



Nordic Council
of Ministers

Strengthening collaboration and coordination between biodiversity and chemicals and waste clusters



Contents

Executive summary	3
List of Acronyms and Abbreviations	9
Introduction	11
Pollution as a key driver of biodiversity loss	17
International policy response to the impacts of pollution	28
Current extent of alignment of the policy response	36
National approaches to implementation	44
Biodiversity cluster	44
Chemicals and waste cluster	47
The post-2020 and beyond 2020 strategy processes	53
Post-2020 global biodiversity framework	53
Strategic Approach and sound management of chemicals and waste beyond 2020	55
Potential for closer alignment of the two processes and their outcomes	56
Considerations on other areas of common interest	58
Options for action	62
Key areas of mutual interest across clusters	62
Different levels of action	63
Key characteristics of successful approaches	64
Options to be considered	65
a) Strengthening implementation mechanisms	65
b) Working together on areas of common interest	66
c) Coordinating common needs and services	68
d) Identifying key international entry points to advance collaboration	70
Annex 1 – Further information on intergovernmental agreements and processes	76
Annex 2 – Report of the expert consultation workshop	84
About this publication	97

This publication is also available online in a web-accessible version at <https://pub.norden.org/temanord2022-513>.

Executive summary

Increasing efficiency and effectiveness in implementation of multilateral environmental agreements through increased cooperation and the identification of potential synergies has already been given significant consideration. However, efforts to date have mainly focused on cooperation and synergies within the same thematic cluster. This review is concerned with opportunities that may exist for working across thematic clusters, specifically focusing on strengthening collaboration and coordination between the biodiversity and chemicals and waste clusters. The review was commissioned by the Nordic Council of Ministers and executed by the United Nations Environment Programme World Conservation Monitoring Centre.

Pollution as a key driver of biodiversity loss

Numerous global assessments have expressed concern about the impacts of chemicals and waste on biodiversity and ecosystem services, including increased impacts resulting from drivers of change acting in combination. Whatever the original intent with respect to the use of chemicals, many of which have brought significant health and economic benefits, chemical and waste pollution is impacting biodiversity and ecosystem services in a range of ways. Meanwhile, the chemicals industry is already very large in financial terms, and projected to double by 2030. For example, increasing demand for food and biofuels will likely lead to a continued increase in nutrient and chemical inputs, with pesticide and fertilizer use potentially doubling by 2050. At the same time, illegal trade of chemicals and waste continues to be a problem in some parts of the world. The volume of solid waste generated is already high and projected to increase significantly, and plastic pollution and marine litter has become an issue of serious concern.

International policy response to the impacts of pollution

Concerns about pollution and the safe and effective management of chemicals and waste are clearly expressed in the 2030 Agenda for Sustainable Development and the Sustainable Development Goals. Also, several international agreements on chemicals and waste have been adopted and are gradually extending and enhancing their impact. In addition to multilateral environmental agreements addressing specific groups of chemicals, it was considered necessary to establish a multi-stakeholder forum with a broader mandate and scope, which led to the policy framework provided by the Strategic Approach to International Chemicals Management. Within the marine realm, the United Nations Convention on the Law of the Sea also includes relevant provisions, and there are also international agreements relating specifically to dumping of wastes and pollution from ships. Given that pollution is identified as one of the main drivers of biodiversity loss, the biodiversity-related conventions have themselves taken a number of actions to recognise and address pollution. These include, for example, the Aichi Biodiversity

Target on reducing pollution and the proposed target for inclusion in the post-2020 global biodiversity framework currently under negotiation, actions to address threats to World Heritage Sites and Wetlands of International Importance, efforts to prevent the risk of poisoning to migratory birds, and efforts to reduce the impacts of chemical pollution and marine debris on cetacean populations.

Current extent of alignment of the policy response

The importance of policy coherence is recognised at the highest level including in the implementation of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals. There is also increasing recognition of the need for 'transformative change' that takes fully into account the interconnections between environmental issues. The United Nations seeks coherence in its operations, and has recently adopted a United Nations Common Approach on Biodiversity relevant across all United Nations entities. Increased alignment in the chemicals and waste cluster is evidenced by the synergies process among three of the conventions, which has led to a range of identified improvements in implementation. Meanwhile many governments have taken a more aligned approach to implementing the biodiversity-related conventions when addressing the Aichi Biodiversity Targets, and this is also likely to be further encouraged in implementation of the post-2020 global biodiversity framework.

National approaches to implementation

Efforts to strengthen collaboration and coordination between biodiversity and chemicals and waste clusters at the national level need to build on existing mechanisms, such as reporting requirements and the role of national focal points. Therefore, it is important to understand what mechanisms are in place and how they work at the national level in both clusters. There are national focal points within each country for each of the multilateral environmental agreements the country is party to and the Strategic Approach to International Chemicals Management. Each of the conventions and protocols requires some form of national reporting, and most have some form of implementation strategy or plan at the national level. While any action or adjustment to strengthen collaboration and coordination is clearly a decision for each country based on the instruments the country is party to, guidance provided by the governing bodies of instruments, or by secretariats and bureaux on their behalf, can help guide and influence this.

The post-2020 and beyond 2020 strategy processes

In both the biodiversity and chemicals and waste clusters there are ongoing processes which will influence targets, priorities and action at all levels leading up to 2030. The post-2020 global biodiversity framework is being developed under the auspices of the Convention on Biological Diversity, and is expected to be approved by its next Conference of the Parties (COP 15). Meanwhile an intersessional process is under way to prepare recommendations regarding the sound management of

chemicals and waste beyond 2020 for consideration at the fifth session of the International Conference on Chemicals Management. It is important to understand how these two ongoing processes and their outcomes will influence efforts to strengthen collaboration and coordination between the biodiversity and chemicals and waste clusters. Unfortunately, both processes have been impacted by the COVID-19 pandemic, and the processes that were meant to end in 2020 have been extended. However, this has brought opportunity to make additional inputs. The United Nations Environment Programme has provided support to both processes to enhance engagement, including convening the Second Consultation Workshop of Biodiversity-related Conventions on the Post-2020 Global Biodiversity Framework and developing an assessment on interlinkages and options to coordinate and cooperate on areas of common interest for the beyond 2020 intersessional process.

Options for action

A number of 'options for action' for strengthening collaboration and coordination between biodiversity and chemicals and waste clusters have been identified, in particular with respect to implementation at the national level. These have been reviewed by representatives of relevant secretariats and a range of national representatives, and further discussed at an expert consultation workshop convened by the United Nations Environment Programme.

Action to be taken needs to be considered from three different perspectives:

- actions that might be taken at national level;
- actions that might be taken by the governing bodies of multilateral environmental agreements; and
- contributions made by organizations working at regional and/or global level to support implementation

While not the focus of this report, actions taken by the private sector are also relevant including their engagement in the actions taken by others. The private sector is therefore also a key player.

Before identifying actions to be taken at any level, it is also important to consider the characteristics of a successful approach, so as to better understand how to make effective use of time and resources. Based on experience from the chemicals and waste conventions, the following key characteristics are proposed:

- party-led, with appropriate international support
- clearly identifiable benefits to implementation
- effectively focused, identifying mutual dependencies and common issues and targets
- ability to identify a series of manageable actions as stepping stones to broader objectives
- respectful of mandates and the legal autonomy of the different instruments
- avoids controversy and politically charged discussions, focusing instead on practical solutions

The following four broad strategic approaches have been identified, with the options for action focused on using existing mechanisms and processes wherever possible, building on and learning lessons from activities already under way, and focussing on issues of common interest.

a. Strengthening implementation mechanisms

*The first strategic approach is **to improve mechanisms for cooperation and collaboration across the biodiversity and chemicals and waste clusters when implementing each of the intergovernmental agreements and processes in the two clusters.** In order to achieve this there are actions that can be taken at both Party and instrument levels, building as appropriate on existing processes and experience.*

- Action 1: Ensure that national focal points of the different multilateral environmental agreements and processes know each other, and are enabled to work together on issues of common interest.
- Action 2: Ensure that institutional mechanisms are in place to bring together representatives of competent national authorities to work together on issues of common interest.
- Action 3: Consider actions that can be taken at the national level to increase integration when developing plans for implementing each of the multilateral environmental agreements and processes.
- Action 4: Consider proposing actions at the international level within each instrument that might support increased cooperation and collaboration across the clusters.

b. Working together on areas of common interest

The second strategic approach is **to identify opportunities for cooperation and collaboration areas across the biodiversity and chemicals and waste clusters where working together can help achieve common aims and bring clear benefits.** Such actions would be planned in the context of not only implementation of the instruments, but also considering delivery of the 2030 Agenda for Sustainable Development.

- Action 5: Cooperate on communications relating to the interconnections between biodiversity and chemicals and waste, including the links to the health agenda.
- Action 6: Collaborate in the identification of risks, and in contingency planning for recognising and mitigating the potential impacts of known risks.
- Action 7: Collaborate in improving governance arrangements, planning and implementation processes at national and local levels, including through inputting legislation and regulation formulation.
- Action 8: Promote and support research in key areas identified as being a priority by both the biodiversity and chemicals and waste clusters, and facilitate wide access to the results.
- Action 9: Initiate cross-cluster collaborative projects as a vehicle for working together to achieve common interests, to increase efficiencies in resource use, and to optimise opportunities for finance.

c. Coordinating common needs and services

The third strategic approach is ***to identify opportunities for achieving improved effectiveness and cost-effectiveness through enhancing coordination of common services***. Addressing biodiversity loss and the sound management of chemicals and waste requires the same means of implementation (capacity-building, technical and scientific cooperation, technology transfer, resource mobilization), and many of the same sort of underpinning activities including monitoring, development and use of indicators, reporting, and knowledge management. Opportunities for increasing effectiveness pragmatically should be identified.

- Action 10: Explore opportunities for cooperation and collaboration in monitoring and reporting, particularly with respect to development and use of indicators.
- Action 11: Consider the potential benefits of increased coordination of capacity-building, technical and scientific cooperation, and technology transfer.
- Action 12: Facilitate the sharing of guidance materials, experience and information relevant to the interface between the two clusters.
- Action 13: Collaborate in the development of an effective science-policy interface at both national and international levels.

d. Identifying key international entry points to advance collaboration

The fourth strategic approach is ***to identify key international entry points and to enhance engagement with relevant international initiatives to focus increased attention on efforts to reduce the negative impacts of chemicals and waste on biodiversity and ecosystem services***. A number of obvious key initiatives or entry points are identified below, but there are also others that could be considered.

- Action 14: Promote the uptake of the findings of this study report in the post-2020 and beyond 2020 processes, and liaise with the MEA and SAICM secretariats to draw their attention to the report.
- Action 15: Raise the profile of cross-cluster collaboration through the United Nations Environment Assembly and other intergovernmental and interagency meetings.
- Action 16: Promote regional cooperation as a basis for strengthening cooperation and collaboration in addressing impacts of chemicals and waste on biodiversity.
- Action 17: Encourage international finance institutions such as the Global Environment Facility to support projects and programmes that address environmental issues in an integrated manner.
- Action 18: Identify ways to collaborate in the context of a 'One Health' approach, using this as a basis for driving and justifying action.

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The multiple interactions between environmental problems mean that uncoordinated single-issue solutions are inefficient and will fail. An integrated approach that addresses the underlying root causes of interlinked environmental problems and pays attention to unintended consequences of actions is both more cost-effective and more likely to be successful than treating the issues as if they were independent of one another. It further allows synergies to be identified and exploited, while steering away from the worst trade-offs.

Making Peace with Nature:
A scientific blueprint to tackle the climate biodiversity and pollution emergencies

List of Acronyms and Abbreviations

BLG	Liaison Group of Biodiversity-related Conventions
	Basel, Rotterdam and Stockholm (Conventions)
BRS	(Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal; Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade; Stockholm Convention on Persistent Organic Pollutants)
CBD	Convention on Biological Diversity
CFCs	Chlorofluorocarbons
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
FAO	Food and Agriculture Organization of the United Nations
GEF	Global Environment Facility
HFCs	Hydrofluorocarbons
HHP	Highly Hazardous Pesticide
HLPF	High-level Political Forum on Sustainable Development
ICCM	International Conference on Chemicals Management (governing body of SAICM)
IOMC	Inter-Organization Programme for the Sound Management of Chemicals
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
IPM	Integrated Pest Management
IPPC	International Plant Protection Convention
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
IWC	International Whaling Commission
MEA	Multilateral Environmental Agreement
NIP	National Implementation Plan
PCB	Polychlorinated biphenyl
PIC	Prior Informed Consent

POPs	Persistent Organic Pollutants
SAICM	Strategic Approach to International Chemicals Management
SDG	Sustainable Development Goal
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNCLOS	United Nations Convention on the Law of the Sea
UNEA	United Nations Environment Assembly
UNEP	United Nations Environment Programme
UNEP-WCMC	UNEP World Conservation Monitoring Centre
UNFCCC	United Nations Framework Convention on Climate Change
UNITAR	United Nations Institute for Training and Research
VNR	Voluntary National Review
WHC	Convention concerning the Protection of the World Cultural and Natural Heritage
WHO	World Health Organization
WMO	World Meteorological Organization

Introduction

In recent years, efforts to improve international environmental governance have focused on improving policy coherence, coordination, and effectiveness. Exploring opportunities for enhancing synergies in implementing multilateral environmental agreements (MEAs) has been a key part of these endeavours. This has included consideration of what can be done at both national¹ and international² levels. However, efforts to date have mainly focused on cooperation and synergies among MEAs within the same thematic cluster, for example among those agreements addressing biodiversity, among those agreements addressing chemicals and waste, and through establishment of the Strategic Approach to International Chemicals Management (SAICM).

This review is part of an effort to take this discussion to the next level, and to consider opportunities for strengthening collaboration and coordination in implementing MEAs and related processes across two different thematic clusters, the biodiversity cluster and the chemicals and waste cluster. This issue is significant as pollution is identified in both the fifth edition of the Global Biodiversity Outlook³ and the IPBES Global Assessment Report on Biodiversity and Ecosystem Services⁴ as one of the five main direct drivers of biodiversity loss. The expectation is that if those working on implementing biodiversity MEAs and processes and those working on implementing MEAs and processes relating to chemicals and waste were able to work together more efficiently and effectively where it is appropriate to do so, then implementation in both clusters will benefit. This would in turn demonstrate a more coherent response to addressing global environmental problems, which is entirely consistent with the 2030 Agenda for Sustainable Development and the 17 Sustainable Development Goals which are intended to be integrated and indivisible.⁵

The time is opportune, as intergovernmental processes are currently under way to develop a post-2020 global biodiversity framework⁶ and a new global framework for sound management of chemicals and waste beyond 2020.⁷ Both processes are described further below. Additionally, some of the conventions in the chemicals and waste cluster are actively considering interlinkages with biodiversity, and again this is addressed further below.⁸ Meanwhile, the recently concluded UNEP-led report⁹ on Making Peace with Nature concluded *inter alia* that “given the interconnected nature of climate change, loss of biodiversity, land degradation, and air and water pollution,

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1. See for example UNEP (2015). Sourcebook of opportunities for enhancing cooperation among the Biodiversity-related Conventions at national and regional levels. United Nations Environment Programme (UNEP). (nationalmeasynnergies.files.wordpress.com/2015/06/sourcebook-web.pdf)
 2. See for example www.brsmeas.org/Decisionmaking/Overview/SynergiesProcess
 3. Secretariat of the Convention on Biological Diversity (2020). Global Biodiversity Outlook 5. (www.cbd.int/gbo5)
 4. IPBES (2019): Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. (See www.ipbes.net/global-assessment)
 5. UN General Assembly Resolution 70/1 Transforming our world: the 2030 agenda for sustainable development (sdgs.un.org/2030agenda)
 6. See www.cbd.int/conferences/post2020
 7. See www.saicm.org/Beyond2020/IntersessionalProcess
 8. Secretariats of the BRS Conventions and the Minamata Convention on Mercury (2021). Interlinkages between the chemicals and waste multilateral environmental agreements and biodiversity: Key insights. (wedocs.unep.org/bitstream/handle/20.500.11822/36088/BIKI.pdf)
 9. UNEP (2021). Making Peace with Nature: A scientific blueprint to tackle the climate, biodiversity and pollution emergencies. (www.unep.org/resources/making-peace-nature)

it is essential that these problems are tackled together. Response options that address multiple issues can mitigate multidimensional vulnerability, minimize trade-offs and maximise synergies".

Scope and definitions

Consistent with the definition used by the Convention on Biological Diversity, **biodiversity** is taken to mean the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.¹⁰

Consistent with the wording of Agenda 21¹¹ this report is concerned with the environmentally sound management of toxic **chemicals** and hazardous **waste**. This is taken to include any chemicals or wastes introduced into the environment which have an unintended negative impact on biodiversity and ecosystem services, whether introduction is deliberate or unintentional. The report does not address other forms of pollution affecting biodiversity, such as noise or light pollution.

The following definitions are also used:¹²

Coordination: organization of the different elements of a complex body or activity so as to enable them to work together effectively and without duplication

Collaboration: working together to produce a discrete output or set of outputs

Cooperation: working together towards a common aim or objective

Synergies: linking processes in a way that increases the effects of the sum of the joint activities beyond the sum of individual activities, and thus making efforts more effective and efficient

Coherent implementation: implementing relevant agreements and processes in a consistent manner as a whole, rather than considering each independently

The review concerns the implementation of several international agreements and processes. Each of these has its own objectives and mandates, and its own governance and advisory processes, as well as different memberships. The review, and in particular the options for action, need to be understood in this context.

10. Article 2 of the Convention on Biological Diversity (www.cbd.int/convention/text/)

11. UN (1992). Agenda 21. United Nations Conference on Environment and Development, Rio de Janeiro, Brazil, 3–14 June 1992 (sustainabledevelopment.un.org/content/documents/Agenda21.pdf)

12. Based on page 3 of UNEP (2015). Sourcebook of opportunities for enhancing cooperation among the Biodiversity-related Conventions at national and regional levels. United Nations Environment Programme (UNEP) (nationalmeasynnergies.files.wordpress.com/2015/06/sourcebook-web.pdf)

For the purposes of this review, the biodiversity cluster is taken to comprise the eight global conventions and processes represented in the Liaison Group of Biodiversity-related Conventions (BLG). These are (in alphabetic order):

Convention concerning the Protection of the World Cultural and Natural Heritage (WHC)

Convention on Biological Diversity (CBD)

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

Convention on the Conservation of Migratory Species of Wild Animals (CMS)

Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar)

International Plant Protection Convention (IPPC)

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

*International Whaling Commission (IWC)*¹³

For the purposes of this review the chemicals and waste cluster is taken to include the following global conventions and processes:

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal

Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade

Stockholm Convention on Persistent Organic Pollutants

Minamata Convention on Mercury

Strategic Approach to International Chemicals Management (SAICM)

Some of the discussion will also be relevant to other global MEAs, as opportunities for strengthening collaboration and coordination may also relate to their interests, and/or the way they are implemented at the national level. In this context it is worth mentioning four MEAs, the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Convention to Combat Desertification (UNCCD), the Montreal Protocol on Substances that Deplete the Ozone Layer, and the United Nations Convention on the Law of the Sea (UNCLOS). The issue is also relevant to the Regional Seas Conventions, and, where appropriate, examples of regional agreements are considered, such as the Cartagena and its Protocols. Annex 1 provides basic information on all MEAs referred to in the report.

The overall project, which was originated by the Council of Ministers and supported by them, aims to identify opportunities to further enhance cooperation and coordination across biodiversity and chemicals and waste clusters. The purpose of this review is therefore to improve the knowledge base on opportunities for action which could potentially lead to synergies between the clusters, and identification of

13. The IWC is established by the International Convention on the Regulation of Whaling.

ways to promote further cooperation. Opportunities for synergies and the potential benefits are explored with a wide scope, and also illustrated through a case study requested by the Nordic Council of Ministers, focusing on the impact of pesticides on biodiversity.

This review identifies 'options for action' that will hopefully provide useful input to discussions at the international level, including potentially the post-2020 and beyond 2020 processes, future sessions of the United Nations Environment Assembly (UNEA), and individual MEA advisory and governing body meetings, and contribute to future processes aiming at improving international environmental governance. However, the primary focus is on identifying opportunities for action that can be taken at the national level, and actions that can be taken at the international level in order to promote, facilitate and support action at the national level. In doing so it also identifies potential regional support mechanisms, and examples of support that might be provided by other organizations and initiatives.

The review has been developed by the United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) with the guidance of a steering committee representing the Governments of Denmark, Finland, Norway and Sweden. A range of national representatives, all relevant MEA Secretariats, the SAICM secretariat, as well as a number of other experts have had opportunity to provide feedback on drafts of the review at various stages, as have colleagues within UNEP and UNEP-WCMC.

A draft of this review provided input to an expert consultation workshop convened by the United Nations Environment Programme (UNEP) in September 2021, with advice from the project steering committee. This workshop provided opportunity for dialogue amongst selected national focal points to the conventions from both clusters and SAICM from across all regions, and representatives of MEA secretariats and the SAICM Secretariat. The discussions during this expert workshop have informed this final version of the study report, and each of the participants was also invited to provide feedback on an earlier draft of the study report. The workshop report can be found in Annex 2.

The review report comprises six sections.

- The section on **pollution as a key driver of biodiversity loss** provides background on the impacts of chemicals and waste on biodiversity and ecosystem services, drawing on multiple sources including a broad range of global assessments.
- The section on **international policy response to the impacts of pollution** briefly summarises how intergovernmental agreements and processes have evolved to address the types of concern summarised in the previous section.
- The section on **current extent of alignment of the policy response** provides examples of where the need for collaboration and coordination has been recognised and acted upon when considering the relationship between the two clusters.
- The section on **national approaches to implementation** explores a range of the types of approaches being used at the national level to address international obligations with respect to each cluster.
- The section on the **post-2020 and beyond 2020 strategy processes** summaries the process currently under way to develop a post-2020 global biodiversity framework and the intersession process to prepare recommendations regarding the Strategic Approach and sound management of chemicals and waste beyond 2020.
- Drawing on the previous sections, the section on **options for action** sets out possible actions and next steps that might be considered in strengthening collaboration and coordination, focusing on what might be considered at the national level, what might need to be done at the MEA or process level, and what other support might be required including from UNEP and other UN entities.

The review has been broad-based in the way in which it has addressed chemicals and waste, their impacts on biodiversity and ecosystem services, and options for action in the context of MEAs and SAICM. To illustrate some of the detail, this broad view is supplemented by more detailed consideration of pesticides. This is presented as a series of boxes throughout the text.

Box 1: Introduction to pesticides case study boxes

Where it is useful to the narrative, additional information is provided in boxes like this on aspects of the study as they relate to pesticides. The intention is not to provide a complete overview of the need for and use of pesticides, their impacts on biodiversity and ecosystem services, and response to this at national and international levels. That would be a major study in its own right. Rather the intention is to provide additional context for this study and the options for action identified.

The focus on pesticides was chosen by the Nordic Council of Ministers because of growing concerns over the impact of certain pesticides on pollinators and pollination. As highlighted by the IPBES assessment report on pollinators, pollination and food production,¹⁴ 75% of food crops and nearly 90% of wild flowering plants depend on pollinators, yet pollinators are being threatened by a wide range of human activities including extensive use of pesticides and fertilizers which have proven to have lethal effects on them. This example therefore highlights in a very concrete way the close interlinkage between biodiversity and chemicals and waste and the need to shift from business as usual to working to solve the known challenges in a more coherent and synergistic manner, while recognising that in a range of countries relevant actions are already under way.

The Food and Agriculture Organisation of the United Nations (FAO) has defined a **pesticide** as: *"any substance or mixture of substances intended for preventing, destroying or controlling any pest, including vectors of human or animal disease, unwanted species of plants or animals causing harm during or otherwise interfering with the production, processing, storage, transport or marketing of food, agricultural commodities, wood and wood products or animal feedstuffs, or substances which may be administered to animals for the control of insects, arachnids or other pests in or on their bodies"*.¹⁵

14. IPBES (2016). The assessment report on pollinators, pollination and food production. (See ipbes.net/assessment-reports/pollinators)

15. FAO (2003) International Code of Conduct on the Distribution and Use of Pesticides. Rome. Article 2 on terms and definitions. (www.fao.org/3/Y4544E/y4544e02.htm)

Pollution as a key driver of biodiversity loss

There are many chemicals entering the environment, and an increasing amount of waste, and while these are not the only sources of pollution they can potentially comprise a significant part of it. This is happening in almost all sectors, exacerbated by a wide range of factors including population increase. Whatever the original intent with respect to the use of chemicals, many of which have brought significant health and economic benefits, chemical and waste pollution is impacting biodiversity and ecosystem services in a range of ways.

