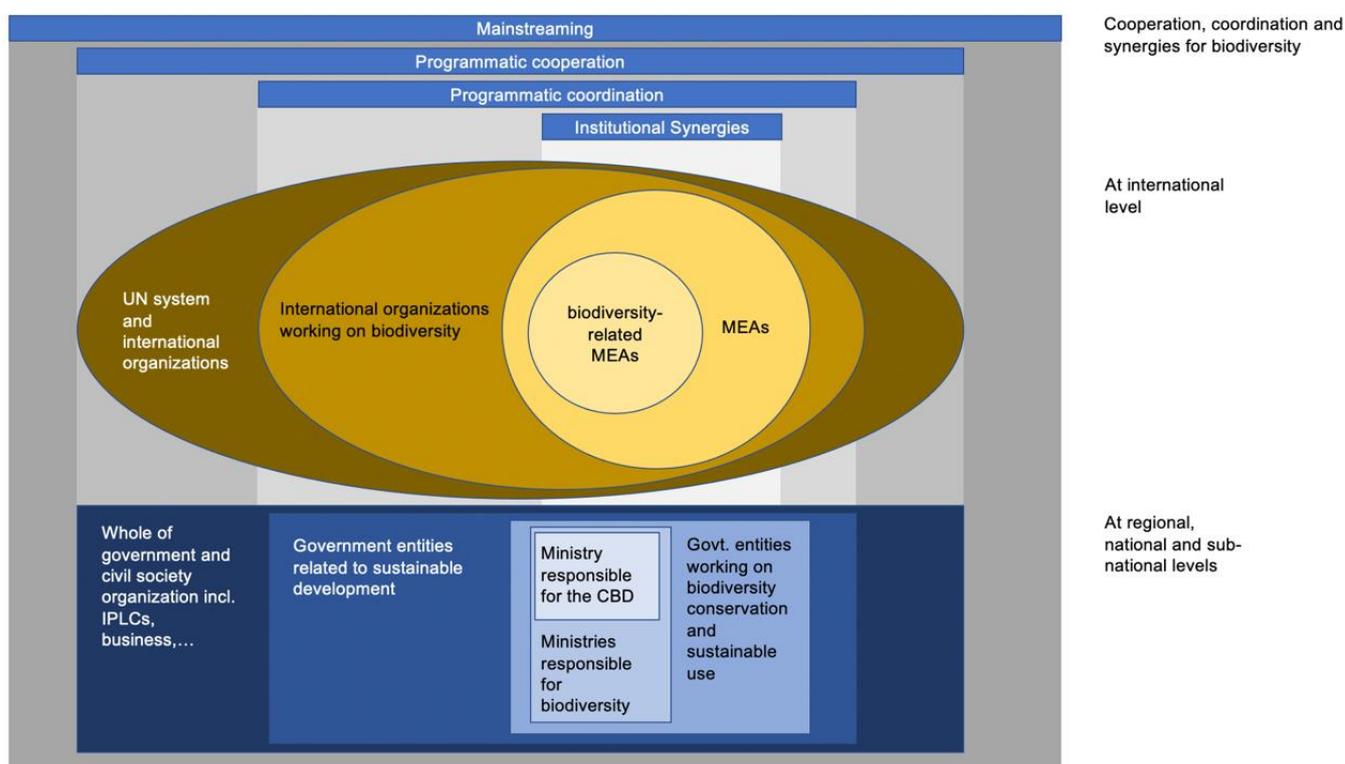


Figure 3: Systematic overview of the difference between cooperation, coordination, synergies and mainstreaming and the actors involved at international, regional, national and subnational levels

Source: own representation

3.2 History of the processes on cooperation, coordination and synergies in the biodiversity cluster

The call to enhance synergies between international environmental organizations and processes is neither new nor limited to the biodiversity context. Since the establishment of the International Convention for the Regulation of Whaling (IWC) in 1946, the awareness of the

need to sustainably manage natural resources increased. With the growing understanding of global environmental challenges a diverse landscape of international and regional treaties and MEAs emerged. The process around the United Nations Conference on the Human Environment 1972 in Stockholm led to the establishment of UNEP and several issue-specific MEAs were adopted since the 1970s (Table 1).

Table 1: Global Multilateral Environmental Agreements (MEAs), which are particularly relevant for biodiversity policies. Regional MEAs are not included in this list.

Global Multilateral Environmental Agreements

- IWC** - International Convention for the Regulation of Whaling (1946), 88 parties incl. China
- IPPC** - International Plant Protection Convention (1951), 184 parties incl. China
- Ramsar Convention** - Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat (1971), 171 parties incl. China
- WHC** - World Heritage Convention (1972), 193 parties incl. China
- CITES** - Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973), 183 parties incl. China
- CMS** - Convention on the Conservation of Migratory Species of Wild Animals (1979), 130 parties
- Basel Convention** - Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (1989), 187 parties incl. China
- CBD** - Convention on Biological Diversity (1992), 196 parties incl. China
- UNFCCC** - United Nations Framework Convention on Climate Change (1992), 197 parties incl. China
- UNCCD** - United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa (1994). 197 parties incl. China
- Rotterdam Convention** - formally, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (1998), 161 parties incl. China
- ITPGRFA** – International Treaty on Plant Genetic Resources for Food and Agriculture (2001), 146 parties
- Stockholm Convention** - Stockholm Convention on Persistent Organic Pollutants (2001), 184 parties incl. China
- SDGs** – 2030 Agenda for Sustainable Development incl. 17 Sustainable Development Goals (2015), ratified by the 193 members of the UN General Assembly
- Minamata Convention** - Minamata Convention on Mercury (2017), 122 parties incl. China

The United Nations Conference on Environment and Development in Rio de Janeiro in 1992 resulted in the Rio Declaration on Environment and Development with 27 principles driven by the spirit of international cooperation (UN 1992). The conference was also instrumental in the establishment of the Rio conventions: The CBD, the United Nations Framework Convention on Climate Change (UNFCCC) and the United Nations Convention to Combat Desertification (UNCCD). In 2015, the General Assembly of the UN approved the 2030 Agenda for Sustainable Development including 17 Sustainable Development Goals (SDGs) as overarching goals for the UN organisations, its Parties, and society as a whole.

Even if most MEAs were established under the roof of the UN, not all of them were signed and/or ratified by all UN member states. MEAs are legally independent with their own decision-making bodies and a distinct membership. Most MEA secretariats are administered by UNEP or another international organisation, with different degrees of administrative independence from their host. Most MEAs have their own strategies and implementation plans, monitoring and review mechanisms, outreach campaigns and reporting requirements and cycles. It is well recognised that coordinated efforts and integrated actions would not only contribute to greater awareness for global environmental challenges, but also to the more efficient use of resources and capacities, as well as the avoidance of silo-thinking and trade-offs between the different goals and strategies (e.g. EMG 2018; WWF UK 2018).

The question how synergies between MEAs can be enhanced has been discussed at different levels and at different fora for some time (UNEP 2014). The MEAs, their scientific advisory

bodies, UNEP and the UN Development Programme (UNDP) as well as NGOs and intergovernmental organisations have conducted surveys, published studies and guidelines, organised workshops and set up databases on how to improve synergies. In a survey, national focal points of biodiversity-related conventions identified lack of staff and/or time, regulatory barriers and weak collaboration among state agencies, lack of financial resources and different mandates of MEAs among the main barriers for enhancing cooperation (UNEP 2015). UNEP and the UNEP World Conservation Monitoring Centre (UNEP-WCMC) have facilitated the process and produced an extensive list of studies and guidance documents (UNEP-WCMC 2018)¹⁸. They Target different levels of cooperation, for instance how strategies could be aligned, how the convention bodies could cooperate better, how the implementation of national strategies and action plans could benefit from each other, how to align monitoring and reporting efforts on national and global levels, how financing could be streamlined or how to improve the use of common indicators.

An example of how convention bodies could improve their cooperation and coordination is the development of joint managerial functions for the Secretariats of the Basel, Rotterdam and Stockholm Conventions. Following the World Summit on Sustainable Development (WSSD) in 2002, initial discussions on the synergies between the Conventions began within the UNEP Governing Council. These discussions culminated in the Parties to the three Conventions requesting the Secretariats to prepare studies on how to improve synergies among the Conventions and other relevant programmes (Risby and Amador, 2013). The first synergies decisions were adopted by the Conference of the Parties of the three conventions in 2008-2009 and were further developed by the Ex-COP omnibus decision¹⁹ covering joint activities, joint managerial functions, joint services, synchronisation of budget cycles, joint audits and review arrangements. In 2011, a joint Executive head function of the Basel Convention Secretariat, the Stockholm convention Secretariat and the United Nations Environment Programme part of the Rotterdam Convention Secretariat was established, with a mandate to develop a proposal for the modification of the organisation of the three Secretariats administered by UNEP. Parties further adopted identical decisions to enhance cooperation and coordination for 2012-2013, which adopted joint activities for inclusion in the programmes of work of the Secretariats of the three conventions. In 2012 a single Secretariat for the UNEP parts to serve the three conventions was formed, based on a matrix management structure, underpinned with Standard Operating Procedures (Risby and Amador, 2013). Furthermore, at the national level, progress has been made on establishing inter-ministerial committees to ensure better coordination. The illustrated process to improve cooperation and coordination between the three conventions demonstrates that there is an emerging body of experience that can be drawn on, to strengthen the synergies between biodiversity-relevant conventions and processes.

3.3 Established mechanisms for cooperation, coordination and synergies in the biodiversity cluster

This chapter provides a brief and non-exhaustive overview of bodies and processes established to work on enhancing synergies in the biodiversity governance cluster. While the Joint Liaison Group of the Rio Conventions and the Liaison Group of Biodiversity-related

¹⁸ <https://www.unep-wcmc.org/resources-and-data/biodiversitysynergies>

¹⁹ Decisions BC.Ex-1/1, RC.Ex-1/1 and SC.Ex-1/1 (February 2010)

Conventions are both bodies of MEA secretariats and have been established permanently, the Informal Advisory Group on Synergies consists of representatives of MEA Parties, is driven by the CBD and is only temporary.

Joint Liaison Group of the Rio Conventions (JLG)²⁰

The Joint Liaison Group of the three Rio convention secretariats (CBD, UNFCCC, UNCCD) was established in 2001. As its most visible activity, it hosts the Rio Conventions Pavilion at meetings of the Conferences of the Parties in which joint side events and thematic days are organised. The meetings take place at irregular intervals. The last meeting of the Joint Liaison Group took place in 2016 at which issues like joint indicators and synergies in national reporting were discussed. To date, no meeting addressed the development of the GBF or planned its implementation.

In 2017, the JLG published a statement (JLG 2017) calling for the establishment of a new “Project Preparation Facility” (PPF) to increase financing for large-scale projects with integrated actions on land degradation, biodiversity loss, and global warming to contribute to the conventions’ objectives and to the SDGs. A joint press release described the objectives of the PPF as 1) “to deliver on existing commitments by promoting large-scale transformative projects to fill existing gaps between projects and funding” and 2) “to act as a catalyst for more coordinated action” (UNCCD, CBD & UNFCC).

Liaison Group of Biodiversity-related Conventions (BLG)²¹

The Liaison Group of the Biodiversity-related Conventions was established in 2004. Currently, it consists of the Convention on Migratory Species (CMS), the Convention on the Conservation of Migratory Species of Wild Animals (CITES), International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), the Ramsar Convention, the World Heritage Convention (WHC), the International Plant Protection Convention (IPPC), the International Convention for the Regulation of Whaling (IWC) and the CBD. Its mandate is “to enhance coherence and cooperation in their implementation” (CBD 2004 COP/DEC/VII/26) and convenes roughly annually, usually at head of secretariat level.

At its latest meeting on 30 April 2020, the BLG discussed the progress regarding the development of the GBF and the planning of the United Nations Summit on Biodiversity²², which took place on 30 September 2020 (CBD BLG 2020). Another important agenda item was planning the process for the Bern-II consultation among biodiversity-related conventions and the contribution of the BLG to the background document, drafted by UNEP-WCMC (cf. UNEP-WCMC 2020). Furthermore, the meeting discussed advice to the financial mechanism of the CBD, the Global Environment Facility (GEF), which can be provided by biodiversity-related conventions other than the CBD through the CBD. This is an important way for the conventions to cooperate and coordinate on international biodiversity funding.

Environment Management Group (EMG)²³

The Environment Management Group is the coordination body within the UN system on issues related to environment and human settlements. It was established in 2001 and it is hosted and chaired by UNEP. It currently consists of 51 specialised UN agencies, programmes and

²⁰ <https://www.cbd.int/cooperation/liaison.shtml>

²¹ <https://www.cbd.int/blg/>

²² <https://www.un.org/pga/75/united-nations-summit-on-biodiversity/>

²³ <https://unemg.org>

organs, including MEA secretariats. The group identifies international environmental issues to address them in a collaborative manner across organisations and programmes.

The EMG organises Nexus Dialogue events²⁴ on thematic and institutional interlinkages between environmental issues, frameworks, and agendas in the context of the SDGs. Those dialogues include meetings with particular relevance to biodiversity.

The EMG is regularly exchanging on biodiversity governance and the GBF. Recent publications include: “Overview of UN System Inputs to the Development of the Post-2020 Global Biodiversity Framework” (EMG 2020a) and an update report that takes into consideration the Zero Draft of the GBF (EMG 2020b).

Informal Advisory Group on Synergies (IAG)²⁵

The Informal Advisory Group on Synergies was first established by CBD COP-12 in 2014 (CBD 2014 COP/DEC/XII/6). The group was tasked to develop elements for a roadmap to enhance synergies between the biodiversity-related conventions. At CBD COP-13 in 2016, the Parties adopted a decision welcoming the roadmap and options for Parties to enhance synergies among the biodiversity-related conventions on national level (CBD 2016 COP/DEC/XIII/24). UNEP-WCMC was tasked to provide an overview of initiatives related to synergies as well as data and knowledge generation (UNEP-WCMC 2018)²⁶.

CBD COP-13 decided to extend the mandate of the informal advisory group to provide advice on prioritisation and implementation of actions foreseen in the roadmap annexed to decision CBD/XIII/24. The IAG presented its conclusions to the second meeting of the Subsidiary Body on Implementation (SBI) (CBD 2018 SBI/2/INF/14), concluding that all options were important. The IAG then provided advice how the options should be implemented. These recommendations were recognised by CBD COP-14 (CBD 2018 COP/DEC/14/30) and governing bodies of the biodiversity-related conventions. Other organisations were invited to consider the advice and governments and stakeholders were invited to continue to take action from the presented options. The IAG was mandated to monitor the implementation of the roadmap until CBD COP-15 as well as to provide advice to the CBD secretariat on ways to optimise synergies among the biodiversity-related conventions in the development of the GBF (CBD 2018 CBD/SBI/2/INF/13). In case the IAG met, a report would be provided to the third meeting of SBI (SBI-3)²⁷.

3.4 The process of developing the GBF

The call to use the GBF to enhance cooperation, coordination and synergies in the biodiversity cluster at international, regional and national levels is in line with the ambition for the

²⁴ <https://unemg.org/our-work/supporting-the-sdgs/nexus-dialogues/>

²⁵ <https://www.cbd.int/brc/IAG.shtml>

²⁶ In support of the CBD Decision XIII/24 and the work of the Informal Advisory Group, UNEP in cooperation with the secretariats of the biodiversity-related conventions, UNEP-WCMC and IUCN launched a project in 2017 entitled “Environmental Treaties Programme - realizing synergies for biodiversity” (CBD 2018/CBD/SBI/2/INF/13) aiming to support jointed coordination, communication, capacity building and national monitoring and reporting efforts of the conventions. Among the outputs of the project were three compendia of guidance on (1) synergies among biodiversity-related conventions at the national level; (2) capturing, managing and using data and information; and (3) key global databases related to biodiversity-related conventions were produced. Part of the project was also the development of the webtool “Data Reporting Tool for MEAs (DaRT)” in cooperation with InforMEA to support national reporting of biodiversity-related conventions. Further, the project provided a list of recommendations based on the outputs of the project and new information products such as guidance to enhance synergies in national communication, joined implementation of national strategies, data management and application to GEF funding. Under some project outputs, there were recommendations to considered modular national reporting and indicators for biodiversity-relevant conventions when developing the GBF (CBD 2018/CBD/SBI/2/INF/13).

²⁷ Check the meeting website for report CBD/SBI/3/10: <https://www.cbd.int/meetings/SBI-03>

framework to be overarching, universal and global and to enable transformational change leading to the vision of living in harmony with nature. At CBD COP-14, the Parties adopted a comprehensive and participatory process for the preparation of the GBF (CBD 2018 COP/DEC/14/34). The decision also included the establishment of the OEWG to support the preparation of the GBF.

The main objective of the OEWG is to discuss drafts of the GBF prepared by the co-chairs based on submissions by Parties and observers and to pre-negotiate a framework text and a decision for CBD COP-15. The OEWG should also “...ensure the coherence and complementarity of the post-2020 global biodiversity framework with other existing or upcoming international processes, in particular with regard to consistency and coherence with the 2030 Agenda for Sustainable Development, the Paris Agreement and other related processes, frameworks and strategies” and engage other MEAs, including biodiversity-related conventions and the Rio conventions as well as relevant international organisations in the process (CBD 2018 COP/DEC/14/34, p.6).

While the first two meetings of the OEWG in August 2019 and in February 2020 were fora where Parties and observers proposed and discussed elements of the GBF, the third meeting of the OEWG in 2021 was a negotiation among Parties of the CBD. These meetings are complemented by thematic consultations²⁸ which are partly formally organised under the process whereas other informal meetings are also taking place. The thematic consultations are normally open for MEA representatives and a limited number of other stakeholders.

The development of the GBF is furthermore informed by the subsidiary bodies of the CBD, the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) and the SBI. The SBI was established by CBD COP-13 decision XII/26 as follow-up process to the Ad Hoc Open-ended Working Group on Review of Implementation of the Convention to cover four areas: (a) review of progress in implementation; (b) strategic actions to enhance implementation; (c) strengthening means of implementation; and (d) operations of the convention and the Protocols. The third meeting of the SBI²⁹, took place in May/June 2021 in an online format and prepared draft decisions for CBD COP-15 that have a focus on cooperation, coordination and synergies (CBD 2021 SBI/3/10). Concurrently, the 24th meeting of SBSTTA³⁰ also discussed matters with relevance to synergies and the GBF. SBSTTA-24 and SBI-3 will be continued early 2022 in Geneva to further prepare for CBD COP 15.2.

Consultation Workshops of Biodiversity-related Conventions on the GBF (Bern I/II)

The CBD COP-14 decision XIV/34 on the preparatory process for the development of the GBF set out principles, including that the process should be inclusive and should engage UN organizations and programmes and other MEAs among a broad range of actors. MEAs and other stakeholders were invited to participate in the OEWG, to actively contribute to the development process and to organise workshops and consultation regarding the issue. The OEWG co-chairs were requested to “ensure the coherence and complementarity of the GBF with other existing or upcoming international processes, in particular with regard to consistency and coherence with the 2030 Agenda for Sustainable Development, the Paris Agreement and

²⁸ (a) Thematic Workshop on Area-based Conservation Measures for the Post-2020 Global Biodiversity Framework, La Prairie, Canada, 1-3 December 2019 (CBD 2020/CBD/POST2020/WS/2019/9/3). (b) Thematic Workshop on Ecosystem Restoration for the Post-2020 Global Biodiversity Framework (CBD 2020/CBD/POST2020/WS/2019/11/5). (c) Thematic Workshop on Marine and Coastal Biodiversity for the Post-2020 Global Biodiversity Framework, Montreal, Canada, 13-15 November 2019 (CBD 2020/CBD/POST2020/WS/2019/10/2). (d) Thematic Workshop on Resource Mobilization for the Post-2020 Global Biodiversity Framework, Berlin 14 - 16 January 2020 (CBD 2020/CBD/POST2020/WS/2020/3/3).

²⁹ <https://www.cbd.int/meetings/SBI-03>

³⁰ <https://www.cbd.int/meetings/SBSTTA-24>

other related processes, frameworks and strategies” (CBD 2018 COP/DEC/14/34, p.6). Information such as strategies and national reports from MEAs were considered key information sources. CBD COP-14 requested the OEWG co-chairs and the CBD Secretariat to organise a workshop engaging the biodiversity-related conventions to “explore ways in which the conventions can contribute to the elaboration of the GBF and, based on the respective mandate of each convention, to identify specific elements that could be included in the GBF [...] without prejudging the objectives of the conventions and taking into consideration their respective mandates” (CBD 2018 COP/DEC/14/30).

Upon invitation by Switzerland, a first consultation workshop of biodiversity-related conventions on the GBF was organised by UNEP in June 2019 in Bern (Bern-I 2019). The workshop was attended by about 120 invited participants, including party representatives identified by each convention from the five different UN regions, selected members of the IAG on synergies, representatives and experts from MEA secretariats, as well as a selected group of non-governmental observers. The report of the meeting summarises perspectives on elements that could be considered in the GBF negotiations as well as ways in which other conventions could further contribute to the preparation of the GBF (CBD 2019 POST2020/WS/2019/6/2). These views should not be considered as recommendations based on consensus but rather as input for future discussions.