There is clear concern about the unintended impacts of chemicals and waste on biodiversity and ecosystem services, with evidence presented in multiple global assessments. Each of these assessments considered an extensive literature, and more detail on the nature of the risk and the sources of information used to reach their conclusions can be found each of the assessment reports. The findings of the different assessment reports included the following:

- The fifth edition of the Global Biodiversity Outlook¹⁶ launched by the CBD in September 2020 – shortly before the United Nations Summit on Biodiversity – concluded that *"pollution, including from excess nutrients, pesticides, plastics and other waste, continues to be a major driver of biodiversity loss"*.
- The IPBES Global Assessment Report on Biodiversity and Ecosystem Services¹⁷ released in 2019 concluded that *"many types of pollution ... are increasing, with negative impacts for nature"*, identifying pollution as one of five direct drivers of decline in nature with the largest global impact.
- The First World Ocean Assessment¹⁸ released in 2015 identified concerns about *"increasing inputs of harmful material and excess nutrients into the ocean"* and, while the potential impacts considered were broader than biodiversity and ecosystem services, it was recognised that *"adverse impacts on marine ecosystems come from the cumulative impacts of a number of human activities"*. While the Second World Ocean Assessment¹⁹ released in 2021 comes to many of the same conclusions, it also acknowledges that the chemicals conventions are making a difference.
- The FAO report on State of Knowledge of Soil Biodiversity: Status, Challenges and Potentialities²⁰ published in 2020 concludes that *"the overuse and misuse of agrochemicals constitutes one of the main drivers of soil biodiversity loss, thus reducing the potential of soil biodiversity for a sustainable agriculture and food security"*. This concern is also identified in the first edition of the Global Land Outlook²¹ produced by UNCCD in 2017.

16. Secretariat of the CBD (2020). Global Biodiversity Outlook 5. (www.cbd.int/gbo5)

17. IPBES (2019). Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. (See www.ipbes.net/global-assessment)

18. UN (2016). The first global integrated marine assessment: World Ocean Assessment I. (www.un.org/regularprocess/content/first-world-ocean-assessment)

19. UN (2021). The second world ocean assessment: World Ocean Assessment II. (www.un.org/regularprocess/woa2launch)

20. FAO (2020) State of knowledge of soil biodiversity - Status, challenges and potentialities (www.fao.org/documents/card/en/c/CB1928EN/)

21. Secretariat of the UNCCD (2017). Global Land Outlook: First edition. (knowledge.unccd.int/sites/default/files/2018-06/GLO_English_Full_Report_rev1.pdf)

- The Global Assessment of Soil Pollution²² published by FAO and UNEP in 2021 concludes that not only does soil pollution affect both above and below ground biodiversity directly in various ways, but in addition *"polluted soils in turn become a source of pollution for groundwater, through leaching of contaminants, and for freshwater and marine environments, since contaminants can be transported offsite through wind and water erosion"*.

Each assessment has a different focus and concentrates on different areas of concern with respect to chemicals and waste and the ways in which they enter ecosystems and impact on biodiversity. The IPBES global assessment, for example, was particularly concerned with three types of pollution: emissions into the atmosphere; contaminants dissolved in and carried by water; and disposal or deposition of solids. It also recognised the potential impacts of increasing use of fertilizers and pesticides as a result of efforts to feed a growing world population. The marine assessment considered 11 sources of harmful material and excess nutrients, including from land-based sources and from shipping. Given the nature of the ocean environment, these pollution sources have potential impacts on countries other than the source country, as well as areas beyond national jurisdiction. The first of the FAO reports was primarily concerned with overuse and misuse of chemicals in agricultural practice, while the Global Assessment of Soil Pollution identifies multiple pollution sources including agriculture, industrial activities and mining, waste disposal and management, industrial accidents, military activity and natural disasters.

There is also concern that chemicals and waste exacerbate threats to biodiversity and ecosystem services when experienced in combination with other threats. For example, the IPCC Special Report on Ocean and Cryosphere in a Changing Climate²³ indicates that the impacts of climate change on ocean and cryosphere ecosystems can be exacerbated by other factors such as pollution, and therefore addressing pollution needs to be part of the response options. Similarly, exacerbation of climate change impacts on natural ecosystems by other 'stressors' including pollution was identified as being of concern in the IPCC Fifth Assessment Report (Working Group II).²⁴ The Global Biodiversity Outlook also recognised that different threats to biodiversity were interconnected, as did the report prepared by the BRS and Minamata Convention Secretariats on key insights on the interlinkages between the chemicals and waste MEAs and biodiversity,²⁵ and the report of the 2021 meeting of the IWC Scientific Committee.²⁶

22. FAO and UNEP (2021). Global assessment of soil pollution: Report. (www.fao.org/documents/card/en/c/cb4894en/)

23. IPCC (2019). Special Report on the Ocean and Cryosphere in a Changing Climate. (www.ipcc.ch/srocc/)

24. IPCC (2014). Climate Change 2014: Impacts, Adaptation, and Vulnerability. (www.ipcc.ch/report/ar5/wg2/)

25. Secretariats of the BRS Conventions and the Minamata Convention on Mercury (2021). Interlinkages between the chemicals and waste multilateral environmental agreements and biodiversity: Key insights. (wedocs.unep.org/bitstream/handle/20.500.11822/36088/BIKI.pdf)

26. IWC (2021). Report of the Scientific Committee, 27 April-14 May 2021. (archive.iwc.int/pages/view.php?ref=19276)

Meanwhile the size of the chemicals industry in terms of financial value is already very large and projected to double by 2030. This was one of the conclusions of the second edition of the Global Chemicals Outlook,²⁷ which also recognised that hazardous chemicals and other pollutants (including pharmaceutical pollutants) continue to be released in large quantities, are ubiquitous in the environment, and are accumulating in material stocks and products. There are concerns about both current and legacy impacts of chemical pollutants, and this relates to both chemicals that have been deliberately introduced into the environment for an intended purpose and those that have been released through inappropriate use or accidental release.

Increasing demand for food and biofuels will likely lead to a continued increase in nutrient and chemical inputs, with pesticide and fertilizer use expected to double by 2050 if current trends continue. This was part of the findings of the IPBES assessment on land degradation and restoration,²⁸ which also identified specific concerns about high use of chemicals in intensive agricultural systems leading to eutrophication of water bodies and toxic effects of pesticides on non-target species. This also relates to concerns expressed in the FAO report on State of Knowledge of Soil Biodiversity²⁹ and the UNCCD Global Land Outlook³⁰ on the impacts of overuse and misuse of agrochemicals.

Meanwhile illegal trade of chemicals and waste continues to be a serious problem in some parts of the world.³¹ The independent evaluation of SAICM³² reported that significantly more work needed to be done in this area, and identified a number of gaps limiting international progress including: lack of verification and information on traded chemicals, products and waste; insufficient information sharing and cooperation internationally; lack of enforcement of anti-corruption laws; lack of capacity in customs control systems; and lack of ability to regulate illegal traffic. Such illegal activity will inevitably increase impacts of chemicals and waste on biodiversity and ecosystem services.

The volume of solid waste generated each year is already high and projected to increase very significantly in the coming years. This is one of the findings of the World Bank Group Report on What a Waste 2.0.³³ The extent to which waste is properly managed varies widely both within countries and between countries, and to some extent across sectors. At the same time the amount of waste generated in low income countries is projected to increase even more rapidly in the coming years, as waste generation generally increases as a result of population growth, increasing urbanization and economic development. While not all waste is hazardous, this does mean that the types of impacts on biodiversity resulting from waste will vary quite significantly geographically.

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27. UNEP (2019). Global Chemicals Outlook II: From Legacies to Innovative Solutions: Implementing the 2030 Agenda for Sustainable Development. Synthesis Report. (gpcpe.org/wp-content/uploads/2019/03/GCOII_synth.pdf)
 28. IPBES (2018). The IPBES assessment report on land degradation and restoration. (See ipbes.net/assessment-reports/ldr)
 29. FAO (2020) State of knowledge of soil biodiversity - Status, challenges and potentialities (www.fao.org/documents/card/en/c/CB1928EN/)
 30. Secretariat of the UNCCD (2017). Global Land Outlook: First edition. (knowledge.unccd.int/sites/default/files/2018-06/GLO_English_Full_Report_rev1.pdf)
 31. UNEP and GRID-Arendal (2020). The illegal trade in chemicals. (www.grida.no/publications/474)
 32. SAICM (2019). Final report: Independent evaluation of the Strategic Approach from 2006-2015. (www.saicm.org/Portals/12/Documents/reporting/FinalReport_Independent-Evaluation-SAICM-2006-2015.pdf)
 33. Kaza, S., Yao, L.C., Bhada-Tata, P., Van Woerden, F. (2018). What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050. Urban Development and World Bank. (openknowledge.worldbank.org/handle/10986/30317)

Marine litter originating from both land-based sources and sea-based activities has become an issue of increasing concern in recent years. This was recognised, for example, in both the First Global Integrated Marine Assessment³⁴ and the first edition of the Global Waste Management Outlook.³⁵ Part of the problem is that the overall magnitude of litter entering the sea annually is unknown, and the amount at any given location will vary depending on a range of factors including not only the 'entry point' and physical characteristics of the litter itself, but also factors such as hydrological and meteorological conditions, and movement through ocean currents.

Chemicals and waste enter the environment in a range of different ways and have a range of different types of impact on biodiversity and ecosystem services. For example, the report prepared by the Secretariats of the BRS and Minamata Conventions on key insights into interlinkages between the chemicals and waste MEAs and biodiversity³⁶ provides examples of the impacts of chemicals and waste and how they enter the environment.

- **Mercury** is highly toxic and persistent in the environment. Once released, mercury and its compounds can be transported through air and water, persisting in sediments, soil and the biota. Mercury accumulates through food chains, with impacts on physiology/health, behaviour and reproductive success. Top predatory animals in aquatic food chains are particularly at risk. Food webs in many of the world's ecosystems have mercury levels which cause concern, and both tropical and Arctic ecosystems appear particularly sensitive. In recent years there has been concern about increasing use of mercury in artisanal and small-scale gold mining.
- **Persistent Organic Pollutants** (POPs) also become widely distributed throughout the environment, are highly persistent, and also accumulate through food chains. The effects of POPs have been observed in a range of ecosystems, with impacts on predator species in these ecosystems relating to both health and reproduction. The primary sources are industrial chemicals and processes, pesticides, and unintentional release through, for example, open burning of waste. It has also been suggested that these problems might be exacerbated by waste, including potentially POPs, contained in and absorbed by plastics.
- **Pesticides** are intentionally introduced into the environment in response to threats from pest species. However, pesticides may have unexpected impacts on biodiversity, and unintended impacts may occur through inappropriate or uncontrolled use, or through lack of appropriate caution during manufacturing, transport, storage and disposal. The impacts of pesticides on terrestrial and aquatic insects, birds and fish are well documented, and more generally on soil biodiversity, with some species of insects being vulnerable to pesticide impacts even at very low exposure levels.
- **Hazardous wastes and other wastes** take many different forms and are released into the environment in a range of different ways (e.g. dumping of solid waste, release of liquid waste, open burning). They therefore have a range of different impacts on biodiversity and ecosystem services. Marine and coastal

34. UN (2016). The first global integrated marine assessment: World Ocean Assessment I. (www.un.org/regularprocess/content/first-world-ocean-assessment)

35. UNEP (2015). Global waste management outlook. UNEP and International Solid Waste Association. (wedocs.unep.org/bitstream/handle/20.500.11822/9672/-Global_Waste_Management_Outlook-2015Global_Waste_Management_Outlook.pdf.pdf)

36. Secretariats of the BRS Conventions and the Minamata Convention on Mercury (2021). Interlinkages between the chemicals and waste multilateral environmental agreements and biodiversity: Key insights. (wedocs.unep.org/bitstream/handle/20.500.11822/36088/BIKI.pdf)

species, for example, can be severely affected by marine debris through ingestion, entanglement, impacts of abandoned, lost and otherwise discarded fishing gear, and dispersal by rafting, as well as impacts on their habitat. Pollution from major dump sites, for example, can leach into rivers, affecting both nearby and downstream freshwater, coastal and marine habitats. Pharmaceuticals, for example, can have an impact on wildlife and ecosystems when release into the environment.

There are many challenges and issues of concern that need to be considered and addressed.³⁷ SAICM currently recognises eight emerging policy issues or other issues of concern:³⁸ chemicals in products; endocrine disrupting chemicals; environmentally persistent pharmaceutical pollutants; hazardous substances in the life cycle of electrical and electronic products; highly hazardous pesticides; lead in paint; nanotechnology and manufactured nanomaterials; and per- and polyfluoroalkyl substances. The second edition of the Global Chemicals Outlook identifies 11 chemicals or groups of chemicals where emerging evidence suggests further environmental and/or health risks.³⁹ The UNEP assessment report on issues of concern⁴⁰ reviews each of these issues of concern, and also suggests ways in which issues of concern might be identified in future given the very large number of chemicals on the market and in use.

Pharmaceutical residues are also present worldwide in surface water, groundwater, soil and within the biota. This was reported on in the second edition of the Global Chemicals Outlook,⁴¹ which recognised that pharmaceuticals are one of the chemical industries' fastest growing segments, with an annual growth rate of 6.5%. The report noted that some pharmaceuticals were transported and accumulated within food webs, and that some were found to have endocrine disrupting effects in animals. A particularly well publicised concern over pharmaceuticals in recent years has been the impact of diclofenac, a non-steroidal anti-inflammatory drug used for treating cattle, which has been the cause of substantial declines in three species of *Gyps* vultures in South Asia.⁴² Other drugs, including carprofen, flunixin, nimesulide, aceclofenac and ketoprofen are also known to be dangerous to vultures and other scavenging birds. At the regional level a study a UNESCO-led assessment found a wide variety of pharmaceuticals in marine and freshwater habitats in the Baltic Sea region, largely entering the natural environment through discharge of effluents from municipal wastewater treatment plants.⁴³

37. UNEP (2020). An assessment report on issues of concern: Chemicals and waste issues posing risks to human health and the environment. (wedocs.unep.org/bitstream/handle/20.500.11822/33807/ARIC.pdf)

38. See www.saicm.org/Implementation/EmergingPolicyIssues

39. UNEP (2019). Global Chemicals Outlook II: From Legacies to Innovative Solutions: Implementing the 2030 Agenda for Sustainable Development. Synthesis Report. (gpcpe.org/wp-content/uploads/2019/03/GCOII_synth.pdf)

40. UNEP (2020). An assessment report on issues of concern: Chemicals and waste issues posing risks to human health and the environment. (wedocs.unep.org/bitstream/handle/20.500.11822/33807/ARIC.pdf)

41. UNEP (2019). Global Chemicals Outlook II: From Legacies to Innovative Solutions: Implementing the 2030 Agenda for Sustainable Development. Synthesis Report. (gpcpe.org/wp-content/uploads/2019/03/GCOII_synth.pdf)

42. See CMS COP Resolution 12.10 (www.cms.int/sites/default/files/document/cms_cop12_res.12.10_vultures_e.pdf) and IUCN WCC 2016 Resolution 22 (portals.iucn.org/library/sites/library/files/resrecfiles/WCC_2016_RES_022_EN.pdf)

43. UNESCO and HELCOM (2017). Pharmaceuticals in the aquatic environment of the Baltic Sea region – A status report. UNESCO Emerging Pollutants in Water Series, No. 1. (unesdoc.unesco.org/ark:/48223/pf0000247889)

Legacy chemicals and waste are found in some of the most remote regions of the world. The second edition of the Global Chemicals Outlook⁴⁴ observed that polychlorinated biphenyls (PCBs) have been detected at high concentrations in amphipods found in the deep ocean trenches, and organochlorine pesticides have been found in Himalayan glaciers. The First World Ocean Assessment⁴⁵ also found that *"marine debris is present in all marine habitats, from densely populated regions to remote points far from human activities, from beaches and shallow waters to the deepest ocean trenches"*. Both the persistent nature of the chemicals and waste, and their transport are issues of concern, together with concerns about concentration through food chains.

Chemicals can cause impacts which themselves then impact on biodiversity and ecosystem services. An obvious example is those chemicals which damage the ozone layer protecting the Earth from the sun's ultraviolet (UV) radiation. The UNEP Environmental Effects Assessment Panel has found that, *inter alia*, UV radiation and climate change is reducing the viability and availability of certain habitats, causing disruption of some ecosystems, and negatively impacting the life cycles of fish species.⁴⁶ Some ozone-depleting substances, such as chlorofluorocarbons (CFCs) and hydrofluorocarbons (HCFCs), are also greenhouse gases that contribute to climate change. Ozone depletion is caused by emissions of 'anthropogenic ozone-depleting substances' from industrial and other human activities, and the subsequent release of halogen gases. Fortunately, according to the Scientific Assessment of Ozone Depletion: 2018,⁴⁷ these emissions and their impacts are largely decreasing as a result of action taken (see next section). This is mentioned here as there may be opportunities for cooperation in the ways in which chemicals and their potential and actual impacts are reviewed and managed.

44. UNEP (2019). Global Chemicals Outlook II: From Legacies to Innovative Solutions: Implementing the 2030 Agenda for Sustainable Development. Synthesis Report. (gpcpe.org/wp-content/uploads/2019/03/GCOII_synth.pdf)

45. UN (2016). The first global integrated marine assessment: World Ocean Assessment I. (www.un.org/regularprocess/content/first-world-ocean-assessment)

46. UNEP (2020). Environmental Effects of Stratospheric Ozone Depletion, UV Radiation, and Interactions with Climate Change: Update 2020. UNEP Environmental Effects Assessment Panel. (ozone.unep.org/sites/default/files/assessment_panels/EEAP-summary-update-2020-for-policymakers.pdf)

47. WMO (2018). Scientific Assessment of Ozone Depletion. WMO Global Ozone Research and Monitoring Project, Report No 58 (<https://ozone.unep.org/sites/default/files/2019-05/SAP-2018-Assessment-report.pdf>)

Box 2: Impacts of pesticides on biodiversity

Pesticides have been a significant tool in the management of pests worldwide for many years, and around 1000 different pesticides are in use currently,⁴⁸ including insecticides, fungicides, nematicides, rodenticides and herbicides. They are used to control potentially harmful effects of target species on, for example, human and animal health, and food production and storage. However, pesticides and pesticide use can also have deleterious effects through contamination of air, soil, water and vegetation, and they can impact many non-target species including beneficial insects.

The UNEP Assessment Report on Issues of Concern⁴⁹ reviews chemicals and waste issues identified as posing risks to human health and the environment. One of the eight SAICM issues of concern⁵⁰ reported on is production, transport and use of highly hazardous pesticides (HHPs). In addition, two of the 11 chemicals and groups of chemicals identified by the second edition of the Global Chemicals Outlook as chemicals considered a risk, are used as pesticides - glyphosate and neonicotinoids.⁵¹

The report prepared by the Secretariats of the BRS and Minamata Conventions on key insights into interlinkages between the chemicals and waste MEAs and biodiversity⁵² observes that *"pesticide use is a well-documented threat to birdlife, with bird populations having declined 20–25% since pre-agricultural times with one of the main causes being pesticides"* and provides a number of specific examples. They also find that use of insecticides has resulted in *"widespread contamination of agricultural soils, freshwater resources, wetlands, non-target vegetation, and estuarine and coastal ecosystems"*. They are further concerned that *"the combination of prophylactic use, persistence, mobility systemic properties and chronic toxicity is predicted to result in substantial impacts on biodiversity and ecosystem functioning"*. Their findings include: significant declines in terrestrial insect abundance; reduction in aquatic plants; reduced fish egg production; high mortality and reduced growth in amphibians.

The IPBES assessment on pollinators, pollination and food production⁵³ found that wild pollinators are declining in occurrence and diversity, and that pesticides are one of a number of key threats. This is of particular concern because of the critical importance of pollination and pollinators to natural systems (including maintenance of genetic diversity in wild plants) and agriculture and food production. Risk to pollinators appears to arise from a combination of toxicity and the level of exposure, which varies geographically with the compounds used and the ways in which the landscape is managed. There is growing concern about the potential risks to bees

48. FAO and UNEP (2021). Global assessment of soil pollution: Report. (www.fao.org/documents/card/en/c/cb4894en/)

49. UNEP (2020). An assessment report on issues of concern: Chemicals and waste issues posing risks to human health and the environment. (wedocs.unep.org/bitstream/handle/20.500.11822/33807/ARIC.pdf)

50. See saicmknowledge.org/program/highly-hazardous-pesticides

51. UNEP (2019). Global Chemicals Outlook II: From Legacies to Innovative Solutions: Implementing the 2030 Agenda for Sustainable Development. Synthesis Report. (gpcpe.org/wp-content/uploads/2019/03/GCOII_synth.pdf)

52. Secretariats of the BRS Conventions and the Minamata Convention on Mercury (2021). Interlinkages between the chemicals and waste multilateral environmental agreements and biodiversity: Key insights. (wedocs.unep.org/bitstream/handle/20.500.11822/36088/BIKI.pdf)

53. IPBES (2016). The assessment report on pollinators, pollination and food production. IPBES Secretariat, Bonn, Germany (See ipbes.net/assessment-reports/pollinators)

and other pollinators from neonicotinoids, which have been used quite extensively since the early 1990s.⁵⁴

The report prepared by the Secretariats of the BRS and Minamata Conventions on interlinkages between the chemicals and waste MEAs and climate change⁵⁵ found that climate change can potentially lead to increased use of pesticides to combat higher incidences of pest and disease outbreaks, as increased distribution, growth and reproduction of pests is observed at higher temperatures and in wetter conditions, and because the efficacy of pesticides decreases with increased temperature.

The Global Assessment of Soil Pollution⁵⁶ published by FAO and UNEP concludes that *"many pesticides are highly persistent in the environment and toxic residues can affect beneficial and non-target organisms ... and contaminate waters and soils on a global scale"*. They also recognised that a number of pesticides and pesticide residues *"can bio-accumulate in high concentrations in plants and animals and cause biomagnification in the food chain"*. The potential impact on ecosystem health is a concern, and this is compounded by the potential impacts of pesticides in combination, given the number of pesticides in use.

The UNEP report on environmental and health impacts of pesticides and fertilizers and ways of minimising them⁵⁷ found that *"pesticide residues have been detected in a wide range of environmental media, including surface and groundwater, soils and air ... even ... in remote areas such as the Arctic"*. As well as current-use pesticides, these included *"legacy pesticides (e.g. organochlorines), which may not have been authorized for decades in many counties"*. While the presence of pesticide residues does not of itself indicate an immediate risk, there is concern that such residues are being found in multiple locations, including quite remote locations.

54. UNEP (2019). Global Chemicals Outlook II: From Legacies to Innovative Solutions: Implementing the 2030 Agenda for Sustainable Development. Synthesis Report. (gpcpe.org/wp-content/uploads/2019/03/GCOII_synth.pdf)

55. Secretariats of the BRS conventions and the Minamata Convention on Mercury (2021). Chemicals, wastes and climate change: Interlinkages and potential for coordinated action. (mercuryconvention.org/Portals/11/documents/Climate_Change_Interlinkages.pdf)

56. FAO and UNEP (2021). Global assessment of soil pollution: Report. (www.fao.org/documents/card/en/c/cb4894en/)

57. UNEP (2021). Environmental and health impacts of pesticides and fertilizers and ways of minimising them: Summary for Policy Makers. (See www.unep.org/resources/report/environmental-and-health-impacts-pesticides-and-fertilizers-and-ways-minimizing) Note that the full report has not yet been released.

Box 3: Pathways for chemical pesticide impact on biodiversity

Pesticide production is a multi-billion dollar industry and global demand, production and use has expanded steadily,⁵⁸ with herbicides such as glyphosate accounting for a very high proportion of global pesticide use.⁵⁹ Pesticides are deliberately introduced into the environment with the intention of controlling one or more 'pest' species that are impacting human well-being or the environment in some way. They may, for example, be used to increase agricultural productivity, to control pest species in containers and transport facilities, to improve the health and quality of life of human populations or their livestock, or to combat invasive alien species.

Agriculture covers more than a third of the terrestrial land area, and use of pesticides is widespread in response to pest pressures that impact food production demands. However, large-scale agriculture puts significant pressures on biodiversity including through adverse impacts resulting from pesticides, particularly in intensive crop production systems.⁶⁰ Intensive agriculture implies the systematic and widespread use of pesticides for controlling crop pests, competing weeds and fungal infections, and many studies have demonstrated the potential impacts of pesticides on arthropod diversity in particular.⁶¹

The UNEP report on environmental and health impacts of pesticides and fertilizers and ways of minimising them⁶² found that pesticides and their degraded products were ubiquitous in the environment, including in soils and surface and groundwater. Direct drivers that have the potential to increase pesticide use include agricultural intensification, pesticide resistance, genetically modified crops (mainly for herbicide tolerance), marketing practices and commodity prices. Use differs with crop type and location, but there are also fundamental differences between smallholder and large-scale agriculture. There are also concerns about inappropriate use, inadequate training and information, and limited availability of appropriate equipment.

While the majority of pesticides are used in agriculture, there are other uses including disease vector control, domestic uses, and amenity and industrial applications,⁶³ representing about 10–15% of the total market. The CMS Review of Ecological Effects of Poisoning⁶⁴ on migratory species found that globally most of the drivers resulting in exposure of birds to toxic substances were related to three activities: (a) agricultural protection of crops and livestock from predators, pests,

58. UNEP (2021). Environmental and health impacts of pesticides and fertilizers and ways of minimising them: Summary for Policy Makers. (See www.unep.org/resources/report/environmental-and-health-impacts-pesticides-and-fertilizers-and-ways-minimizing) Note that the full report has not yet been released.

59. UNEP (2020). An assessment report on issues of concern: Chemicals and waste issues posing risks to human health and the environment. (wedocs.unep.org/bitstream/handle/20.500.11822/33807/ARIC.pdf)

60. Secretariats of the BRS Conventions and the Minamata Convention on Mercury (2021). Interlinkages between the chemicals and waste multilateral environmental agreements and biodiversity: Key insights. (wedocs.unep.org/bitstream/handle/20.500.11822/36088/BIKI.pdf)

61. Sánchez-Bayo, F. and Wyckhuys, KAG. (2019). World decline of the entomofauna: A review of its drivers. *Biological Conservation* 232:8–27. (<https://doi.org/10.1016/j.biocon.2019.01.020>)

62. UNEP (2021). Environmental and health impacts of pesticides and fertilizers and ways of minimising them: Summary for Policy Makers. (See www.unep.org/resources/report/environmental-and-health-impacts-pesticides-and-fertilizers-and-ways-minimizing) Note that the full report has not yet been released.

63. UNEP (2021). Environmental and health impacts of pesticides and fertilizers and ways of minimising them: Summary for Policy Makers. (See www.unep.org/resources/report/environmental-and-health-impacts-pesticides-and-fertilizers-and-ways-minimizing) Note that the full report has not yet been released.

64. UNEP/CMS/COP11/Inf.34 Review of the ecological effects of poisoning on migratory birds. (www.cms.int/sites/default/files/document/COP11_Inf_34_Review_effects_of_Poisoning_on_Migratory_Birds_Eonly.pdf)

and diseases; (b) hunting and fishing; and (c) harvesting birds with poison-baits for consumption.

It is important to recognise that there are also circumstances where pesticides are used as a tool to protect biodiversity. Examples primarily relate to the management of invasive alien species and their pathways of spread, including ballast water management, fisheries management, and the movement of wildlife, pathogens and pests. For example, pesticides might be used to control rats which are threatening seabird colonies and bat roosts. Associated monitoring and testing helps to ensure the risk of unintended impacts is minimised.

In addition to any issues relating to the actual use of pesticides, consideration also needs to be given to any issues associated with production, transport, storage and disposal. This includes addressing trade in substandard, illegal and counterfeit pesticides,⁶⁵ the use of which undermines efforts to promote more sustainable and lower-risk products. The International Code of Conduct on Pesticide Management⁶⁶ addresses: policy and legislation; production; registration; quality control; trade; packaging, labelling and advertising; distribution and sales; use; food safety, health and environment; and waste management.

Pesticides have been in use for decades, and there are therefore also legacy issues. The Global Assessment of Soil Pollution⁶⁷ specifically identifies "*excessive and inappropriate use of pesticides, and the mismanagement of obsolete and highly harmful pesticide stocks*" as a major concern, and draws attention to the fact that "*stores of obsolete pesticides still occur in many countries*", and that "*spills and leakages from these depots continue to cause significant soil pollution*". They are concerned that "*pesticides have been spread throughout the earth-atmosphere system and pesticide contamination occurs worldwide*".

65. UNEP (2021). Environmental and health impacts of pesticides and fertilizers and ways of minimising them: Summary for Policy Makers. (See www.unep.org/resources/report/environmental-and-health-impacts-pesticides-and-fertilizers-and-ways-minimizing) Note that the full report has not yet been released.

66. FAO and WHO (2014). The international code of conduct on pesticide management. (www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/Code_ENG_2017updated.pdf)

67. FAO and UNEP (2021). Global assessment of soil pollution: Report. (www.fao.org/documents/card/en/c/cb4894en/)

Summary of key points relevant to strengthening collaboration and coordination:

Concerns can relate to:

- Introduction of chemicals and waste into the environment
- Movement of chemicals once released
- Movement of waste
- Persistence of chemicals in the environment
- Persistence of waste in the environment
- Potential impacts of chemicals and waste on biodiversity and ecosystem services
- All stages of production, transport, storage, use and disposal of chemicals

Chemicals and waste can be introduced into the environment through:

- Deliberate introduction for an intended purpose
- Inappropriate use such as use in inappropriate locations, quantities or ways
- Release as a result of human action or inaction (chronic or disaster)
- Accidental release outside of human control

Other issues to be considered include:

- Level of risk can vary for a range of reasons
- Adverse impacts can occur even in the case of authorized use
- Recognition and understanding of impact and therefore risk may change over time
- Location – recognising that impacts may be remote from the source
- Scale – releases can result from artisanal or small-scale or industrial scale activities
- Stress – exacerbation of problems resulting from multiple threats
- Combination – lack of understanding of the impacts of chemicals in combination

Possible responses might include:

- Sharing of knowledge, including notification of problems
- Guidelines on effective action⁶⁸
- Cooperative action to understand and address issues of concern

68. For example, the Globally Harmonized System of Classification and Labelling of Chemicals (unece.org/about-ghs)

International policy response to the impacts of pollution

International concern for achieving the sound management of chemicals and waste is clearly expressed in the 2030 Agenda for Sustainable Development. Numerous targets across several of the SDGs directly relate to this:

- Target 12.4 *"by 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment"*;
- Target 12.5 *"by 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse"*;
- Target 14.1 *"by 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution"*;
- Target 6.3 *"by 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials"*; and
- Target 3.9 *"by 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination"*.

This confirms concerns that have been expressed in intergovernmental fora numerous times over the decades since the United Nations Conference on the Human Environment in 1972.⁶⁹ For example, chapters 19–22 of Agenda 21⁷⁰ adopted at the 'Earth Summit' in 1992 covered issues relating to environmentally sound management of toxic chemicals and hazardous wastes. The Johannesburg Plan of Implementation⁷¹ adopted at the World Summit on Sustainable Development in 2002 renewed the commitment to the sound management of chemicals and hazardous waste, and *inter alia* promoted the ratification and implementation of relevant international instruments on chemicals and hazardous waste.

As a result of such concerns, several international agreements on chemical and waste have been adopted and are gradually extending and enhancing their impact.

These address a range of issues relevant to biodiversity and ecosystem services, although this is not their only or necessarily their primary concern. These international agreements include the following:

- *Montreal Protocol on Substances that Deplete the Ozone Layer* adopted in 1987 and entering into force in 1989. The Protocol regulates the production and consumption of man-made chemicals identified as ozone depleting substances. The treaty continues to be amended and adjusted over time in response to new scientific, technical and economic developments. The *Kigali Amendment* (which

69. UN (1973). Report on the UN Conference on the Human Environment, Stockholm, Sweden, 5–16 June 1972. (undocs.org/en/A/CONF.48/14/Rev.1)

70. UN (1992). Agenda 21. United Nations Conference on Environment and Development, Rio de Janeiro, Brazil, 3–14 June 1992 (sustainabledevelopment.un.org/content/documents/Agenda21.pdf)

71. UN (2002). Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August – 4 September 2002. (digitallibrary.un.org/record/478154?ln=en)

entered into force in 2019) aims to reduce production and consumption of hydrofluorocarbons (HFCs), which are potent greenhouse gases.

- *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal* adopted in 1989 and entering into force in 1992. The Convention was developed in response to growing concern about export of hazardous waste and its deposition in Africa and other parts of the developing world. The overarching objective of the Convention is to protect human health and the environment against the adverse effects of hazardous waste. The *Plastic Waste Amendments*, which became effective as of January 2021, aim to enhance control of the transboundary movement of plastic waste, and clarify the scope of the Convention as it applies to such waste.
- *Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade* adopted in 1998 and entering into force in 2004. The objectives of the Convention are to promote shared responsibility and cooperative efforts among Parties in international trade of certain hazardous chemicals, and to contribute to environmentally sound use of those chemicals by: facilitating information exchange about them; providing for a national decision-making process on their import and export; and disseminating these decisions to Parties.
- *Stockholm Convention on Persistent Organic Pollutants* adopted in 2001 and entering into force in 2004. The objective of the Convention is to protect human health and the environment from persistent organic pollutants, mindful of the precautionary approach set out in Principle 15 of the Rio Declaration on Environment and Development. This is to be achieved *inter alia* through measures to reduce or eliminate releases from intentional production and use, measures to reduce or eliminate releases from unintentional production, and measures to reduce or eliminate releases from stockpiles and wastes.
- *Minamata Convention on Mercury* adopted in 2013 and entering into force in 2017. The objective of the Convention is to protect the human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds. As with POPs, there is concern that toxic mercury compounds persist in the environment, and are able to accumulate and bioconcentrate as methyl mercury in fish and fish-eating predators. Mercury also moves over long distances on air currents, and can be deposited on land and in rivers, lakes and oceans far from the source of release.

Within the marine realm UNCLOS also includes relevant provisions, and there are also international agreements relating specifically to dumping of wastes and pollution from ships. For example:

- UNCLOS includes articles relating to pollution of the marine environment and dumping. Pollution of the marine environment covers the introduction by humankind, directly or indirectly, of substances which result or are likely to result in harm to marine life. Dumping covers any deliberate disposal of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea, other than as part of their normal operations. Articles are primarily concerned with prevention, reduction and control, and promote cooperation, notification and contingency planning.

- The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention) and its Protocol⁷² aim to promote the effective control of all sources of marine pollution and to take all practicable steps to prevent pollution of the sea by dumping of wastes and other matter.
- The International Convention for the Prevention of Pollution from Ships (MARPOL)⁷³ and its Protocol include regulations aimed at preventing and minimizing pollution from ships whether accidental pollution and resulting from routine operations. The Convention includes six technical Annexes addressing different substances or types of pollution.

A range of regional agreements also address specific aspects of the chemicals and waste agenda. For example:

- The Regional Seas Conventions generally include provisions addressing pollution at sea, such as oil spills and movement of hazardous waste, as well as land-based sources of pollution. Most have also strengthened such provisions through protocols. The Barcelona Convention covering the Mediterranean Sea, for example, has protocols on, *inter alia*: dumping from ships and aircraft; prevention of pollution from ships and emergency situations; land-based impacts; pollution from exploration and exploitation; and hazardous wastes.
- The Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-level Ozone,⁷⁴ as amended in 2012, aims to reduce acidification, eutrophication and ground-level ozone by setting emissions ceilings for sulphur dioxide, nitrogen oxides, volatile organic compounds, ammonia and other pollutants. The Protocol is part of the Convention on Long-Range Transboundary Air Pollution, which aims to protect human health and the natural environment from air pollution by control and reduction of air pollution, including long-range transboundary air pollution. The convention was developed as a result of concern over the impacts of acid rain, and its impacts on freshwater systems distant from the origins of the pollution causing it.⁷⁵
- There are agreements relating to international rivers which address issues such as pollution loads and response to emergency situations, given that what happens in one country may have implications for countries downstream.
- The Bamako Convention is a treaty of African nations prohibiting import into Africa of any hazardous waste, and movement across borders within Africa.⁷⁶ This treaty, which came into force in 1998, is a response to Article 11 of the Basel Convention.

In addition to MEAs addressing specific groups of chemicals, it was considered necessary to also establish a multi-stakeholder forum with a broader mandate and scope, in order to fully address the goal of achieving by 2020 use and production of chemicals in ways that lead to the minimization of significant adverse impacts on human health and the environment. This goal was agreed in Johannesburg Plan of

72. See www.imo.org/en/OurWork/Environment/Pages/London-Convention-Protocol.aspx

73. See [www.imo.org/en/About/Conventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-\(MARPOL\).aspx](http://www.imo.org/en/About/Conventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-(MARPOL).aspx)

74. See unece.org/environment-policy/air/protocol-abate-acidification-eutrophication-and-ground-level-ozone

75. See unece.org/convention-and-its-achievements

76. See www.unep.org/explore-topics/environmental-rights-and-governance/what-we-do/meeting-international-environmental

Implementation⁷⁷ adopted at the World Summit on Sustainable Development in 2002. Four years later in 2006 the Strategic Approach to International Chemicals Management (SAICM) was adopted as a voluntary policy framework to promote chemical safety around the world. SAICM comprises the Dubai Declaration on International Chemicals Management and an Overarching Policy Strategy⁷⁸ setting scope, statement of needs, objectives, financial considerations, underlying principles and approaches, and implementation and review arrangements. Stakeholders are currently discussing a beyond 2020 chemicals and waste framework, to succeed SAICM.

Given that pollution is identified as one of the main drivers of biodiversity loss, the biodiversity-related conventions have themselves taken a number of actions.

Examples include the following, and further examples are included in the next section which considers current alignment of policy responses.

- The Strategic Plan for Biodiversity 2011–2020 negotiated by the CBD⁷⁹ includes Aichi Biodiversity Target 8 that *"by 2020 pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity"*. Around 70% of Parties have reported taking actions to address this target through regulatory approaches, setting up monitoring systems and standards, and promoting the development and improvement of infrastructure to improve waste management.⁸⁰ However, according to the fifth edition of the Global Biodiversity Outlook,⁸¹ despite the many actions taken by Parties this target has not been achieved. While pollution is not explicitly addressed in the Articles of the Convention,⁸² several articles address it implicitly as they are concerned with threats to biodiversity and appropriate response.
- Article 3.2 of the Ramsar Convention⁸³ requires Contracting Parties to be *"informed at the earliest possible time if the ecological character of any wetland in its territory and included in the List has changed, is changing or is likely to change as the result of technological developments, pollution or other human interference"*. The list referred to here is the list of *"Wetlands of International Importance"* recognised under the Convention. The aim of this Article and any subsequent action is to maintain or restore ecological character. It also implies the importance of monitoring and requires reporting of change.
- Parties to CMS are expected, to the extent feasible and appropriate, to prevent, reduce or control factors that are endangering or are likely to further endanger migratory species listed in Appendix I as endangered (in danger of extinction in all or part of its range). Resolution 11.15⁸⁴ on preventing poisoning of migratory birds encourages further actions and adopts Guidelines to Prevent the Risk of

77. UN (2002). Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August – 4 September 2002. (digitallibrary.un.org/record/478154?ln=en)

78. SAICM texts and resolutions of the International Conference on Chemicals Management ([saicm.org/Portals/12/Documents/saicmtxts/New SAICM Text with ICCM resolutions_E.pdf](http://saicm.org/Portals/12/Documents/saicmtxts/New%20SAICM%20Text%20with%20ICCM%20resolutions_E.pdf))

79. CBD COP Decision X/2 (www.cbd.int/doc/decisions/cop-10/cop-10-dec-02-en.pdf)

80. Secretariat of the Convention on Biological Diversity (2020) Global Biodiversity Outlook 5. Montreal. (www.cbd.int/gbo5)

81. Secretariat of the Convention on Biological Diversity (2020) Global Biodiversity Outlook 5. Montreal. (www.cbd.int/gbo5)

82. Convention on Biological Diversity (www.cbd.int/convention/text)

83. Convention on Wetlands of International Importance especially as Waterfowl Habitat (www.ramsar.org/sites/default/files/documents/library/current_convention_text_e.pdf)

84. CMS COP Resolution 11.15 (Rev.COP13) Preventing poisoning of migratory birds (www.cms.int/sites/default/files/document/cms_cop13_res.11.15_rev.cop13_e.pdf)

Poisoning to Migratory Birds.⁸⁵ Discussion on this issue was supported by a Review of the Ecological Effects of Poisoning on Migratory Birds.⁸⁶ Resolution 13.6 on insect decline and its implications for migratory species called for Parties to avoid the detrimental effects of pesticide use on non-target species.⁸⁷ A recent report has also illustrated the impact of plastic waste on migratory species in the Asia and Pacific region.⁸⁸

- The World Heritage Convention places obligations on States Party to ensure that "effective and active measures are taken for the protection, conservation and presentation" of listed World Heritage Sites, preserving the values for which those sites were listed. However, World Heritage Sites are impacted by air and water pollution and periodically by catastrophic events (for example tailings dam failure) as is apparent from the State of Conservation Reports⁸⁹ and the third edition of the IUCN World Heritage Outlook.⁹⁰
- In addition to management of whaling, the IWC has responsibility for providing for the proper conservation of whale stocks and is concerned about both chemical pollution and marine debris and the impacts that these have on cetacean populations. A significant amount of research has been done on the effects of pollution, and the Scientific Committee is finalising plans for a new Pollution Programme. The most recent meeting of the Scientific Committee not only discussed this further, but also considered the intricate relationship between humans, animals and the environment.⁹¹

85. UNEP/CMS/COP11/Doc.23.1.2 Guidelines to prevent the risk of poisoning to migratory birds. ([www.cms.int/sites/default/files/document/Guidelines to Prevent the Risk of Poisoning to Migratory Birds.pdf](http://www.cms.int/sites/default/files/document/Guidelines%20to%20Prevent%20the%20Risk%20of%20Poisoning%20to%20Migratory%20Birds.pdf))

86. UNEP/CMS/COP11/Inf.34 Review of the ecological effects of poisoning on migratory birds. (www.cms.int/sites/default/files/document/COP11_Inf_34_Review_effects_of_Poisoning_on_Migratory_Birds_Eonly.pdf)

87. CMS COP Resolution 13.6 (www.cms.int/sites/default/files/document/cms_cop13_res.13.6_insect-decline_e.pdf)

88. CMS and National Oceanography Centre (2021). Impacts of plastic pollution on freshwater aquatic, terrestrial and avian migratory species in the Asia and Pacific Region. (www.cms.int/sites/default/files/publication/cms_report_migratory_species_and_plastic_pollution_31AUG2021.pdf)

89. See whc.unesco.org/en/soc/

90. See worldheritageoutlook.iucn.org/

91. IWC (2021). Report of the Scientific Committee, 27 April-14 May 2021. (archive.iwc.int/pages/view.php?ref=19276)

Box 4: Action on pesticides promoted by intergovernmental agreements and processes

The Rotterdam Convention supports countries in making informed decisions about future import and use of certain hazardous pesticides. It provides a mechanism for developing countries and countries with economies in transition to report adverse impacts on human health and the environment. One obligation for all Parties is to provide notifications of any final regulatory actions they have taken on a national basis to ban or severely restrict pesticides to protect human health and the environment, in response to the known adverse impacts identified in their domestic risk evaluation. Annex III to the Convention currently includes 36 pesticides, three of which are in the category of severely hazardous pesticide formulations.

The Stockholm Convention supports countries in eliminating or restricting the production, use, import and export of POPs, reducing or eliminating releases from unintentionally produced POPs, and ensuring that stockpiles and wastes consisting of, containing or contaminated with POPs are managed safely and in an environmentally sound manner. Eighteen of the substances currently listed in the annexes to the Convention are identified as pesticides or having pesticide uses, and two further pesticides are being considered for listing. Guidance has been developed to assist Parties eliminate or restrict the production and use of POPs pesticides listed under the Convention, including through the introduction of safe alternatives.

The Basel Convention aims to control transboundary movement of hazardous waste, reduce its generation, and promote the environmentally sound management of hazardous wastes and other wastes. This includes the management of waste from pesticides, and technical guidelines and manuals have been developed for assisting countries in the environmentally sound management of waste, including pesticides waste. A guidance manual on developing inventories for pesticide waste is still under development and not yet adopted.

The Montreal Protocol aims to eliminate the production and use of ozone depleting substances, and one of these was used as a pesticide (methyl bromide). By January 2015 the global phase out of methyl bromide for all but a number of specific uses and exemptions had been completed.

The Minamata Convention on Mercury aims to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds. It sets out a range of measures to meet that objective, including phasing out the use of mercury in pesticides, biocides and topical antiseptics. Under Article 4, paragraph 1 of the Convention, each Party shall, as a general matter, not allow the manufacture, import or export of any pesticides, biocides or topical antiseptics containing mercury after 2020.

Since 1985, FAO together with WHO has been publishing the International Code of Conduct on Pesticide Management⁹² as a voluntary framework to help guide government regulators, the private sector, civil society and other stakeholders on best practice in managing pesticides throughout their lifecycle. Technical guidelines and guidance have subsequently been developed to elaborate specific articles of the Code of Conduct and related technical aspects of pesticide management,⁹³ and

92. FAO and WHO (2014). The international code of conduct on pesticide management. (www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/Code_ENG_2017updated.pdf)

93. See <https://www.fao.org/pest-and-pesticide-management/pesticide-risk-reduction/code-conduct/en/>

these include Guidelines on Highly Hazardous Pesticides,⁹⁴ which are defined as presenting "*particularly high levels of acute or chronic hazards to health or environment*".

At the fourth session of International Conference on Chemicals Management (ICCM), the governing body of SAICM, highly hazardous pesticides (HHPs) were recognised as another issue of concern and there were calls for concerted actions to address them.^{95 96 97} The actions proposed include encouraging relevant stakeholders "*to undertake concerted efforts to implement the strategy at the local, national, regional and international levels, with emphasis on promoting agroecologically-based alternatives and strengthening national regulatory capacity to conduct risk assessment and risk management, including the availability of necessary information*".

SAICM has a community of practice on HHPs⁹⁸ and is working closely with FAO, UNEP and WHO amongst others. FAO, WHO and UNEP are also working together with relevant partners to develop a global action plan on HHPs which aims to consolidate the commitments and efforts of diverse organizations that have interests and responsibilities in eliminating the risks from HHPs.⁹⁹ A module on national management of pesticides has been developed by the multi-agency Inter-Organization Programme for the Sound Management of Chemicals (IOMC) as part of the IOMC Toolbox.¹⁰⁰

The CMS Guidelines to Prevent the Risk of Poisoning to Migratory Birds¹⁰¹ make a significant number of references to the use of pesticides. This includes advice concerning Integrated Pest Management (IPM) as an effective approach for reducing the need for pesticides.

IPPC is concerned with protecting global plant resources and its primary aim is to prevent plant pests from spreading and establishing in new countries and regions. Tools for phytosanitary risk management inevitably include pesticides. IPPC provided guidance to national plant protection organizations on the replacement of or reduction of methyl bromide use as a phytosanitary measure.¹⁰²

Following completion of the IPBES assessment on pollinators, pollination and food production, the CBD COP considered the findings and in decision XIII/15¹⁰³ made a number of recommendations relating to reducing risk from pesticides. This builds on the earlier work of the International Pollinators Initiative, and the decision also drew the attention to FAO's guidance on aspects of the risk of pesticides to wild bees¹⁰⁴ developed as part of a contribution to that initiative.