Subsequently, some governments decided to sponsor a second meeting with the aim to produce more detailed and direct input to the negotiations of the GBF. The Bern-II consultation workshop, initially scheduled for March 2020, was held virtually from 18th January to 2nd February 2021³¹. The objectives of Bern-II were to convene Parties and secretariats of MEAs to develop concrete proposals strengthening the synergies aspect of the GBF. The discussions were held in an online format consisting of an online discussion forum as well as two public and one closed session around five topics: indicators and the monitoring framework, the review of implementation and reporting, potential areas for cooperation on means of implementation, implementing synergies at the national level and operationalisation of the GBF by conventions and processes. Around 130 representatives of governments and secretariats of MEAs as well as a few international organisations and observers participated.

The meeting noted that ownership of the GBF by MEAs needs to be strengthened for instance by incorporating terminologies of MEAs other than the CBD into the GBF Targets, ensuring broad participation in technical expert groups and other bodies, including MEAs in the monitoring framework, considering MEA custodianship for Targets and/or indicators and through the development of common strategies/workplans in the field of capacity development, technical and scientific cooperation, technology transfer, knowledge management and communication.

Furthermore, all MEAs will be encouraged to reflect the GBF in their own decisions. The instrument of joint work plans of the CBD with one or more other MEAs as well as among other MEAs should be revitalised on specific thematic areas of cooperation, responding to the new GBF Targets. It was agreed that rather than to pursue a dedicated Target on synergies, they should be cross-referenced throughout the GBF and related MEA decisions.

³¹ Documents for the Bern-II consultation meeting include a background paper by UNEP-WCMC that was sent to the participants in June 2020, including a list of leading questions aiming to help with the prioritisation of key issues for the next workshop as well as an overview of key documents on synergies in the GBF process, a timeline of MEA meetings and strategic frameworks and programme (UNEP-WCMC 2020b). Furthermore, the co-leads of Bern-II (Anne Teller, EU and Somaly Chan, Cambodia) provided a document to trigger and inspire discussions. All documents have been made available on the meeting website: <https://www.unep.org/events/workshop/bern-ii-consultation-workshop-biodiversity-related-conventions-post-2020-global>

Compared to the Bern-I meeting, the Bern-II meeting was much more focused on concrete pathways for using the GBF for enhancing synergies. This was triggered by the virtual format of the meeting and the co-leads paper which was introduced relatively shortly before the meeting. The challenge is now to convert the conclusions of Bern-II into text ready for negotiation. The task will be the responsibility of the Parties which need to be prepared to represent the proposals at the negotiations at CBD SBSTTA-24, SBI-3 and the third meeting of the OEWG as well as later on at the governing body meetings of MEAs other than the CBD.

3.5 Recommendations for strengthening the synergies aspects in the development of the GBF

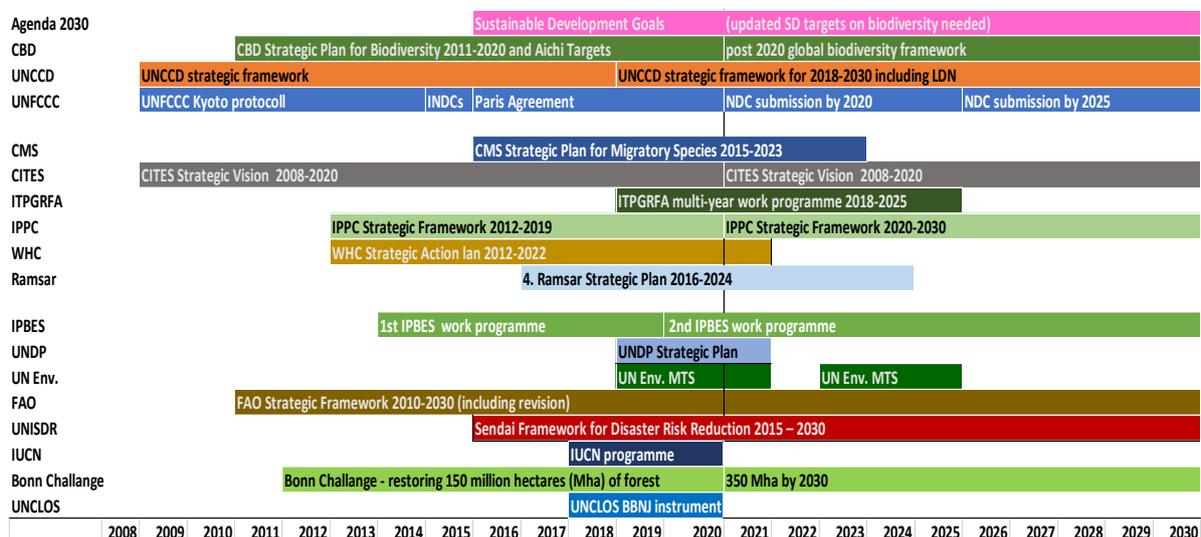
The Updated Zero Draft of the GBF (2020) states that its “...theory of change is complementary to and supportive of the 2030 Agenda for Sustainable Development. It also takes into account the long-term strategies and Targets of other multilateral environment agreements, including the biodiversity-related and Rio conventions, to ensure synergistic delivery of benefits from all the agreements for the planet and people” (CBD 2020 POST2020/PREP/2/1, paragraph 8). This ambition was repeatedly reconfirmed by Parties and the co-chairs of the OEWG. The recommendations are developed on the basis of the revised Updated Zero Draft released in August 2020, but are also meaningful to inform the negotiations of the First Draft released in July 2021.

This paper recommends that the role of MEAs in the operationalisation and implementation of the GBF should be clearly identified in the sections F - Implementation support mechanisms, G - Enabling Conditions and/or H - Responsibility and Transparency. With that, entry points could be provided for the governing bodies of the different MEAs to provide the necessary mandates to their secretariats and subsidiary bodies to support and engage in the implementing the GBF. The GBF should clearly distinguish between overarching elements and elements which are specific to the CBD or other MEAs. In order to improve communication and cooperation between the MEAs, the secretariats need to be provided with adequate resources to establish or strengthen the role of liaison officers, thematic committees or to have the capacity to be custodians of indicators or joint work programmes.

Multiple agenda items of the CBD COP-15 provide opportunities for enhancing synergies, cooperation and coordination in the biodiversity cluster - next to the decision on the GBF. A thorough analysis of the CBD COP-15 draft decision texts, which are to a large extent developed by the virtual subsidiary body meetings SBI-3 and SBSTTA-24 in the first half of 2021, will need to be done as the GBF continues to be developed. Based on this analysis, the required negotiation text would need to be drafted and introduced to the negotiations by a CBD party, either at a meeting of the subsidiary bodies or at CBD COP-15. This, however, goes beyond the scope of this report. The following chapters take into consideration the documents prepared for these meetings and made available by 12 December 2020 on the CBD website.

The following subchapters are aligned to the sections of the Updated Zero Draft. Each subchapter concludes with recommendations how each section of the GBF could be strengthened to enhance synergies among biodiversity-related conventions and MEAs.

3.5.1 Recommendations for synergies between strategies, goals and Targets (Sections A-E of the GBF)



In the last decade and up to now, the governing bodies of the biodiversity-related conventions took decisions to align their strategies with the global Strategic Plan for Biodiversity 2011–2020, as well as to respond to the GBF in existing and future strategies. Several strategies, work programmes and actions plans of MEAs and other relevant processes are being developed, implemented and evaluated at the same time, in many cases without recognising and incorporating other processes actively (Figure 4).

Box 1: Programmatic areas for coordination, cooperation and synergies among MEAs

The mutual recognition and reinforcement in the strategies of the different MEAs would be well justified. In terms of the **UNFCCC**, for instance, there are manifold potentials for synergies between the GBF and the goals set out in Article 2 of the Paris Agreement on Climate Change. IPBES and IPCC highlighted in joint messages that it is crucial to reduce emissions from all sources and to protect and enhance carbon sinks on land and in the oceans through ecosystem-based approaches (IPCC 2020). The IPBES global assessment identified a significant potential of NbS for land-based climate mitigation activities that could be included in the NDCs. However, safeguards should be in place to protect or enhance biodiversity and

ecosystem services and to avoid negative impacts on food security and the rights of indigenous peoples and local communities (IPBES 2019; Pörtner et al. 2021).

There are also multiple entry points to align the GBF with objectives of the **UNCCD**, especially Land Degradation Neutrality (LDN). UNCCD supports areas-based Targets that could include Other Effective Area-based Conservation Measures (OECMs) and similar non-traditional conservation tools and proposed a goal/Target for “Net Habitat Gain by 2030” (UNCCD 2019).

The **Ramsar Convention** is the lead implementing partner on wetlands for the CBD, aiming to strengthen the attention on inland waters and actions on marine and coastal wetlands, in line with the CBD Marine and Coastal Programme. Ramsar can also contribute with its expertise regarding area-based conservation measures, invasive alien species and NbS, e.g. mangrove restoration.

The **CMS** underlined at Bern I, Bern II and OEWG-2 that the conservation needs of migratory species should be considered in the GBF. The Gandhinagar Declaration on CMS and the GBF (CMS 2020) recommends the consideration of the status of migratory species by any relevant species indicator, to include the concept of “ecological connectivity” in the goals/Targets and to consider connectivity as cross-cutting issued with benefits for other conventions. Connectivity was proposed as a priority by several members of the EMG (EMG 2020).

Goals and Targets on the harvest and trade of wild species should be aligned with **CITES** and related indicators. At the Bern-I consultations, CITES proposed to cross-reference the CITES Strategic Vision 2021–2030 and its Vision Statement in the GBF to “ensure the inclusion of priorities agreed by CITES Parties” to increase their ownership. CITES welcomed species-specific goals in the Zero Draft, “noting the need to strengthen it with compliance tools and solid data to measure progress” that could be provided by CITES databases (IISD 2020, p.6).

IPPC shared their evaluation of the Zero Draft and the OEWG-2 consultations with the OEWG co-chairs in March 2020 and pointed out that neither the shared mandate of IPPC and the CBD regarding invasive alien species (IAS) nor related instruments were mentioned in the draft Target on IAS. Such a Target should also consider the concept of “safe trade”, intentional and unintentional introduction of invasive alien species as well as potentially invasive species for all ecosystems. Further, the GBF should include quantitative indicators regarding the introduction of new IAS, the “prevention or at least early and increased detection and interception of IAS” and monitor the effectiveness of eradication programmes. IPPC National Reporting Obligations could be considered for the development of related indicators.

ITPGRFA emphasised the need to maintain and strengthen Targets for plant genetic resources for food and agriculture and pointed out that the treaty is monitoring related information. During the Bern-I consultations, the relevance of the Global Strategy for Plant Conservation, adopted by CBD COP-6 (CBD 2002 COP/DEC/VI/9), especially Target 9 on the conservation of the genetic diversity of crops was mentioned (CBD 2019 POST2020/WS/2019/6/2).

The objective of the **WHC** is the protection of cultural and natural heritage and related sites. For the GBF, the WHC proposed specific goals and Targets (WHC 2019), e.g. that by 2030, 80% of natural and mixed WHC sites have a positive conservation outlook and effective management, or that mutual benefits of conserving cultural and natural diversity and their interdependencies are recognised, documented and integrated in site management. They also proposed to include a Target that recognises biodiversity as essential part of the human identity and heritage and to consider WHC objectives in the NBSAPs.

IWCs Strategic Plan 2016-2026 includes the long-term vision for healthy, well-managed and recovered cetacean populations worldwide and the identification of threats and actions (IWC 2018). Threats such as bycatch and entanglement for cetaceans and other marine species could be considered in the GBF.

CBD Aichi Targets	UNCCD / LDN	UNFCCC (REDD+ /EbA, Eco-DDR)	SDGs	CITES	CMS	RAMSAR	ITPGRFA	WHC	IPPC	IWC
1		X	4, 12	X	X		X	X		
2		X	1, 8, 9, 13, 14, 15, 17	X	X	X		X		
3		X	14	X	X	X				
4		X	2, 8, 11, 12, 14, 15	X	X	X	X			
5	X	X	7, 13, 14, 15		X	X				
6		X	1, 2, 8, 12, 14,	X	X	X				
7	X	X	1, 2, 7, 8, 12, 14, 15	X	X	X	X			
8		X	3, 6, 9, 10, 11, 12, 14		X	X				
9		X	15	X	X	X			X	
10		X	13, 14		X	X				
11		X	6, 11, 14, 15		X	X		X		
12	X	X	14, 15	X	X	X	X		X	X
13	X	X	2, 3		X		X			
14	X	X	3, 5, 6, 7, 8, 9, 11, 13, 14,	X	X	X		X		
15	X	X	6, 7, 9, 10, 11, 14, 15		X	X				
16		X	3, 15		X					
17	X	X	16	X	X		X	X		
18		X	2, 3, 5, 10	X	X	X	X	X		
19		X	4, 7, 9, 12, 14, 17	X	X		X	X		

Figure 5: Working towards similar goals under different roofs - Comparison of the Rio Conventions, the biodiversity-related conventions and the SDGs. Source: CBD 2015; Timpte et al. 2018

Mappings of potential synergies between Aichi Targets and MEAs (UNEP-WCMC 2015; Timpte et al. 2018; Bieberstein et. al. 2019; cf. also Figure 5) as well as between Aichi Targets and the SDGs (e.g. Schultz et al. 2016) have been carried out in the past. A UNEP web portal is providing an interactive tool to compare goals, Targets, and indicators of several MEAs (Figure 6).

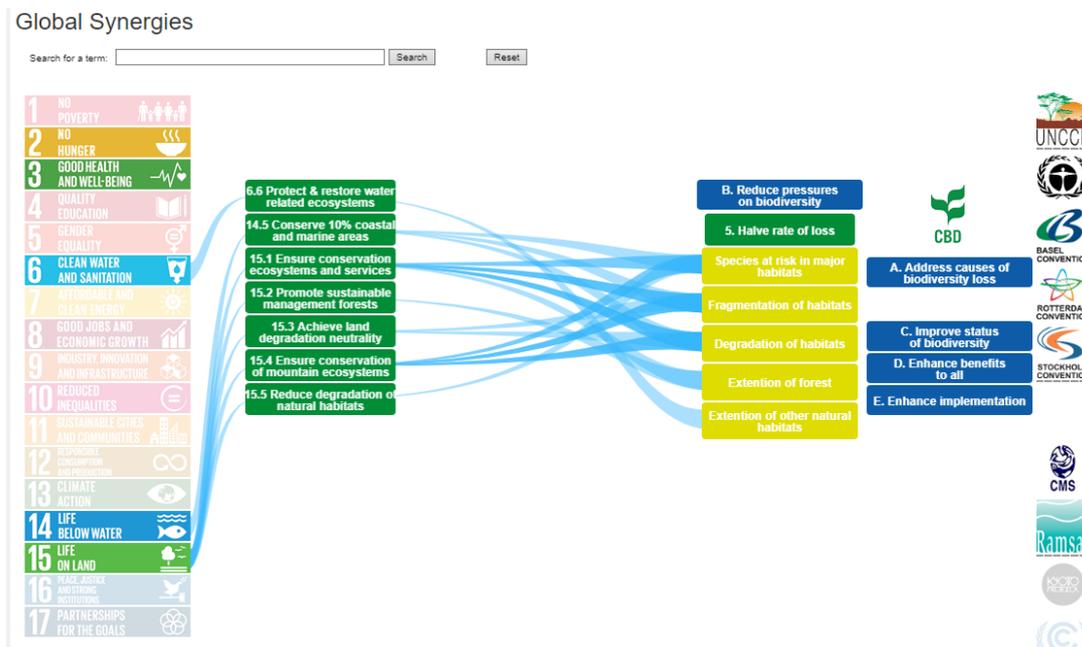


Figure 6: Synergies/relations between SDGs and its sub-Targets (green) and Strategic Plan for Biodiversity 2011-2020, the Aichi Targets (green) and its indicators (yellow)

Source: <https://environmentlive.unep.org/synergies>

The draft goals, Targets and components in the Updated Zero Draft and draft documents of the monitoring framework for the GBF prepared for discussion by SBSTTA-24³² do not reference the Rio or biodiversity-related conventions, its strategies, goals, or Targets explicitly, with very few exceptions in the list of component or complementary indicators in the monitoring framework. Goals or Targets do not make references to specific MEAs or the 2030 Agenda or specifically the SDGs. However, many potential substantive links to MEAs exist in the goals and Targets (Figure 7) as well as in the proposed indicators which will need to be made visible and evident in terminology and/or by making modifications (chapter 2.4, Bern I/II).

Table 2: Ways to strengthen links of MEAs other than the CBD with sections B, D and E of the GBF (indicative)

MEAs	Strategies / Implementation Plans	Updated Zero Draft (goals and Targets) [First Draft]
UNFCCC	Paris Agreement /NDCs	Goal B.2; Targets 6, 7, 10, 11, 13, 15, 18, 19, 20 [Targets 7, 8, 11, 12, 14, 16, 19,20, 21]
UNCCD	Strategic framework 2018-2030 / NAPs & LDN Targets	Goal A.1; Targets 2, 3, 6, 8, 9, 10, 11, 13, 14, 15, 16, 18, 19, 20 [Goal A and Milestone A1; Targets 3, 4, 7, 9, 10, 11, 12, 14,15,16,17, 19, 20 ,21]
CITES	Strategic Vision 2021–2030	Goal A.2; Targets 3, 4, 5, 8, 13, 14, 18, 19, 20

³² Check the CBD SBSTTA-24 meeting page for documents related to the monitoring framework CBD 2020/CBD/SBSTTA/24/3, CBD 2020/CBD/SBI/3/7/Add1, CBD 2020/CBD/SBI/3/7/Add2,, CBD 2021/ CBD/SBSTTA/24/INF/16. www.cbd.int/sbstta

		[Goal A and Milestone A2; Targets 4, 5, 6, 9, 14, 19, 20, 21]
CMS	Strategic Plan 2015-2023	Goals A.1 & A.2; Targets 1, 2, 11, 13, 17, 18, 19, 20 [Goal A and Milestones A1, A2; Targets 1, 2, 3, 12, 14, 18, 19, 20, 21]
Ramsar	Strategic Plan 2016-2024	Goal A.1; Targets 1, 2, 8, 9, 10, 11, 13, 18, 19, 20 [Goal A and Milestone A1, Targets, 1, 2, 3, 9, 10, 11, 12, 14, 19, 20, 21]
ITPGRFA	Global Plan for Action 2011-2025	Goals B.1 & C.2; Targets 4, 8, 9, 12, 13, 14, 15, 16, 18, 19, 20 [Goal B and Milestones B1 and B2, Goal C and Milestones C1 and C2; Targets 5, 9, 10, 13, 14, 15, 16, 17, 19, 20, 21]
IPPC	Strategic framework 2020-2030	Goal B.1; Targets 5, 9, 13, 14, 15, 16, 18, 19, 20 [Goal B and Milestones B1 and B2; Targets 6, 10, 14, 15, 16, 17, 19, 20, 21]
WHC	Strategic Action Plan and Vision 2012-2022	Goal A.1; Targets 1, 2, 7, 11, 13, 15, 18, 19, 20 [Goal A and Milestone A1; Targets 1, 2, 3, 8, 12, 14, 16, 19, 20 21]
IWC	Strategic Plan 2016-2026	Goal A.2; Targets 1, 3, 4, 13, 14, 15, 18, 19, 20 [Goal A and Milestone A2; 1, 2, 4, 5, 14, 15, 16, 19, 20, 21]

The CBD Secretariat published for SBSTTA-24 a mapping of linkages of the goals and Targets of the Updated Zero Draft with the 2030 Agenda for Sustainable Development which shows that all goals and Targets support the 2030 Agenda for Sustainable Development and the Sustainable Development Goals and that many existing SDG indicators are relevant for the monitoring framework of the GBF. However, the mapping focusses on what biodiversity and ecosystem services can provide to achieve the SDGs. The fact that the implementation of certain SDGs and SDG sub-Targets, without considering the objectives of CBD and UNFCCC, could lead to substantial trade-offs for climate and biodiversity needs further reflection. Since the GBF is expected to lead to transformative change towards achieving the three CBD objectives, the priority of all goals and Targets should always be to conserve and enhance ecosystems and their services and to ensure that biodiversity is only used sustainably and equitably. The draft goal B of the Updated Zero Draft of the GBF states “Nature’s contributions to people have been valued, maintained or enhanced through conservation and sustainable use, supporting the global development agenda for the benefit of all people” (CBD 2020 POST2020/PREP/2/1, p. 4). The 2030 Agenda for Sustainable Development and the SDGs are not explicitly mentioned and are not included in the theory of change developed for the Updated Zero Draft. This holds true also for the First Draft published in July 2021.