94. FAO and WHO (2016). International code on pesticide management: Guidelines on highly hazardous pesticides. (www.fao.org/3/a-i5566e.pdf)

95. SAICM/ICCM.4/15 Report of the International Conference on Chemicals Management on the work of its fourth session (www.saicm.org/Portals/12/documents/meetings/IP1/K1606013_e.pdf)

96. See saicmknowledge.org/program/highly-hazardous-pesticides

97. SAICM/ICCM.4/8 Proposal on highly hazardous pesticides. (www.saicm.org/Portals/12/documents/meetings/ICCM4/doc/K1502177_SAICM-ICCM4-8-e.pdf)

98. See saicmknowledge.org/topic/community-practice#hpps

99. FAO, WHO and UNEP (undated) Draft global action plan on highly hazardous pesticides. (chemicalswithoutconcern.org/sites/default/files/materal/Draft_Global_Action_Plan_HPP.pdf)

100. See iomctoolbox.org/node/50034/steps

101. UNEP/CMS/COP11/Doc.23.1.2 Guidelines to prevent the risk of poisoning to migratory birds. ([www.cms.int/sites/default/files/document/Guidelines to Prevent the Risk of Poisoning to Migratory Birds.pdf](http://www.cms.int/sites/default/files/document/Guidelines%20to%20Prevent%20the%20Risk%20of%20Poisoning%20to%20Migratory%20Birds.pdf))

102. FAO and IPPC Secretariat (2017). Recommendation on: Replacement or reduction of the use of methyl bromide as a phytosanitary measure. Adopted 2008. (assets.ippc.int/static/media/files/publication/en/2017/08/R_03_En_2017-08-23_Combined_f3wtoE3.pdf)

103. CBD COP decision XIII/15 (www.cbd.int/doc/decisions/cop-13/cop-13-dec-15-en.pdf)

104. FAO (2013). Aspects determining the risk of pesticides to wild bees: Risk profiles for focal crops on three continents. (www.fao.org/3/i3116e/i3116e.pdf)

Summary of key points relevant to strengthening collaboration and coordination:

Common objectives with respect to chemicals and waste:

- Reducing risk and impact
- Reducing deleterious activities and processes (sources of stress and proximate pressures)
- Generating and sharing knowledge and information
- Improving governance arrangements
- Capacity-building and technical cooperation
- Controlling illegal activities
- Coordinating policies at national and regional levels
- Transboundary systems and shared species

Possible responses might include:

- Promoting cooperation on risk and hazard assessment and management
- Policy and regulatory development
(including codes of conduct, production, use and trade restrictions)
- Encouraging contingency planning to mitigate potential impacts of known risks
- Requiring notification of any release of hazardous materials
- Undertaking monitoring as a basis for identifying potential problems and impacts
- Developing and sharing knowledge relevant to risk, management and control
- Science-based procedures for risk assessment and risk management
- Identifying alternative nature-based approaches that reduce use of chemicals

Current extent of alignment of the policy response

The importance of policy coherence is recognised at the highest level. For example, in paragraph 89 of *The Future We Want*,¹⁰⁵ the outcome document of the 2012 UN Conference on Sustainable Development, Heads of State and Government and high-level representatives acknowledged the work already undertaken to enhance synergies among the Basel, Rotterdam and Stockholm conventions, and encouraged *"parties to multilateral environmental agreements to consider further measures, in these and other clusters, as appropriate, to promote policy coherence at all relevant levels, improve efficiency, reduce unnecessary overlap and duplication and enhance collaboration and coordination among the multilateral environmental agreements"*.

The need for policy alignment is also clear from the 2030 Agenda for Sustainable Development and the Sustainable Development Goals.¹⁰⁶ The SDGs and their targets are presented as being *"integrated and indivisible"*, as the *"interlinkages and integrated nature of the SDGs are of crucial importance in ensuring that the purpose of the ... Agenda is realized"*. The implication is that achievement of SDG 12 and its associated targets 12.4 and 12.5 relating to chemicals and waste (and indeed Target 11.6 on reducing the adverse per capita environmental impact of cities) are *inter alia* important for achieving SDG 14 (on marine ecosystems) and SDG 15 (on terrestrial ecosystems) and their respective targets, as well as Target 6.6 relating to protection and restoration of water-related ecosystems and Target 3.9 concerned with health implications of pollution and contamination. This is relevant at all levels, including for national action. Tracking implementation of the SDGs includes a specific indicator on policy coherence, SDG 17.14.1 (number of countries with mechanisms in place to enhance policy coherence of sustainable development), which reinforces their integrated nature. Meanwhile, in reviewing the High-level Political Forum on Sustainable Development (HLPF) the UN General Assembly has agreed a strengthened focus on interlinkages, synergies and trade-offs.¹⁰⁷

There is increasing recognition of the need for 'transformative change' that also takes fully into account the interconnections between environmental issues. For example, the IPBES global assessment found that *"nature can be conserved, restored and used sustainably while other global societal goals are simultaneously met through urgent and concerted efforts fostering transformative change"*, and *"the global environment can be safeguarded through enhanced international cooperation and linked, locally relevant measures"*.¹⁰⁸ The UNEP-led report on Making Peace with Nature¹⁰⁹ found that *"transforming humankind's relationship with nature*

105. UN (2012). *The Future we Want: Outcome document of the UN Conference on Sustainable Development*, Rio de Janeiro Brazil. (sustainabledevelopment.un.org/content/documents/733FutureWeWant.pdf)

106. UN General Assembly Resolution 70/1 *Transforming our world: the 2030 agenda for sustainable development* (sdgs.un.org/2030agenda)

107. UN General Assembly Resolution 75/290 *High-level forum on sustainable development* (See www.undocs.org/en/A/75/L.102, when released it will be at www.undocs.org/en/A/RES/75/290)

108. IPBES (2019): *Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. IPBES, Bonn, Germany. (See www.ipbes.net/global-assessment)

109. UNEP (2021). *Making Peace with Nature: A scientific blueprint to tackle the climate, biodiversity and pollution*

is key to a sustainable future" and "Earth's environmental emergencies should be addressed together to achieve sustainability ... given the interconnected nature of climate change, loss of biodiversity, land degradation, and air and water pollution".

There is increasing recognition of the value of identifying opportunities for increased coherence in implementing intergovernmental agreements and programmes. For example, UNEA resolution 2/17 on enhancing the work of UNEP in facilitating cooperation, collaboration and synergies among biodiversity-related conventions¹¹⁰ lays the groundwork for UNEP work on cooperation and synergies with respect to the biodiversity-related conventions at both national and international levels. UNEA resolution 1/5 calls for an integrated approach to financing sound management of chemicals and waste, UNEA resolution 3/2 concerns pollution mitigation by mainstreaming biodiversity into key sectors,¹¹¹ and UNEA resolution 4/8 on sound management of chemicals and waste *inter alia* welcomes the decisions on collaboration and coordination between the Minamata Convention and BRS Conventions taken by the COPs of those conventions to take further pragmatic steps to share services. UNEA resolutions on marine plastic litter and microplastics recognise and promote an increasing alignment of policy responses.¹¹²

There is increasing recognition of ways in which chemicals and waste management are converging, according to the Global Chemicals Outlook.¹¹³ In part this is through implementation of the waste hierarchy from the preferred reduction and reuse, through recycling and composting to the least preferred options of energy recovery, and treatment and disposal. This also places the emphasis on sustainable resource management, resource efficiency and life cycle management. The same review found that significant resources can be saved by sharing knowledge on chemical management instruments more widely and by enhancing mutual acceptance of approaches in areas ranging from chemical hazard and risk assessments to alternatives assessment, and that global knowledge gaps can be filled more readily by taking steps to harmonize research protocols and strengthen the science-policy interface through enhanced collaboration of scientists and decision-makers.

Increased alignment in the chemicals and waste cluster is also evidenced by the synergies process in the BRS Conventions, which began before Rio+20 and adoption of the SDGs. In order to facilitate implementation of the conventions, the COPs of the BRS Conventions adopted a series of decisions aimed at enhancing cooperation and coordination among the conventions at all levels.¹¹⁴ This has led *inter alia* to increased cooperation in implementing the conventions, joint services to increase harmonization and reduce costs, and harmonized decision making in the COPs. Key characteristics of this party-led process have been: the identification of clear benefits; ensuring effective focus on common interests; proposing achievable steps for addressing identified needs; and remaining respectful of mandates and avoiding

emergencies. Nairobi, Kenya. (www.unep.org/resources/making-peace-nature)

110. UNEA Resolution 2/17 Enhancing the work of UNEP in facilitating cooperation, collaboration and synergies among biodiversity-related conventions (wedocs.unep.org/handle/20.500.11822/11190)

111. UNEA Resolution 3/2 Pollution mitigation by mainstreaming biodiversity into key sectors (wedocs.unep.org/handle/20.500.11822/31017)

112. UNEA resolutions on marine litter (see unea.marinelitter.no)

113. UNEP (2019). Global Chemicals Outlook II: From Legacies to Innovative Solutions: Implementing the 2030 Agenda for Sustainable Development. Synthesis Report. (gpcpe.org/wp-content/uploads/2019/03/GCOII_synth.pdf)

114. See www.brsmeas.org/Decisionmaking/Overview/SynergiesProcess and documents referred to on this page

controversy. In 2017, review of the synergies arrangements concluded, for example that the *"quantity and quality of technical and scientific support provided to Parties has improved, and there has been good progress towards joined-up policy-making and a 'lifecycle' approach to hazardous chemicals and waste management among the Parties"*.¹¹⁵ This is complemented by the work of SAICM with multiple stakeholders. The secretariats of the BRS and Minamata conventions also collaborate closely in areas of mutual interest.¹¹⁶

Meanwhile many governments are taking a more integrated approach to implementing the biodiversity-related conventions at the national level. This is by increasing the extent to which their national biodiversity strategies and action plans support the implementation of MEAs other than the CBD,¹¹⁷ through national ecosystem assessments,¹¹⁸ and through the establishment of national biodiversity platforms¹¹⁹ or other science-policy mechanisms. However, there is need for this integration to be increased, as is clear from decision XIII/24¹²⁰ of the CBD Conference of the Parties and the report of the Second Consultation Workshop of Biodiversity-related Conventions on the Post-2020 Global Biodiversity Framework convened by UNEP.¹²¹

CBD Parties have reported on efforts to address Aichi Biodiversity Target 8 on pollution; although it is not clear from the synthesis reports available¹²² to what extent there has been active consideration of alignment in implementation. Parties reported in their sixth national reports that actions being undertaken included regulatory approaches, setting up monitoring systems and standards, and promoting the development and improvement of infrastructure to improve waste management. Commonly reported policies included regulation of fertilizer use, monitoring agricultural runoff and placing caps on nitrogen use. With regard to plastic pollution, commonly reported actions included bans on certain types of plastics, and awareness campaigns and clean-up activities.

The Strategic Plan for Biodiversity 2011–2020 and its Aichi Biodiversity Targets provided a valuable framework for alignment of MEAs on biodiversity related issues, including with respect to implementation at the national level. For example, several Regional Seas Conventions actively sought to align their actions with relevant Aichi Biodiversity Targets, including Target 8 on pollution, recognising their ability to promote implementation within their respective regions.¹²³ In both the Ramsar Strategic Plan 2016–2024¹²⁴ and the CMS Strategic Plan for Migratory Species

115. See UNEP/CHW.13/INF/43 at www.brsmeas.org/Decisionmaking/COPsandExCOPs/2017COPs/2017COPs/Overview

116. See www.basel.int/Partners/MEAs/TheMinamataConvention/tabid/3895/

117. e.g. UNEP (2018). Assessment of post-2010 National Biodiversity Strategies and Action Plans.

(wedocs.unep.org/bitstream/handle/20.500.11822/25656/post2010_NBSAP_Assessment.pdf)

118. e.g. CBD/SBSTTA/24/INF/18 National ecosystem assessment in support of the implementation of the CBD: Outlining initial impact (www.cbd.int/doc/c/73ad/c55b/615e1f1e1882ab9807758d0e/sbstta-24-inf-18-en.pdf)

119. e.g. Appendix III of IPBES/8/INF/9 Information on work on capacity-building (www.ipbes.net/sites/default/files/2021-05/ipbes_8_inf_9_capacity_building_en.pdf)

120. CBD COP decision XIII/24 on cooperation (www.cbd.int/doc/decisions/cop-13/cop-13-dec-24-en.pdf)

121. CBD/SBI/3/INF/29 Report of the second consultation workshop on biodiversity-related conventions on the post-2020 global biodiversity framework (Bern II) (www.cbd.int/doc/c/39f2/7257/df0b4d2bbdd7e383051e58f0/sbi-03-inf-29-en.pdf)

122. e.g. CBD/SBI/3/2/Add.2 Analysis of the contribution of targets established by Parties and progress towards the Aichi Biodiversity Targets (www.cbd.int/doc/c/f1e4/ab2c/ff85fe53e210872a0ceffd26/sbi-03-02-add2-en.pdf)

123. e.g. CBD/SBSTTA/24/INF/24 Report on Regional Seas biodiversity under the post-2020 global biodiversity framework (www.cbd.int/doc/c/0c09/8814/cc8c0cd04f77b9a61240a33c/sbstta-24-inf-24-en.pdf)

124. Ramsar Convention Secretariat (2016). The Fourth Ramsar Strategic Plan 2016–2024. Ramsar handbooks for the wise use of wetlands. (www.ramsar.org/sites/default/files/hb2_5ed_strategic_plan_2016_24_e.pdf)

2015–2023¹²⁵ there are annexes relating their targets to the Aichi Biodiversity Targets, including Target 8 on pollution, and so facilitating a degree of alignment to implementing the conventions.

CMS has taken active steps to promote increased cooperation in preventing the poisoning of migratory birds, also recognising the impact of poisoning on species other than birds. CMS Resolution 11.15¹²⁶ actively promotes consultation and cooperation across sectors in addressing the problems, including cooperation in implementing international agreements relating to both biodiversity and chemicals and waste clusters. In this resolution the CMS COP also adopts Guidelines to Prevent the Risk of Poisoning to Migratory Birds¹²⁷ which explicitly identifies the role of the Rotterdam Convention as well as legislative and non-legislative actions that can be taken.

Concern about chemical pollution led to recommendations that the IWC work more closely with other institutions including the chemicals conventions. The IWC Scientific Committee initiated research on the effects of chemical pollution on cetacean populations,¹²⁸ in particular persistent organic pollutants and mercury, and *inter alia* recommended engagement with the chemicals conventions in addressing the issue of chemical pollution, in particular the Stockholm Convention and the Minamata Convention. The research necessary for understanding the likely impacts was a key element in identifying potential impacts and where action might be needed.

It is also important to recognise that biodiversity can help to reduce the impacts of pollution in particular, and this consideration also has the potential to help drive alignment. This can include both efforts to control and mitigate the effects of pollution and efforts to reduce the need for chemical inputs (and in both cases this may benefit response to climate change). Consider, for example:

- Wetlands can play a significant role in pollution control and detoxification. At the fifth session of UNEA the Secretary General of the Ramsar Convention said that *"we need to urgently step up the protection, sustainable management and restoration of wetlands as an essential element in integrated policies and actions for a pollution free planet"* and that *"the Ramsar Convention on Wetlands is a ready-made mechanism for this"*. The World Water Development Report 2018 summarises a range of uses of 'nature-based solutions' for managing water quality, including reducing impacts from agriculture and industry.¹²⁹
- Biodiversity and ecosystem services can reduce the need for costly and potentially harmful external inputs in agricultural systems. For example, less intensive approaches to agriculture, crop rotation to reduce invasive weed species and address resistance development for plant and animal pests,

125. CMS COP Resolution 11.2 Strategic Plan for Migratory Species 2015-2023. (www.cms.int/sites/default/files/document/Res_11_02_Strategic_Plan_for_MS_2015_2023_E_O.pdf)

126. CMS COP Resolution 11.15 (Rev.COP13) Preventing poisoning of migratory birds (www.cms.int/sites/default/files/document/cms_cop13_res.11.15_rev.cop13_e.pdf)

127. UNEP/CMS/COP11/Doc.23.1.2 Guidelines to prevent the risk of poisoning to migratory birds. ([www.cms.int/sites/default/files/document/Guidelines to Prevent the Risk of Poisoning to Migratory Birds.pdf](http://www.cms.int/sites/default/files/document/Guidelines%20to%20Prevent%20the%20Risk%20of%20Poisoning%20to%20Migratory%20Birds.pdf))

128. See iwc.int/chemical-pollution

129. UN World Water Assessment Programme and UN-Water (2018). UN World Water Development Report: Nature-Based Solutions for Water. (unesdoc.unesco.org/ark:/48223/pf0000261424_eng) in particular chapter 3

Integrated Pest Management, and promotion of landscapes which include networks of 'non-crop' habitats can provide favourable conditions for natural enemies of pest species, thereby reducing the need for pesticides.¹³⁰ FAO and the CBD Secretariat have provided technical guidance on using ecosystem services and biodiversity to minimize use of agrochemicals in agriculture production in East Africa, covering issues such as pest and disease control, weed management, soil fertility and pollination.¹³¹

- There are many examples of tree planting in cities and green belt management to reduce the effects of air pollution,¹³² use of the common reed *Phragmites australis* to remove pollution (including organic pollution) from soil and water,¹³³ and of a wide range of grasses and other plants in 'phytoremediation' (including removal of explosives residue and heavy metals) to reclaim/restore contaminated lands.¹³⁴ There are also examples of removal of pharmaceuticals from wastewater in constructed wetlands.¹³⁵

Conventions in the two clusters also work together as part of the Green Customs

Initiative,¹³⁶ which aims to enhance the capacity of customs and other relevant border control officers to monitor and facilitate the legal trade and to detect and prevent illegal trade in environmentally-sensitive commodities covered by the MEAs. The partnership includes the BRS and Minamata conventions, CBD and CITES, and the Montreal Protocol, as well as UNEP and a number of other UN entities. Activities include the development of guidance materials and e-learning modules for customs officers.

Other international initiatives and programmes are also relevant to alignment

between the two clusters, including the 'One Health' approach. It has been recognized that the complex and multidisciplinary issues raised by the interface of human, animal and ecosystem health ("One Health") require enhanced collaboration and coordination among sectors and agencies, nationally and internationally, and the World Health Organization has recently established a high-level panel to

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130. See for example www.biodiversityinternational.org/research-portfolio/agricultural-ecosystems/pests-and-diseases, Bianchi FJJA, Booij, CJH, and Tschamntke T (2006). Sustainable pest regulation in agricultural landscapes: a review on landscape composition, biodiversity and natural pest control. *Proceedings of the Royal Society B*. 273:1715-1727 (doi.org/10.1098/rspb.2006.3530), Watts, M, with Williamson, S (2015). Replacing Chemicals with Biology: Phasing out highly hazardous pesticides with agroecology. Pesticide Action Network Asia and the Pacific. (www.panna.org/sites/default/files/Phasing-Out-HHPs-with-Agroecology.pdf) and Altieri, M and Nicholls, C (2004). *Biodiversity and pest management for agroecosystems*. CRC Press, Boca Raton. (doi.org/10.1201/9781482277937)
131. FAO and Secretariat of the CBD (2016). *Mainstreaming ecosystem services and biodiversity into agricultural production and management in East Africa*. (www.fao.org/3/i5603e/i5603e.pdf)
132. See for example Ajuntament de Barcelona. (undated). *Trees for Life: Master plan for Barcelona's trees 2017-2037*. (ajuntament.barcelona.cat/ecologiaurbana/sites/default/files/Pla-director-arbrat-barcelona-ENG.pdf), Scott, KI, McPherson, EG. And Simpson, JR (1998). Air pollutant uptake by Sacramento's urban forest. *Journal of Arboriculture* 24(4). (www.fs.fed.us/psw/publications/mcpherson/psw_1998_mcpherson006_scott.pdf), Gupta, RB, Chaudhari, PR, and Wate, SR (2008). Overview on attenuation of industrial air pollution by green belt. *Journal of Industrial Pollution Control*. (www.icontrolpollution.com/peer-reviewed/overview-on-attenuation-of-industrial-airpollution-by-greenbelt-37383.html), and Yang, J, McBride, J, Zhou, J and Sun, Z (2005). The urban forest in Beijing and its role in air pollution reduction. *Urban Forestry and Urban Greening*, 3(2). (doi.org/10.1016/j.ufug.2004.09.001)
133. See for example Srivastava, J., Kalra, SJS. and Naraian, R. (2014). Environmental perspectives of *Phragmites australis*. *Applied Water Science* 4:193-202. (<https://doi.org/10.1007/s13201-013-0142-x>), but also note that in some parts of the world *Phragmites* is an alien invasive species that itself needs to be kept under control
134. See for example www.sciencedirect.com/topics/earth-and-planetary-sciences/phytoremediation, academic.oup.com/labmed/article/27/1/36/2503490, doi.org/10.3389/fpls.2020.00359 and IPBES (2018). *The IPBES assessment report on land degradation and restoration*. (See ipbes.net/assessment-reports/ldr)
135. www.sciencedirect.com/science/article/abs/pii/S092585741730469X?via%3Dihub
136. www.greencustoms.org/

consider this further.¹³⁷ The 'One Health' approach recognises the interaction between disease – including poisoning – in wildlife, human and domestic animals, and the urgent need to ensure that policy responses are better integrated for more effective outcomes. See for example Ramsar Convention Resolution XI.12 on wetlands and health¹³⁸ and CMS Resolution 11.15 on preventing poisoning of migratory birds.¹³⁹ Focusing on the One Health approach also has the potential to link to the post COVID-19 recovery agenda.

137. See www.who.int/news/item/11-06-2021-26-international-experts-to-kickstart-the-joint-fao-oie-unep-who-one-health-high-level-expert-panel-ohhlepe

138. www.ramsar.org/sites/default/files/documents/pdf/cop11/res/cop11-res12-e.pdf

139. www.cms.int/sites/default/files/document/mos2_inf11_cms_res_11_15_e_0.pdf

Box 5: Current alignment of policy responses with respect to pesticides

It is important to note that the majority of the alignment actions already identified in this section are relevant to pesticides in some way or another (for example the CMS Guidelines or the work of SAICM with multiple stakeholders). The following paragraphs only relate to those actions that are specific to addressing problems with pesticides and their impacts or are clear sub-components of actions already mentioned.

The International Code of Conduct on Pesticide Management¹⁴⁰ is a voluntary instrument developed jointly by FAO and WHO through their Joint Meeting on Pesticide Management.¹⁴¹ The code of conduct and associated guidance and technical support from FAO are very relevant to implementation of SAICM and the Rotterdam Convention in particular to support action at the national level. The Code of Conduct is also recognised by the CBD in decision XIII/15¹⁴² which encourages Parties to *"develop and implement national and as appropriate regional pesticide risk reduction strategies ..., for example, by adopting Integrated Pest Management practices and biocontrol, taking into account the International Code of Conduct on Pesticide Management"*.

The CMS Guidelines to Prevent the Risk of Poisoning to Migratory Birds¹⁴³ includes chapters on rodenticides (chapter 1) and insecticides (chapter 2), as well as a chapter on use of poison baits for predator control (chapter 3). All are concerned with pesticides. The guidelines draw attention to the role of the Rotterdam Convention in supporting the reduction of risk of imports of products highly toxic to birds through: (a) informing national governments deciding whether to allow import of pesticides; and (b) further consideration by the Convention on whether to regulate additional pesticides.

The draft Global Action Plan on Highly Hazardous Pesticides¹⁴⁴ being developed by FAO, WHO and UNEP identifies its anticipated role with respect to SAICM and the chemicals conventions (Rotterdam, Stockholm, Montreal). Although the current draft clearly indicates the importance of action with respect to degradation of biodiversity and ecosystems, it does not explicitly identify how it might relate to implementation of the cluster of biodiversity conventions. However, it is important to recognise that this is still a draft, and consultations are ongoing.

140. FAO and WHO (2014). The international code of conduct on pesticide management. (www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/Code_ENG_2017updated.pdf)

141. See for example www.fao.org/publications/card/en/c/CB2892EN/

142. CBD COP decision XIII/15 on implications of IPBES assessment (www.cbd.int/doc/decisions/cop-13/cop-13-dec-15-en.pdf)

143. UNEP/CMS/COP11/Doc.23.1.2 Guidelines to prevent the risk of poisoning to migratory birds. ([www.cms.int/sites/default/files/document/Guidelines to Prevent the Risk of Poisoning to Migratory Birds.pdf](http://www.cms.int/sites/default/files/document/Guidelines%20to%20Prevent%20the%20Risk%20of%20Poisoning%20to%20Migratory%20Birds.pdf))

144. FAO, WHO and UNEP (undated) Draft global action plan on highly hazardous pesticides. (chemicalswithoutconcern.org/sites/default/files/meterial/Draft_Global_Action_Plan_HPP.pdf)

Summary of key points relevant to strengthening collaboration and coordination:

Possible responses might include:

- Working to achieve common targets or objectives
- Alignment of indicators and aspects of reporting
- Alignment of strategies and plans
- Liaison to increase understanding
- Active collaboration on implementation
- Focusing on practical action, and in particular action 'on the ground'

Supporting activities might include:

- Development and promotion of guidelines
- Collaboration to identify and mitigate risk
- Sharing of information and experience
- Research in risks and impacts, including combined effects (multiple stressors)
- Understanding common interest
- Learning lessons from what has worked and what has not
- Identifying opportunities of mutual interest for building collaboration

National approaches to implementation

Efforts to strengthen collaboration and coordination between biodiversity and chemicals and waste clusters at the national level need to build on existing mechanisms. Each of the MEAs discussed, as well as SAICM, encourage national approaches to implementation that vary from one instrument to another. However, as implementation is a national responsibility and the circumstances and priorities of countries vary, the ways in which the obligations entered into are addressed will also vary from one country to another. In addition, not all countries are party to all conventions, so there are also differences in the obligations that countries have committed to. The extent to which MEAs and SAICM are implemented in a coherent manner – even within clusters – may therefore also vary from one country to another.