		Sustainable Development Goals (SDGs)																
		1	2*	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Global Biodiversity	2050 Goals	A	X	X			X							X	X	X		
		B	X	X	X		X	X	X	X		X	X	X	X	X		
		C		X	X		X	X	X			X	X			X	X	X
		D				X	X						X					X
2020	1						X			X		X			X	X		
	2						X				X				X	X		

15. The implementation support mechanisms identified in the Updated Zero Draft cover the “mobilization of sufficient resources”, “capacity development”, “knowledge generation, management and sharing”, “technical and scientific cooperation, technology transfer and innovation”.

Each of these four implementation support mechanisms have been looked at by CBD SBI-3³³ and will be negotiated at the physical part of SBI 3 (currently scheduled for early 2022). The draft negotiation text has been prepared by the CBD Secretariat for “capacity development and technical and scientific cooperation and technology transfer”, for “resource mobilization,” for “knowledge management and the clearing-house mechanism” and “communication”. These draft negotiation texts need to be analysed together with the Updated Zero Draft since all of these items potentially include opportunities for enhancing synergies among biodiversity-related MEAs.

The implementation of the GBF should, according to the latest text proposal in Section H of the Updated Zero Draft (Responsibility and Transparency), be ensured by “(a) Reflecting the framework in relevant planning processes, including NBSAPs; (b) Periodic reporting, including through the use of identified indicators, by governments, Multilateral Environmental Agreements and other relevant international processes, indigenous peoples and local communities, civil society and the private sector of the actions taken to implement the framework, the successes achieved, and the challenges encountered; (c) Periodic reviews and stocktakes, including by using the monitoring framework, of the progress”. These elements need to be underpinned with implementation support mechanisms (section F of the Updated Zero Draft).

Mobilisation of sufficient resources: SBI-3 will discuss a successor to the current strategy for resource mobilisation under the CBD. Past decisions on resource mobilisation by CBD COPs made efforts to enhance synergies among conventions. CBD COP-14 decision 22, for instance, emphasises “that all resource mobilisation strategies should promote and harness synergies among conventions, including synergies related to systems for monitoring financial resources from different sources and the implementation of conventions” (CBD 2018 COP/DEC/14/22, p. 2). A mechanism was established by CBD COP-13 decision 21 for biodiversity-related conventions other than the CBD to engage in the guidance from the CBD COP to the Global Environment Facility³⁴.

It is important that the resource mobilisation component of the GBF recalls these efforts made to date and ensures that the CBD COP-15, in its decisions on resource mobilisation, provides entry points for biodiversity-related conventions to engage, especially when it comes to further guidance to the financial mechanism, the development or updating of national biodiversity finance plans, or links to capacity development and the revision of NBSAPs. Synergies between the biodiversity-related conventions need to be explicitly referred to in the resource mobilisation component annexed to the draft decision contained in the SBI-3 documentation (CBD 2020).

Capacity development: A UNEP survey among national focal points to the CBD from 2014 showed that many of the survey participants saw the added value of stronger collaboration and that many tried to work tighter across biodiversity-related conventions. Cooperation structures could be formal, but also informal bodies, including stakeholders and traditional

³³Check the SBI-3 meeting page on www.cbd.int/sbi/for_documents/CBD_2020/CBD/SBI/3/7 on capacity development” and “technical and scientific cooperation”, CBD 2020/CBD/SBI/3/5 on “resource mobilization” and CBD 2020/CBD/SBI/3/8 on the clearing-house mechanism.

³⁴ <https://www.cbd.int/doc/decisions/cop-13/cop-13-dec-21-en.pdf>

knowledge holders, supporting more formal government structures. The UNEP survey also identified challenges for cooperation, e.g., that responsibilities were spread over different ministries and authorities, the lack of cooperation mechanisms between focal points and relevant stakeholders, the general lack of knowledge, insufficient resources and capacity of focal points to work beyond their mandate as well as the limiting mandates of the biodiversity-related conventions themselves (Bieberstein et al. 2019). CBD SBI-3 will discuss the draft long-term strategic framework for capacity development to support implementation of the GBF in a physical meeting scheduled for early 2022 (CBD 2020 SBI/3/7/Add1).

The negotiations of the long-term strategic framework for capacity development under the CBD need to ensure that this framework is consistent with the GBF, including in respecting the overarching character. Capacity development related to biodiversity is too broad and multifaceted to be orchestrated from a single organisation such as the CBD secretariat. This means that the capacity development framework needs to be inclusive, allowing all actors and stakeholders to opt-in to contribute to the implementation of the capacity development framework. The role of the CBD Secretariat and secretariats of other biodiversity-related MEAs in the proposed capacity development task team (CBD 2020) needs to be clarified in this regard so that expectations are realistic, and upscaling of biodiversity-related capacity development is facilitated.

Knowledge generation, management and sharing: This component under the Section F “implementation support mechanisms” has been identified as critical to the success of the GBF. While, again, the text in the Updated Zero Draft provides the scope of the knowledge management component, more details will be provided in a CBD COP decision. The draft text will be negotiated by CBD SBI-3 (CBD 2020). However, while the documentation provided includes a list of initiatives relevant to synergies in knowledge generation, management and sharing, there is no emphasis on efforts for strengthening such initiatives and enhancing synergies. There is a risk that the GBF will not include the necessary details on knowledge generation, management and sharing in the assumption that those will be provided in a separate COP decision. However, when it comes to detailed provisions, the draft decision text is as drafted concentrating on the CBD only and not making use of the significant potential for synergies of the issues of knowledge generation, management and sharing. Still, the idea of a ‘global biodiversity knowledge network’ is mentioned in the draft decision text but not further explained.

It is important that the biodiversity-related conventions and other relevant agencies discuss the implications of the GBF and their cooperation on knowledge generation, management and sharing timely before the CBD COP-15. The best place to do that would be in the context of the steering committee meeting or an extraordinary meeting of the organisations cooperation on the United Nations Information Portal on Multilateral Environmental Agreements (InforMEA).

Technical and scientific cooperation, technology transfer and innovation: This issue is being negotiated by CBD SBI-3³⁵. As it is in the case of the other components under implementation support mechanisms, it will be important that this “knowledge management component” and the “technical and scientific cooperation, technology transfer and innovation component” will be developed in an open and inclusive manner so that all actors who are able to contribute can contribute.

³⁵ Document CBD/SBI/3/7/Add.2 has been prepared for that purpose with document CBD/SBI/3/7/ providing a draft decision.

3.5.3 Enabling conditions (Section G)

Section “G” of the Updated Zero Draft includes one paragraph referring to synergies among relevant MEAs and other relevant international processes, including the 2030 Agenda for Sustainable Development. It can be assumed that this reference will be further specified by the CBD COP-15 decision on “cooperation with other conventions, international organisations and initiatives”. The draft negotiation text provided to SBI-3³⁶ proposes to task the CBD Executive Secretary to propose options of a “liaison mechanism among parties to the biodiversity-related MEAs” to the CBD COP-15. In order to enhance synergies between MEAs in the context of the GBF, certain questions related to coordination and cooperation on international, but also on national level will need to be clarified. MEAs are the result of consensus decisions by their respective member states, therefore the relation and contribution to the GBF will need to be defined in related mandates. MEA secretariats rely on decisions by their member states to be able to further engage in the development, the implementation and monitoring of the GBF. To improve communication and cooperation between the MEAs, the secretariats need to be provided with adequate resources and capacities to establish or strengthen the role of liaison officers, thematic committees or to be custodians for shared indicators.

The First Draft mentions that : “Efficiency and effectiveness will be enhanced for all by integration 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.”

The Environment Management Group (EMG), consisting of 51 UN agencies, suggested that biodiversity-related conventions could be the “operational arms of an overarching objective, namely the GBF. This would not only contribute to enhanced implementation and increased consistency in messaging, but also to building their ownership of the GBF. Ownership of the GBF by MEAs on other topics should also be increased” (EMG 2020b, p. 4). It was also proposed to combine the Joint Liaison Group of the Rio conventions (CBD, UNCCD, UNFCCC) and the Biodiversity Liaison Group to strengthen their role in the implementation phase of the GBF (WWF 2020). Coordination could further be strengthened with the establishment of a permanent advisory body on synergies with a focus on the implementation or a cooperation and coordination mechanism consisting of Parties of the biodiversity-related conventions and relevant MEAs (UNEP-WCMC 2020).

The background document for the Bern-II consultations on synergies between MEAs included several questions regarding the roles and mandates of the different coordination bodies that participants were invited to consider (UNEP-WCMC 2020). Further recommendations and key actions to improve synergies regarding governance that are still relevant were provided by the first and the second Informal Advisory Group on Synergies with the roadmap for enhancing synergies among the biodiversity-related conventions at the international level 2017-2020 (CBD 2018). It should be considered to update the roadmap after the adoption of the GBF to support implementation, monitoring and reporting.

In order to make progress in international environmental governance, decisions by the governing bodies of the biodiversity-related conventions need to be more precise, mutually reinforcing and based on technical areas identified for cooperation. Figure 1 and the examples in chapter 2.5.1 illustrate that point. Therefore, one way to ensure synergistic implementation

³⁶ <https://www.cbd.int/doc/c/7919/d276/fce130db370d20e0682e78e6/sbi-03-10-en.pdf>

of the GBF and mainstreaming of biodiversity would be to expand, revitalize or establish new joint work programmes which are developed jointly by two or more MEAs and other partners for which a MEA could act as lead agency. The corresponding paragraphs in the Updated Zero Draft are 14b/e.

The BLG, in which the secretariats of the biodiversity-related conventions are represented, could be complemented by an informal advisory group of experts from governments to advise the governing bodies of biodiversity-related conventions in promoting increased coherence and mutual supportiveness of strategies, programmes and measures.

3.5.4 Responsibility and Transparency, including monitoring framework and reporting (Section H)

The section H of the Updated Zero Draft on “Responsibility and Transparency” is divided into 3 elements: Planning, Reporting and Review. This paper adds the fourth element ‘monitoring framework’ which the Updated Zero Draft somehow includes under “planning”. Interestingly, the ‘global stocktake’ is listed under ‘reporting’ rather than ‘review’.

Planning

The first proposal for elements for a COP-15 decision “urges Parties and invites other Governments and all stakeholders to implement the framework consistent and in harmony with the Convention and other relevant international obligations, taking into account national socioeconomic conditions and national capacities” and “urges Parties to update national biodiversity strategies and action plans, as appropriate, in line with the framework and the guidance [contained in annex X] [and adopted in decision 15/-], incorporating national Targets or commitments, and adopt them as whole-of-government policy instruments;” (CBD 2020 WG2020/2/3). The recommendation text will be negotiated at OEWG-3 and finally at COP-15, providing the opportunity to strengthen the text with regards to synergies.

Parties expressed the view at OEWG-2 that the NBSAPs should be the key instrument for the implementation of the GBF, therefore should the proposed guidance for the update of the NBSAPs include recommendations to enhance synergies and to improve cooperation when implementing the Rio and the biodiversity-related conventions and processes as well as the SDGs on national level. The draft guidance is not available yet. The recommendations by the Informal Advisory Group on Synergies, adopted in decision XIII/24, and the information compiled by UNEP and UNEP-WCMC (UNEP-WCMC 2018) should be considered for such guidance. The recommendations that were developed to coordinate the implementation of the NBSAPs and relevant processes in the context of the Strategic Plan for Biodiversity 2011-2020 and its Aichi Biodiversity Targets are still valid. They include e.g. the establishment of common planning frameworks and coordination mechanisms between authorities responsible for different conventions, to make use of common indicators, data and monitoring mechanisms, the facilitation of collaboration and coordination between national focal points, “...including the exchange of information on priorities with regard to actions for implementation and resource needs so that there is a common understanding” (CBD 2016, p.6), the development of joint communication, awareness raising and resource mobilisation strategies as well as capacity building on issues of common concern. Further, the Informal Advisory Group on Synergies underlined that IPBES can provide knowledge and information relevant to all biodiversity-related conventions.

The future role of NSBAPs which are the main implementation mechanism of the CBD, and their relation to other mechanisms of biodiversity-related conventions, will need to be clarified further. Guidance to revise the NBSAPs should reflect the recommendations to enhance synergies at the national level provided by the Informal Advisory Group on Synergies. Agencies which have the expertise and/or capacities to contribute to NBSAP revision and implementation should be brought on board and capacities built.

It will be key to develop more details on requirements for the upcoming revision of NBSAPs. They will need to reflect the GBF and become more overarching in nature, meaning that they support implementation of all biodiversity-related MEAs.

All biodiversity-related conventions and also interested relevant international organizations should be consulted when this guidance is being prepared.

Each revision of the NBSAP and parts of it should constitute an increase in ambition. This ratcheting up mechanisms needs to be agreed on together with the guidance for a revision of the post-2020 NBSAPs which should be developed in consultation among the biodiversity-related convention secretariats and relevant / interested international organisations.

Reporting

The discussion to harmonise national reporting among the biodiversity-related conventions started in 1998 already with the aim to avoid duplications, increase the efficiency and reduce the bureaucratic burden and to improve and align the available data and information (Herkenrath 2006). Harmonisation pilot projects were carried out between 2001 and 2003 and UNEP-WCMC hosted an expert workshop in 2004. It was recommended to the Biodiversity Liaison Group to develop a joint web portal, common reporting modules for a core report and thematic reporting and to facilitate the harmonisation of national reporting. A paper by UNEP-WCMC identified preconditions for harmonisation of reporting at international level, e.g. clarity about information needs, Inter-MEA agreements on information needs and management and mandates from their governing bodies as well as joint systems of information management, addressing the different reporting cycles. It was proposed to test a draft template consisting of a 'core report' for five conventions, with annexes providing supplementary information specific to the individual conventions. Furthermore, guidance on the question how a reporting system, data and information management could serve international as well as national reporting needs was requested (UNEP-WCMC 2012). One solution is a modular approach³⁷: Information related to certain topics which have relevance to more than one MEA could be collected through a jointly developed reporting format and be reported on in jointly determined intervals.

Thematic links also exist between the Rio Conventions. For instance, the UNCCD's indicators on Land Degradation Neutrality are already used to assess and report progress for SDG Target 15.3. It should be further elaborated how this process can be included in the GBF monitoring framework and how it relates to other MEAs (UNCCD 2017).

The CBD emphasised "the value of improving the alignment of national reports under the Convention and its Protocols" as well as "the value of enhanced synergies among the biodiversity-related conventions and the Rio conventions, and noting the progress made thus

³⁷ The Swiss Federal Office for the Environment (FOEN), UNEP-WCMC and NatureConsult carried out an extensive mapping exercise of national reporting of CITES, CMS, Ramsar, WHC, ITPGRFA, and IPPC in relation to the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets. They recommend modular reporting across MEAs to lower the burden and conclude that "a more integrated approach to reporting at the global level could also lead to more integrated approaches at other levels, and potentially also trigger further collaboration and action at the national level in addressing the further decline of biodiversity." They also underline the benefits for the development of the GBF and other processes (FOEN, UNEP-WCMC & NatureConsult 2016).

far in this respect, including the activities of the Liaison Group of Biodiversity-related Conventions and the Joint Liaison Group of the Rio Conventions, as well as relevant initiatives such as the development of the Data and Reporting Tool under InforMEA” (CBD 2018, p. 1). The Parties of the CBD decided to synchronize the reporting cycles of the CBD, Cartagena Protocol and the Nagoya Protocol until 2023. Furthermore, Parties were encouraged to “explore possible synergies at the national level, involving all relevant biodiversity-related reporting processes, in order to enhance the alignment and consistency of information and data in national reports” (CBD 2018, p.1). The CBD secretariat was requested to further improve the online platform for national reporting, to contribute to the Data and Reporting Tool for MEAs (DaRT)³⁸ and to consider options for the alignment of reporting in the preparations for the GBF. The secretariat was also requested to identify concrete actions to advance synergies together with the Liaison Group of Biodiversity-related Conventions and the Joint Liaison Group of the Rio Convention. including: (i) Common indicators, where appropriate; (ii) Reporting modules on shared issues; (iii) Interoperability of information management and reporting systems; (iv) Other options for increasing synergies in national reporting among the biodiversity-related conventions³⁹. The reporting tools and processes of the 2030 Agenda and the SDGs could provide further entry points and information to enhance synergies (cf. Figure 7: SGD Dashboard).

UNEP-WCMC referred to the fact that no joint platform exists to synthesise and visualise information and data needed to track progress towards global biodiversity Targets. The UN Biodiversity Lab⁴⁰, for example, only presents geographical data on the progress towards the Aichi Targets and selected SDGs. Such a platform would need to use global, regional, and national indicators from a wide range of data providers including MEAs.

During the consultations on monitoring and reporting, a joint presentation by GEF, UNEP and UNDP on the sixth national report to the CBD included their ideas to improve monitoring in the context of the GBF on species decline, forest cover decline, soil organic carbon loss or CO₂ emissions. It was emphasized that the current challenges are the sectoral and theme-based reporting, the level of detail of the reporting processes, outdated data, static reporting and a heavy reporting burden for the Parties. Recommendations for an improved and integrated monitoring (GEF, UNEP, UNDP et al. 2020) are presented here.

A global stocktaking of the implementation of the GBF should be informed by all interested MEAs, international organisations and stakeholders through national reports to MEAs, indicators, assessments such as those undertaken by IPBES, and other sources of information. Tools and platforms like the DaRT, the UN Biodiversity Lab and others can play an important role. All digital information tools should strive towards interoperability among each other. Different options on how such stocktakes could take place should be considered. For instance, each MEA could be invited to organise a stocktake in the margins of their governing body meetings which would take stock of the progress in implementing national reports received by this and/or another MEAs to date. Global stocktake sessions could be organised in close proximity but independent from a CBD COP in order to reflect the overarching nature

³⁸ The “Data Reporting Tool for MEAs (DaRT - <https://dart.informea.org>) is designed as a national-level knowledge management tool and enables to cross reference/cross map information on the implementation of NBSAPs with strategies, goals and targets of CITES, CMS, Ramsar, ITPGRFA, the SDGs as well as the EU 2020 Biodiversity Strategy and AEW. DaRT is already used by a small group of countries including China and was presented during convention meetings in 2019 and 2020. To ensure an increase in its user base and to ensure interoperability with other MEA tools and platforms, a potential global stocktaking platform would be the next step.

³⁹ Report by the CBD Secretariat : <https://www.cbd.int/doc/c/38c5/24c3/d3ce15f5a2fa80e3bfec0de/sbi-03-11-add2-en.pdf>

⁴⁰ www.unbiodiversitylab.org

of the GBF. An option could be to invite the UN Secretary General to host the global stocktake meetings, which could take place in the middle and at the end of the decade.

The delay of convention schedules due to COVID-19 could be an opportunity to reflect on the better alignment of reporting cycles and the convention schedules in general to allow for better future coordination.

A suggestion is to consider establishing a coordination body of all relevant conventions and organisations (Rio, biodiversity-related conventions, UNEP, UNDP etc.), that could include representatives of MEAs governing bodies to oversee the implementation of the GBF and ensure policy coherence. This could be complemented with the establishment of a permanent advisory body on synergies with a focus on implementation.

Review mechanisms for the implementation of the GBF and MEAs

Related to the global stocktake, the GBF is expected to be linked to other review mechanisms, such as open-ended forums and voluntary in-depth reviews. It is unclear to which extent these mechanisms would focus on the CBD only, given that many biodiversity-related conventions have already review mechanisms in the sense mentioned here. In case the review mechanisms are designed to review the implementation of the entire GBF, it would be important to be clear about the role of the different biodiversity-related conventions.

Each biodiversity-related convention reviews its implementation in one form or another. Given the overarching nature of the GBF, a global stocktake is currently being discussed. This study proposes regular global stocktake sessions in the margins of the high-level segments of the CBD COPs. The global stocktake sessions should be informed by all biodiversity-related conventions, the indicators which are included in the monitoring framework, reports submitted by interested UN agencies, IPBES assessments and other sources. It is advised that the global stocktake is closely related but distinct from a CBD specific review: A CBD specific review would focus on the review of the specific provisions of the Convention and its COP decisions. A specific review of implementation will also continue to be needed for the protocols under the CBD.

Monitoring framework (not separately listed in the Updated Zero Draft)

The Biodiversity Indicator Partnership (BIP) was established in 2007 to monitor the progress towards the 2010 Strategy and later to develop and monitor the implementation of the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets. The partnership consists of over 60 partners and is hosted by the UN Environment World Conservation Monitoring Centre (UNEP-WCMC) in Cambridge, UK. When the Strategic Plan 2010-2020 of the CBD was adopted, only 13 of the 20 Aichi Targets were covered by existing indicators and the BIP was working towards closing the gap and developed new indicators for the CBD but also for biodiversity-related conventions, e.g. CITES, CMS, UNCCD, and Ramsar. Many of the indicators are also used for the regional and global IPBES assessments (cf. BIP Dashboard for an overview over shared indicators). The BIP and UNEP-WCMC published a “mapping of current and potential use of biodiversity indicators across intergovernmental processes” showing the relation of indicators between the CBD, the SDGs, CITES, CMS, Ramsar and IPBES with the aim to enhance the coherence in the development and use of indicators across processes (UNEP-WCMC 2020). It sets a specific focus on indicators that are relevant for the GBF.