It is therefore valuable to understand what mechanisms are being encouraged at the national level by the instruments in each cluster, so as to better understand how the mechanisms might be adapted or influenced. For example, there are national focal points within each country for each of the MEAs and SAICM, each of the MEAs requires some form of national reporting, and most have some form of implementation strategy or plan at the national level. While any adjustment to strengthen collaboration and coordination is clearly a decision for each country, this can be influenced by guidance provided by the MEA governing bodies or the ICCM, or by secretariats and bureaux on their behalf. It can also benefit from guidance and support provided by other organizations, and examples of good practice from other countries. Also financing opportunities can serve as promoters of collaboration.

While this section focuses on national approaches to implementation, it is important to recognise different national circumstances. The approach to national implementation may depend on the roles and responsibilities of sub-national governments, for example the roles of provinces or states in federal countries. Countries also vary in the ways in which they engage other stakeholders including local governments and indigenous peoples and local communities in implementation of intergovernmental agreements and processes.

Biodiversity cluster

For each of the biodiversity-related conventions there are identified national focal points, although their exact role may vary depending on the convention and on national circumstances. In principle focal points are the individuals in each country who are involved in the meetings of the convention advisory and governing bodies. These the individuals are also responsible at the national level both for communication with those responsible for implementation, and for organizing reports back to convention bodies on what has been done. For some conventions there is guidance provided for national focal points on the convention and their associated roles and responsibilities. For example:

- CMS publishes a Manual for National Focal Points for CMS and its Instruments which describes the convention and how it works, including the role of national focal points.¹⁴⁵
- The Ramsar Convention provides an information paper on Administrative Authorities and National Focal Points which identifies roles and responsibilities,¹⁴⁶ in addition to the guidelines and resources for implementation already referred to in the Ramsar Convention Manual.¹⁴⁷
- CBD COP 8 adopted terms of reference for national focal points,¹⁴⁸ and in 2009 a training module on the Role of the CBD National Focal Point¹⁴⁹ was developed as part of other guidance and training materials provided on the Convention website.¹⁵⁰

Advice is also provided to national focal points of the biodiversity-related conventions on the ways in which they might collaborate with their counterparts for other conventions. In part this is covered above, but other examples include:

- The CITES COP recommended¹⁵¹ that Parties further strengthen the cooperation, coordination and synergies among the focal points of the biodiversity-related conventions and other partners at the national level to enhance coherent national-level implementation of the Convention, and this is also encouraged through the CITES Strategic Vision.¹⁵²
- The Ramsar Convention COP encourages¹⁵³ its national focal points to coordinate with their national counterparts for other MEAs as well as with institutions and agencies working to address the 2030 Agenda for Sustainable Development Agenda and the SDGs. This is in the context of establishing or strengthening national mechanisms to enhance effective coordination between relevant national and subnational authorities, and to support the mainstreaming of wetland ecosystem functions and ecosystem services.
- The Policy for the Integration of a Sustainable Development Perspective into the Processes of the World Heritage Convention¹⁵⁴ adopted in Resolution 20 GA 13 states that *"in implementing the Convention, States Parties should ... promote environmental sustainability ... to all World Heritage properties to ensure policy coherence and mutual supportiveness with other multilateral environmental agreements"*.

National biodiversity strategies and action plans (NBSAPs) are the main instrument for national implementation of the CBD. In accordance with the Convention, Parties have to *"develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity or adapt for this purpose existing strategies,*

145. CMS Secretariat and AEWA Secretariat (2013). Manual for the National Focal Points for CMS and its Instruments. ([www.cms.int/sites/default/files/publication/manual_e\(1\).pdf](http://www.cms.int/sites/default/files/publication/manual_e(1).pdf))

146. Ramsar Convention Secretariat (undated). Administrative authorities and national focal points. Ramsar Information Paper No. 9. (www.ramsar.org/sites/default/files/documents/library/info2007-09-e.pdf)

147. Ramsar Convention Secretariat (2013). The Ramsar Convention Manual: a guide to the Convention on Wetlands, 6th edition. (www.ramsar.org/sites/default/files/documents/library/manual6-2013-e.pdf)

148. CBD COP Decision VIII/10 on operations of the Convention ([www.cbd.int/doc/decisions/cop-08/](http://www.cbd.int/doc/decisions/cop-08/cop-08-dec-10-en.pdf))

149. CBD Secretariat (2009). Role of the CBD National Focal Point. Training module. ([www.cbd.int/doc/training/](http://www.cbd.int/doc/training/nbsap/a2-train-role-nfp-v2-2009-02-en.pdf))

150. www.cbd.int

151. CITES COP Resolution 16.4 on cooperation (cites.org/sites/default/files/document/E-Res-16-04.pdf)

152. CITES Strategic Vision 2021-2030 (cites.org/eng/documents/Strategic_vision)

153. Ramsar Convention COP Resolution XIII.7 on synergies ([www.ramsar.org/sites/default/files/documents/](http://www.ramsar.org/sites/default/files/documents/library/xiii.7_synergies_e.pdf))

154. UNESCO (2015). Policy for the Integration of a Sustainable Development Perspective into the Processes of the World Heritage Convention as adopted by the General Assembly of States Parties to the World Heritage Convention at its 20th session (whc.unesco.org/document/139747)

plans or programmes”¹⁵⁵ aimed at fulfilling the objectives of the CBD. Almost all Parties have developed at least one NBSAP (192 out of 196), although these documents vary considerably in terms of content, process through which they are developed, breadth of ownership within Government and beyond, and level of adoption within Government.¹⁵⁶

Guidance on approaches for the development and implementation of NBSAPs has been provided by the CBD COP. This includes both general and more specific guidance. For example, COP decision IX/8¹⁵⁷ and decision X/2¹⁵⁸ include some key aspects relating to both content and process. In addition, a range of CBD decisions target specific elements relating to development and implementation of NBSAPs, including with respect to these being instruments for cross-sectoral cooperation. For example, COP has encouraged Parties to *“further strengthen cooperation and synergy among convention focal points and focal points for other relevant sectoral processes and partners at the national level so as to enhance capacity to implement the Strategic Plan for Biodiversity 2011–2020 and achieve the Aichi Biodiversity Targets, avoid duplication of activities and further enhance the effective use of resources, recognizing that national biodiversity strategies and action plans provide a useful tool for such collaboration”* (decision XI/6¹⁵⁹ paragraph 10).

Since 2010 there has been an expectation that NBSAPs should also include appropriate reference to actions to support the implementation of other biodiversity-related conventions. When CBD Parties adopted the *Strategic Plan for Biodiversity 2011–2020*, other biodiversity-related conventions recognised that the strategic plan was also relevant to their interests, and as indicated earlier both the CMS and the Ramsar Convention went a step further and aligned their own strategic plans with the Aichi Biodiversity Targets. Linking implementation of the other biodiversity-related conventions through NBSAPs has also facilitated access to GEF funding for relevant projects for those countries that are GEF eligible.¹⁶⁰

National implementation of the other biodiversity-related conventions occurs using a variety of instruments and approaches, in addition to anything that is reflected within NBSAPs. Each convention requires that domestic measures are adopted for its implementation, and in some cases particular approaches are directly mandated by the relevant MEA. In most cases guidance is provided in some form. However, each Party decides how it wants to incorporate its international obligations into national legislation and practice, based on national circumstances. For example:

- For CITES, each Party is required to regulate trade in specimens of species identified the appendices to the Convention.¹⁶¹ All import, export, re-export and introduction relating to the list of species covered by the Convention has to be authorized through a licensing system. Each Party must designate one or more Management Authorities responsible for administering the licensing system, and one or more Scientific Authorities to advise on the effects of trade on the

155. Article 6(a) of the Convention on Biological Diversity (www.cbd.int/convention/text/)

156. UNEP (2018). Assessment of post-2010 National Biodiversity Strategies and Action Plans. (wedocs.unep.org/bitstream/handle/20.500.11822/25656/post2010_NBSAP_Assessment.pdf)

157. CBD COP decision IX/8 on review of implementation (www.cbd.int/doc/decisions/cop-09/cop-09-dec-08-en.pdf)

158. CBD COP decision X/2 on the strategic plan for biodiversity (www.cbd.int/doc/decisions/cop-10/cop-10-dec-02-en.pdf)

159. CBD COP decision IX/6 on cooperation (www.cbd.int/doc/decisions/cop-11/cop-11-dec-06-en.pdf)

160. GEF Secretariat (2014). The GEF-6 Biodiversity Strategy. (www.thegef.org/sites/default/files/publications/GEF-6-BD-strategy.pdf)

161. CITES Convention text (cites.org/eng/disc/text.php)

status of the species.¹⁶² Guidance is provided, for example with respect to the CITES permit system.¹⁶³

- For WHC, each Party is expected to adopt policies and put in place legal, scientific, technical, administrative and financial measures necessary for identification, protection, conservation, presentation and rehabilitation of cultural and natural heritage.¹⁶⁴ The World Heritage Committee has developed procedures and criteria for inscription of properties on the World Heritage List and for response to threat and provision of international assistance. Procedures and criteria are included in 'Operational Guidelines', which support implementation at all levels.¹⁶⁵ There are resource manuals for managing natural and cultural heritage and managing disaster risks,¹⁶⁶ and guidance on impact assessments to be carried out where planned development activities may impact on World Heritage properties is included in the operational guidelines.
- The Ramsar Convention places four main obligations on Parties, protection and listing of wetlands of international importance, wise use of wetlands in their territories, improved conservation and management of wetlands, and related international cooperation.¹⁶⁷ Although quite a lot of guidance is provided,¹⁶⁸ as with WHC there is no specific approach to national implementation required under the Convention although Parties are encouraged to establish National Ramsar Committees.

The CBD also requires Parties to integrate the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies.¹⁶⁹ Some Parties address this significantly in their NBSAPs which are adopted at the highest level of government, while others hardly address it at all. Acknowledging the importance of this integration to help fulfil the objectives of the CBD, since 2016 Parties have considered the issue of mainstreaming biodiversity in much more detail. They are currently working to develop a long-term approach for mainstreaming biodiversity as requested by CBD COP in decision 14/3.^{170, 171} This is highly relevant to strengthening collaboration and coordination between clusters.

Chemicals and waste cluster

As in the biodiversity cluster, national focal points are appointed by parties to facilitate communication on the matters relating to each of the conventions in the chemicals and waste cluster. Depending on the convention, some additional focal points can be established. For example:

162. How CITES works (cites.org/eng/disc/how.php)

163. CITES permit system (cites.org/eng/prog/Permit_system)

164. Article 5 of the World Heritage Convention (whc.unesco.org/archive/convention-en.pdf)

165. Operational Guidelines for the Implementation of the World Heritage Convention (whc.unesco.org/en/guidelines)

166. See whc.unesco.org/en/resourcemanuals/

167. Article 2 of the Ramsar Convention (www.ramsar.org/sites/default/files/documents/library/scan_certified_e.pdf)

168. See www.ramsar.org/resources/ramsar-sites-management-toolkit

169. Article 6(b) of the Convention on Biological Diversity (www.cbd.int/convention/text/)

170. CBD COP decision 14/3 on mainstreaming (www.cbd.int/doc/decisions/cop-14/cop-14-dec-03-en.pdf)

171. The approach will be considered by the CBD Subsidiary Body on Implementation at its 3rd meeting, during the face-to-face session in 2022. See CRP 16 (www.cbd.int/doc/c/aa97/8fa2/4d21550ccf7f670e3dc3f14a/sbi-03-crp-16-en.pdf)

- The Stockholm Convention requires each Party to designate a national focal point for the exchange of information relevant to: the reduction or elimination of the production, use and release of persistent organic pollutants; and alternatives to persistent organic pollutants, including information relating to their risks as well as to their economic and social costs.¹⁷²
- The Basel Convention requires the designation of one or more competent authorities and one focal point. The competent authorities are to be responsible for receiving notifications of a transboundary movement, and for responding to such notifications.¹⁷³
- The Rotterdam Convention requires each Party to identify a 'designated national authority' as a key contact point for matters related to the Convention for both the Secretariat and other Parties.

SAICM has national focal points, but also has a flexible approach for engaging focal points from relevant stakeholders and sectors. Under SAICM, each government should designate a Strategic Approach national focal point, which should be a representative of the country's inter-ministerial or inter-institutional arrangements, where these exist.¹⁷⁴ SAICM also provides the possibility for regional focal points be nominated, and some regions have developed terms of reference for their focal points.¹⁷⁵ SAICM also has a unique multi-stakeholder and multisectoral approach, allowing for non-government focal points from industry, NGOs and academia, as well as governmental national focal points from 'other' government departments and ministries.

Parties to the chemicals and waste conventions adopt national legislation and other regulatory measures to implement or comply with the provisions of the respective conventions. Some guidance is provided, but ultimately each Party decides on the most suitable approach to fulfil its international obligations. For example:

- The Stockholm Convention requires Parties to take legal and administrative measures necessary to eliminate (or restrict) the production and use of listed chemicals, their import and export, as well as to ensure the environmentally sound management of POPs stockpiles and waste. For these purposes, Parties are required to prepare national implementation plans (NIPs),¹⁷⁶ and it is expected that preparation and implementation of NIPs will be integrated into sustainable development strategies. The Convention also calls for a review and update of the NIPs on a periodic basis, e.g., when new chemicals are listed, for which the COP adopts guidance.¹⁷⁷
- National implementation of the Rotterdam Convention is typically through domestic legislation and regulations, and national action plans, with a range of

172. Stockholm Convention, Article 9 (chm.pops.int/Portals/0/download.aspx?d=UNEP-POPS-COP-CONVTEXT-2021.English.pdf)

173. Basel Convention, Articles 2 and 5 (www.basel.int/Portals/4/download.aspx?d=UNEP-CHW-IMPL-CONVTEXT.English.pdf)

174. SAICM texts and resolutions of the International Conference on Chemicals Management ([saicm.org/Portals/12/Documents/saicmtxts/New SAICM Text with ICCM resolutions_E.pdf](http://saicm.org/Portals/12/Documents/saicmtxts/New%20SAICM%20Text%20with%20ICCM%20resolutions_E.pdf))

175. See www.saicm.org/Implementation/FocalPoints/tabid/5461

176. Stockholm Convention, Article 7 (chm.pops.int/Portals/0/download.aspx?d=UNEP-POPS-COP-CONVTEXT-2021.English.pdf)

177. For example, decision SC-1/12. Full list of guidance documents is available at chm.pops.int/tabid/7730. Further resources can be found at chm.pops.int/Implementation/NationalImplementationPlans/GuidanceArchive/tabid/2882

general guidance having been developed by the Secretariat.¹⁷⁸ The Convention aims to "*promote shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals ... by facilitating information exchange about their characteristics, by providing for a national decision-making process on their import and export and by disseminating these decisions to Parties*".¹⁷⁹ It has established a Prior Informed Consent (PIC) procedure, which is a mechanism for formally obtaining and disseminating the decisions of importing Parties as to whether they wish to receive shipments of listed chemicals. Parties which refuse consent to import of a chemical are also required to prohibit domestic production of that specific chemical and refuse imports from non-parties. Parties also notify the Secretariat of 'final regulatory actions', their actions to ban or severely restrict a chemical for human health and environmental reasons. This may trigger consideration of additional chemicals for the PIC list.

- The Basel Convention regulates transboundary movement of hazardous and other wastes so that these are minimized, and any such movement is done in a way that protects health and environment. Transboundary movements can only take place if certain conditions are met and if they are in accordance with certain procedures.¹⁸⁰ The Convention also aims at the reduction of hazardous waste generation and the promotion of environmentally sound management of hazardous wastes. Parties are required to take appropriate legal, administrative and other measures to implement and enforce the Convention, including measures to prevent and punish conduct in contravention of the Convention. The COP has adopted various guidance for national authorities in developing the necessary instruments for implementation of the Convention, including for example a Manual for the implementation of the Basel Convention and the Guide for the development of national legal frameworks to implement the Basel Convention.¹⁸¹
- The Minamata Convention contains binding obligations related to emissions of mercury from controlled sources, products that contain mercury, industrial processes that use mercury, trade in mercury, and waste containing mercury. It also requires Parties that determine significant levels of artisanal and small-scale gold mining and processing in their territory to develop and implement a national action plan.¹⁸² Annex C to the Convention specifies the elements to be included in those plans, while recognising that each country might use a different approach for their development. The COP adopted draft guidance on national action plans¹⁸³ at its first meeting in 2017.

SAICM aims *inter alia* to strengthen enforcement and encourage the implementation of national laws and regulations regarding chemicals management, as a policy framework for the achievement of the sound management of chemicals throughout their life cycle. In this context, the development of national and regional SAICM

178. See www.pic.int/Implementation/ResourceKit/tabid/1064

179. Rotterdam Convention, Article 1 (www.pic.int/Portals/5/download.aspx?d=UNEP-FAO-RC-CONVTEXT-2019.English.pdf)

180. See www.basel.int/Implementation/Controllingtransboundarymovements/Overview/tabid/4325

181. See www.basel.int/Implementation/Publications/GuidanceManuals

182. Minamata Convention, Article 7 (www.mercuryconvention.org/sites/default/files/2021-06/Minamata-Convention-booklet-Sep2019-EN.pdf)

183. See www.mercuryconvention.org/en/documents/guidance-developing-national-action-plan-reduce-and-where-feasible-eliminate-mercury-use

implementation plans has been encouraged.¹⁸⁴ It was expected that each government would establish arrangements for implementing the Strategic Approach on an inter-ministerial or inter-institutional basis, so that all concerned national departmental and stakeholder interests are represented and all relevant substantive areas are addressed.¹⁸⁵ Guidance for developing SAICM implementation plans was prepared by the SAICM Secretariat working with UN Institute for Training and Research (UNITAR) and IOMC.¹⁸⁶

Each of the chemicals and waste conventions and SAICM highlight the importance of greater coordination and integration among different processes and policy instruments.

For example, the COP to the Basel Convention adopted a strategic framework for its implementation for the period 2012–2021.¹⁸⁷ One of its objectives is to *"develop national and regional capacity, particularly through the Basel Convention regional and coordinating centres, by integrating waste management issues into national sustainable development strategies and plans for sustainable livelihood"*. Meanwhile, the Global Plan of Action discussed under SAICM refers to *"measures to review national legislation in order to ratify and implement existing international agreements dealing with chemicals and hazardous wastes ... to improve coordination and synergies with respect to chemical safety policy and activities at the national and international levels"*.¹⁸⁸

The ongoing 'synergies' process among the BRS conventions has not only led to changes at the global level as discussed earlier, but has also encouraged action at the national level. Parties have been encouraged to establish national-level coordination mechanisms with a view to facilitating the exchange of information among relevant authorities responsible for the implementation of and compliance with the provisions of each of the BRS conventions. These mechanisms are intended, for example, to coordinate activities to implement the BRS conventions, *"in particular activities of the focal points and designated national authorities for the three conventions, the Strategic Approach to International Chemicals Management and other relevant policy frameworks, as appropriate; and preparation for convention meetings"*.¹⁸⁹

184. See saicmknowledge.org/library/saicm-overarching-policy-strategy

185. SAICM texts and resolutions of the International Conference on Chemicals Management ([saicm.org/Portals/12/Documents/saicmtxts/New SAICM Text with ICCM resolutions_E.pdf](http://saicm.org/Portals/12/Documents/saicmtxts/New%20SAICM%20Text%20with%20ICCM%20resolutions_E.pdf))

186. SAICM Secretariat and UNITAR (2009). Guidance for developing SAICM implementation plans. (cwm.unitar.org/publications/publications/cw/inp/Developing_SAICM_Implementation_Plans_3Nov09_2009_edition_Final.pdf)

187. www.basel.int/Implementation/StrategicFramework/Overview/tabid/3807

188. SAICM texts and resolutions of the International Conference on Chemicals Management ([saicm.org/Portals/12/Documents/saicmtxts/New SAICM Text with ICCM resolutions_E.pdf](http://saicm.org/Portals/12/Documents/saicmtxts/New%20SAICM%20Text%20with%20ICCM%20resolutions_E.pdf))

189. Decisions BC-IX/10, RC-4/11 and SC-4/34 available at www.brsmeas.org/SynergiesProcess/Decisions/tabid/2616

Box 6: National approaches to implementation relating to pesticides

It is important to note that many of the national approaches to implementation already covered in this section are relevant to pesticide management in some way or another. The following paragraphs only relate to those actions that are specific to addressing problems with pesticides and their impacts or are clear sub-components of actions already mentioned.

The fourth session of ICCM adopted a resolution that recognizes highly hazardous pesticides (HHPs) as an issue of concern and calls for concerted action to address them.^{190, 191} The concerted actions include capacity-building in regulatory control in order to support governments in: (a) strengthening pesticide registration schemes, risk assessment and review of registered pesticides; (b) strengthening the regulatory framework with regard to manufacturing, formulation, distribution, storage, sale, use and disposal of HHPs; (c) the development and adoption of effective enforcement mechanisms as part of the regulatory system for pesticides.

Both the FAO/WHO International Code of Conduct on Pesticide Management¹⁹² and the CMS Guidelines to Prevent the Risk of Poisoning to Migratory Birds¹⁹³ make explicit reference to actions to be carried out at the national level with respect to pesticides. Both essentially provide advice to decision making processes at the national level, as well as to other stakeholders.

190. SAICM/ICCM.4/15 Report of the International Conference on Chemicals Management on the work of its fourth session (www.saicm.org/Portals/12/documents/meetings/IP1/K1606013_e.pdf)

191. SAICM/ICCM.4/8 Proposal on highly hazardous pesticides. (www.saicm.org/Portals/12/documents/meetings/ICCM4/doc/K1502177_SAICM-ICCM4-8-e.pdf)

192. FAO and WHO (2014). The international code of conduct on pesticide management. (www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/Code_ENG_2017updated.pdf)

193. UNEP/CMS/COP11/Doc.23.1.2 Guidelines to prevent the risk of poisoning to migratory birds. ([www.cms.int/sites/default/files/document/Guidelines to Prevent the Risk of Poisoning to Migratory Birds.pdf](http://www.cms.int/sites/default/files/document/Guidelines%20to%20Prevent%20the%20Risk%20of%20Poisoning%20to%20Migratory%20Birds.pdf))

Summary of key points relevant to strengthening collaboration and coordination:

Possible responses might include:

- Decisions of governing bodies
- Guidance for implementation and best practices/techniques
- Guidance for national focal points, including on collaboration with other MEA focal points
- Training materials
- Requirement to report on cooperation and collaboration
- Alignment of national action and strategies responding to MEAs
- Incentives from financial institutions and donors
- Building common (shared) legal and policy frameworks
- Capacity building in key areas
- Potential for international funding mechanisms to facilitate integrated programming and collaborative approaches
- Recognition of the role of stakeholders and sectors

The post-2020 and beyond 2020 strategy processes

On both biodiversity and chemicals and waste there are ongoing processes which will influence priorities and action at all levels during the decade leading up to 2030.

Notably both processes refer directly to the impetus provided by the 2030 Agenda for Sustainable Development and the SDGs.¹⁹⁴ It will be important to understand how these two ongoing processes would (or could be made to) influence efforts to strengthen collaboration and coordination between the biodiversity and chemicals and waste clusters. Unfortunately, both processes have been impacted by the COVID-19 pandemic, and in both cases processes that were meant to end in 2020 have been extended. However, these delays do mean that there are also opportunities to make additional inputs.

Post-2020 global biodiversity framework

The post-2020 global biodiversity framework is being developed under the auspices of the CBD and is expected to be approved by COP 15. The process for its development was set out in decision 14/34,¹⁹⁵ which established an Open-ended Working Group on the Post-2020 Global Biodiversity Framework. Initial discussions took place in the open-ended working group in August 2019 and February 2020, and advice was also provided by numerous other formal and informal meetings and through submissions in response to formal notifications from the CBD Executive Secretary.¹⁹⁶ Many Parties have also stressed the need to focus on addressing the drivers of biodiversity loss. The preparatory process actively encourages participation by all stakeholders, and inputs have been made on behalf of the chemicals and waste cluster.¹⁹⁷

A first draft of the post-2020 global biodiversity framework was made available in July 2021 and provided the basis for discussion at a virtual meeting of the open-ended working group in August and September. The draft included a proposed 2030 target to *"reduce pollution from all sources to levels that are not harmful to biodiversity and ecosystem functions and human health, including by reducing nutrients lost to the environment by at least half, and pesticides by at least two thirds and eliminating the discharge of plastic waste"* (Target 7).¹⁹⁸ This and the other 20 proposed targets are based on a theory of change that *inter alia* aims to reduce the threats to biodiversity through transformative action. While there was

194. It should be noted that SDG targets relating to both biodiversity and sustainable management of chemicals are aligned with the Aichi Biodiversity Targets and relevant SAICM targets, and thus expiring in 2020 unlike the majority of other SDG targets for which the target year is 2030.