Until today, the BIP identified 98 global indicators for the Aichi Targets, which are currently under review in the context of the GBF developments⁴¹.

Out of the 231 SDG indicators⁴², 27 indicators were used for the Aichi Targets while 14 of those are linked to sub-Targets with timelines until 2020 or 2025. Most BIP indicators are developed and monitored by scientific institutions or international organizations. MEAs are custodians or co-custodians for six indicators (ITPGRFA (3), UNCCD (1), CITES (1), CMS (1), RAMSAR (1)).

For SBSTTA-23, UNEP-WCMC published an information document describing the global indicators available, lessons learned from the Aichi indicators and challenges for the development of post-2020 indicators and advantages and disadvantages of a limited set of indicators or a flexible indicator framework (CBD 2019). The Organisation for Economic Co-operation and Development (OECD) elaborated on different criteria to ensure Specific, Measurable, Achievable, Relevant and Time-bound (SMART) and output-oriented indicators by mapping available global indicators against the state-pressure-response model and made first proposals for potential headline indicators for the GBF (CBD 2019).

The latest draft monitoring framework for the GBF was submitted to the CBD SBSTTA-24 to provide advice to the OEWG (CBD 2019). The draft monitoring framework includes an Annex with headline indicators and is complemented by a full list of indicators presented in the separate document.⁴³ A full cross-mapping of the presented indicators across MEAs, IPBES and SDGs has not been done and biodiversity-related conventions are not specifically mentioned. The list of headline indicators and the full list of indicators include no corresponding metadata, for instance on a custodian agency. It is therefore not clear to which extent requirements from biodiversity-related conventions other than the CBD have been reflected in the updated monitoring framework (UNEP-WCMC 2021).

UNEP-WCMC states that the suitability of indicators needs to be looked at a case-by-case basis and that therefore clarity in the concepts and scope of the proposed goals and Targets of the GBF will improve the selection and development of relevant indicators. The current timeline for the development of the GBF foresees however that proposed indicators should be discussed before the text for goals and Targets will be negotiated. UNEP-WCMC further points out that most synergies could be used if Targets between MEAs were aligned. They underline the benefits of custodians for specific indicators to ensure capacity to collect data on a global scale and during a longer period. In addition, they reflect on the idea of selected headline indicators that would be assessed on a regular basis across all countries as well as on the benefits of regional indicators to monitor migratory species across borders. An analysis of indicators used in 20 of the sixth national reports to the CBD showed a general increase of indicators used by Parties for the reports, however most indicators were unique for the country and not aligned with global indicators, which made it more difficult to evaluate how progress on a national level contributed to global goals.

⁴¹ <https://www.bipindicators.net/list-of-global-indicators-available-for-review>

⁴² <https://unstats.un.org/sdgs/indicators/indicators-list/>

⁴³ Check the SBSTTA-24 meeting website for further documents related to the monitoring framework: www.cbd.int/sbstta

Table 3: Overview of indicators with links to other MEAs included in the background document by UNEP-WCMC on the draft GBF for review (no indicators used or managed by UNFCCC, ITPGRFA, IWC or WHC were provided).

Goals/ Target	Element	Trend	Indicator	MEAs	Custodian	SDG indicator	
Goals							
A	GA1. Increased extent of natural ecosystems (terrestrial, freshwater and marine ecosystems)	Trends in area of mangroves	Trends in mangrove extent	Ramsar	Global Mangrove Watch	6.6.1	
		Trends in area of wetlands	Wetland Extent Trends Index	Ramsar, CITES, CMS, IPBES	Ramsar	6.6.1	
	GA2. Ecosystem integrity and connectivity (terrestrial, freshwater and Marine ecosystems)	Trends in area of wetlands	Change on the extent of water-related ecosystems	Ramsar	Ramsar	6.6.1	
A		Trends in integrity for all ecosystems	Proportion of land that is degraded over total land area	UNCCD	UNCCD	15.3.1	
	GA3. Prevent extinction and improve the conservation status of species	Trends in fragmentation and quality of inland wetlands	Wetland Extent Trends Index	Ramsar, CITES, CMS, IPBES	Ramsar		
			Red List Index (wetland species)	Ramsar	IUCN		
A	GA4. Increase the number and health of common species	Trends in number of extinctions	Red List Index	CMS, IPBES, Ramsar	IUCN & BirdLife International	15.5.1	
		Trends in conservation status of species	Red List Index	CMS, IPBES, Ramsar	IUCN & BirdLife International	15.5.1	
	GA5. Maintain Genetic diversity	Wild Bird Index (WBI)	Wild Bird Index (WBI)	CMS	RSPB & BirdLife International		
A		Trends in species abundance	Living Planet Index (LPI).	CMS, Ramsar, IPBES	ZSL/WW		
	GA6. Protection of critical ecosystems	Trends in species abundance	Wild Bird Index (WBI)	CMS	RSPB & BirdLife International		
A		Trends in the diversity of wild relatives	Red List Index (wild relatives of domesticated animals).	CMS, IPBES	IUCN & BirdLife International		
A	GB1. <i>Nature's regulating contributions including climate regulation disaster prevention and other</i>	Trends in areas of particular importance for biodiversity conserved	Protected Area Coverage of Key Biodiversity Areas	Ramsar, IPBES	BirdLife International, UNEP WCMC & IUCN	14.5.1, 15.1.2, 15.4.1	
B		Trends in regulation of hazards and extreme events	Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population	UNDRR		11.5.1	
Targets							
1	T1.2. Prevention of reduction and fragmentation of natural habitats due to land/sea use change	Trends in extent and rate of change of dry and sub humid lands	Trends in land cover change	UNCCD	UNCCD	15.3.1	
1		Trends in extent and rate of change of mangroves	Trends in mangrove extent	Ramsar	Global Mangrove Watch	6.6.1	
1		Trends in extent and rate of change of coral reefs	Red List Index (coral species)	Ramsar			
1		Trends in extent and rate of change of wetlands	Wetland Extent Trends Index	Ramsar	Ramsar		
1			Change on the extent of water-related ecosystems	Red List	Ramsar	Ramsar	6.6.1
1				Index (wetland species)	Ramsar	IUCN	
1	T1.4. Restoration of degraded ecosystems	Trend in the area of degraded forest ecosystems restored	Proportion of land that is degraded over total land is	UNCCD	UNCCD	15.3.1	
2	T2.2. Areas of particular importance for biodiversity are protected and conserved as priority	Trends in proportion of areas of particular importance for	Protected Area Coverage of Key Biodiversity Areas	Ramsar	BirdLife International, UNEP-WCMC & IUCN	14.5.1, 15.1.2, 15.4.1	

9	T9.1. Sustainable management of agricultural biodiversity, including soil biodiversity, cultivated plants and farmed and domesticated animals and of wild relatives	biodiversity protected and conserved Trends in area of agriculture under Sustainable practices	Changes in land productivity	UNCCD	UNCCD	15.3.1
9		Trends in soil quality	Changes in SOC stocks	UNCCD	UNCCD	15.3.1

Source: Illustrative, based on UNEP-WCMC 2020: Indicators for the GBF - Information Document prepared for SBSTTA24 by UNEP-WCMC in collaboration with the Biodiversity Indicators Partnership.

It should be ensured that the requirements of biodiversity-related conventions other than the CBD are met by the monitoring framework. This includes the questions of scope but also terminologies. The secretariats and Parties of biodiversity-related conventions other than the CBD have expressed their requirements in submissions and in the Bern I and II consultation meetings. CBD Parties are now encouraged to reflect those requirements in their negotiations of the GBF.

3.5.5 Outreach, awareness and uptake (Section I)

The Updated Zero Draft includes section I on “Outreach, awareness and uptake”. If and how this section will be underpinned by a dedicated CBD COP-15 decision is unclear. However, in the decision 14/34 of developing the framework (CBD 2018), it was clear that the GBF should be supported by a coherent, comprehensive and innovative communication strategy. SBI 3, in its virtual session in May/June 2021, requested the Executive Secretary to undertake actions in this respect (CRP 3, <https://www.cbd.int/meetings/SBI-03>). The biodiversity-related conventions, but also all MEAs and international organisations will have an important role in conducting outreach and raising awareness, not least through their respective regional and national governmental and non-governmental partners.

For such a communication strategy, one option to be considered could be to share the communication and outreach tasks for one or more convention secretariats and/or international organisations to take the lead on a certain issue or for a specific Target group.

3.6 Promotion of the synergies process in the context of the GBF by China as host of the 2021 UN Biodiversity Conference

China as the host of CBD COP-15 could ensure that synergies and policy coherence are high on the agenda and considered in the final negotiations of the GBF. A high-level uptake event with the executive secretaries of UNCCD, UNFCCC, biodiversity-related conventions and UN agencies after the adoption could send a strong message of joint commitment to the GBF. Such an event would also be an opportunity to commit to relevant MEAs and to encourage other countries to join or to re-join. China could engage with UK as the host of UNFCCC COP-26 to ensure that the outcomes of CBD COP-15.1 are conveyed to COP-26, receive the necessary attention and results are taken back to COP-15.2.

The CICCED could lead for example by coordinating biodiversity-related recommendations of the different SPS and by carrying out a mapping exercise to show how the recommendations relate to draft GBF goals and Targets as well as to the SGDs and objectives of relevant MEAs (cf. Figure 4).

Being a front runner for integrated planning, monitoring and evaluation, China can establish and strengthen coordination committees for joint implementation of the SDGs and the GBF contributing to the objectives of the Rio conventions, the biodiversity-related conventions and the 2030 Agenda for Sustainable Development.

Flagship initiatives such as China's 14th Five Year Plan, the Ecological Conservation Redline (ECR) or the Green Belt and Road Initiatives (GBRI) could show how China contributes to the objectives of relevant MEAs. National indicators should be aligned with global indicators used by several MEAs and the SDGs and it should be elaborated how national data and reporting can contribute to potential headline indicators. China as an early adopter of the DaRT tool should promote the application of the tool in other countries and regions.

China could further use its role as host to support the idea of the Rio Conventions Secretariats for a joint Project Preparation Facility for large-scale projects contributing to all the conventions and equip it with the necessary capacity and resources to start working.

4 Conclusions

This report aims to inform the CCICED Special Policy Study (SPS 1-2) “Post 2020: Global Biodiversity Conservation” with respect to the mainstreaming and synergy agendas in the context of the GBF. The report analyses to what extent mainstreaming and synergy agendas are reflected in the Updated Zero Draft and partly the First Draft published in July 2021 prior to the 3rd meeting of the OEWG on the GBF and in related processes and preparatory documents. The report also provides recommendations on how mainstreaming and synergy agendas could be further strengthened within the GBF and its implementation, including by parties to the CBD and especially China, as the host of CBD COP-15.

Strengthening the mainstreaming agenda within the GBF

To realize transformative changes, mainstreaming needs to be a strong part of the GBF. While several GBF Targets have mainstreaming relevance, the mainstreaming agenda should feature more strongly in the GBF by directly addressing all governance levels, relevant sectors and non-state actors in GBF Targets and indicators. Furthermore, important components of the GBF, in particular the sections “means of implementation” and “transparency mechanisms” are not yet sufficiently developed and ways for sectors and non-state actors to engage in the development and later implementation need to be laid out. In addition, the concrete integration of the LTAM in the GBF and the follow-up of implementation require further specification. The LTAM’s lack of more specific guidance for other sectors beyond finance has been criticised by some Parties and stakeholders.

GBF needs to manage a clear definition of the NbS concept and highlight the multiple benefits of NbS

The use of the NbS concept is still under discussion within the GBF process itself and does not appear in the First Draft anymore. The use of an accurately defined NbS concept in the GBF and/or monitoring system could strengthen the perception and use of NbS as instruments for achieving multiple benefits including socio-economic ones. It would bring in the multiple benefits that urban green and blue spaces provide, including food provision, health and well-being, innovation and economic benefits, water quality and air quality.

NbS have more to offer than just cost-effective climate interventions. They could make a more significant contribution to the biodiversity agenda by not merely focusing on doing no harm but aiming for net-gain instead. NbS should be nature-positive, in line with the IUCN Global Stand for NbS. That is, NbS interventions’ biodiversity objectives should go beyond safeguards and no net loss, and actively contribute to biodiversity conservation and restoration if they are suitably specified.

The GBF could reintegrate the NbS concept as it is currently excluded from the First Draft. This clearly constitutes a missed opportunity. Updated Zero Draft Targets 7 (climate change; First Draft Target 8) and Target 10 (nature’s contributions to people; First Draft Target 11) could be broadened to highlight the contribution of NbS to wide range of societal challenges. The urban biodiversity Target 11 (First Draft Target 12) does not mention NbS. Linking Updated Zero Draft Targets 10 and 11 by taking a broader approach to NbS would make the multiple benefits of biodiversity visible to more sectors beyond the climate community.

Despite increasing uptake, the financial sector is still not where it needs to be when it comes to integrating biodiversity objectives into investment decisions

In the LTAM, the financial sector is the only sector that is treated as one of five action areas. Besides the 2030 Milestone on green investments (Goal B.2), the Updated Zero Draft does not explicitly speak to private financial institutions at Target level. Promising developments such as ASN Bank's Biodiversity Footprint for Financial Institutions methodology or EU Taxonomy which includes a dedicated biodiversity objective are underway that can contribute to the further integration of biodiversity risks in financial sector decision-making. However, in order to meet the 2030 Milestone on green investments included in the Updated Zero Draft, there is still a long way to go. The First Draft, however, does not mention green financing anymore. The financial sector's capacities in biodiversity mainstreaming and developing market infrastructure still need to be further strengthened. Central banks and other financial regulators can help establish effective incentive and restraint mechanisms. In this context, some experiences and lessons from other areas of green finance may be transferable to biodiversity finance.

While ecosystem accounting features prominently in the Updated Zero Draft and the First Draft, implementing ecosystem accounting still faces a number of challenges

National accounting is firmly anchored in the Updated Zero Draft as well as in the First Draft, the LTAM and its Action Plan. While, with the SEEA-EA and China's GEP, much progress has been made to reflect biodiversity considerations in national accounting and decision-making, there are still a number of challenges ahead when it comes to implementing biodiversity-related national accounting. In order to effectively implement the accounting related objectives of the GBF and LTAM, accounting efforts need to be tailored to their specific purposes and data availability at national and regional levels needs to be improved. When negotiating the capacity building components of the GBF (e.g. under Section F), these needs should be taken into account.

Highlighting the contributions of non-state and subnational actors

Overall, to further promote actions by non-state and subnational actors such as financial sector institutions or cities, their contributions to the GBF would need to be made more visible. Options for this include the platform Cities4Nature, which maps subnational commitments and reviews their progress. Furthermore, the Action Agenda for Nature and People could also be made more attractive and could include a mechanism to assess progress on these commitments. The GBF could foster more explicit linkages to these platforms. Doing so could enhance motivation by actors to showcase what they are already doing.

Political will is key to achieve mainstreaming on the ground

In order to fully embed biodiversity in relevant sectors and policy areas, the political and social will is needed above all. It remains to be seen whether the experience gained from dealing with the COVID-19 pandemic – in terms of biodiversity and human health interlinkages as well as green stimulus packages - will help to give this issue a noticeable boost in all political and social areas. The change of perspective from the experience of the crisis is important: What is really important? What does biological diversity mean to us, and what added value do all sectors have from paying attention to its conservation and sustainable use?

Synergies between biodiversity-related MEAs

The development of the GBF provides opportunities at global policy level to strengthen synergies among biodiversity-related conventions. This will require provisions within the text of the framework itself, accompanying decisions by the CBD and other biodiversity-related conventions and possible other multilateral bodies. One example is the future status of NBSAPs, which has to be clarified in relation to the GBF.

In order to achieve significant synergies at global level, they need to be driven by Parties by taking consistent, and in many cases detailed, decisions and resolutions.

Synergies in a broader context and links to mainstreaming

Synergies do not only exist among biodiversity-related conventions – it goes far beyond that and overlaps gradually with the mainstreaming agenda. Opportunities for enhanced synergies at global and regional levels exist beyond the cluster of biodiversity-related conventions. Also, UN agencies and other international organisations can contribute to global biodiversity objectives and the increased recognition of the relevance of biodiversity for other policy areas can lead to further synergies. This will be particularly important to address indirect drivers of biodiversity loss and to achieve transformational change. It will be important to establish entry points and options to cooperate in the framework with regard to the GBF.

A global stocktaking of the implementation of the GBF should be informed by all interested MEAs, international organisations and stakeholders through national reports to MEAs, indicators, assessments such as those undertaken by IPBES, and other sources of information. Tools and platforms like the DaRT, the UN Biodiversity Lab and others can play an important role. All digital information tools should strive towards interoperability among each other.

The future of the synergies process at global and national level

At national level, the upcoming likely revisions of NBSAPs and the voluntary national reviews for the SDGs provide opportunities for synergies.

Processes to enhance synergies between MEAs will continue in the future. It is an opportunity to seek new ways of cooperation, sometimes facilitated by technical development, sometimes driven by needs of Parties, sometimes of secretariats. The conventions and international agencies can reflect synergies in their supportive and enabling activities at country levels, for instance by capacity development work.

Cooperation at the level of secretariats of biodiversity-related MEAs is already well established, however it is only to a limited extent institutionalised and governments play a limited role in terms of guidance, oversight and practical application. How to effectively advance synergies is subject to many debates but it is clear that governments need to speak with one voice in all conventions they are party to, make sure they use potentials for synergies, cooperation and coordination at national level but also take a driving seat when advancing synergies among the biodiversity-related MEAs. The report lays out some areas: Target setting, biodiversity indicators, guidance for NBSAP, monitoring and reporting and improving the government structures.

5 Bibliography

Executive Summary

CITES. (2019). *Conf. 18.3 CITES Strategic Vision: 2021-2030*.
https://cites.org/sites/default/files/document/E-Res-18-03_0.pdf

Obrecht, A., Pham-Truffert, M., Spehn, E., Payne, D., de Bremond, A., Altermatt, F., Fischer, M., Passarello, C., Moersberger, H., Schelske, O., Guntern, J., Prescott, G., & Geschke, J. (2021). Achieving the SDGs with Biodiversity. *Swiss Academies Factsheet*, 16 (1).
https://biodiversity.scnat.ch/uuid/i/d67fa591-6ef6-5e16-a770-f2347cb250f7-Achieving_the_SDGs_with_Biodiversity

Ouyang, Z., Song, C., Zheng, H., Polasky, S., Xiao, Y., Bateman, I. J., Liu, J., Ruckelshaus, M., Shi, F., Xiao, W., Xu, W., Zou, Z. & Daily, G.C. (2020). Using gross ecosystem product (GEP) to value nature in decision making. *Proceedings of the National Academy of Sciences of the United States of America*, 117(25), 14593-14601.
<https://doi.org/10.1073/pnas.1911439117>

SEEA. (2021). *System of Environmental Economic Accounting. Ecosystem Accounting*.
https://unstats.un.org/unsd/statcom/52nd-session/documents/BG-3f-SEEA-EA_Final_draft-E.pdf

Chapter 1 – Introduction

CBD. (2020). *CBD/POST2020/PREP/2/1 - Update of the zero draft of the post-2020 global biodiversity framework*.
<https://www.cbd.int/doc/c/3064/749a/0f65ac7f9def86707f4eaefa/post2020-prep-02-01-en.pdf>

CBD. (2020). *Global Biodiversity Outlook 5 – Summary for Policy Makers*.
<https://www.cbd.int/gbo/gbo5/publication/gbo-5-spm-en.pdf>

CBD. (2021). *CBD/WG2020/3/3 - First draft of the post-2020 global biodiversity framework*.
<https://www.cbd.int/doc/c/d605/21e2/2110159110d84290e1afca98/wg2020-03-03-en.pdf>

IPBES. (2019). *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*.
https://www.ipbes.net/sites/default/files/2020-02/ipbes_global_assessment_report_summary_for_policymakers_en.pdf

Kabisch, N., Korn, H., Stadler, J. & Bonn, K. (2017). *Nature-based solutions to climate change adaptation in urban areas: Linkages between science, policy and practice*. Springer Nature.

Seddon, N., Sengupta, S., García-Espinosa, M., Hauler, I., Herr, D., & Raza Rizvi, A. (2019). *Nature-based Solutions in Nationally Determined Contributions: Synthesis and recommendations for enhancing climate ambition and action by 2020*. IUCN & University of Oxford.

SEEA. (n.d.). *System of Environmental Economic Accounting. Accounting for biodiversity*.
<https://seea.un.org/content/accounting-biodiversity>

van Toor, J., Piljic, D., Schellekens, G., van Oorschot, M., & Kok, M. (2020). *Indebted to Nature. Exploring biodiversity risks for the Dutch financial sector*. De Nederlandsche Bank (DNB) & PBL Netherlands Environmental Assessment Agency.

Vivideconomics. (2020). *Greenness of Stimulus Packages*.
https://www.vivideconomics.com/wp-content/uploads/2021/01/201214-GSI-report_December-release.pdf

WEF. (2021). *The Global Risks Report 2021*. <https://www.weforum.org/reports/the-global-risks-report-2021>

Chapter 2 – The mainstreaming agenda within the post-2020 global biodiversity framework and entry points for its implementation

Introduction

CBD. (2010). *UNEP/CBD/COP/DEC/X/2. Strategic Plan for Biodiversity 2011-2020*.
<https://www.cbd.int/doc/decisions/cop-10/cop-10-dec-02-en.pdf>

CBD (2020). *CBD/SBI/3/13. Mainstreaming of biodiversity within and across sectors and other strategic actions to enhance implementation. Long Term Approach to Mainstreaming*.
<https://www.cbd.int/doc/c/a287/0c8d/18b6e61d80d3c5dcc8959199/sbi-03-13-en.pdf>

CBD. (2020). *CBD/SBI/3/13/Add.1. Action plan for the long-term approach to mainstreaming biodiversity*. <https://www.cbd.int/doc/c/cb2d/a669/83a9d4a827918b488ae8057f/sbi-03-13-add1-en.pdf>

CBD. (2020). *Global Biodiversity Outlook 5 – Summary for Policy Makers*.
<https://www.cbd.int/gbo/gbo5/publication/gbo-5-spm-en.pdf>

CBD. (2020). *SCBD/SSSF/ML/OH/89116. Webinar 10/2020 “Webinars on the long-term approach to mainstreaming biodiversity and the role of subnational governments and local authorities in the post-2020 global biodiversity framework”*.
<https://www.cbd.int/kb/record/notification/3021?Subject=CITY>

CBD. (2020). *CBD/WG2020/3/3. First draft of the post-2020 global biodiversity framework*.
<https://www.cbd.int/doc/c/914a/eca3/24ad42235033f031badf61b1/wg2020-03-03-en.pdf>

Chandra, A., & Idrisova, A. (2011). Convention on biological diversity: a review of national challenges and opportunities for implementation. *Biodiversity Conservation*, 20, 3295–3316.
<https://doi.org/10.1007/s10531-011-0141-x>

IPBES. (2019). *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. https://www.ipbes.net/sites/default/files/2020-02/ipbes_global_assessment_report_summary_for_policymakers_en.pdf

Kabisch, N., Korn, H., Stadler, J. & Bonn, K. (2017). *Nature-based solutions to climate change adaptation in urban areas: Linkages between science, policy and practice*. Springer Nature.

Karlsson-Vinkhuyzen, S., Kok, M., Visseren-Hamakers, I.J., & Termeer, C.J.A.M. (2017). Mainstreaming biodiversity in economic sectors: An analytical framework. *Biological Conservation*, 210, 145-156. <https://doi.org/10.1016/j.biocon.2017.03.029>

Leadley, P.W., Krug, C.B., Alkemade, R., Pereira, H.M., Sumaila U.R., Walpole, M., Marques, A., Newbold, T., Teh, L.S.L, van Kolck, J., Bellard, C., Januchowski-Hartley, S.R. & Mumby,

P.J. (2014). *Progress towards the Aichi Biodiversity Targets: An Assessment of Biodiversity Trends, Policy Scenarios and Key Actions*. Secretariat of the Convention on Biological Diversity. <https://www.cbd.int/doc/publications/cbd-ts-78-en.pdf>

OECD. (2018). *Mainstreaming Biodiversity for Sustainable Development*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264303201-en>.

OECD. (2020). *Towards Sustainable Land Use: Aligning Biodiversity, Climate and Food Policies*, OECD Publishing, Paris, <https://doi.org/10.1787/3809b6a1-en>.

Prip, C., Gross, T., Sam, J. & Marjo, V. (2010). *Biodiversity Planning: an assessment of national biodiversity strategies and action plans*. United Nations University Institute of Advanced Studies. <https://www.cbd.int/doc/nbsap/unu-assessment.pdf>

Seddon, N., Sengupta, S., García-Espinosa, M., Hauler, I., Herr, D., & Raza Rizvi, A. (2019). *Nature-based Solutions in Nationally Determined Contributions: Synthesis and recommendations for enhancing climate ambition and action by 2020*. IUCN & University of Oxford.

Smith, J., Bass, S., & Roe, D. (2020). *Biodiversity mainstreaming in Global Environmental Facility projects: A review of current practice*. IIED. <https://pubs.iied.org/sites/default/files/pdfs/2021-01/17663IIED.pdf>

van Toor, J., Piljic, D., Schellekens, G., van Oorschot, M. & Kok, M. (2020). *Indebted to Nature. Exploring biodiversity risks for the Dutch financial sector*. De Nederlandsche Bank (DNB) & PBL Netherlands Environmental Assessment Agency.

Whitehorn, P. R., Navarro, L.M., Schröter, M., Fernandez, M., Rotllan-Puig, X., & Marques, A. (2019). Mainstreaming biodiversity: A review of national strategies. *Biological Conservation*, 235, 157-163. <https://doi.org/10.1016/j.biocon.2019.04.016>

Mainstreaming biodiversity in climate policy

Barber, C.V., Petersen, R., Young, V., Mackey, B., Kormos, C. (2020). *The Nexus Report: Nature Based Solutions to the Biodiversity and Climate Crisis*. F20 Foundations, Campaign for Nature and SEE Foundation. <https://www.foundations-20.org/nexus-report-naturebasedsolutions/> posted on Nov 16, 2020.

Bennett, M.T. (2008). China's sloping land conversion program: Institutional innovation or business as usual? *Ecological Economics*, 65(4), 699-711. <https://doi.org/10.1016/j.ecolecon.2007.09.017>

CBD. (2020). *CBD/SBI/3/13. Mainstreaming of biodiversity within and across sectors and other strategic actions to enhance implementation. Long Term Approach to Mainstreaming*. <https://www.cbd.int/doc/c/a287/0c8d/18b6e61d80d3c5dcc8959199/sbi-03-13-en.pdf>

CBD. (2020). *CBD/SBI/3/13/Add.1. Action plan for the long-term approach to mainstreaming biodiversity*. <https://www.cbd.int/doc/c/cb2d/a669/83a9d4a827918b488ae8057f/sbi-03-13-add1-en.pdf>

CBD. (2020). *CBD/POST2020/PREP/2/1 - Update of the zero draft of the post-2020 global biodiversity framework*. <https://www.cbd.int/doc/c/3064/749a/0f65ac7f9def86707f4eaefa/post2020-prep-02-01-en.pdf>

- CBD OEWG (2021). Open Ended Working Group on the post-2020 Global Biodiversity Framework, Third meeting, 23 August – 3 September 2021, Item 4 of the provisional agenda. *First Draft of the post-2020 Global Biodiversity Framework*. <https://www.cbd.int/conferences/post2020>
- DIE. (2020). *DIE NDC Explorer*. Retrieved October 12th, 2020 from <https://klimalog.die-gdi.de/ndc/#NDCExplorer/worldMap?NDC??climatechangemitigation??cat8>
- Climate Watch. (2016). *Uganda. Summary of First Nationally Determined Contribution (NDC)*. Kampala, September 21st, 2016. https://www.climatewatchdata.org/ndcs/country/UGA?document=first_ndc
- Dasgupta, P. (2021). *The Economics of Biodiversity: The Dasgupta Review*. HM Treasury, London. www.gov.uk/official-documents
- GEF 2021. *Report of the Chair of the Scientific and Technical Advisory Panel to the 60th GEF Council Meeting, June 2021*, Document Number: GEF/STAP/C.60/Inf.01. <https://www.thegef.org/council-meeting-documents/report-chair-scientific-and-technical-advisory-panel-60th-gef-council>
- Girardin, C. A. J., Jenkins, S., Seddon, N., Allen, M., Lewis, S. L., Wheeler, C. E., Griscom, B. W., Malhi, Y. (2021). Nature-based solutions can help cool the planet—if we act now. *Nature*, 593, 191-194.
- Griscom, B. W., Adams, J., Ellis, P.W., Houghton, R. A., Lomax, G., Miteva, D. A., Schlesinger, W.H., Shoch, D., Siikamäki, J.V., Smith, P., Woodbury, P., Zganjar, C., Blackman, A., Campari, J., Conant, R. T., Delgado, C., Elias, P., Gopalakrishna, T., Hamsik, M.R. ... Fargione, J. (2017). Natural climate solutions. *Proceedings of the National Academy of Sciences of the United States of America*, 114(44), 11645-11650. <https://doi.org/10.1073/pnas.1710465114>
- Hua, F., Wang, X., Zheng, X., Fisher, B., Wang, L., Zhu, J., Tang, Y., Yu, D. W. & Wilcove, D.S. (2016). Opportunities for biodiversity gains under the world's largest reforestation programme. *Nature Communications*, 7, 12717. <https://doi.org/10.1038/ncomms12717>
- IPBES. (2019). *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. https://www.ipbes.net/sites/default/files/2020-02/ipbes_global_assessment_report_summary_for_policymakers_en.pdf
- IPCC. (2018). *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*. https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_Low_Res.pdf
- IUCN. (2016). *Nature-based Solutions to address global societal challenges*. <https://portals.iucn.org/library/sites/library/files/documents/2016-036.pdf>
- IUCN. (2020a). *IUCN Global Standard for NbS*. <https://www.iucn.org/theme/nature-based-solutions/resources/iucn-global-standard-nbs>
- IUCN. (2020b). *Guidance for using the IUCN Global Standard for Nature-based Solutions. A user-friendly framework for the verification, design and scaling up of Nature-based Solutions*. <https://portals.iucn.org/library/sites/library/files/documents/2020-021-En.pdf>

IUCN. (n.d.) *Commission on Ecosystem-based Management. Nature-based Solutions.* <https://www.iucn.org/commissions/commission-ecosystem-management/our-work/nature-based-solutions>

IUCN CEM. (2020). *IUCN Red List of Ecosystems.* <https://iucnrle.org/>

Kupika, O. L. & Nhamo, G. (2016). Mainstreaming biodiversity and wildlife management into climate change policy frameworks in selected east and southern African countries. *Jambá Journal of Disaster Risk Studies*, 8(3), 254. <https://dx.doi.org/10.4102%2Fjamba.v8i3.254>

Liu, J., Li, S., Ouyang, Z., Tam, C. Chen, X. (2008). Ecological and socioeconomic effects of China's policies for ecosystem services. *Proceedings of the National Academy of Sciences of the United States of America*, 105 (28), 9477-9482. <https://doi.org/10.1073/pnas.0706436105>

NDCP Webinar. (2020). *Nature-based solutions in the NDCs: Planning to Implementation.* <https://www.adaptationcommunity.net/webinar-nature-based-solutions-in-the-ndcs-july-2nd/>

OEWG Open Ended Working Group on the post-2020 Global Biodiversity Framework. Third meeting, Online, 23 August – 3 September 2021, Item 4 of the provisional agenda, First Draft of the post-2020 Global Biodiversity Framework, CBD/WG2020/3/3, July 5th, 2021.

Palomo, I., Locatelli, B., Otero, I., Colloff, M., Crouzat, E., Cuni-Sanchez, A., Gómez-Baggethun, E., González-García, A., Grêt-Regamey, A., Jiménez-Aceituno, A., Martín-López, B., Pascual, U., Zafra-Calvo, N., Bruley, E., Fischborn, M., Metz, R., Lavorel, S. (2021). Assessing nature-based solutions for transformative change. *One Earth* 2021: 04.013.

PEDRR & FEBA. (2020). *Promoting Nature-based Solutions in the Post-2020 Global Biodiversity Framework.* https://www.iucn.org/sites/dev/files/promoting_nbs_in_the_post-2020_global_biodiversity_framework.pdf

Pihl, E., Alfredsson, E., Bengtsson, M., Bowen, K.J., Castan Broto, V., Chou, K.T., Cleugh, H., Ebi, K., Edwards, C.M., Fisher, E., Friedlingstein, P., Godoy-Faúndez, A., Gupta, M., Harrington, A.R., Hayes, K., Hayward, B.M., Hebden, S.R., Hickmann, T., Hugelius, G., Ilyina, T., Jackson, R.B., Keenan, T.F., Lambino, R.A., Leuzinger, S., Malmaeus, M., McDonald, R.I., McMichael, C., Miller, C.A., Murtori, M., Nagabhatla, N., Nagendra, H., Passarello, C., Penuelas, J., Pongratz, J., Rockström, J., Romero-Lankao, P., Roy, J., Scaife, A.A., Schlosser, P., Schuur, E., Scobie, M., Sherwood, S.C., Sioen, G.B., Skovgaard, J., Sobenes Obreron, E.A., Sonntag, S., Spangenberg, J.H., Spijkers, O., Srivastava, L., Stammer, D.B., Torres, P.H.C., Turetsky, M.R., Ukkola, A.M., van Vuuren, D.P., Voigt, C., Wannous, C., Zelinka, M.D. (2021). 10 New Insights in Climate Science - a Horizon Scan. *Global Sustainability* 4: sus.2021.1012. Open access at <https://doi.org/10.1017/sus.2021.2>

Pörtner, H.O., Scholes, R.J., Agard, J., Archer, E., Arneth, A., Bai, X., Barnes, D., Burrows, M., Chan, L., Cheung, W.L., Diamond, S., Donatti, C., Duarte, C., Eisenhauer, N., Foden, W., Gasalla, M. A., Handa, C., Hickler, T., Hoegh-Guldberg, O., Ichii, K., Jacob, U., Insarov, G., Kiessling, W., Leadley, P., Leemans, R., Levin, L., Lim, M., Maharaj, S., Managi, S., Marquet, P. A., McElwee, P., Midgley, G., Oberdorff, T., Obura, D., Osman, E., Pandit, R., Pascual, U., Pires, A. P. F., Popp, A., ReyesGarcía, V., Sankaran, M., Settele, J., Shin, Y. J., Sintayehu, D. W., Smith, P., Steiner, N., Strassburg, B., Sukumar, R., Trisos, C., Val, A.L., Wu, J., Aldrian, E., Parmesan, C., Pichs-Madruga, R., Roberts, D.C., Rogers, A.D., Díaz, S., Fischer, M., Hashimoto, S., Lavorel, S., Wu, N., Ngo, H.T. (2021). *Scientific outcome of the IPBES-IPCC co-sponsored workshop on biodiversity and climate change*; IPBES secretariat, Bonn, Germany.

Schmidt-Traub, G., Locke, H., Gao, J., Ouyang, Z., Adams, J., Li, L., Sala, E., Shaw, M. R., Troëng, S., Xu, J., Zhu, C., Zou, C., Ma, T., Wei, F. (2020). Integrating climate, biodiversity,

and sustainable land-use strategies: innovations from China. *National Science Review*, 139.: <https://doi.org/10.1093/nsr/nwaa1139>.

Seddon, N., Sengupta, S., García-Espinosa, M., Hauler, I., Herr, D., & Raza Rizvi, A. (2019). *Nature-based Solutions in Nationally Determined Contributions: Synthesis and recommendations for enhancing climate ambition and action by 2020*. IUCN & University of Oxford.

SEEA. (n.d.). *System of Environmental Economic Accounting. Accounting for biodiversity*. <https://seea.un.org/content/accounting-biodiversity>

Song, C., Zhang, Y., Mei, Y., Liu, H., Zhang, Z., Zhang, Q., Zha, T., Zhang, K., Huang, C., Xu, X., Jagger, P., Chen, X., Bilsborrow, R. (2014). Sustainability of Forests Created by China's Sloping Land Conversion Program: A comparison among three sites in Anhui, Hubei and Shanxi. *Forest Policy and Economics* 38: 161-167.

Song, J., Wan, S., Peng, S., Piao, S., Ciais, P., Han, X., Zeng, D., Cao, G., Wang, Q., Bai, W., Liu, L. (2018) The carbon sequestration potential of China's grasslands. *Ecosphere*, 9 (10), e02452.

Spangenberg, J.H., Neumann, W., Klöser, H., Wittig, S., Uhlenhaut, T., Mertens, M., Günther, E., Valentin, I., Große Ophoff, M. (2021). False hopes, missed opportunities. How economic models affect the IPCC proposals in Special Report 15 "Global Warming of 1.5 °C" (2018 *Journal of Applied Business and Economics*. in press.

The Leaders' Pledge for Nature: *United to Reverse Biodiversity Loss by 2030 for Sustainable Development*. 2020. New York. <https://www.leaderspledgefornature.org> Turnhout, E., McElwee, P., Chiroleu-Assouline, M., Clapp, J., Isenhour, C., Kelemen, E., Jackson, T., Miller, D.C., Rusch, G.M., Spangenberg, J.H., Waldron, A. (2021). Enabling Transformative Economic Change in the Post-2020 Biodiversity Agenda. *Conservation Letters*: e12805.

Uchida, E., Rozelle, S., Xu, J. (2009). Conservation Payments, Liquidity Constraints, and Off-Farm Labor: Impact of the Grain-for-Green Program on Rural Households in China. *American Journal of Agricultural Economics*, 91(1), 70-86.

UN Climate Action Summit. (2019). *Manifesto for Nature*. NBS for Climate Coalition co-leads China and New Zealand: nbs@mee.gov.cn; CCD@mfat.govt.nz; Facilitation team UNEP, CBD, 4SD nbs@4sd.info <https://wedocs.unep.org/xmlui/bitstream/handle/20.500.11822/29705/190825NBSManifesto.pdf?sequence=1&isAllowed=y>.

UNDP. (2018). *Uganda's Nationally Determined Contributions (NDC) Support Programme to address climate change launched*. Kampala, November 14th, 2018. https://www.ug.undp.org/content/uganda/en/home/presscenter/articles/2018/Uganda_Nationally_Determined_Contributions_Support_Programme_to_address_climate_change_launched.html

UNDP. (2019). *Pathway for Increasing Nature-based Solutions in the Nationally Determined Contributions: A seven-step approach for national governments to integrate or enhance nature-based solutions in their NDCs*. UNDP, Washington D.C., October 11th, 2019. <https://www.undp.org/content/undp/en/home/librarypage/climate-and-disaster-resilience/pathway-for-increasing-nature-based-solutions-in-ndcs.html#:~:text=The%20'Pathway%20for%20increasing%20Nature,of%20enhancing%20their%20climate%20mitigation>

UNFCCC United Nations Framework Convention on Climate Change. (2015). *Adoption of the Paris Agreement*, UNFCCC doc no. FCCC/CP/2015/L.9/Rev.1,. Paris, UNFCCC.

United Nations. (1992). *United Nations Framework Convention on Climate Change*. Rio de Janeiro/New York, United Nations.

Visseren-Hamakers, I., Razzaque, J., McElwee, P., Turnhout, E., Kelemen, E., Rusch, G., Fernández-Llamazares, A., Chan, I., Lim, M., Islar, M., Gautam, A.P., Williams, M., Mungatana, E., Karim, M. S., Muradian, R., Gerber, L.R., Lui, G., Liu, J., Spangenberg, J. H., Zaleski, D. (2021). Transformative governance for sustainable development. *Current Opinion in Environmental Sustainability*, 53, 20-28.