195. CBD COP decision 14/34 on a comprehensive and participatory process for the preparation of the post-2020 global biodiversity framework www.cbd.int/doc/decisions/cop-14/cop-14-dec-34-en.pdf

196. See www.cbd.int/conferences/post2020 for links to all relevant meetings and submissions except subsidiary bodies

197. Submission by UNEP (26 February 2020) on strengthening links between the post-2020 global biodiversity framework and chemicals and waste. (s3.amazonaws.com/cbdocumentspublic-imagebucket-15w2zyxk3pri8/a426992b24d9968973e92a2878b5ad5f)

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

extensive discussion of this draft in August and September 2021,^{199, 200} no decisions have been taken, and the meeting was adjourned until a physical meeting is possible in 2022.

CBD negotiations on the post-2020 global biodiversity framework are also concerned with development of an associated monitoring framework and securing means of implementation. Discussions in meetings of the open-ended working group and the CBD subsidiary bodies are also considering advice with respect to NBSAP revision, indicators and the monitoring framework, review and reporting, capacity-building, technical and scientific cooperation, and resource mobilization. The monitoring framework proposes a number of headline, component and complementary indicators for each goal and target. Currently suggested headline indicators for proposed target 7, which Parties might be expected to report on, relate to coastal eutrophication potential, amount of pesticides leached or lost to the environment, amount of discharge of plastic waste and amount of other pollutants.²⁰¹

The post-2020 global biodiversity framework will be a useful framework for addressing biodiversity loss across MEAs and sectors, and thereby helping to underpin delivery of the 2030 Agenda for Sustainable Development and the SDGs. As a result, representatives of the biodiversity-related conventions have actively sought to make input through various means, including through written submissions, interventions in CBD meetings and through two consultation meetings.²⁰² The second Consultation Workshop of Biodiversity-related Conventions on the Post-2020 Global Biodiversity Framework (Bern II) convened by UNEP²⁰³ identified 12 conclusions aimed at increasing engagement by other MEAs in the development and implementation of the post-2020 global biodiversity framework. Separately, in response to decisions of the UN Executive Committee and the Chief Executives Board, the UN system has developed a UN common approach to biodiversity which is intended to convene UN support in delivering the post-2020 global biodiversity framework.²⁰⁴

Parties to the CBD encourage their Executive Secretary to cooperate with other conventions and international organizations, and the importance of such cooperation is likely to be reflected in the post-2020 global biodiversity framework. In the first draft,²⁰⁵ it is made clear 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"*. In addition, with respect to mechanisms for planning, monitoring, reporting and review, the draft proposes that *"these mechanisms are aligned with and, where appropriate ... integrated with other processes and other relevant multilateral conventions"*

199. See www.cbd.int/conferences/post2020/wg2020-03/documents

200. CBD/WG2020/3/5 Report of the Open-ended Working Group on the Post-2020 Global Biodiversity Framework on its third meeting (part 1). (www.cbd.int/doc/c/aa82/d7d1/ed44903e4175955284772000/wg2020-03-05-en.pdf)

201. See CBD/WG2020/3/3/Add.1 Proposed headline indicators of the monitoring framework for the post-2020 global biodiversity framework. (www.cbd.int/doc/c/d716/da69/5e81c8e0faca1db1dd145a59/wg2020-03-03-add1-en.pdf)

202. See www.cbd.int/conferences/post2020/brc-ws which provides a summary of meetings and links to the reports

203. See <https://www.cbd.int/doc/c/39f2/7257/df0b4d2bbdd7e383051e58f0/sbi-03-inf-29-en.pdf>

204. CEB/2021/1/Add.1 UN Common Approach to Biodiversity (unsceb.org/un-common-approach-biodiversity)

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

including the 2030 Agenda for Sustainable Development and the Sustainable Development Goals". However, this text has yet to be negotiated.

Strategic Approach and sound management of chemicals and waste beyond 2020

The fourth session of the International Conference on Chemicals Management initiated an intersessional process to prepare recommendations regarding SAICM and the sound management of chemicals and waste beyond 2020. The process for development of the recommendations was set out in ICCM decision IV/4,²⁰⁶ and to date there have been three meetings of the intersessional process. A fourth meeting was due to take place in March 2020 but this has been postponed as a result of the COVID-19 situation, as has the fifth session of ICCM where a decision on SAICM and sound management of chemicals and waste beyond 2020 will be taken, taking into consideration the recommendations of the intersessional process. At this stage, the scope of the new instrument with respect to chemicals and waste has yet to be defined - indeed, it is still being discussed how waste will be addressed as SAICM stakeholders are known to have differing views.

Documents prepared for the fourth meeting of the intersessional process include a compilation of recommendations and proposed targets. The compilation of recommendations²⁰⁷ is based on the deliberations of the third intersessional meeting and the proposed targets²⁰⁸ have been prepared by a Technical Working Group on Targets, Indicators and Milestones established by the intersessional process. While this is clearly still a draft with significant negotiation still to take place, the overall aim is to reduce the impact of chemicals and potentially also waste on human health and the environment, which, if achieved, will reduce one of the most significant drivers of biodiversity loss. There is a proposed strategic objective that *"benefits to human health and the environment are maximised and risks are prevented, or where not feasible, minimised through safer alternatives, innovation, sustainable solutions and forward thinking"*. A Virtual Working Group on Targets, Indicators and Milestones²⁰⁹ reviewed the work of the Technical Expert Group, and some support was expressed for further discussion on two new proposed targets concerning biodiversity: *"by 20xx, pollution from chemicals and waste has been brought to levels that are not detrimental or harmful to ecosystem services and biodiversity"*; and *"all stakeholders identify and strengthen synergies and linkages between chemicals [and waste] and other environmental, health and societal priorities, such as climate change, biodiversity, human rights, universal health coverage and primary health care."*

Documents prepared for the fourth meeting of the intersessional process also include a report on linkages with other clusters related to chemicals and waste management

206. In the annex to SAICM/ICCM.4/15 Report of the International Conference on Chemicals Management on the work of its fourth session (www.saicm.org/Portals/12/documents/meetings/IP1/K1606013_e.pdf)

207. SAICM/IP.4/2 Compilation of recommendations regarding the Strategic Approach and the sound management of chemicals and waste beyond 2020. (www.saicm.org/Portals/12/documents/meetings/IP4/Docs/SAICM_IP4_2_compilation-recommendations-SAICM-consideration-ICCM5.pdf)

208. SAICM/IP.4/3 Proposed targets prepared by the Technical Working Group on targets, indicators and milestones for SAICM and the sound management of chemicals and waste beyond 2020. (www.saicm.org/Portals/12/documents/meetings/IP4/Docs/SAICM_IP4_3_Proposed-targets-TWG-SAICM-smcw-beyond-2020.pdf)

209. SAICM/ICCM.5/VWG1/Final report (saicm.org/Portals/12/documents/meetings/VirtualWG/Target/VWG1_Co-facilitators-final-report_16FEB2021_FINAL.pdf)

and options to coordinate and cooperate on areas of common interest. This report was prepared by UNEP²¹⁰ and identified key topics and opportunities to coordinate and cooperate between the chemicals and waste and the biodiversity clusters. This included *inter alia* the alignment and strengthening of relevant targets and indicators by jointly identifying chemicals of concern and parameters and methodologies for monitoring. The document identified the following as key areas of common interest - plastic pollution, land degradation driven by artisanal mining, lead poisoning of water birds, pesticide use and loss of pollinators, and nutrient management. The identified options for action included further mobilizing the chemicals and waste conventions in achieving biodiversity goals, drawing heavily on the recommendations of an earlier study by IDDRI.²¹¹ These issues are addressed further below.

Potential for closer alignment of the two processes and their outcomes

Alignment of targets and use of common indicators where appropriate could lead to strengthened collaboration and coordination between the clusters, and improved outcomes in terms of both efficiency and environmental protection. There is therefore value in considering how the post-2020 and beyond 2020 processes relate, and what might be done to increase alignment with respect to targets and indicators in particular with the aim of coordinated actions for implementation and assessment of progress. The value of this sort of approach was stressed in the recently concluded UNEP-led report²¹² on Making Peace with Nature which concluded that *"Earth's environmental emergencies ... need to be addressed together to achieve sustainability ... development of goals, targets, commitments and mechanisms ... need to be aligned to become more synergistic and effective"*. Both the post-2020 and beyond 2020 processes need to consider alignment with SDG targets and indicators, for similar reasons.

The intersessional process on the Strategic Approach and sound management of chemicals and waste beyond 2020 has directly aimed to link to and support the biodiversity process, with a proposed target that *"by 20xx, pollution from chemicals and waste has been brought to levels that are not detrimental or harmful to ecosystem services and biodiversity"* (as indicated earlier). This text appears to have been adapted from Aichi Biodiversity Target 8, and is consistent with Target 7 in the draft post-2020 global biodiversity framework to *"reduce pollution from all sources to levels that are not harmful to biodiversity and ecosystem functions and human health, including by reducing nutrients lost to the environment by at least half, and pesticides by at least two thirds and eliminating the discharge of plastic waste"*. It is important to note that in both cases these are draft targets, and consultation and negotiation continues.

Additionally, the Secretariats of the Basel, Rotterdam, Stockholm Conventions, and

210. SAICM/IP.4/INF/3 Submission from UNEP on assessment of interlinkages with other clusters. (www.saicm.org/Portals/12/documents/meetings/IP4/INF/SAICM_IP4_INF_3.pdf)

211. Kinniburgh, F., Rankovic, A. (2019). Mobilising the chemical conventions to protect biodiversity - An example with pesticides and the Stockholm and Rotterdam Conventions. IDDRI, Issue Brief N°07/19. ([www.iddri.org/sites/default/files/PDF/Publications/Catalogue Iddri/Décryptage/201906-IB0719EN-chemicals CBD.pdf](http://www.iddri.org/sites/default/files/PDF/Publications/Catalogue%20iddri/D%C3%A9cryptage/201906-IB0719EN-chemicals%20CBD.pdf))

212. UNEP (2021). Making Peace with Nature: A scientific blueprint to tackle the climate, biodiversity and pollution emergencies. (www.unep.org/resources/making-peace-nature)

the Minamata Convention on Mercury identified opportunities for contributing to the post-2020 biodiversity process in the report published in May 2021 on interlinkages between the chemicals and waste MEAs and biodiversity.²¹³ Two of the conclusions of that study are:

- As the international community finalizes and implements the post-2020 global biodiversity framework, collaboration between the BRS and Minamata conventions and the biodiversity-related conventions can provide ongoing refinements to the targets and indicators on pollution as they relate to mercury, POPs, pesticides and hazardous wastes and other wastes.
- Whether or not a pollution target in the post-2020 global biodiversity framework is drafted to reflect priority pollutants/chemicals such as mercury and other heavy metals, POPs, pesticides, and wastes, the study provides baseline information about key interlinkages that can serve the BRS and Minamata conventions' governing bodies to consider the detailed contributions they could make in the future to the refinement and implementation of any pollution target in the post-2020 global biodiversity framework.

At the face-to-face session of their COPs in June 2022, BRS Parties are expected to consider the report and an associated draft decision²¹⁴ which *"invites Parties to take into account the objectives of the post-2020 global biodiversity framework in their actions to implement"* the BRS conventions, and *"requests the Secretariat to prepare ... a report, including recommendations, on how the conventions could contribute to the post-2020 global biodiversity framework"* for consideration at the subsequent COPs. This wording is, of course, subject to approval by the COPs.

Whilst the proposed inclusion of targets relating to biodiversity is a new subject for the chemicals and waste community, the Strategic Plan for Biodiversity 2011-2020 did include Aichi Target 8 on pollution. Unfortunately review of progress in achieving the target indicates that the target has not been achieved,²¹⁵ and only a small proportion of reporting Parties have national targets of similar scope and ambition to Aichi Target 8 and are on track to meet them. The reasons for this are not entirely clear, but the situation could be exacerbated in at least some countries as a result of insufficient interaction between governmental mechanisms for addressing pollution and waste, such as under SAICM, and those agencies responsible for NBSAP design and implementation. At least in theory there is opportunity for the SAICM beyond 2020 instrument to serve as a mechanism for achievement of relevant elements of target 7 of the draft post-2020 global biodiversity framework. Potentially the two processes could share a common target, or target elements, with recognition in the post-2020 global biodiversity framework that the Strategic Approach and the sound management of chemicals and waste beyond 2020 would have a role in supporting achievement of the proposed target 7.

213. Secretariats of the BRS Conventions and the Minamata Convention on Mercury (2021). Interlinkages between the chemicals and waste multilateral environmental agreements and biodiversity: Key insights. (wedocs.unep.org/bitstream/handle/20.500.11822/36088/BIKI.pdf)

214. Working documents UNEP/CHW.15/21, UNEP/FAO/RC/COP.10/17 and UNEP/POPS/COP.10/21 on cooperation. (www.brsmeas.org/2021COPs/MeetingDocuments/tabid/8810)

215. Secretariat of the Convention on Biological Diversity (2020). Global Biodiversity Outlook 5. (www.cbd.int/gbo5)

Considerations on other areas of common interest

Also relevant are the means of implementation and enabling conditions for implementation of future strategies, and these are also areas where collaboration and coordination could usefully be strengthened. These are likely to be addressed to some extent explicitly in the adopted texts or in associated decisions, but also relate to areas of common working practice. These cover areas such as:

- Means of implementation, including mobilization of sufficient resources, capacity-building, technical and scientific cooperation including technology transfer, and knowledge generation, management and sharing.
- Enabling conditions, including issues such as mainstreaming and whole of government approaches, active engagement of subnational governance bodies, equitable stakeholder engagement and the participation of indigenous peoples and local communities, gender-responsive approaches and intergenerational equity.
- Other related issues, including subsidies that are harmful to biodiversity, communication, education, and public awareness.

The Second Consultation Workshop of Biodiversity-related Conventions on the Post-2020 Global Biodiversity Framework made several recommendations broadly relevant to intergovernmental agreements and processes. The report of the workshop²¹⁶ includes the following recommendations amongst others. While the workshop was not fully representative, and the recommendations were not formally agreed by participants, they confer the sense of the meeting which included representatives of MEA parties and secretariats.

- Cooperation and collaboration is not only critical to the cost-effective implementation of MEAs [and related processes], it is also attractive to donors and is a key part of developing the integrated approaches ... that may be necessary for implementation of the post-2020 global biodiversity framework. This includes identifying opportunities for collaboration in addressing all means of implementation such as capacity-building, resource mobilization and knowledge management, as well as communication.
- Implementation may be facilitated by the development of joint work programmes on specific topics across MEAs [and related processes], and by clearer understanding of who is doing what and with whom to promote and facilitate implementation.
- At the national level, close interaction amongst the national focal points for the different MEAs [and related processes] is essential for strengthening cooperation and collaboration in implementation. Conducting this in the context of the national mechanism that coordinates actions on the SDGs may provide additional benefits and may be an option for some.

216. CBD/SBI/3/INF/29 Report of the second consultation workshop on biodiversity-related conventions on the post-2020 global biodiversity framework (Bern II) (www.cbd.int/doc/c/39f2/7257/df0b4d2bbdd7e383051e58f0/sbi-03-inf-29-en.pdf)

The UNEP assessment on interlinkages²¹⁷ and options to coordinate and cooperation on areas of common interest prepared for the SAICM intersessional process also identified options for strengthening collaboration and coordination. These included the following:

- Collaborating in research and monitoring programmes of mutual interest, and in scientific and technical assessments
- Strengthening the science-policy interface, including by learning lessons from existing bodies such as IPCC and IPBES
- Enhancing national coordination, for example by engaging multisectoral cooperation in the context of meeting international obligations
- Promoting stakeholder engagement
- Exploring and strengthening resource mobilization for cross-thematic initiatives
- Enhancing multisectoral and multi-thematic partnerships
- Raising awareness and sharing information, and improving communication on interconnectedness of issues between clusters

In the context of the ongoing post-2020 and beyond 2020 processes, IDDRI produced an issue brief on mobilizing the chemicals conventions to protect biodiversity.²¹⁸ This focused specifically on the Stockholm and Rotterdam conventions, but its recommendations are more broadly applicable and were picked up in the recommendations of the UNEP assessment referred to above. These were:

- Expanding the list of pesticides included in the Stockholm and Rotterdam convention annexes
- Reinforcing institutional collaborations between biodiversity and chemicals conventions
- Enhancing non-state and multi-stakeholder cooperation between biodiversity and chemicals actors
- Building collaboration at the level of national instruments and actors

Of course, it is understood that expanding the list of pesticides could only be done in the context of the processes established by the Stockholm and Rotterdam conventions.

217. SAICM/IP.4/INF/3 Submission from UNEP on assessment of interlinkages with other clusters. (www.saicm.org/Portals/12/documents/meetings/IP4/INF/SAICM_IP4_INF_3.pdf)

218. Kinniburgh, F., Rankovic, A. (2019). Mobilising the chemical conventions to protect biodiversity - An example with pesticides and the Stockholm and Rotterdam Conventions. IDDRI, Issue Brief N°07/19. ([www.iddri.org/sites/default/files/PDF/Publications/Catalogue Iddri/Décryptage/201906-IB0719EN-chemicals CBD.pdf](http://www.iddri.org/sites/default/files/PDF/Publications/Catalogue%20iddri/D%C3%A9cryptage/201906-IB0719EN-chemicals%20CBD.pdf))

Box 7: Issues specific to pesticides in the post-2020 and beyond 2020 processes

There is one explicit reference to pesticides in the first draft of the post-2020 global biodiversity framework²¹⁹ in draft target 7. It is proposed that this will be tracked with a headline indicator on "*pesticide use per area of cropland*" produced by FAO.^{220 221}

- "*reduce pollution from all sources to levels that are not harmful to biodiversity and ecosystem functions and human health, including by reducing ... pesticides by at least two thirds*"

During the third meeting of the SAICM intersessional process some stakeholders proposed targets that explicitly refer to pesticides and biodiversity, although the wording of other targets is also relevant to pesticide management, use and disposal.²²²

- "*by 2030, pollution from chemicals (throughout their life cycle) and waste, including from excess pesticides and nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity*"
- "*by 2030, highly hazardous pesticides (as identified through the FAO code of conduct) are no longer in use or are used in ways that prevent or minimise exposure of humans, and the environment including non- targeted animals and plants throughout their life cycle*"
- "*governments implement policies and programmes to increase support to non-chemical alternatives including agroecology to replace the chemicals or groups of chemicals of global and regional concern including highly hazardous pesticides*"

The SAICM Virtual Working Group on Targets, Indicators and Milestones²²³ was mandated to review all progress to date and make proposals that progress the topic in the lead up to the final meeting of the intersessional process. None of the targets in the section on "*possible formulation of targets based on points of convergence of views among stakeholders*" directly refer to pesticides, although they would be encompassed within broader reference to chemicals in the draft wording presented. Two new targets were proposed during the discussions but not included in the final document, namely "*by 2030, the use of Highly Hazardous Pesticides is eliminated from agriculture*" and "*by 2025, 70 countries have prohibited and phased-out at least ten highly hazardous pesticides and by 2030, highly hazardous pesticides are removed from agriculture*".

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

220. See CBD/WG2020/3/3/Add.1 Proposed headline indicators of the monitoring framework for the post-2020 global biodiversity framework. (www.cbd.int/doc/c/d716/da69/5e81c8e0faca1db1dd145a59/wg2020-03-03-add1-en.pdf)

221. See www.fao.org/faostat/en/#data/EP/visualize

222. SAICM/IP.4/3 Proposed targets prepared by the Technical Working Group on targets, indicators and milestones for SAICM and the sound management of chemicals and waste beyond 2020. (www.saicm.org/Portals/12/documents/meetings/IP4/Docs/SAICM_IP4_3_Proposed-targets-TWG-SAICM-smcw-beyond-2020.pdf)

223. Further work on targets was done during the SAICM Virtual Work Group discussion on targets, indicators and milestones. See SAICM/ICCM.5/VWG1/Final report (saicm.org/Portals/12/documents/meetings/VirtualWG/Target/VWG1_Co-facilitators-final-report_16FEB2021_FINAL.pdf)

Summary of key points relevant to strengthening collaboration and coordination:

Opportunities identified:

- Common interest in reducing risk to biodiversity from chemicals and waste
- Potential for alignment of the two frameworks, and explicit opportunities for interlinkages
- Contribution to discussions/negotiations in the 'other' forum
- Opportunities to use common indicators at global and national levels
- Opportunities for collaboration and coordination relating to means of implementation
- Common efforts in building stakeholder engagement
- Improving national coordination
- Further developing and strengthening the science-policy interface
- Learning from experience in the other sectors
- Common efforts to identify, redirect, repurpose, reform, eliminate subsidies harmful to biodiversity

Options for action

The previous sections in this report suggested a number of ways in which collaboration and coordination between biodiversity and chemicals and waste clusters could be strengthened, in particular with respect to implementation at the national level. This led to the identification of a range of 'options for action' that were included in earlier drafts of this report, and validated through peer review and then through discussion during an expert consultation workshop. In addition to members of the project steering committee, a range of national representatives had opportunity to review the report, as did representatives of all relevant MEA secretariats, the SAICM Secretariat, and a number of other experts, as well as colleagues within UNEP and UNEP-WCMC.

The options for action were discussed extensively during an expert consultation workshop convened by UNEP in September 2021. This workshop provided opportunity for dialogue amongst selected national focal points to the conventions and SAICM from across all regions, and representatives of MEA secretariats and the SAICM Secretariat. The discussions during this expert consultation workshop informed this final version of the study report, and each of the participants had previously been invited to provide feedback on an earlier draft of the study report. The workshop report can be found in Annex 2.

Key areas of mutual interest across clusters

Before identifying actions to be taken at any level, it is important to identify why such action might be valuable both to provide context and to help ensure that any actions taken have clear purpose. This is in addition to any gains in efficiency and/or cost-effectiveness that may result. The following areas of key mutual interest have been identified. These are areas where there is potential value in those working in the chemicals and waste cluster and those working in the biodiversity cluster to collaborate in order to achieve mutually beneficial outcomes. The numbering is for convenience in referencing and should not be taken to imply priority.

- Key area 1: Eliminating or at least **reducing risks to and impacts on biodiversity** and ecosystem services resulting from chemicals and waste, and reducing deleterious activities and processes, including through contingency planning and addressing existing negative impacts.
- Key area 2: **Achieving a more integrated cross-sectoral approach** towards sound chemicals and waste management with respect to potential impacts on biodiversity and ecosystem services, and the opportunity to mainstream those issues into national implementation plans, national development plans and sectoral plans, and into relevant legislation and other regulatory measures.
- Key area 3: **Promoting cooperative action** to understand, prioritize and address issues of concern, including improved use of available human and financial resources, through more coordinated national frameworks, institutional mechanisms, planning and enforcement capacity, and supporting the effective

participation of stakeholders including indigenous peoples and local communities.

- Key area 4: **Improving delivery and impact** of major international initiatives already agreed or under development that are relevant to reducing the impacts of chemicals and waste on biodiversity and ecosystem services, including through enhancing the generation and delivery of effective science communication to decision-makers and the general public.
- Key area 5: Identifying and exploring opportunities for **using biodiversity to reduce the impacts** of chemical and waste pollution on human health and the environment, sharing and scaling up solutions as appropriate to circumstances.
- Key area 6: Understanding the **social and financial implications of damage to biodiversity** caused by chemicals and waste, including the subsequent implications for food and water security, tourism, etc., as a basis for integration action across sectors and promoting action.
- Key area 7: **Understanding the potential impacts** of chemicals and waste on biodiversity and ecosystem services both individually and in combination, and considering the benefits that might arise from reducing the negative impacts, including improved ecosystem services and reducing costs through more efficient and effective chemical use.
- Key area 8: **Understanding the different pathways** through which chemicals and waste enter and move through the environment, including any associated subsidies and any potential impacts of climate change, as a basis for understanding risk and actions that might be taken to avoid or mitigate risk.

Different levels of action

Action to be taken needs to be considered from three different perspectives relating to decision making at national and international levels, and to encouraging and supporting any action that is taken. The following 'levels of action' are to some extent arbitrary in nature, but they are useful in conceptualising the action that needs to be taken for each of the options for action described below. These levels of action are as follows:

- Level 1: Effective implementation will require actions to be taken at the **national and Party²²⁴ level**, and as appropriate sub-national levels, although the ways in which any option is realised will vary with national and sub-national circumstances and national and sub-national institutional arrangements, as well as being dependent on available human and financial resources and the availability of relevant technologies. This would include legal and policy frameworks, and the encouragement of action by a wide range of national stakeholders.