Mainstreaming biodiversity in cities

Berlin Senate. Department for the Environment, Transport and Climate Protection. (n.d.). *Environmental Justice*.
<https://www.berlin.de/sen/uvk/umwelt/nachhaltigkeit/umweltgerechtigkeit>

CBD. (2010). *UNEP/CBD/COP/DEC/X/22. Decision adopted by the conference of the parties to the convention on biological diversity at its tenth meeting*.
<https://www.cbd.int/doc/decisions/cop-10/cop-10-dec-22-en.pdf>

CBD. (2012). *Cities and Biodiversity Outlook. Action and Policy. A Global Assessment of the Links between Urbanization, Biodiversity, and Ecosystem Services*.
<https://www.cbd.int/doc/health/cbo-action-policy-en.pdf>

CBD. (2020). *CBD/SBI/3/13. Mainstreaming of biodiversity within and across sectors and other strategic actions to enhance implementation. Long Term Approach to Mainstreaming*.
<https://www.cbd.int/doc/c/a287/0c8d/18b6e61d80d3c5dcc8959199/sbi-03-13-en.pdf>

CBD. (2020). *CBD/SBI/3/13/Add.1. Action plan for the long-term approach to mainstreaming biodiversity*. <https://www.cbd.int/doc/c/cb2d/a669/83a9d4a827918b488ae8057f/sbi-03-13-add1-en.pdf>

CBD. (2020). *CBD/POST2020/PREP/2/1 - Update of the zero draft of the post-2020 global biodiversity framework*.
<https://www.cbd.int/doc/c/3064/749a/0f65ac7f9def86707f4eaefa/post2020-prep-02-01-en.pdf>

CBD. (2021). *CBD/SBI/3/CRP.8. Engagement with subnational governments, cities and other local authorities to enhance implementation of the post-2020 global biodiversity framework*.
<https://www.cbd.int/doc/c/e30b/221a/e973bcbb02122be6d409a70/sbi-03-crp-08-en.pdf>

CBD. (2021). *CBD/SBI/3/19. Engagement with subnational governments, cities and other local authorities to enhance implementation of the post-2020 global biodiversity framework*.
<https://www.cbd.int/doc/c/0b09/511f/8eeb6c298438b93c6b20af91/sbi-03-19-en.pdf>

Chan. (2019). *The Singapore index on cities' biodiversity: Sharing 10 years of application by cities globally*. Global Platform for Sustainable Cities.
https://www.thegpsc.org/sites/gpsc/files/partnerdocs/session3_3.city_practice.pdf

FEBA. (2020). *Promoting Nature-based Solutions in the Post-2020 Global Biodiversity Framework*. https://www.iucn.org/sites/dev/files/promoting_nbs_in_the_post-2020_global_biodiversity_framework.pdf

IPBES. (2019). *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and*

Ecosystem Services. https://www.ipbes.net/sites/default/files/2020-02/ipbes_global_assessment_report_summary_for_policymakers_en.pdf

IUCN. (2020a). *IUCN Global Standard for Nature-based Solutions: A user-friendly framework for the verification, design and scaling up of NbS. First edition.* <https://portals.iucn.org/library/sites/library/files/documents/2020-020-En.pdf>

ISO. (n.d.). *Standards by ISO/TC 268. Sustainable cities and communities* <https://www.iso.org/committee/656906/x/catalogue/>

Kalisch, D., Wüstemann, H., Chen, W.Y., Chen, B. (2017/2021). *Integrating the Value of Biodiversity and Ecosystem Services into Urban Policy in China and Germany*, 2nd edition. Technische Universität Berlin, Germany. https://www.bfn.de/fileadmin/BfN/internationalernaturschutz/Bilder/Kategorie_OESL/BfN-brochure-web_barrierefrei.pdf

Kok, M. and Bulkeley, H. (2021). *Realising the Urban Opportunity: Cities and Post-2020 Biodiversity Governance.* <https://www.pbl.nl/sites/default/files/downloads/pbl-2021-realising-the-urban-opportunity-4247.pdf>

Naturvation. (n.d.). *Urban Nature Atlas.* Retrieved August 9th, 2021 from <https://naturvation.eu/atlas>

TNC. (2018). *Nature in the Urban Century: A global assessment of where and how to conserve nature for biodiversity and human wellbeing.* https://www.nature.org/content/dam/tnc/nature/en/documents/TNC_NatureintheUrbanCentury_FullReport.pdf

Parris, K. M., Amati, M., Bekessy, S.A., Dagenais, D., Fryd, O., Hahs, A. K., Hes, D., Imberger, S. J., Livesley, S. J., Marshall, A. J., Rhodes, J. R., Threlfall, C. G., Tingley, R., van der Ree, R., Walsh, C. J., Wilkerson, M.L. & Williams, N. S. G. (2018). The seven lamps of planning for biodiversity in the city. *Cities*, 83,44-53. <https://doi.org/10.1016/j.cities.2018.06.007>

Puppim de Oliveira, J. A., Balaban, O., Doll, C. N. H., Moreno-Peñaranda, R., Gasparatos, A., Iossifova, D., & Suwa, Aki. (2011). Cities and biodiversity: Perspectives and governance challenges for implementing the convention on biological diversity (CBD) at the city level. *Biological Conservation*, 144(5), 1302-1313. <https://doi.org/10.1016/j.biocon.2010.12.007>

Zhang, Y., Shijin, L., & Ongering, L. (2019). *Accelerating green urbanization in China Based on Eco-civilization. Interim report of 'Green urbanization strategy and pathways towards regional integrated development'* SPS. CCICED. <http://www.cciced.net/cciceden/POLICY/rr/pr/2019/201908/P020190830112823278699.pdf>

Mainstreaming biodiversity in the financial sector

AXA & WWF. (2019, May 6). *Into the wild: Integrating nature into investment strategies.* https://wwf.panda.org/our_work/finance/?346755/Into-the-Wild-integrating-nature-into-investment-strategies

CBD. (2020). *CBD/POST2020/WS/2020/3/3. Report on thematic workshop on resource mobilization for the post-2020 global biodiversity framework.* <https://www.cbd.int/doc/c/15fa/4604/83d577ffba0cc6abeb1a51f0/post2020-ws-2020-03-03-en.pdf>

CBD, Business for Nature, Finance for Biodiversity Pledge and Foundation, PRI & UNEP FI. (2021). *Financial Sector Guide for the Convention on Biological Diversity: Key Actions for Nature*. <https://www.cbd.int/doc/c/8e24/f151/326b69024f014a8fb9684a8d/cbd-financial-sector-guide-f-en.pdf>

CCICED. (2020). *Policy Recommendation on Promoting Conservation and Biodiversity Finance*. 2019-2020 Special Policy Study.

CCICED SPS Green Finance Group Meeting Minutes (2020).

Elderson, F. (2020). *From Climate Risk to Financial Risk – Getting Used to the New Normal*, Speech by Frank Elderson, <https://www.dnb.nl/actueel/algemeen-nieuws/speeches-oud/speech-frank-elderson-from-climate-risk-to-financial-risk-getting-used-to-the-new-normal/>

EU Technical Expert Group on Sustainable Finance. (2020). *Taxonomy: Final report of the technical expert group on sustainable finance*.

https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy_en.pdf

Finance Watch. (2019). *Making Finance Serve Nature: From the Niche of Conservation Finance to the Mainstreaming of Natural Capital Approaches in Financial Systems*. https://www.finance-watch.org/wp-content/uploads/2019/05/Making-Finance-Serve-Nature_Finance-Watch-Report_24May2019_web.pdf

Global Witness. (2019). *Money to burn: How iconic banks and investors fund destruction of the world's largest rainforests*. <https://www.globalwitness.org/en/campaigns/forests/money-to-burn-how-iconic-banks-and-investors-fund-the-destruction-of-the-worlds-largest-rainforests/>

Global Canopy & Vivid Economics. (2020). *The Case for a Task Force on Nature-related financial Disclosures*. https://www.vivideconomics.com/wp-content/uploads/2020/09/Task-Force-on-Nature-related-Financial-Disclosures-Full-Report_0-1.pdf.

MinterEllison. (2021) *Liability risk and adaptation finance. Legal action as a driver and consequence of climate-related physical risk adaptation. In partnership with the UN Environment Programme finance initiative*.

OECD. (2011). *OECD Guidelines for Multinational Enterprises*, 2011 Edition, OECD Publishing, Paris. <https://dx.doi.org/10.1787/9789264115415-en>.

OECD. (2019). *Biodiversity: Finance and the Economic and Business Case for Action*. <https://www.oecd.org/env/resources/biodiversity/biodiversity-finance-and-the-economic-and-business-case-for-action.htm>

OECD. (2021). *Biodiversity, Natural Capital and the Economy: A Policy Guide for Finance, Economic and Environment Ministers*. <https://www.oecd-ilibrary.org/docserver/1a1ae114-en.pdf?expires=1626779756&id=id&accname=guest&checksum=0DDD649CAB0DE64E78AC4E40A8E62006>

PWC & WWF. (2020). *Nature is too big to fail. Biodiversity: the Next Frontier in Financial Risk Management*. <https://www.pwc.ch/en/publications/2020/nature-is-too-big-to-fail.pdf>

Smith, T., Addison, P., Smith, M., & Beagley, L. (2018). *Mainstreaming international biodiversity goals for the private sector. Main Report & Case Studies. JNCC Report No. 613*. Joint Nature Conservation Committee (JNCC). <https://data.jncc.gov.uk/data/6dc272c2-c9b3-4f2c-8eac-94215f259e19/JNCC-Report-613-FullReport-Final-WEB.pdf>

TNC. (2019). *Investing in Nature: Private finance for nature-based resilience*. <https://www.environmental-finance.com/assets/files/reports/tnc-investing-in-nature.pdf>

Tropical Landscapes Finance Facility. (2020). *PT Royal Lestari Utama*. <https://www.tlffindonesia.org/project-pt-royal-lestari-utama-2020/>

UNEP FI, UNEP-WCMC. (2021). *Biodiversity Target-setting: Guidance for banks* (Version 1: June 2021). <https://www.unepfi.org/wordpress/wp-content/uploads/2021/06/PRB-Biodiversity-Guidance.pdf>

van Oorschot, M., Kok, M., & van Tulder, R. (2020). *Business for Biodiversity. Mobilising Business Towards Net Positive Impact*. PBL Netherlands Environmental Assessment Agency.

van Toor, J., Piljic, D., Schellekens, G., van Oorschot, M., & Kok, M. (2020). *Indebted to Nature. Exploring biodiversity risks for the Dutch financial sector*. De Nederlandsche Bank (DNB) & PBL Netherlands Environmental Assessment Agency.

WEF. (2020). *The Global Risks Report 2020*. <https://www.weforum.org/reports/the-global-risks-report-2020>

WEF. (2021). *The Global Risks Report 2021*. <https://www.weforum.org/reports/the-global-risks-report-2021>

World Agroforestry. (2018, February 26). *1st Corporate Sustainability Bond in Asia Issued by TLFF for a Natural Rubber Company in Indonesia*. <http://www.worldagroforestry.org/news/1st-corporate-sustainability-bond-asia-issued-tlff-natural-rubber-company-indonesia>

Mainstreaming biodiversity in economic-environmental accounting frameworks

Alfieri, A. & Bartelmus, P. (2000). *Integrated environmental and economic accounting: an operational manual*. United Nations. <https://unstats.un.org/unsd/EconStatKB/KnowledgebaseArticle10410.aspx>

Alfsen, K. H. & Greker, M. (2007). From natural resources and environmental accounting to construction of indicators for sustainable development. *Ecological Economics*, 61(4), 600-610. <https://doi.org/10.1016/j.ecolecon.2006.06.017>

Bartelmus, P. (2007). SESA-2003: Accounting for sustainable development? *Ecological Economics*, 61(4), 613-616. <https://doi.org/10.1016/j.ecolecon.2006.09.008>

Bartelmus, P. (2015). Do we need ecosystem accounts? *Ecological Economics*, 118, 292-298. <https://doi.org/10.1016/j.ecolecon.2014.12.026>

Bordt, M. (2018). Discourses in Ecosystem Accounting: A Survey of the Expert Community. *Ecological Economics*, 144, 82-99. <https://doi.org/10.1016/j.ecolecon.2017.06.032>

CBD. (2020). *CBD/SBI/3/5. Resource Mobilization*. <https://www.cbd.int/doc/c/2c34/9558/f1487764d65e89bafb74d8fa/sbi-03-05-en.pdf>

EEA. (2019). *EEA Report 26/2018. Natural capital accounting in support of policy making in Europe. A review based on EEA ecosystem accounting work*. Publications Office of the European Union. <https://www.eea.europa.eu/publications/natural-capital-accounting-in-support>

Hecht, J.E. (2007). National Environmental Accounting: A Practical Introduction. Section 2 A brief history of environmental accounting. *International Review of Environmental and Resource Economics*, 1(1): 7-13. <http://dx.doi.org/10.1561/101.00000001>

Hein, L., Remme, R. P., Schenau, S., Bogaart, P. W., Lof, M.E. & Horlings, E. (2020). Ecosystem accounting in the Netherlands. *Ecosystem Services*, 44, 101118. <https://doi.org/10.1016/j.ecoser.2020.101118>

IPBES. (2019). *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. https://www.ipbes.net/sites/default/files/2020-02/ipbes_global_assessment_report_summary_for_policymakers_en.pdf

King, S. (2020). *Accounting for Biodiversity*. UNEP-WCMC presentation at the UNSD Virtual Expert Forum on SEEA Experimental Ecosystem Accounting 2020, November 9th, 2020. UNEP-WCMC.

Loft, L., Gehrig, S., Salk, C., & Rommel, J. (2020). Fair payments for effective environmental conservation. *Proceedings of the National Academy of Sciences of the United States of America*, 117(25), 14094-14101. <https://doi.org/10.1073/pnas.1919783117>

Ma, G., Yu, F., Wang, J., Zhou, X., Yuan, J., Mou, X., Zhou, Y., Yang, W., & Peng, F. (2017). Measuring gross ecosystem product (GEP) of 2015 for terrestrial ecosystems in China. *China Environmental Science*, 37(4), 1474-1482.

Ouyang, Z., Song, C., Zheng, H., Polasky, S., Xiao, Y., Bateman, I. J., Liu, J., Ruckelshaus, M., Shi, F., Xiao, W., Xu, W., Zou, Z. & Daily, G.C. (2020). Using gross ecosystem product (GEP) to value nature in decision making. *Proceedings of the National Academy of Sciences of the United States of America*, 117(25), 14593-14601. <https://doi.org/10.1073/pnas.1911439117>

Ouyang, Z., Zhu, C., Yang, G., Xu, W., Zheng, H., Zhang, Y., & Yi, X. (2013). Gross ecosystem product: Concept, accounting framework and case study. *Acta Ecologica Sinica*, 33(21), 6747-6761. <http://dx.doi.org/10.5846/stxb201310092428>

Rodriguez, S. V., La Notte, A., Kakoulaki, G., Jurgena, K., Nicolas, R., Dottori, F., Feyen, L., Rega, C., & Maes, J. (2019). *Ecosystem services accounting. Part II-Pilot accounts for crop and timber provision, global climate regulation and flood control. KIP INCA Report 2019*. Publications Office of the European Union. https://publications.jrc.ec.europa.eu/repository/bitstream/JRC116334/jrc_technical_report_3_final.pdf

Ruckelshaus, M., McKenzie, E., Tallis, H., Guerry, A., Daily, G., Kareiva, P., Polasky, S., Ricketts, T., Bhagabati, N., Wood, S. A., & Bernhardt, J. (2015). Notes from the field: Lessons learned from using ecosystem service approaches to inform real-world decisions. *Ecological Economics*, 115, 11-21. <https://doi.org/10.1016/j.ecolecon.2013.07.009>

Schliep, R., Walz, U., Sukopp, U., & Heiland, S. (2018). Indicators on the impacts of climate change on biodiversity in Germany—data driven or meeting political needs? *Sustainability*, 10(11), 3959. <https://doi.org/10.3390/su10113959>

Stats NZ. (2020). *Environmental-economic accounts: sources and methods*. Stats NZ Tauranga Aotearoa. <file:///C:/Users/forst/AppData/Local/Temp/environmental-economic-accounts-sources-and-methods-third-edition.pdf>

United Nations, European Union, Food and Agriculture Organization of the United Nations, International Monetary Fund, Organisation for Economic Co-operation and Development, The World Bank. (2014). *System of Environmental-Economic Accounting 2012 Central Framework*. New York, United Nations

World Bank. (1997). *Expanding the measure of wealth - indicators of environmentally sustainable development*.
<http://documents1.worldbank.org/curated/en/555261468765258502/pdf/multi-page.pdf>

Chapter 3 – Synergies between biodiversity-relevant conventions and processes

Introduction

Cambridge Dictionary. (n.d.). Synergy. In dictionary.cambridge.org. Retrieved March 2nd, 2021 from <https://dictionary.cambridge.org/dictionary/english/synergy>

CBD. (2020). *CBD/POST2020/PREP/2/1 - Update of the zero draft of the post-2020 global biodiversity framework*.
<https://www.cbd.int/doc/c/3064/749a/0f65ac7f9def86707f4eaefa/post2020-prep-02-01-en.pdf>

EMG. (2020). *An Overview of UN System Inputs to the Development of the Post-2020 Global Biodiversity Framework*. <https://unemg.org/wp-content/uploads/2020/01/EMG-final-overview-of-UN-system-inputs-to-the-post2020-global-biodiversity-framework.pdf>

Risby, L.A., & Amador, T. (2013). *Review of the arrangements adopted pursuant to the “Synergies Decisions” on cooperation and coordination among the Basel, Rotterdam and Stockholm Conventions*. Final Report. UNEP and FAO Evaluation Offices.
https://www.fao.org/fileadmin/user_upload/oed/docs/UNEP%20FAO%20Synergies%20Decisions.pdf

UNEP. (2015). *Sourcebook of opportunities for enhancing cooperation among the Biodiversity-related Conventions at national and regional levels*.
<https://www.unenvironment.org/resources/report/sourcebook-opportunities-enhancing-cooperation-among-biodiversity-related>

UNEP. (2016). *United Nations Environment Assembly of the United Nations Environment Programme. Resolution 2/17. Enhancing the work of the United Nations Environment Programme in facilitating cooperation, collaboration and synergies among biodiversity-related conventions*.
https://wedocs.unep.org/bitstream/handle/20.500.11822/11190/K1607209_UNEPEA2_RES17E.pdf?sequence=1&isAllowed=y

UNEP-WCMC. (2018). *Overview of initiatives for enhancing coordination and collaboration at various levels across biodiversity-related conventions*. https://www.unep-wcmc.org/system/comfy/cms/files/files/000/001/267/original/Overview_of_synergies_initiatives_final.pdf

History of the processes on cooperation, coordination and synergies in the biodiversity cluster

EMG. (2018). *Meeting Briefing Note, 24 September 2018: Update On The Biodiversity Processes and Contribution by EMG*.

https://unemg.org/images/emgdocs/SOMMeetings/2018/EMGSOM.24b_8_Post-2020_Biodiversity_Agenda.pdf

UN. (1992). *A/CONF.151/26/Vol.I: Report of the United Nations Conference on Environment and Development. Annex I: Rio Declaration on Environment and Development.* https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_CONF.151_26_Vol.I_Declaration.pdf

UNEP. (2014). *Development of the "MEA synergies" debate, with a particular focus on the biodiversity-related conventions and the International Environmental Governance (IEG) reform process.* <https://www.cbd.int/doc/meetings/biodiv/brcws-2016-01/other/brcws-2016-01-unesp-01-en.pdf>

UNEP. (2015). *Sourcebook of opportunities for enhancing cooperation among the Biodiversity-related Conventions at national and regional levels.* <https://www.unenvironment.org/resources/report/sourcebook-opportunities-enhancing-cooperation-among-biodiversity-related>

UNEP-WCMC. (2018). *Overview of initiatives for enhancing coordination and collaboration at various levels across biodiversity-related conventions.* https://www.unep-wcmc.org/system/comfy/cms/files/files/000/001/267/original/Overview_of_synergies_initiatives_final.pdf

WWF-UK. (2018). *Avoiding triple jeopardy: Developing a joined-up future for climate, food and nature.* https://www.wwf.org.uk/sites/default/files/2018-07/WWF_Avoiding_Triple_Jeopardy_Report.pdf

Established mechanisms for cooperation, coordination and synergies in the biodiversity cluster

CBD. (2004). *UNEP/CBD/COP/DEC/VII/26. Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity at its Seventh Meeting VII/26. Cooperation with other conventions and international organizations and initiatives.* <https://www.cbd.int/doc/decisions/cop-07/cop-07-dec-26-en.pdf>

CBD. (2014). *UNEP/CBD/COP/DEC/XII/6. Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity XII/6. Cooperation with other conventions, international organizations and initiatives.* <https://www.cbd.int/doc/decisions/cop-12/cop-12-dec-06-en.pdf>

CBD. (2016). *CBD/COP/DEC/XIII/24. Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity XIII/24. Cooperation with other conventions and international organizations.* <https://www.cbd.int/doc/decisions/cop-13/cop-13-dec-24-en.pdf>

CBD. (2018). *CBD/COP/DEC/14/30. Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity 14/30. Cooperation with other conventions, international organizations and initiatives.* <https://www.cbd.int/doc/decisions/cop-14/cop-14-dec-30-en.pdf>

CBD. (2018). *CBD/SBI/2/INF/13. Supporting the Implementation of Decision XIII/24 of the Conference of the Parties.* <https://www.cbd.int/doc/c/1f69/9716/b534c3df787562ecf739e434/sbi-02-inf-13-en.pdf>

CBD. (2018). *CBD/SBI/2/INF/14. Report of the Informal Advisory Group on Synergies Among Biodiversity-Related Conventions.* <https://www.cbd.int/doc/c/5900/c3be/53c712c8a7ecbab8a9319828/sbi-02-inf-14-en.pdf>

CBD BLG. (2020). *Summary Report: Conference Call of the Liaison Group of Biodiversity-Related Conventions, 30 April 2020*. <https://www.cbd.int/cooperation/BLG-conference-call-30-April-2020.pdf>

CBD, UNCCD & UNFCCC. (2017). *Press Release - UN Heads Call for Assistance to Address Linked Climate Change, Biodiversity and Desertification Threats, 13 November 2017*. <https://www.cbd.int/doc/press/2017/pr-2017-11-13-rio-convention-en.pdf>

EMG. (2020a). *An Overview of UN System Inputs to the Development of the Post-2020 Global Biodiversity Framework*. <https://unemg.org/wp-content/uploads/2020/01/EMG-final-overview-of-UN-system-inputs-to-the-post2020-global-biodiversity-framework.pdf>

EMG. (2020b). *Update on the UN EMG Consultative Process on Biodiversity, at the time of the 2nd meeting of the Open-ended Working Group on the Post-2020 Global Biodiversity Framework*. <https://www.cbd.int/doc/c/1fe8/dac7/319c795ccdabc689245000355/emg-cp-contribution-2oewg-en.pdf>

JLG. (2017). *Joint Statement by the Executive Secretaries of the Rio Conventions calling for the establishment of a Project Preparation Facility (PPF) to increase financing for large-scale, transformative projects which integrate action on land degradation, biodiversity loss, and global warming*. <https://www.cbd.int/cooperation/joint-statement-rio-convention-2017-en.pdf>

UNCCD, CBD & UNFCCC. (2017). *Joint Statement by the Executive Secretaries of the Rio Conventions calling for the establishment of a Project Preparation Facility (PPF) to increase financing for large-scale, transformative projects which integrate action on land degradation, biodiversity loss, and global warming*. <https://www.cbd.int/cooperation/joint-statement-rio-convention-2017-en.pdf>

UNEP-WCMC. (2018). *Overview of initiatives for enhancing coordination and collaboration at various levels across biodiversity-related conventions*. https://www.unep-wcmc.org/system/comfy/cms/files/files/000/001/267/original/Overview_of_synergies_initiatives_final.pdf

UNEP-WCMC. (2020). *UNEP-WCMC background document for Bern 2. Final version – May 2020*. <https://wedocs.unep.org/bitstream/handle/20.500.11822/32961/Bern2.pdf?sequence=1&isAllowed=y>

The process of developing the GBF

CBD. (2018). *CBD/COP/DEC/14/30. Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity 14/30. Cooperation with other conventions, international organizations and initiatives*. <https://www.cbd.int/doc/decisions/cop-14/cop-14-dec-30-en.pdf>

CBD. (2018). *CBD/COP/DEC/14/34 - Decision adopted by the conference of the parties to the convention on biological diversity. 14/34. Comprehensive and participatory process for the preparation of the post-2020 global biodiversity framework*. Retrieved November 17th, 2020 from <https://www.cbd.int/doc/decisions/cop-14/cop-14-dec-34-en.pdf>

CBD. (2019). *CBD/POST2020/WS/2019/6/2. Report of the Consultation Workshop of Biodiversity Related Conventions on the Post-2020 Global Biodiversity Framework, Bern, 10-12 June 2019*. <https://www.cbd.int/doc/c/de6d/6f08/e6f5ab406bf39019f9d5db62/post2020-ws-2019-06-02-en.pdf>.

CBD. (2020). *CBD/POST2020/WS/2019/9/3. Report of the Thematic Workshop on Area-Based Conservation Measures for the POST-2020 Global Biodiversity Framework*. La Prairie, Canada, 1-3 December 2019. <https://www.cbd.int/doc/c/4b62/0730/7f81cb439d3b09b791e2f0eb/post2020-ws-2019-09-03-en.pdf>

CBD. (2020). *CBD/POST2020/WS/2019/10/2. Report of the Thematic Workshop on Marine and Coastal Biodiversity for the Post-2020 Global Biodiversity Framework*. Montreal, Canada, 13-15 November 2019. <https://www.cbd.int/doc/c/d9b2/362b/5879759c148c8d35231d6753/post2020-ws-2019-10-02-en.pdf>

CBD. (2020). *CBD/POST2020/WS/2019/11/5. Report of the Thematic Workshop on Ecosystem Restoration for the Post-2020 Global Biodiversity Framework*. Rio de Janeiro, 6-8 November 2019. <https://www.cbd.int/doc/c/cdb5/7d87/176326ade3fb6fea7f96ca13/post2020-ws-2019-11-05-en.pdf>

CBD. (2020). *CBD/POST2020/WS/2020/3/3. Report on the Thematic Workshop on Resource Mobilization for the Post-2020 Global Biodiversity Framework*. Berlin, 14-16 January 2019. <https://www.cbd.int/doc/c/15fa/4604/83d577ffba0cc6abeb1a51f0/post2020-ws-2020-03-03-en.pdf>

CBD. (2021). *CBD/SBI/3/10 Cooperation with other conventions, international organisations and initiatives (SBI-3 item 8) and CBD/SBI/3/11/Add.2 Options to increase synergies in reporting among the biodiversity-related conventions and the Rio Conventions (SBI-3 item 9)*. <https://www.cbd.int/meetings/SBI-03>

Recommendations for strengthening the synergies aspects in the development of the GBF

CBD. (2002). *COP 6 Decision VI/9. Global Strategy for Plant Conservation*. <https://www.cbd.int/decision/cop/?id=7183>

CBD. (2015). *CBD, FAO, World Bank, UNEP, UNDP. Biodiversity and the 2030 Agenda for Sustainable Development - Technical note*. <https://www.cbd.int/development/doc/biodiversity-2030-agenda-technical-note-en.pdf>

CBD. (2016). *CBD/COP/DEC/XIII/24. Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity XIII/24. Cooperation with other conventions and international organizations*. <https://www.cbd.int/doc/decisions/cop-13/cop-13-dec-24-en.pdf>

CBD. (2018). *CBD/COP/DEC/14/22. Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity 14/5. Biodiversity and climate change. Resource Mobilization*. <https://www.cbd.int/doc/decisions/cop-14/cop-14-dec-22-en.pdf>

CBD (2018). *CBD/COP/DEC/14/27. Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity 14/27. Process for aligning national reporting, assessment and review*. <https://www.cbd.int/doc/decisions/cop-14/cop-14-dec-27-en.pdf>

CBD. (2018). *CBD/COP/DEC/14/34. Decision adopted by the conference of the parties to the convention on biological diversity. 14/34. Comprehensive and participatory process for the preparation of the post-2020 global biodiversity framework*. <https://www.cbd.int/doc/decisions/cop-14/cop-14-dec-34-en.pdf>

- CBD. (2018). *CBD/SBI/2/INF/14. Report of the Informal Advisory Group on Synergies Among Biodiversity-Related Conventions.*
<https://www.cbd.int/doc/c/5900/c3be/53c712c8a7ecbab8a9319828/sbi-02-inf-14-en.pdf>
- CBD. (2019). *CBD/POST2020/WS/2019/6/2. Report of the Consultation Workshop of Biodiversity Related Conventions on the Post-2020 Global Biodiversity Framework, Bern, 10-12 June 2019.* <https://www.cbd.int/doc/c/de6d/6f08/e6f5ab406bf39019f9d5db62/post2020-ws-2019-06-02-en.pdf>.
- CBD (2019). *CBD/SBSTTA/23/INF/4. Indicators for Global and National Biodiversity Targets – Experience and Resources for Development of the Post-2020 Global Biodiversity Framework.* <https://www.cbd.int/doc/c/db7b/47dc/3d7cdffcad4fe70380cca4b2/sbstta-23-inf-04-en.pdf>
- CBD. (2019). *CBD/SBSTTA/23/3. Biodiversity and Climate Change.*
<https://www.cbd.int/doc/c/326e/cf86/773f944a5e06b75dfc5866bf/sbstta-23-03-en.pdf>
- CBD. (2020). *CBD/POST2020/PREP/2/1 - Update of the zero draft of the post-2020 global biodiversity framework.*
<https://www.cbd.int/doc/c/3064/749a/0f65ac7f9def86707f4eaefa/post2020-prep-02-01-en.pdf>
- CBD. (2020). *CBD/SBI/3/5. Resource Mobilization.*
<https://www.cbd.int/doc/c/2c34/9558/f1487764d65e89bafb74d8fa/sbi-03-05-en.pdf>
- CBD. (2020). *CBD/SBI/3/7. Capacity Development, Technical and Scientific Cooperation and Technology Transfer.* <https://www.cbd.int/doc/c/e798/4a32/5521e93c4e04a2f720acc08a/sbi-03-07-en.pdf>
- CBD. (2020). *CBD/SBI/3/7/Add1. Draft long-term strategic framework for capacity development to support implementation of the post-2020 global biodiversity framework.*
<https://www.cbd.int/doc/c/e660/b9bf/9cb474bfb0e1ed9c4fa03cba/sbi-03-07-add1-en.pdf>
- CBD. (2020). *CBD/SBI/3/7/Add2. Proposals to strengthen technical and scientific cooperation in support of the post-2020 global biodiversity framework.*
<https://www.cbd.int/doc/c/b35f/846f/3b0d10ddfacc59c3384bdf70/sbi-03-07-add2-en.pdf>
- CBD. (2020). *CBD/SBI/3/8. Knowledge management and the clearing-house mechanism.*
<https://www.cbd.int/doc/c/554c/ea41/34f99a63b37ad1a379eef9d/sbi-03-08-en.pdf>
- CBD. (2020). *CBD/SBI/3/8/Add1. Knowledge management component of the post-2020 global biodiversity framework.* <https://www.cbd.int/doc/c/2bb9/93c2/37bfef3a4a5b8f146fa00e0/sbi-03-08-add1-en.pdf>
- CBD. (2020). *CBD/SBSTTA/24/3. Post-2020 Global Biodiversity Framework: Scientific and Technical Information to Support the Review of the Updated Goals and Targets, and Related Indicators and Baselines.*
<https://www.cbd.int/doc/c/705d/6b4b/a1a463c1b19392bde6fa08f3/sbstta-24-03-en.pdf>
- CBD. (2020). *CBD/WG2020/2/3. Zero Draft of the Post-2020 Global Biodiversity Framework.*
<https://www.cbd.int/doc/c/efb0/1f84/a892b98d2982a829962b6371/wg2020-02-03-en.pdf>
- CBD. (2021). *CBD/SBSTTA/24/INF/12. Linkages between the post-2020 global biodiversity framework and the 2030 Agenda for Sustainable Development.*
<https://www.cbd.int/doc/c/8221/82b3/46f7213f305e091b5c07a452/sbstta-24-inf-12-en.pdf>

CBD. (2021). *CBD/SBSTTA/24/INF/16. Indicators for the post-2020 global biodiversity framework.* <https://www.cbd.int/doc/c/a6d3/3108/88518eab9c9d12b1c418398d/sbstta-24-inf-16-en.pdf>

CMS. (2020). *UNEP/CMS/COP13/CRP1/Rev.2. Gandhinagar Declaration on CMS and the Post-2020 Global Biodiversity Framework.* https://www.cms.int/sites/default/files/document/cms_cop13_crp1_rev2_gandhinagar-declaration_e.docx

EMG. (2020a). *An Overview of UN System Inputs to the Development of the Post-2020 Global Biodiversity Framework.* <https://unemg.org/wp-content/uploads/2020/01/EMG-final-overview-of-UN-system-inputs-to-the-post2020-global-biodiversity-framework.pdf>

EMG. (2020b). *Update on the UN EMG Consultative Process on Biodiversity, at the time of the 2nd meeting of the Open-ended Working Group on the Post-2020 Global Biodiversity Framework.* <https://www.cbd.int/doc/c/1fe8/dac7/319c795ccdbc689245000355/emg-cp-contribution-2oewg-en.pdf>

FOEN, UNEP-WCMC, & Nature Consult (2016). *UNEP/CBD/COP/13/INF/24. Elements for a Modular Reporting against the Aichi Biodiversity Targets.* <https://www.cbd.int/doc/meetings/cop/cop-13/information/cop-13-inf-24-en.pdf>

GEF, UNEP, UNDP, & 6NR. (2020). *Enhanced Planning, Reporting, Monitoring, and Review under the CBD's Post 2020 Global Biodiversity Framework.* <https://www.cbd.int/doc/presentations/tc-imrr/UNDP-UNEP.pdf>

Herkenrath, P. (2006). *Options for harmonizing national reporting to biodiversity-related agreements.* IISD Reporting Service. <http://enb.iisd.org/email/mea-l/questarticle8.htm>

IISD. (2020). *IISD Earth Negotiations Bulletin, Vol. 9 No. 751, Tuesday, 3 March 2020. Summary of the Second Meeting of the Open-ended Working Group on the Post-2020 Global Biodiversity Framework: 24-29 February 2020.* <https://enb.iisd.org/download/pdf/enb09751e.pdf>

IPBES. (2019). *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.* https://www.ipbes.net/sites/default/files/2020-02/ipbes_global_assessment_report_summary_for_policymakers_en.pdf

IPCC (2020). *IPBES-IPCC Co-Sponsored Workshop: Spotlighting Interactions of the Science of Biodiversity and Climate Change.* <https://www.ipcc.ch/site/assets/uploads/2020/12/pr-ipcc-ipbes-meeting.pdf>

IWC. (2018). *IWC/67/19. Plenary Agenda item 18. Update on IWC Cooperation with other Organisations.* https://archive.iwc.int/pages/view.php?search=%21collection29263+&k=&modal=&display=list&order_by=title&offset=0&per_page=240&archive=&sort=DESC&restypes=&recentdaylimit=&foredit=&ref=7222

Rogalla von Bieberstein, K., Sattout, E., Christensen, M., Pisupati, B., Burgess, N.D., Harrison, J., & Geldmann, J. (2019). Improving collaboration in the implementation of global biodiversity conventions. *Conservation Biology*, 33 (4), 821-831. <https://doi.org/10.1111/cobi.13252>

Schultz, M., Tyrrell, D.T., & Ebenhard, T. (2016). *The 2030 Agenda and Ecosystems - A discussion paper on the links between the Aichi Biodiversity Targets and the Sustainable*

Development Goals., Stockholm Resilience Centre. http://swed.bio/wp-content/uploads/2016/11/The-2030-Agenda-and-Ecosystems_spread.pdf

Timpte, M., Marquard, E., & Paulsch, C. (2018). *Analysis of the Strategic Plan 2011–2020 of the Convention on Biological Biodiversity (CBD) and first discussions of resulting recommendations for a post-2020 CBD framework*. Institute for Biodiversity – Network (ibn). <https://www.cbd.int/doc/strategic-plan/Post2020/postsbi/ibn.pdf>

UNCCD (2017). *ICCD/COP(13)/L. 18. The future strategic framework of the Convention. Draft decision submitted by the Chair of the Committee of the Whole*. <https://www.unccd.int/official-documents/cop13-l-documents/iccdcop13l18>

UNCCD. (2019). *UNCCD Secretariat Proposal on the Post-2020 Global Biodiversity Framework*. <https://www.cbd.int/api/v2013/documents/6E70A3E5-6477-6E6E-E8A1-0DCEF9D8D1E4/attachments/UNCCD.pdf>

UNEP-WCMC. (2012). *Promoting synergies within the cluster of biodiversity-related multilateral agreements*. https://www.unep-wcmc.org/system/dataset_file_fields/files/000/000/045/original/Promoting_synergies_in_the_biodiversity_cluster.pdf?1395761916

UNEP-WCMC. (2015). *Mapping Multilateral Environmental Agreements to Aichi Biodiversity Targets*. <https://www.unep-wcmc.org/resources-and-data/mea-aichi-Target-mapping>

UNEP-WCMC. (2018). *Overview of initiatives for enhancing coordination and collaboration at various levels across biodiversity-related conventions*. https://www.unep-wcmc.org/system/comfy/cms/files/files/000/001/267/original/Overview_of_synergies_initiatives_final.pdf

UNEP-WCMC. (2021). *Indicators for the post-2020 global biodiversity framework - Information Document prepared for SBSTTA24 by UNEP-WCMC in collaboration with the Biodiversity Indicators Partnership*. https://www.unep-wcmc.org/system/comfy/cms/files/files/000/001/401/original/Cross_mapping_A3_final.pdf

UNEP-WCMC. (2020). *UNEP-WCMC background document for Bern 2. Final version – May 2020*. <https://wedocs.unep.org/bitstream/handle/20.500.11822/32961/Bern2.pdf?sequence=1&isAllowed=y>

WHC. (2019). *World Heritage and the Post - 2020 Global Biodiversity Framework. Joint Document by the World Heritage Centre, IUCN, ICCROM UNESCO and ICOMOS*. <https://www.icomos.org/en/home-wh/70930-world-heritage-and-the-post-2020-global-biodiversity-framework>

WWF. (2020). *Post-2020 Global Biodiversity Framework: Synergies. February 2020*. https://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_brief_post_2020_gbf_and_synergies_1.pdf

Annexes

CBD. (2002). *CBD 2002/CBD/VI/26. Strategic Plan for the Convention on Biological Diversity*. <https://www.cbd.int/decision/cop/?id=7200>

CBD. (2010). *Global Biodiversity Outlook 3*. <https://www.cbd.int/doc/publications/gbo/gbo3-final-en.pdf>

CBD. (2010). *UNEP/CBD/COP/DEC/X/20. Decision adopted by the conference of the parties to the convention on biological diversity at its tenth meeting X/20. Cooperation with other conventions and international organizations and initiatives.* <https://www.cbd.int/doc/decisions/cop-10/cop-10-dec-20-en.pdf>

CBD. (2014). *UNEP/CBD/COP/DEC/XII/23. Decision adopted by the conference of the parties to the convention on biological diversity at its twelfth meeting XII/23. Marine and coastal biodiversity: Impacts on marine and coastal biodiversity of anthropogenic underwater noise and ocean acidification, priority actions to achieve Aichi Biodiversity Target 10 for coral reefs and closely associated ecosystems, and marine spatial planning and training initiatives.* <https://www.cbd.int/doc/decisions/cop-12/cop-12-dec-23-en.pdf>

CBD. (2018). *CBD/COP/14/INF/22. Key Messages from the Workshop on 'Biodiversity and Climate Change: Integrated Science for Coherent Policy. IPCC and IPBES.* <https://www.cbd.int/doc/c/c429/2df7/dc8cc589bbf1f5b58f8a1d63/cop-14-inf-22-en.pdf>

CBD. (2019). *CBD/POST2020/WS/2019/6/2. Report of the Consultation Workshop of Biodiversity Related Conventions on the Post-2020 Global Biodiversity Framework, Bern, 10-12 June 2019.* <https://www.cbd.int/doc/c/de6d/6f08/e6f5ab406bf39019f9d5db62/post2020-ws-2019-06-02-en.pdf>.

CCICED. (2020). *Policy Recommendation on Promoting Conservation and Biodiversity Finance. 2019-2020 Special Policy Study.*

CITES. (2016). *Revised Mapping of the CITES Strategic Vision: 2008–2020 Objectives and the Aichi Targets in the Strategic Plan for Biodiversity 2010-2020. Analysis of How CITES Strategic Vision Objectives Contribute to Achieving the Aichi Biodiversity Targets Established.* [https://cites.org/sites/default/files/eng/com/sc/66/Reporting/Revised mapping of the CITES Strategic Vision against Aichi.pdf](https://cites.org/sites/default/files/eng/com/sc/66/Reporting/Revised%20mapping%20of%20the%20CITES%20Strategic%20Vision%20against%20Aichi.pdf)

CITES. (2019). *Conf. 18.3 CITES Strategic Vision: 2021-2030.* https://cites.org/sites/default/files/document/E-Res-18-03_0.pdf

Cooper, G. & Trémolet, S. (2019). *Investing in Nature: Private finance for nature-based resilience.* The Nature Conservancy and Environmental Finance. <https://www.environmental-finance.com/content/research/investing-in-nature-private-finance-for-nature-based-resilience.html>

Equator Principles. (2020). *The Equator Principles. July 2020. A financial industry benchmark for determining, assessing and managing environmental and social risk in projects.* <https://equator-principles.com/wp-content/uploads/2020/05/The-Equator-Principles-July-2020-v2.pdf>

FAO. (2011). *Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture.* Commission on Genetic Resources for Food and Agriculture. *Annual Review of Environment and Resources*, 29, 143-179. <https://doi.org/10.1146/annurev.energy.29.062403.102203>

IFC. (2019). *Investing for Impact: Operational Principles for Impact Management.* https://www.ifc.org/wps/wcm/connect/720ed26b-48fe-40fb-9807-711d869c5bf9/Impact+Investing+Principles_FINAL_4-25-19_footnote+change_web.pdf?MOD=AJPERES&CVID=mJ20IIA

IPPC. (2010). *Joint Work Programme of the CBD and IPPC Secretariats (Updated 20 January 2010).*

- IPPC. (2012). *Strategic framework 2012-2019*. https://assets.ipcc.int/static/media/files/publications/en/2013/06/03/1344410402_ipcc_strategicframework_e_w_201305101054en.pdf
- IPPC. (2017). *Annual Report*. <http://www.fao.org/3/I9003EN/i9003en.pdf>
- IWC. (2020). *Conservation Committee's Strategic Plan 2016-2026*. https://iwc.int/private/downloads/R1-byAMSh5zEGie9HldFJA/IWC_MAY18_CCPG_INFO_02_AC.pdf
- Nairobi GC-RED. (n.d.). *Biodiversity and Ecosystem Network*. <https://www.undp.org/content/nairobi-gc-red/en/home/biodiversity-and-ecosystem-services--bes-net/>
- NCFA. (2016). *Natural Capital Finance Alliance: Finance Sector Leadership on Natural Capital*. <https://www.globalcanopy.org/sites/default/files/documents/resources/NCFA-brochure-final-web.pdf>
- OECD. (2019). *Biodiversity: Finance and the Economic and Business Case for Action*. <https://www.oecd.org/env/resources/biodiversity/biodiversity-finance-and-the-economic-and-business-case-for-action.htm>
- Ramsar Convention. (2016). *The Fourth Ramsar Strategic Plan 2016–2024*. https://www.ramsar.org/sites/default/files/hb2_5ed_strategic_plan_2016_24_e.pdf
- Timpte, M., Marquard, E., & Paulsch, C. (2018). *Analysis of the Strategic Plan 2011–2020 of the Convention on Biological Biodiversity (CBD) and first discussions of resulting recommendations for a post-2020 CBD framework*. Institute for Biodiversity – Network (ibn). <https://www.cbd.int/doc/strategic-plan/Post2020/postsbi/ibn.pdf>
- UNCCD. (2016). *Land in Balance. The scientific conceptual framework for Land Degradation Neutrality*. Science-Policy Brief 02. https://www.unccd.int/sites/default/files/documents/18102016_Spi_pb_multipage_ENG_1.pdf
- UNCCD. (2019). ICCD/CRIC (17)/9. *Report of the seventeenth session of the Committee for the Review of the Implementation of the Convention, held in Georgetown from 28 to 30 January 2019*. https://www.unccd.int/sites/default/files/sessions/documents/2019-05/ICCD_CRIC%2817%29_9-1904478E.pdf
- UNDP. (n.d). *The Biodiversity Finance Initiative*. <https://www.biodiversityfinance.net/>
- UNFCCC. (2015). *Paris Agreement*. https://unfccc.int/sites/default/files/english_paris_agreement.pdf
- VfU, BfN & UNEP FI. (2011). *Biodiversity Principles: Recommendations for the Financial Sector*. https://www.unepfi.org/fileadmin/documents/biodiversity_principles_en.pdf
- WHC. (2013). Decision: 37 COM 5A. *Report of the World Heritage Centre on its activities and the implementation of the World Heritage Committee's Decisions*. <https://whc.unesco.org/en/decisions/4974/>
- WWF-UK. (2017). *NDCs - A Force for Nature?* [http://awsassets.panda.org/downloads/NDCs - a force for nature \(1\).pdf](http://awsassets.panda.org/downloads/NDCs_-_a_force_for_nature_(1).pdf)

6 Annex I - Sustainable, green, climate and biodiversity finance

Sustainable finance is an umbrella term that, apart from financing approaches focused on social objectives, encompasses green finance, climate finance, conservation finance and biodiversity finance. Green finance generally refers to financial activities (e.g., project finance, investment, risk management) that support environmental protection, climate change mitigation and adaptation, and resource saving & efficiency (CCICED 2020; Cooper & Trémolet 2019). As ecology and environment-related activities are supporting activities of green finance, conservation finance could be considered as a part of green finance. As a component of conservation finance and thus a small slice of green finance, biodiversity finance refers to the practice of raising and managing capital and using financial incentives to support sustainable biodiversity management.⁴⁴ Climate finance is also a part of green finance, which refers to financial activities supporting climate mitigation and adaptation. Although climate adaptation can be interrelated with biodiversity and ecosystem, the focus of climate finance is different from that of conservation finance and biodiversity finance (CCICED 2020).