224. Recognising that the EU is party to many of the international agreements being discussed, and engages fully with SAICM

- Level 2: Implementation may also require actions to be taken by the ***governing bodies of MEAs and/or the SAICM process***, whether to encourage particular approaches through their decisions, to provide guidance (or ask their secretariats or others to do so), through development and approval of joint programmes of work, or through inviting other MEAs, intergovernmental processes or organizations to take action. This would, of course, only happen in the context of their established objectives and mandates, and their own governance and advisory arrangements.
- Level 3: Significant contributions can also be made by ***organizations working at regional and/or global levels*** to provide support of some kind. They can be national organizations, international organizations, intergovernmental organizations, or UN entities, they can be governmental or non-governmental, or bringing the contributions of indigenous peoples and local communities. Their support can range from providing resources, to providing guidance or examples of good practice elsewhere.

The primary focus of this report has been on implementation at the national level, and therefore on government agencies and the support that they get through intergovernmental agreements and processes, and organizations working internationally. However, the ***private sector*** is also a key player, and needs to be taken into account when considering the actions to be taken. This is particularly the case for those companies involved in the production, transport, use, storage and disposal of chemicals. The private sector needs to be engaged appropriately, and encouraged and supported where this is necessary.

Key characteristics of successful approaches

Before identifying actions to be taken at any level, it is also important to consider the characteristics of a successful approach, so as to better understand how to make effective use of time and resources. Based on experience gained in the BRS conventions synergies process, the following key characteristics are proposed:

- ***Party-led:*** led by those responsible for implementation at the national (or Party) level, with appropriate international support including the convening of meetings and facilitating the sharing of experience.
- ***Clearly identifiable benefits:*** strengthens implementation and increases coherence, efficiency and cost-effectiveness of both actions and processes, and reduces duplication of effort.
- ***Effectively focused:*** identifies mutual dependencies, and common issues and targets, so as to focus action more effectively, with a clear understanding of who should be involved and how.
- ***Achievable steps:*** breaks down into manageable actions, using pragmatic approaches for addressing clearly identified needs.
- ***Respectful of mandates:*** respects the legal autonomy of the different instruments, while recognising that issues have evolved since each was adopted, and this should not prevent action to bring about change where it is needed.

- ***Avoids controversy:*** avoids politically charged discussions, focusing instead on practical solutions that can be mutually agreed.

Options to be considered

The following options for action have been identified, divided into four broad strategies. Wherever possible the options for action focus on using existing mechanisms and processes, seeking to add value with a focused approach on common issues. In many cases these options relate to activities already under way that could be learnt from and built upon. The actions are not intended to be exclusive and are more likely to be implemented in combination. The actions taken at the national level may well vary from one country to another depending on national circumstances, national needs and nationally determined priorities.

a) Strengthening implementation mechanisms

The first strategic approach is ***to improve opportunities for cooperation and collaboration across the biodiversity and chemicals and waste clusters when implementing each of the intergovernmental agreements and processes in the two clusters.*** In order to achieve this there are actions that can be taken at both Party and instrument levels, building as appropriate on existing processes and experience.

- ***Action 1: Ensure that national focal points of the different MEAs and processes know each other, and are enabled to work together on issues of common interest,*** sharing information and experience, and building relationships. Their interaction should relate not only to implementation and potentially reporting, but also to preparation for governing and advisory body meetings where issues of mutual interest are being addressed. Regular meetings, both formal and informal are needed in order to build relationships. This should include engaging the MEA and SAICM focal points in work on implementing the 2030 Agenda for Sustainable Development, and where appropriate involving them in the work of international development cooperation, resource mobilization and mainstreaming.
- ***Action 2: Ensure that institutional mechanisms are in place to bring together representatives of competent national authorities to work together on issues of common interest,*** specifically from those organizations responsible for implementation measures related to the objectives of each of the MEAs and SAICM and the corresponding national legislation, and those organizations responsible for delivery of the 2030 Agenda for Sustainable Development. Institutionalising such interaction and inter-agency working relates to most of the other options identified. It is also important for identifying and agreeing common priorities. One other aspect of this is promotion of inter-ministerial and inter-agency working groups to prepare for the different COPs and ICCM, and for working on follow up.
- ***Action 3: Consider actions that can be taken at the national level to increase***

integration when developing plans and strategies for implementing each of the MEAs and SAICM. This would include consideration of how chemicals and waste is addressed in NBSAPs and other biodiversity-related planning, for example, and how biodiversity is addressed in national planning relating to chemicals and waste. It would also include broader aspects of mainstreaming, including national response to the 2030 Agenda for Sustainable Development and the SDGs as well as in relating MEA-specific plans to national development plans and sector specific plans. Identifying and responding to common priorities in implementation is important for achieving coherence and facilitating assistance, and some common planning may also be appropriate with clearly identified responsibilities and deliverables.

- **Action 4: Consider proposing actions at the international level within each instrument that might support increased cooperation and collaboration across the clusters.** This relates to support that might be provided by secretariats and governing bodies in furthering cooperation and collaboration. Examples given in the expert workshop included standing items on agendas which address biodiversity and pollution and the cooperation and collaboration between the biodiversity and chemicals and waste clusters in addressing it. Another example was suggestion of the potential for developing joint programmes of work for implementation at both national and international levels. Comments on an earlier draft of this report also identified the value of developing guidance for national focal points and facilitating the sharing of experience. The governing bodies of the various MEAs could also welcome actions of MEAs in the other cluster, and invite cooperation and collaboration.

b) Working together on areas of common interest

The second strategic approach is **to identify opportunities for cooperation and collaboration across the biodiversity and chemicals and waste clusters where working together can help achieve common aims and bring clear benefits.** Such actions would be planned in the context of not only the implementation of MEAs and SAICM, but also considering delivery of the 2030 Agenda for Sustainable Development. Depending on the actions undertaken, the focus might well be at the local level, and not just at the national level. International support might be needed, and could also be achieved through the use of multi-stakeholder partnerships focused on issues of particular concern. These could be established by countries, and/or established internationally to support national action.²²⁵

- **Action 5: Cooperate on communications relating to the interconnections between biodiversity and chemicals and waste,** including the links to the health agenda and 'downstream' impacts on other sectors. Common messaging relating to biodiversity and chemicals and waste, including links to the causes and impacts of climate change and land degradation, could be powerful in also raising political attention. Collaboration to address common issues of concern is also itself an important message. Action would include both 'public'

225. Note, for example, the global multi-stakeholder partnerships resulting from the work of the Global Plan of Action for the Protection of the Marine Environment from Land-based Activities (www.gpmarinelitter.org)

communications approaches and efforts at raising political visibility of the issues and concerns, and could be done through broad approaches or focusing on specific issues relevant to both clusters that have traction (as was the case for pollinators and pollination). Raised profile of the issue at the national, regional and international levels can result in increased resources for action, and also encourage increased engagement of the academic community, private sector and other stakeholders. Common messaging can be more effective and more cost-effective, and increase attention on key issues, and this could also be carried through into other education and awareness programmes. Any cooperation will need to be sensitive to different vocabularies and use of language in the two clusters.

- **Action 6: Collaborate in the identification of risks, and in contingency planning for recognising and mitigating the potential impacts of known risks.** This includes working collaboratively to assess hazards and risks (including safety testing) and to understand potential impacts. It then includes planning action to be taken when those risks are realised, and sharing of information, including on any deliberate or accidental release of hazardous or potentially hazardous materials (so that action can be taken). Such collaboration would include the development and application of science-based procedures for hazard and risk assessment and management, sharing of data on chemicals and their impacts, and agreements on what needs notification, how and when. Some of this is already covered by international agreements, including processes for extending the lists of chemicals covered by those agreements. It would also cover development of new guidance, for example on helping to integrate effects on biodiversity and ecosystem services in general into standard chemical and waste hazard considerations.
- **Action 7: Collaborate in improving governance arrangements, planning and implementation at national and local levels, including through legislation and regulation.** This would include identification and development of more integrated approaches to addressing chemicals and waste in the context of biodiversity and ecosystem services, and potentially strengthening coherence of legislative framework. It would also include identifying and controlling illegal activities, and considering the implications and impacts of national subsidies relating to chemicals and waste. All of this would involve cooperation across ministries that results from national efforts to address international obligations, including follow up to MEA governing body decisions, etc. Addressing harmful and illegal activities will also require engagement with other countries, including potentially within trade agreements. As with planning and implementation, identifying common priorities is key for achieving coherence and facilitating assistance. Guidance and assistance may be needed in some cases for developing more integrated approaches to planning, legislation and regulation, including guidance for law makers.
- **Action 8: Promote and support research in key areas identified as being a priority by both the biodiversity and chemicals and waste clusters, and facilitate wide access to the results,** working together to engage the academic community. This should particularly focus on generation of data, information

and knowledge on risk and risk management relating to impacts of chemicals and waste on biodiversity and ecosystem services, and on building improved understanding of the potential impacts at individual species and ecosystem levels. This would respond to needs addressed by any science-policy interface, and address issues such as identified as gaps in recent international assessments. It should consider needs identified in the UNEP assessment paper on interlinkages²²⁶ with other clusters related to chemicals and waste management and the 'key insights' document produced by the BRS and Minamata conventions.²²⁷ This would also consider horizon scanning.

- **Action 9: *Initiate cross-cluster collaborative projects as a vehicle for increasingly working together to achieve common interests, to increase efficiencies in resource use, and to optimise opportunities for finance.*** As well as delivering concrete project outcomes, the aim would be that such projects would lead to further strengthening modalities for collaboration and coordination, in particular at national and local levels and across different stakeholder groups. Such projects could be pilot projects, or large scale and involve sharing of results and experiences, and scaling up identified solutions. Projects could relate to any of the options identified. This could, for example, include multi-convention and multidisciplinary project proposals to the GEF for those countries that are eligible. Projects that meet multiple objectives in an effective manner are generally easier to resource. Additionally, there may be value in building cross-cluster elements into existing projects in either cluster.

c) Coordinating common needs and services

The third strategic approach is **to identify opportunities for achieving improved effectiveness and cost-effectiveness through enhancing coordination of common services**. Addressing biodiversity loss and the sound management of chemicals and waste requires the same means of implementation (capacity-building, technical and scientific cooperation, technology transfer, resource mobilization), and many of the same sort of underpinning activities including monitoring, indicators, reporting, knowledge management. Where there are opportunities for increasing effectiveness pragmatically through cooperation and collaboration, including sharing of experience, these should be identified.

- **Action 10: *Explore opportunities for cooperation and collaboration in monitoring and reporting, particularly with respect to development and use of indicators.*** While these are activities carried out at the national level, they are also influenced by the requirements of internationally defined processes (for example provision of data, indicators and/or reports). Increased sharing of data and information, and the use of common indicators where this is appropriate, may help in reporting and communication, and in building common understanding. Effective monitoring will also provide a basis for identifying potential problems

226. SAICM/IP.4/INF/3 Submission from UNEP on assessment of interlinkages with other clusters. (www.saicm.org/Portals/12/documents/meetings/IP4/INF/SAICM_IP4_INF_3.pdf)

227. Secretariats of the BRS Conventions and the Minamata Convention on Mercury (2021). Interlinkages between the chemicals and waste multilateral environmental agreements and biodiversity: Key insights. (wedocs.unep.org/bitstream/handle/20.500.11822/36088/BIKI.pdf)

and impacts, and tracking and reporting on them and therefore increasing the understanding of interrelationships between clusters. However, the costs and benefits do need to be carefully considered. Reporting on cross-cluster issues in Voluntary National Reports (VNR) to the High-level Political Forum (HLPF) on Sustainable Development will also help raise the profile of such issues both nationally and internationally and could help drive cooperation. This would be facilitated if intergovernmental entities also highlighted the interconnected nature of the issues and benefits of cooperation in their own reports.

- **Action 11: *Consider the potential benefits of increased coordination of capacity-building, technical and scientific cooperation, and technology transfer*** relating to the intersections between the biodiversity and chemicals and waste clusters. At its simplest this could relate to building links to addressing chemicals and waste pollution into programmes initiated for protection of biodiversity, and vice versa. Such an activity would include identification and communication of capacity-building needs (which might at least in part relate to other options for action identified in this report), and then development of capacity-building activities and programmes to respond to the identified needs. This relates in particular to overlapping needs, and where there are identified advantages to cooperation. This option for action also concerns better coordinated technical assistance activities, better use of resources, and where appropriate identifying common priorities for capacity-building and technical assistance, all with the ultimate aim of improving use of available human and financial resources as well as promoting innovative responses to shared challenges across thematic clusters.
- **Action 12: *Facilitate the sharing of guidance materials, experience and information relevant to the interface between the two clusters***, both nationally and internationally, in order to increase access to the best available knowledge and good practice. It is likely that at present practitioners are familiar with resources available within their own cluster, but not across clusters. This could include building or extending networks of contacts, online knowledge exchange platforms, and/or communities of practice. Through these means, practitioners can share experience relating to issues ranging from governance structures that support implementation to the hazards and risks and potential impacts of chemicals and waste on biodiversity and how to address this.²²⁸ This might also relate to national implementation of clearing-house mechanisms such as those under the CBD²²⁹ or building on the multi-stakeholder approach of the BRS conventions²³⁰ and others.²³¹ As with capacity-building this is a cross-cutting action, supporting implementation of other actions as needed.
- **Action 13: *Collaborate in the development of an effective science-policy interface at both national and international levels*** that facilitates the coming together of scientists, other knowledge holders and policy makers with experience and interest in each of the clusters. This would help build

228. A potential model could be the SAICM Community of Practice on Chemicals and the SDGs organized with the University of Cape Town (chemicalswithoutconcern.org/sites/default/files/flyerCoP_CWC_SDG_0.pdf), but there are others including the NBSAP Forum (www.nbsapforum.net) and BESNet (www.besnet.world).

229. See www.cbd.int/chm and chm.cbd.int

230. See www.brsmeas.org/Implementation/KnowledgeManagementandOutreach/Clearinghousemechanism

231. See for example the IOMC Toolbox (<https://iomctoolbox.org/>)

understanding of risk and potential impacts and provide the information that helps others to identify and prioritize necessary actions (including monitoring and evaluation). It could also include an element of horizon scanning to help identify what might become problems in the future. The science-policy interface might include using and building on existing processes, or establishing new processes. For example, at the international level consideration might be given to the role of IPBES with respect to further assessment of pollution as a driver of biodiversity loss, and how IPBES might relate to any new platform or panel established independently or under the new beyond 2020 framework. There may also be need for a new synthesis (or syntheses) drawing on existing assessments to set out more clearly the implications of different pollutants for biodiversity, and potential solutions.

d) Identifying key international entry points to advance collaboration

The fourth strategic approach is ***to identify key international entry points and to enhance engagement with relevant international initiatives so as to focus increased attention on efforts to reduce the negative impacts of chemicals and waste on biodiversity and ecosystem services***. A number of key initiatives or entry points are identified in the following options for action.

- ***Action 14: Promote the uptake of the findings of this study report in the post-2020 and beyond 2020 processes, and liaise with the MEA and SAICM secretariats to draw their attention to the report.*** This would include communicating the study report to those leading the post-2020 and beyond 2020 processes at the international level, and inviting secretariats to communicate the study report through their formal channels to Parties and Member Governments. Parties and Member Governments could be invited to consider the options for action in their national context and discuss them with their counterparts for other relevant MEAs and intergovernmental processes. The completion of the post-2020 and beyond 2020 processes provide a key opportunity as their outcomes are of interest to all MEAs in the biodiversity and chemicals and waste clusters, and not only to CBD and SAICM.
- ***Action 15: Raise the profile of cross-cluster collaboration through the UN Environment Assembly and other intergovernmental and interagency meetings, including MEA governing and subsidiary body meetings and ICCM.*** This could include highlighting the workshop outcomes and any work emanating from this during substantive discussion on relevant agenda items and side events, and through leadership dialogues in the margins of UNEA, with a view to catalysing further action at global, regional and national levels. This could also include encouraging discussion of the report and expert consultation workshop outcome in relevant technical coordination groups, including the MEA focal points network for UNEP-administered conventions (convened by the UNEP Law Division), the Liaison Group of Biodiversity-related Conventions, and the

Joint Liaison Group of the Rio Conventions, and communicating it to the UN Environment Management Group and the UN Sustainable Development Group.²³²

- **Action 16: *Promote regional cooperation as a basis for strengthening cooperation and collaboration in addressing impacts of chemicals and waste on biodiversity.*** Such regional approaches, including working with implementation of regional agreements and programmes, will help build capacity and facilitate technical and scientific cooperation, and they may also increase political visibility of the issues. The 23 regional centres under the Stockholm and Basel conventions²³³ may already be in a position to take account of opportunities for strengthening collaboration and coordination between clusters in the technical assistance and capacity building that they facilitate access to. The regional offices of MEAs and the UNEP Regional Offices may also be in a position to provide support. Any new cooperative activities should build on existing initiatives and experiences wherever possible.
- **Action 17: *Encourage international finance institutions and programmes to support projects and programmes that address environmental issues in an integrated manner,*** liaising with national representatives for those institutions and programmes to promote integrated approaches and identify opportunities for joint projects. For example, the Global Environment Facility (GEF) plays a significant role in supporting implementation of a range of MEAs, serving as the principle financial mechanism. Participants in the meeting of the GEF Council held in June 2021 stressed the importance of collaboration and the need for synergistic action, and agreed support for projects addressing the interlinked challenges of climate change, biodiversity loss, land degradation, ocean pollution and depletion, and dangerous chemicals.²³⁴ Relevant here is consideration of criteria for financing projects, and how the criteria for financing specific projects related to chemicals or waste management, for example, may need to account for value of and impact on biodiversity and ecosystem services. Also relevant is seeking opportunities to embed biodiversity and chemicals and waste into national Sustainable Development Cooperation Frameworks for countries where this is relevant.
- **Action 18: *Identify ways to collaborate in the context of a 'One Health' approach, using this as a basis for driving and justifying action.*** The 'One Health' approach recognises the interaction between disease – including poisoning – in wildlife, human and domestic animals, and the urgent need to ensure that policy responses are better integrated for more effective outcomes. The relevance for biodiversity has been discussed in at least Ramsar,²³⁵ CMS²³⁶ and CBD²³⁷ COPs. Focusing on the One Health approach also has the potential to link to the post

232. See unsdg.un.org

233. See www.brsmeas.org/Implementation/TechnicalAssistance/RegionalCentres

234. See enb.iisd.org/sites/default/files/2021-06/gef_council60_summary_0.pdf

235. Ramsar Convention COP Resolution XI.12 Wetlands and health: taking and ecosystem approach. (www.ramsar.org/sites/default/files/documents/pdf/cop11/res/cop11-res12-e.pdf)

236. CMS COP Resolution 11.15 Preventing poisoning of migratory birds. (www.cms.int/sites/default/files/document/mos2_inf11_cms_res_11_15_e_0.pdf)

237. CBD COP decision 14/4 Biodiversity and health (www.cbd.int/doc/decisions/cop-14/cop-14-dec-04-en.pdf)

COVID-19 recovery agenda. In this context the regional inter-ministerial fora on environment and health may provide valuable opportunities for mobilising the scientific and normative capacities of the environment and health sectors.

In addition to the options for action identified, it will also be valuable to promote discussion and broader recognition of the importance of 'nexus' issues so that the interconnected nature of issues is better appreciated. There is an important role to be played in increasing both national and international focus on nexus issues, and in improving understanding of the ways in which key issues and key sectors are related, thereby raising political awareness of the interlinkages. This is the key focus of a planned IPBES assessment,²³⁸ and has been increasingly referred to in international meetings. It is also the basis for mainstreaming. Currently there is in effect a hierarchy of environmental concerns, with climate change getting more attention than biodiversity loss, which gets more attention than chemical and waste pollution. Increased understanding of how these and other issues relate will be important to addressing them in the future.

238. See ipbes.net/nexus

Pesticides case study: Options for action

With respect to pesticides, the options for action are essentially the same as those already identified above. However, there may be opportunities to develop specific actions focused on pesticides and their impacts, given the particular uses to which they are put and the relatively clear stakeholder groups. Such actions might be focused on addressing specific concerns (such as the impact of neonicotinoids on bees), exploring alternatives (such as the potential role of agroecology in reducing the need for pesticides), or increasing understanding of the issues.

The IPBES assessment report on pollinators, pollination, and food production²³⁹ means that this issue is very much on both national and international agendas, and this could usefully provide motivation for developing pilot work where it is not already under way, and may increase opportunities for funding. The IPBES assessment has led to increased interest amongst governments, as evidenced by establishment of the Coalition of the Willing on Pollinators.²⁴⁰

239. IPBES (2016). The assessment report on pollinators, pollination and food production. IPBES Secretariat, Bonn, Germany (See ipbes.net/assessment-reports/pollinators)
240. See www.promotepollinators.org

Examples of national action: The following are existing actions identified by expert workshop participants as examples that could usefully be applied elsewhere.

Both issues are dealt with in the same Government department...

...and there is opportunity for staff working on biodiversity and staff working on chemicals and waste to regularly meet both formally and informally to discuss common interests and approaches, and gain a common understanding.

National commission to address environmental issues involving all major stakeholders...

...including participants working in both the biodiversity and chemicals and waste cluster. Depending on national circumstances and institutional arrangements, the commission may be able to establish expert groups to consider specific topics and provide advice on them.

Collaborative projects bringing a range of people from across sectors together...

...for example, actions to promote crop rotation both to reduce invasive weed species and to address concerns about pesticide resistance development. Actions are supported by industry-led partnerships with regulators to address residual environmental risk from chemical use and to support change at local level whilst building capability to use alternatives to chemicals.

Regular meetings of national focal points to all MEAs that the country is party to...

...allowing for exchange of information and planning. Depending on national circumstances and priorities these meetings may well include focal points from SAICM and other intergovernmental processes.

Establishment of a National Centre for Toxic Compounds...

...responsible for coordinating national activities related to the implementation of international conventions on chemicals, the executive body of which is a national council comprising representatives of all relevant ministries and institutions.

Use of a key natural site such as a World Heritage Site as a focus for actions to address pollution...

...which included a national parliament adopting a resolution to halt emissions from cruise ships and ferries entering the area by 2026. As some 300,000 cruise ships visit the area in a year, this has a significant impact, including beyond the natural site itself.

Use of tools such as the Data Reporting Tool for MEAs (DaRT)²⁴¹ ...

...which provides Parties to MEAs with a private and secure working space to organize, share, and maintain information, data and knowledge across conventions and across reporting purposes.

241. See <https://dart.informea.org>

”

“The multiple interactions between environmental problems mean that uncoordinated single-issue solutions are inefficient and will fail. An integrated approach that addresses the underlying root causes of interlinked environmental problems and pays attention to unintended consequences of actions is both more cost-effective and more likely to be successful than treating the issues as if they were independent of one another. It further allows synergies to be identified and exploited, while steering away from the worst trade-offs.”

Making Peace with Nature:²⁴²

A scientific blueprint to tackle the climate biodiversity and pollution emergencies

242. UNEP (2021). Making Peace with Nature: A scientific blueprint to tackle the climate, biodiversity and pollution emergencies. (www.unep.org/resources/making-peace-nature)

Annex 1 – Further information on intergovernmental agreements and processes

The information included in the table below is illustrative and non-exhaustive. It aims to provide a brief overview of the scope, including some of the key definitions, of each of the intergovernmental agreements and processes covered in the present study. In developing the table, the following order has been used: (i) biodiversity-related conventions; (ii) conventions and processes relating to chemicals and waste; (iii) other global multilateral agreements; and (iv) regional agreements.

Full title	Abbreviation	Scope	Notes
Convention on Biological Diversity	CBD	The objectives set out in Article 1 of the Convention are <i>“the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources”</i> . Biological diversity is defined in Article 2 as <i>“the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems”</i> .	Article 28 of the Convention anticipates that Parties will cooperate in the formulation and adoption of protocols to the Convention in order to further operationalise its implementation. Two protocols and one supplementary protocol have so far been adopted. The Cartagena Protocol on Biosafety aims to ensure the safe handling, transport and use of living modified organisms resulting from modern biotechnology that may have adverse effects on biological diversity, taking also into account risks to human health. The Nagoya Protocol on Access and Benefit Sharing aims at sharing the benefits arising from the utilization of genetic resources in a fair and equitable way.
Convention on International Trade in Endangered Species of Wild Fauna and Flora	CITES	CITES aims to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species. The Convention builds on the principle that <i>“international cooperation is essential for the protection of certain species of wild fauna and flora against over-exploitation through international trade”</i> (Preamble). In the context of the Convention (Article I), species means <i>“any species, subspecies, or geographically separate population thereof”</i> ; and trade is defined as <i>“export, re-export, import and introduction from the sea”</i> .	The Cartagena Protocol on Biosafety aims to ensure the safe handling, transport and use of living modified organisms resulting from modern biotechnology that may have adverse effects on biological diversity, taking also into account risks to human health.