Figure 8: Climate finance and biodiversity finance (CCICED 2020)

⁴⁴ <https://www.biodiversityfinance.net>

7 Annex II - Opportunities of biodiversity-friendly investments for the financial sector

- ✓ **Risk diversification for financial institutions' investment portfolios.** Biodiversity-related assets, which are usually independent from macroeconomic developments, have lower correlation to conventional asset classes. To this end, investments into biodiversity conservation and sustainable use allow for risk diversification into their traditional investment portfolios.
- ✓ **New business models:** Focus on biodiversity conservation and sustainable use can foster the development of new financial products and services for new markets (e.g. organic agriculture, certified sustainable products, ecosystem restoration) and new revenue streams (e.g. for new markets or payments for ecosystem services in wetlands and forests).
- ✓ **Extensive competitiveness and long-term viability:** customer loyalty favouring biodiversity responsible business conduct can lead to market share gains and ensure long-term value creation.
- ✓ **Better relationships with stakeholders,** including clients, regulators, civil society and employees (OECD 2019).

8 Annex III - Financial Sector Initiatives

- ✓ **Equator Principles (EPs)** was launched in 2003 for financial institutions to identify, assess and manage environmental and social risk in project finance. The latest version of the Equator Principles (EP4) enhanced efforts around biodiversity and ecosystems management. It urges developers of large infrastructure and industrial projects to share commercially non-sensitive project-specific biodiversity data with the Global Biodiversity Information Facility (GBIF) using formats to enable such data to be accessed and re-used (Equator Principles 2020).
- ✓ **Principles for Responsible Investment (PRI)** was launched in 2006 by the UN Environment Finance Initiative (UNEP FI) and the UN Global Compact for institutional investors to incorporate environmental, social and governance (ESG) factors into investment and ownership decisions by a set of investment principals. Investments in biodiversity are considered as a sub-set of ESG financing or impact investment.
- ✓ **Biodiversity and Ecosystem Services Network (BES-Net)** was established as a capacity sharing network that promotes dialogue between science, policy and practice for more effective management of biodiversity and ecosystems, it has been managed by the Global Policy Centre on Resilient Ecosystems and Desertification Since 2016 (Nairobi GC-RED n.d.).
- ✓ **Biodiversity Principles** was launched in 2011 by the UNEP FI, German Federal Agency for Nature Conservation and the Association for Environmental Management and Sustainability in Financial Institutions (VfU). The Principles was developed by and for financial institutions to hardwire biodiversity across the finance industry, promote efforts in addressing the disconnection between financial sector and environmental protection advocates (VfU, BfN & UNEP FI. 2011).
- ✓ **Natural Capital Finance Alliance (NCFA)** was launched in 2012 by UNEP FI and the non-governmental organisation, Global Canopy Programme (GCP). Members include signatory financial institutions as well as other relevant organizations including UNEP-WCMC. NCFA provides knowledge and tools for financial sector to integrate natural capital considerations into financial products and services (NCFA 2016).
- ✓ **Biodiversity Finance Initiative (BIOFIN)** is a platform to guide practitioners, which facilitates the identification, development and implementation of optimal and evidence-based finance plans and implementation of finance solutions for biodiversity conservation (UNDP, n.d.).
- ✓ **Operating Principles for Impact Management** was launched by the International Finance Corporation (IFC), in consultation with a core group of external stakeholders in 2019. The Principles offer investors with clarity and consistency on what constitutes impact investing and the management of impact investing, including biodiversity investment (IFC 2019).
- ✓ **EU Taxonomy** is an instrument to support investors in assessing whether an economic activity is environmentally sustainable. It has been developed as a main part of the European Commission (EU) Action Plan on Financing Sustainable Growth. The Taxonomy sets out thresholds for economic activities so that investors can identify whether these activities contribute to one of the six environmental objectives and have done no significant harm to the other five objectives. Protection and restoration of

biodiversity and ecosystems is one of the six environmental objectives. The Taxonomy is expected to drive further consideration of biodiversity in financing and investment by providing a unified classification system.

- ✓ **Finance for Biodiversity:** On 25 September 2020, a group of 26 financial institutions from around the globe launched the Finance for Biodiversity Pledge. They called on global leaders and committed to protect and restore biodiversity through their finance activities and investments in the run-up to COP-15. The number of Pledge signatories has grown since then and currently stands at 55.
- ✓ **European Business @ Biodiversity Platform** focuses on good practice, tools to identify sector risk and biodiversity-related disclosure and metrics in finance institutions and companies.

9 Annex IV – International Frameworks

The Rio Conventions

Convention on Biological Diversity (CBD)

The CBD was adopted in 1992 with three objectives: 1) the conservation of biological diversity, 2) the sustainable use of the components of biological diversity and 3) the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources. Specific questions have been addressed in specific protocols under the CBD: the Cartagena Protocol on Biosafety to the Convention on Biological Diversity, its Nagoya – Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety as well as the 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.

In 2002, the CBD Parties committed to a Strategic Plan for the Convention on Biological Diversity and the 2010 Goal with the mission “to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on Earth” (CBD 2002). The third edition of the Global Biodiversity Outlook (GBO) assessed the progress towards the goal and concluded that it was not met, that most global trends were negative and that further actions during the next decades were required to ensure human existence. The GBO also concluded that biodiversity loss needed to be better connected to society and questions like poverty, healthcare, growth, and climate change (CBD 2010). CBD COP-10 in the Aichi Prefecture in Japan adopted the Strategic Plan for Biodiversity 2011-2020, including 20 Aichi Biodiversity Targets (CBD 2010). The new plan was aiming to broaden the scope by addressing the “underlying causes of biodiversity loss by mainstreaming biodiversity across government and society” (Strategic Goal A). The Global IPBES Assessment in 2019 as well as the fifth edition of the Global Biodiversity Outlook all conclude that the member states of the CBD still fail to reach most of the goals at a global scale, even if progress has been made on certain Targets and in some countries. The post-2020 global biodiversity framework is expected to respond to this conclusion through its level of ambition.

United Nations Convention to Combat Desertification (UNCCD)

The UNCCD was adopted in 1994 to address land degradation and desertification and to achieve sustainable land management. The UNCCD had a focus on drylands, especially in Africa, and encourages affected Parties to develop long-term strategies (National Action Programmes – NAPs) to combat desertification and requests support for these efforts from developed countries. The NAPs are complemented by programmes and cooperation activities at the regional and sub-regional level. In 2007, the UNCCD member states agreed on a 10-year Strategic Plan and Framework (2008-2018). The framework can be linked to several Aichi Targets e.g., 5, 7, 11, 14 and 15.

The UNCCD promoted the concept of Land Degradation Neutrality (LDN), which was included in the 2030 Agenda and is reflected in SDG sub Target 15.3. The UNCCD adopted the LDN concept in 2015 and invited its members to submit voluntary LDN Targets. By January 2018, 114 countries had announced LDN Target setting programmes. The ‘Scientific Conceptual Framework’ for Land Degradation Neutrality provides guidelines on how the concept can be implemented at the national level and includes indicators to monitor that there is ‘no net loss’. The framework further includes a list of 19 principles to ensure positive effects and avoid

unintended outcomes (UNCCD 2016). The goal is to improve and increase land-based natural capital. The restoration or conservation of biodiversity are not explicitly mentioned. In 2017, the UNCCD decided on a new Strategic Framework for 2018-2030 including guidelines to work towards SDG 15.3 and to contribute to LDN, while asking the member states to avoid duplication of efforts with regard to other MEAs and international commitments. At the latest meeting of the Committee for the Review of the Implementation of the UNCCD in January 2019, the Parties “acknowledged that the LDN Target-setting processes provided an opportunity for countries to promote synergies and policy coherence across sectors and at all levels, particularly as an accelerator within the national SDG agenda, the Rio conventions and other relevant international commitments” (UNCCD 2019b, p.10). At the Bern-I consultation meeting, UNCCD highlighted the importance of “...spatially explicit Targets (for species habitat, ecosystem services, connectivity) to facilitate integration of policies and programmes [...]” (CBD 2019 CBD/POST2020/WS/2019/6/2, p.9).

United Nations Framework Convention on Climate Change (UNFCCC)

The UNFCCC was adopted in 1992 with the objective to stabilise greenhouse gas emissions. The CBD has cooperated with UNFCCC on the cross-cutting issue of climate change and biodiversity for many years and took several related decisions as climate change is considered one of the main drivers for the loss of biological diversity. The Strategic Plan for Biodiversity 2011-2020 and the Aichi Targets addressed climate change in several Targets e.g., directly in Target 6 and 15 and more indirectly through drivers for climate change like deforestation and degradation of ecosystems (5), agriculture (7), pollution (8) that are also responsible for the loss of biodiversity. SDG 13 and its sub-Targets are calling for urgent action to combat climate change and its impacts, while SDG 15.3 is addressing some of these impacts by aiming by 2030 to “combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world”.

In the Paris Agreement from 2015, the Parties of the UNFCCC highlighted “...the importance of ensuring the integrity of all ecosystems, including oceans, [...] and the protection of biodiversity [...] when taking action to address climate change” (UNFCCC 2015, p.1). Key element of the Paris Agreement is the Nationally Determined Contributions (NDCs), voluntary commitments of national states to reduce emissions and to implement mitigation and adaptation activities (UNFCCC 2015, Article 4). A joint expert workshop on “Biodiversity and climate change: integrated science for coherent policy” was organised in October 2018 to discuss the findings of the latest IPCC report and the IPBES assessments as well as issues of common interests and cooperation. The workshop resulted in joint key messages on climate and biodiversity (CBD 2018). At COP-14, the Parties of the CBD adopted decision 14/5 on biodiversity and climate. The decision recognises the latest findings of the IPCC report and the need to implement the Paris Agreement. It encourages Parties and other governments to design and implement ecosystem-based approaches to climate change adaptation and disaster risk reduction that might also contribute to climate change mitigation. The decision further included “voluntary guidelines for the design and effective implementation of ecosystem-based approaches to climate change adaptation and disaster risk reduction”. Safeguards for effective planning and implementation of EbA and Eco-DRR should avoid negative impacts and trade-offs and involve all relevant sectors, stakeholders, as well as indigenous peoples and local communities (CBD 2018, p.9). A discussion paper by WWF-UK analysed the potential synergies between the Paris Agreement and the NDCs, the SDGs and the Aichi Targets to observe the degree of possible alignment and integration of biodiversity Targets in NDCs (WWF-UK 2017). It shows that the objectives, frameworks and goals of the CBD, UNFCCC and the 2030 Agenda are overlapping in several areas. WWF-UK suggested

decisions of the conventions that require reporting of integrated actions: “NDC should be required to include noting whether and how mitigation and adaptation actions contributing towards achieving the SDGs, CBD and UNCCD goals” (WWF-UK 2017, p.16). For the national level, WWF UK proposes integrated plans of action, led by high level panels of relevant ministries and decision-makers, and supported by intersectoral planning groups involving officials, NGOs and scientists. Integrated planning could help to show co-benefits and deal with trade-offs of actions related to biodiversity, mitigation and adaptation and sustainable development.

The biodiversity-related conventions

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

The Convention on the International Trade in Endangered Species of Wild Flora and Fauna (CITES) was adopted in 1973 to ensure that wild species are not exploited unsustainably because of international trade. CITES’s Strategic Vision 2008-2020 was revised in 2016 to align it with the Aichi Targets as well as the SDGs. The revised goals and Targets were mapped against the Aichi Targets (CITES 2016). The number of countries with legislation that is believed to meet the requirements for implementation of CITES (Category 1) was identified as relevant indicator for Aichi Target 4. In 2019, CITES adopted a new Strategic Vision 2021–2030 including the vision that “By 2030, all international trade in wild fauna and flora is legal and sustainable, consistent with the long-term conservation of species, and thereby contributing to halting biodiversity loss, to ensuring its sustainable use, and to achieving the 2030 Agenda for Sustainable Development.” (CITES 2019, p.3). The Strategic Vision recognises the linkages to other processes, among others the post-2020 GBF, the SDGs and the results of the IPBES work programme. The objectives of the Convention are further recognised in SDG sub-Target 15.7 which calls for “urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products” (see SDG indicator 15.7.1).

Conservation of Migratory Species of Wild Animals (CMS)

The Convention on the Conservation of Migratory Species of Wild Animals (CMS) was adopted in 1979 and aims to conserve migratory species across their range states by coordinating conservation efforts. CMS’s Strategic Plan for Migratory Species 2015-2023 was developed using the Strategic Plan of the CBD and Aichi Targets as a framework. CITES and CMS have developed a Joint Work Programme 2015-2020 to facilitate cooperation on information, activities, outreach and capacity building related to species relevant to both conventions. The implementation of SDGs 14 and 15 would contribute to the objectives of the CMS since they would conserve habitats and species e.g., from poaching.

International Plant Protection Convention (IPPC)

The aim of the International Plant Protection Convention (IPPC), adopted in 1951, is to protect the global plant resources from pests while facilitating safe trade. CBD and the IPPC under the Food and Agriculture Organization of the United Nations (FAO) have signed a Memorandum of Cooperation in 2004. In 2010, CBD and IPPC agreed on a Joint Work Programme to establish synergies on common issues e.g., plant pests, invasive alien species and living modified organisms (IPPC 2010). They also cooperate as member of the Inter-Agency Liaison Group on Invasive Alien Species, established in 2010, working towards the implementation of Aichi Target 9. The IPPC highlights in its Strategic Framework 2012-2019

the differences between its scope and the CBD “whereas the CBD addresses biodiversity and the environment in general, the IPPC deals specifically with those invasive alien species that are pests of plants and provides guidance for protection against them.” (IPPC 2012, p.17). In 2017, CBD and IPPC signed a joint work plan for 2017 to 2020. The work plan includes activities for cooperation such as 1) Participation in Governing Body Meetings; 2) Global Taxonomy Initiative Training; 3) Comparison of Terms Used in the Cartagena Protocol on Biosafety, the Glossary of Phytosanitary Terms, and Other Relevant Instruments; 4) Expert meetings regarding e-commerce; and Promotion of partnership and communication (IPPC 2017). A new Strategic Framework for 2020 – 2030 was scheduled for adoption in April 2020 in the context of the International Year of Plant Health 2020. However, the fifteenth session of the Commission on Phytosanitary Measures was postponed. The objectives of the IPPC can be linked to SDG 2. (End hunger, achieve food security and improved nutrition and promote sustainable agriculture) and SDG sub-Target 15.8 on invasive alien species.

International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)

The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) was adopted in 2001, aiming to ensure food security through conservation and sustainable use of plant genetic resources. The CBD and ITPGRFA under the Food and Agriculture Organization of the United Nations (FAO) have signed a Memorandum of Cooperation in 2004. In 2011, FAO adopted the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture 2011-2025 (FAO 2011), aiming to support the implementation of Aichi Target 13: “By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socioeconomically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.” The “Number of countries that have reported legislative, administrative and policy frameworks for measures to implement the International Treaty” has been used as an indicator for Aichi Target 13 as well as for SGD 15.6.1. ITPGRFA is furthermore contributing to SDG 2 (End hunger, achieve food security and improved nutrition and promote sustainable agriculture).

International Whaling Commission (IWC)

The International Convention for the Regulation of Whaling (ICRW) is regulating whaling since 1946 and decided to establish a moratorium on commercial whaling of all whale stocks in 1982. IWC’s objectives contribute to Aichi Target 12 and the implementation of Aichi Targets 6, 8, 10 and 11 would contribute to IWCs objectives. Achieving SDG 14 would have great benefits for the goals of the IWC. The IWC was the last convention joining the Liaison Group of Biodiversity-related Conventions in 2016. The CBD and the IWC share their knowledge on approaches to avoid, minimize and mitigate the significant adverse impacts of anthropogenic underwater noise on marine and coastal biodiversity (CBD 2014), an issue that was not explicitly covered under the Aichi Targets and could be addressed in post-2020 Targets (Timpte et al. 2018). The current Strategic Plan of IWC’s Conservation Committee 2016-2026 includes the long long-term vision for healthy, well-managed and recovered cetacean populations worldwide and identifies several other issues with relevance to the GBF, e.g. protected areas, marine debris, bycatch, pollution and climate change (IWC 2020).

Ramsar Convention on Wetlands

The Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat was adopted in 1971, with the objective to conserve and wisely use freshwater, marine and coastal wetlands. Wetlands of international importance can be designated Ramsar sites,

if at least one of nine criteria to identify its special status can be applied e.g., if it is the habitat of endangered species or if it is a unique ecosystem. Ramsar is the lead partner to the CBD regarding wetlands. Ramsar's fourth Strategic Plan 2016 – 2024 has been developed in line with the global Strategic Plan 2011-2020 developed by the CBD and the Aichi Targets as well as with the SDGs. An annex to the Strategic Plan is mapping the Ramsar goals and Targets against the Aichi Targets (Ramsar Convention 2015). The Ramsar Convention is custodian for indicators on the extent of wetlands/ changes on the extent of water related ecosystems which are recognized indicators of SDG sub-Target 6.6 (indicator 6.6.1). For 2021, a midterm review is scheduled to assess a possible alignment of the Strategic Plan with the GBF.

World Heritage Convention (WHC)

The World Heritage Convention (WHC) under the United Nations Educational, Scientific and Cultural Organization (UNESCO) was adopted in 1972 with the objective to protect and preserve cultural and natural heritage. A joint work programme on biodiversity and cultural diversity between CBD and UNESCO was agreed in 2010 "...as useful coordination mechanism to advance the implementation of the Convention and deepen global awareness of the inter-linkages between cultural and biological diversity" (CBD 2010, p. 3). The WHC contributes to Aichi Targets 1, 2, 5, 11 and 17. In 2013, WHC requested from its Parties to ensure that their NBSAPs fully take into account the importance of World Heritage properties to achieve the Aichi Biodiversity Targets (WHC 2013). The objectives of the WHC are recognized in SDG sub-Target 11.4 (see also indicator 11.4.1 on total per capita expenditure on the preservation, protection and conservation of all cultural and natural heritage).