Full title	Abbreviation	Scope	Notes
Convention on the Conservation of Migratory Species of Wild Animals	CMS	CMS is a framework Convention for the conservation and sustainable use of migratory animals and their habitats. Article I defines "migratory species" as <i>the entire population or any geographically separate part of the population of any species or lower taxon of wild animals, a significant proportion of whose members cyclically and predictably cross one or more national jurisdictional boundaries.</i> The Convention defines "Range State" in relation to a particular migratory species means <i>any State (and where appropriate any other Party referred to under subparagraph (k) of Article I) that exercises jurisdiction over any part of the range of that migratory species, or a State, flag vessels of which are engaged outside national jurisdictional limits in taking that migratory species.</i>	CMS contains a number of appendices: Appendix I lists <i>migratory species which are endangered</i>; Appendix II lists <i>migratory species which have an unfavourable conservation status and which require international agreements for their conservation and management, as well as those which have a conservation status which would significantly benefit from the international cooperation that could be achieved by an international agreement.</i> A migratory species may be listed both in Appendix I and Appendix II (Article XV). Appendices I and II may be amended at any ordinary or extraordinary meeting of the Conference of the Parties (Article XI). CMS encourages the Range States to conclude global or regional agreements and, as such, it is considered a framework Convention. The term "CMS Family" includes the Convention as well as the collection of Agreements and Memoranda of Understanding that have been concluded under it.
Convention concerning the Protection of the World Cultural and Natural Heritage	WHC	The Convention defines the criteria for natural or cultural sites which can be considered for inscription on the World Heritage List, and sets the duties of Parties in identifying potential World Heritage sites and in protecting and preserving them. Each State Party recognises that the duty of ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage referred to in Articles 1 and 2 and situated on its territory, belongs primarily to that State (Article 4).	Each State Party shall adopt a general policy which aims to give the cultural and natural heritage a function in the life of the community and to integrate the protection of that heritage into comprehensive planning programmes (Article 5). The criteria for inscription on the World Heritage List are regularly revised by the World Heritage Committee, which also decides on whether a property will be inscribed on the List. The amendment procedure for the Convention is set out in Article 37.
Convention on Wetlands of International Importance especially as Waterfowl Habitat	Ramsar Convention	The Ramsar Convention is the intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources.	States Parties decide on inclusion on or removal from the Ramsar list of sites situated on their respective national territory. The COP has adopted (and amended several times) the specific criteria for interpreting the text of the Convention.

Full title	Abbreviation	Scope	Notes
International Plant Protection Convention	IPPC	The IPPC aims at <i>"securing common and effective action to prevent the spread and introduction of pests of plants and plant products, and to promote appropriate measures for their control"</i> (Article 1). The Convention defines plants as <i>"living plants and parts thereof, including seeds and germplasm"</i>. The Convention introduced International Standards for Phytosanitary Measures as its main tool to achieve its goals.	In its preamble, the Convention recognises <i>the necessity for international cooperation in controlling pests of plants and plant products and in preventing their international spread, and especially their introduction into endangered areas</i>. In this regard, it includes provisions relating to international cooperation (Article VIII) as well as on the establishment and role of regional plant protection organizations in the development and use of relevant international standards for phytosanitary measures (Article IX). The IPPC is one of the "Three Sisters" recognized by the World Trade Organization's Agreement on the Application of Sanitary and Phytosanitary Measures (known as SPS Agreement), along with the Codex Alimentarius Commission for food safety and the International Animal Health Organization (OIE) for animal health. Amendments to the Convention should be done in accordance with Article XXI.
International Treaty on Plant Genetic Resources for Food and Agriculture	ITPGRFA	The objectives of the International Treaty <i>"are the conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use, in harmony with the Convention on Biological Diversity, for sustainable agriculture and food security."</i> (Article 1). The scope of the Treaty relates to plant genetic resources for food and agriculture, which are defined as <i>"any genetic material of plant origin of actual or potential value for food and agriculture"</i> (Article 2).	In its preamble, the Treaty recognises that <i>the management of plant genetic resources for food and agriculture are at the meeting point between agriculture, the environment and commerce</i>, thus highlighting the importance of synergy among these sectors. In this regard, requires Contracting Parties to integrate activities relating to conservation, exploration, collection, characterization, evaluation, documentation and sustainable use of Plant genetic resources for food and agriculture into their agriculture and rural development policies and programmes, and cooperate with other Contracting Parties, directly or through FAO and other relevant international organizations, in the conservation and sustainable use of plant genetic resources for food and agriculture (Article 7). Article 23 sets out the procedure for amendments of the Treaty.
International Whaling Commission	IWC	The IWC is the global body charged with the conservation of whales and the management of whaling. It is set under the International Convention for the Regulation of Whaling which aims <i>"to provide for the proper conservation of whale stocks and thus make possible the orderly development of the whaling industry"</i> (Preamble of the Convention). The Convention <i>"applies to factory ships, land stations, and whale catchers under the jurisdiction of the Contracting Governments and to all waters in which whaling is prosecuted by such factory ships, land stations, and whale catchers"</i> (Article I).	An integral part of the Convention is its legally binding "Schedule". The Schedule sets out specific measures taken by the IWC to regulate whaling and conserve whale stocks. The amendment procedure to the Schedule is set out in Article 5 of the Convention. Through some (mostly non consensus) decisions, the Commission has started to conduct activities related to cetaceans others than those mentioned in the Schedule (which only lists the 17 types of whales, which were or are concerned with whaling). This extension did <i>not</i> take place through an amendment of the Convention or the Schedule.

Full title	Abbreviation	Scope	Notes
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal	Basel Convention	The objective of the Basel Convention is to protect human health and the environment against the adverse effects of hazardous wastes. Its scope of application covers the transboundary movement of wide range of wastes defined as "hazardous wastes" based on their origin and/or composition and their characteristics, as well as two types of wastes defined as "other wastes" - household waste and incinerator ash.	Annexes to the Convention: Annex I lists categories of wastes to be controlled. Annex II lists wastes requiring special consideration. Annex III lists of hazardous characteristics. Annex IV lists disposal operations. Annexes VA and VB relates to information to be provided on export notification and on the movement document respectively. Annex VIII (List A) of the Basel Convention lists wastes which are characterized as hazardous under Article 1, paragraph 1 (a), of the Convention. Annex IX (List B) lists wastes that will not be considered wastes covered by Article 1, paragraph 1 (a), of the Convention unless they contain Annex I material to an extent causing them to exhibit a hazardous characteristic. Established under the Convention, the Protocol on liability and compensation for damage resulting from transboundary movements of hazardous wastes and their disposal aims to provide for a comprehensive regime for liability and for adequate and prompt compensation for damage resulting from the transboundary movement of hazardous wastes and other wastes and their disposal including illegal traffic in those wastes (Article 1 of the Protocol). The amendment procedure for the Convention and the Protocol is set out in Article 17 of the Convention; and for the Annexes in Article 18.
Stockholm Convention on persistent organic pollutants	Stockholm Convention	The objective of the Convention is <i>"to protect human health and the environment from persistent organic pollutants"</i> (Article 1).	Annex A to the Convention lists the persistent organic pollutants (POPs) for which production, use, import and export is prohibited and/or has to be eliminated. Annex B lists some acceptable purposes for the production and use of certain POPs, and also allows for registration of specific additional exemptions for production and use. The import and export of chemicals listed in Annex B can take place under specific restrictive conditions. The Convention and its annexes can be amended as per Articles 22 and 23 respectively.
Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade	Rotterdam Convention	The objectives of the Convention is <i>"to promote shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm and to contribute to their environmentally sound use [...]"</i> (Article 1). The Convention applies to "banned or severely restricted chemicals" and "severely hazardous pesticide formulations" (Article 3). Both terms are defined in Article 2.	The procedures for amendments to the Convention is set out in Article 21. The annexes to the Convention formed an integral part of it. Annex III provides the list of chemicals subject to the prior informed consent procedure. Annex II details the criteria for listing those chemicals in Annex III, and Annex IV provides information and criteria for listing severely hazardous pesticide formulations in Annex III. The amendment procedure for annexes is set out in Article 22.

Full title	Abbreviation	Scope	Notes
Strategic Approach to International Chemicals Management	SAICM	The SAICM is a policy framework to promote chemical safety around the world. Its overall objective is the achievement of the sound management of chemicals throughout their life cycle. Within its scope, it includes: (i) environmental, economic, social, health and labour aspects of chemical safety; and (ii) agricultural and industrial chemicals, with a view to promoting sustainable development and covering chemicals at all stages of their life-cycle, including in products (Overarching Policy Strategy).	SAICM aims to enhance synergies between the activities of Governments, international institutions, multilateral organization secretariats and development agencies in pursuit of the sound management of chemicals. A Strategic Approach and the sound management of chemicals and waste beyond 2020 is currently being developed.
Minamata Convention on Mercury	Minamata Convention	The Convention aims <i>“to protect the human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds”</i> (Article 1). In its Article 2, the Convention defines the terms mercury, mercury compound and mercury-added product.	The Convention text is completed by 4 annexes, among which Annex A lists mercury-added products, Annex B describes manufacturing processes in which mercury or mercury compounds are used, and Annex C relates to artisanal and small-scale gold mining. Amendment procedure for the Convention is set out in Article 26 and for the Annexes in Article 27.
Montreal Protocol on Substances that Deplete the Ozone Layer	Montreal Protocol	Building on the provisions of the Vienna Convention, the Montreal Protocol seeks to <i>“take appropriate measures to protect human health and the environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the ozone layer, regulates the production and consumption of nearly 100 man-made chemicals known as ozone depleting substances (ODS)”</i> (Preamble). In particular, it aims to phase out the production and consumption of ODS and phase down hydrofluorocarbons, the latter substances being not ozone-depleting but potent greenhouse gases used as ODS substitutes in many applications.	The substances covered by the Protocol are listed in Annexes A (CFCs, halons), B (other fully halogenated CFCs, carbon tetrachloride, methyl chloroform), C (HCFCs), E (methyl bromide) and F (HFCs). The Montreal Protocol was designed to allow for revisions to the phase out schedules and the list of controlled substances on the basis of periodic scientific and technological assessments. This is done through adjustments and amendments. Through the Kigali Amendment, in 2016 Parties to the Montreal Protocol also reached agreement to phase down HFCs, which had been largely used as an alternative to some ODS. HFCs do not deplete the stratospheric ozone layer, but uncontrolled growth in HFC emissions challenges efforts to keep global temperature rise at or below 2°C. The amendment procedure for the Protocol is set out in Article 9 of the Vienna Convention.

Full title	Abbreviation	Scope	Notes
United Nations Convention on the Law of the Sea	UNCLOS	The UN Convention on the Law of the Sea defines the rights and responsibilities of nations regarding their use of the ocean, establishing rules governing all uses of the oceans and their resources. UNCLOS defines pollution of the marine environment as "the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities" (Article 1). The Convention provides for measures to prevent, reduce and control pollution of the marine environment (e.g. Article 194).	The following three bodies have been established under the Convention: • International Tribunal for the Law of the Sea • International Seabed Authority • Commission on the Limits of the Continental Shelf. Negotiations are currently ongoing on an international legally binding instrument under the UNCLOS on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ).
International Convention for the Prevention of Pollution from Ships	MARPOL	The objective of MARPOL is <i>"to prevent the pollution of the marine environment by the discharge of harmful substances or effluents containing such substances in contravention of the Convention"</i> (Article 1). The Protocol of 1978 relating to the International Convention for the Prevention of Pollution by Ships, 1973 states that both the Convention and the Protocol shall be read and interpreted together as one single instrument (Article I).	The Protocol of 1978 was adopted in response to a spate of tanker accidents in 1976–1977. Given that the MARPOL Convention had not yet entered into force, the 1978 MARPOL Protocol absorbed the parent Convention. The Convention includes regulations aimed at preventing and minimizing pollution from ships and currently includes six technical Annexes: • Annex I Regulations for the Prevention of Pollution by Oil • Annex II Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk • Annex III Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form • Annex IV Prevention of Pollution by Sewage from Ships • Annex V Prevention of Pollution by Garbage from Ships • Annex VI Prevention of Air Pollution from Ships The procedures set out in Article 16 of the Convention in respect of amendments to the Articles, an Annex and an Appendix to an Annex of the Convention also apply to amendments to the Articles, Annex and Appendix to the Annex of the Protocol.

Full title	Abbreviation	Scope	Notes
Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972	London Convention and London Protocol	The Convention aims to “<i>promote the effective control of all sources of pollution of the marine environment</i>”. For this purpose, it requests Contracting Parties to “<i>to take all practicable steps to prevent the pollution of the sea by the dumping of waste and other matter that is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea</i>” (Article 1). In 1996, the Protocol to the Convention on The Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 (London Protocol) was agreed to “<i>protect and preserve the marine environment from all sources of pollution... [...with Contracting Parties taking] effective measures, according to their scientific, technical and economic capabilities, to prevent, reduce and where practicable eliminate pollution caused by dumping or incineration at sea of wastes or other matter. Where appropriate, they shall harmonize their policies in this regard</i>” (Article 2).	The Protocol prohibits the dumping of any wastes or other matter except of those listed in Annex I (known as “reverse list”). The Protocol supersedes the Convention as between Contracting Parties to this Protocol which are also Parties to the Convention (Article 23). Both the Protocol and its annexes can be amended as per Articles 21 and 22 respectively.
United Nations Framework Convention on Climate Change	UNFCCC	The objective of the Convention “<i>is to achieve the stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner</i>” (Article 2). The Convention defines climate change as “<i>a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods</i>” (Article 1).	The Convention builds on the principle of common but differentiated responsibilities and respective capabilities (Article 3). The Protocol to the UNFCCC (Kyoto Protocol) established legally binding quantified emission limitation and reduction commitments for developed countries included in Annex I of the Convention. The Paris Agreement under the UNFCCC “<i>aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by: (a) Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change; (b) Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production; and (c) Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development</i>” (Article 2).

Full title	Abbreviation	Scope	Notes
United Nations Convention to Combat Desertification	UNCCD	The objective of the Convention is <i>"to combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa, through effective action at all levels, supported by international cooperation and partnership arrangements, in the framework of an integrated approach which is consistent with Agenda 21, with a view to contributing to the achievement of sustainable development in affected areas"</i> (Article 1). The Convention addresses specifically the arid, semi-arid and dry sub-humid areas, known as the drylands, where some of the most vulnerable ecosystems and peoples can be found.	The principles set out in the Convention emphasise the importance of partnership, cooperation and coordination (Article 3). Article 8 in turn refers to the relationship with other conventions, particularly CBD and UNFCCC (as the other two Rio Conventions). The Convention can be amended as per Article 30. The Convention text has five regional implementation annexes for Africa, Asia, Latin America and the Caribbean, Northern Mediterranean, Central and Eastern Europe.
UNECE Convention on Long-range Transboundary Air Pollution	Convention on Long-range Transboundary Air Pollution	The Convention aims <i>"to protect man and his environment against air pollution". For this purpose, Contracting Parties "shall endeavour to limit and, as far as possible, gradually reduce and prevent air pollution including long-range transboundary air pollution"</i> (Article 2). Air Pollution is defined as <i>"the introduction by man, directly or indirectly, of substances or energy into the air resulting in deleterious effects of such a nature as to endanger human health, harm living resources and ecosystems and material property and impair or interfere with amenities and other legitimate uses of the environment"</i>. Long-range transboundary air pollution means <i>"air pollution whose physical origin is situated wholly or in part within the area under the national jurisdiction of one State and which has adverse effects in the area under the jurisdiction of another State at such a distance that it is not generally possible to distinguish the contribution of individual emission sources or groups of sources"</i> (Article 1).	Amendments to the Convention can be pursued as per Article 12. The 1999 Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-level Ozone (Gothenburg Protocol) aims to <i>"control and reduce emissions of sulphur, nitrogen oxides, ammonia, volatile organic compounds and particulate matter that are caused by anthropogenic activities and are likely to cause adverse effects on human health and the environment, natural ecosystems, materials, crops and the climate in the short and long term, due to acidification, eutrophication, particulate matter or ground-level ozone as a result of long-range transboundary atmospheric transport, and to ensure [...] that in the long term and in a stepwise approach [...] atmospheric depositions or concentrations do not exceed"</i> the levels set out in Annex I of the Protocol (Article 2).
Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region	Cartagena Convention	The Convention is a regional agreement for the protection of the Caribbean Sea, gathering 26 States in the Wider Caribbean Region, covering the area as defined in Article 2. The Convention includes a range of provisions aimed at regulating pollution from different sources.	The Convention is supported by three technical agreements or Protocols on Oil Spills, Specially Protected Areas and Wildlife (SPA) and Land Based Sources of Marine Pollution (LBS). The amendment procedure for the Convention or its Protocols is set out in Article 18 of the Convention. The procedure for adoption of new Protocols is set out in Article 17 of the Convention.
Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa	Bamako Convention	The Bamako Convention aims to prohibit the import of all hazardous and radioactive wastes into the African continent; to minimize and control transboundary movements of hazardous wastes within the African continent; to prohibit all ocean and inland water dumping or incineration of hazardous wastes; to ensure that disposal of wastes is conducted in an environmentally sound manner; to promote cleaner production over the pursuit of a permissible emissions approach based on assimilative capacity assumptions; to establish the precautionary principle (Source: InforMEA page on Bamako Convention).	The Bamako Convention is essentially a response to Article 11 of the Basel Convention, which encourages Parties to enter into bilateral, multilateral and regional agreements on hazardous waste. Annex I includes categories of waste which are hazardous waste; Annex II provides a list of hazardous characteristics; and Annex III lists disposal operations. The amendment procedure for the Annexes is set out in Article 18 of the Convention.

Annex 2 – Report of the expert consultation workshop

Introduction

As a part of the project on "*Strengthening collaboration and coordination between biodiversity and chemicals and waste clusters*" supported by the Nordic Council of Ministers, UNEP organized an expert consultation workshop with the support of UNEP-WCMC, and benefiting from the advice of the project steering committee. This workshop took place online, for a period of three hours each day on 23, 24 and 27 September.

The main objective of the workshop was to identify challenges and opportunities in strengthening cooperation and coordination across the biodiversity and chemicals and waste clusters at all levels, with a specific focus on learning from national-level experiences. The workshop both drew on the draft study report (which was sent to all participants) and contributed substantially to completion of the study report, in particular with respect to the sections on options for action and next steps. The workshop agenda is provided in appendix a.

Participation in the workshop was by invitation, and included: national focal points from 19 countries with experience of one or more of the MEAs in the biodiversity and/or chemicals and waste cluster or of SAICM; representatives of MEA secretariats and the secretariat of SAICM; and other experts, including both independent experts and UNEP staff with appropriate expertise. The participants list is provided in appendix b. Everyone participated in their personal capacity, discussing the issues and sharing experience in the spirit of the Chatham House Rule.²⁴³

Format of the workshop

In introducing the workshop, the facilitator Neville Ash (Director of UNEP-WCMC) asked participants for their active participation, encouraging them both to draw on their experiences and to be as innovative as possible, to bring new ideas to the table, and to work to bridge the two communities. In welcoming participants, Tita Korvenoja on behalf of UNEP and Marjaana Kokkonen on behalf of the Nordic Council of Ministers both drew attention to the challenges and opportunities which made this project particularly timely.

On the first day work began with a panel discussion, where five people with very different backgrounds and experiences had been asked in advance to share their perspectives. On the second day work began with Nalini Sharma from the SAICM Secretariat inviting participants to share practical examples from cross-cluster cooperation in a number of countries. For the rest of the first two days participants were in breakout groups discussing options for action under a total of seven different headings, and then reporting back on those discussions.

At the end of the first two days a two page 'synthesis' was prepared, drawing not

243. See www.chathamhouse.org/about-us/chatham-house-rule

only on the breakout group discussions but also on the welcoming remarks, panel discussions and sharing of national experience. This drew not only on what was being said, but also on what was being shared in the 'chat'. The synthesis, which was shared with all participants and introduced on the final day, provided focus for further discussion amongst participants and contribution through the 'chat'. This was followed by consideration of next steps, where inter alia the facilitator encouraged participants to identify what steps they would personally take in the coming weeks.

Format of the workshop report

At the time of the workshop, the study report on *"Strengthening collaboration and coordination between biodiversity and chemicals and waste clusters"* commissioned by the Nordic Council of Ministers was still out for review, and workshop discussions could therefore contribute directly to its completion. It was therefore decided by the project steering committee that there was no need for a separate substantive meeting report to be released, and instead this summary report has been prepared for inclusion as an annex to the full study report. All inputs to the workshop, both in plenary and in breakout groups, were considered in finalizing the study report.

Summary of discussions

a) Context

There was broad agreement that MEAs and SAICM play a significant role in triggering national action to address international concerns which include common drivers of change. However, in both the biodiversity and chemicals and waste clusters goals and targets are not being met, and further effort is needed. This is evident from the ongoing negotiations relating to the post-2020 global biodiversity framework and the intersessional process on the Strategic Approach and sound management of chemicals beyond 2020.

Increased coherence in implementation across the biodiversity and chemicals and waste clusters would be valuable in a range of ways. These include, for example, building a greater understanding of the mutual dependencies between the two clusters, and working together to meet the broader objectives of the 2030 Agenda for Sustainable Development and the SDGs.

With respect to strengthening collaboration and coordination between the biodiversity and chemicals and waste clusters, key characteristics of the current situation include the following.

- i. Efforts to deliver the 2030 Agenda for Sustainable Development and the SDGs illustrate the importance and urgency of an integrated approach. Related to this is recognition that failure to fully recognise mutual dependencies is one of the reasons leading to not achieving globally adopted targets. Issues are complex, and often multiple stressors are ignored or overlooked. There is therefore an increased appreciation of the need for interdisciplinary collaboration.

- ii. At both national and international levels, collaboration and coordination within clusters is generally under way but this is rather less the case between clusters. Meanwhile, the existence of a significant number of MEAs is a challenge both in terms of coordinating implementation at the national level and coherent communication on the objectives of the MEAs to those not directly involved in their implementation.
- iii. There is a clear 'hierarchy of visibility' of environmental issues, with climate change getting the highest attention both politically and in the media, followed by biodiversity loss, and then pollution in general (rather than specifically on chemicals and waste). This may make it more difficult to effectively communicate on the nexus areas of the biodiversity and chemicals and waste issues to the public.
- iv. There are multiple 'entry points' for seeking to make changes towards a more integrated approach, including with respect to different actors, different MEAs and processes, and different topics. However, some issues are likely to be more straightforward to coordinate across MEAs and across clusters (for example with respect to communication and public awareness), while other issues may be less easy to coordinate.
- v. Increased knowledge and understanding are needed on the nexus areas of biodiversity and chemicals and waste, so that countries can effectively address the interlinkages in practice. Those 'pushing' knowledge tend to be researchers and scientists, and there is a need to accelerate progress from knowledge to practice.

b) Characteristics of a successful approach

It was suggested that a successful approach to strengthening collaboration and coordination across clusters would be likely to have the following characteristics:

- i. Clear benefits: strengthens implementation and increases coherence, efficiency and cost-effectiveness of both actions and processes, and reduces redundancies.
- ii. Party-led: led by those responsible for implementation at the national level (Parties/Member States), with appropriate international support including in bringing people together and facilitating the sharing of experience.
- iii. Effectively focused: identifies mutual dependencies, common issues and targets in order to focus action more effectively.
- iv. Achievable steps: breaks down into manageable actions, using pragmatic approaches for addressing clearly identified needs.
- v. Respectful of mandates: It respects the legal autonomy of the different instruments, while recognizing that issues have evolved since each of the MEAs was negotiated and this should not prevent action to bring about change where is needed.
- vi. Avoiding controversy: avoids politically charged discussions, focusing instead on practical solutions which are mutually acceptable.

c) Key issues and opportunities

A number of key issues and opportunities came up several times in both plenary and breakout group discussions, and to the extent possible these were captured in the synthesis prepared following the first two days of discussions. The following observations draw on both the synthesis and the associated discussion on the final day of the workshop.

- i. Options for action: There are many options for action, but this is not surprising. Some countries have processes in place to build on, and experiences to share, whereas others do not. The options for action set out in the draft study report and discussed in the workshop will be responded to differently by different countries, depending on what they already have in place.
- ii. 2030 Agenda: Leveraging the 2030 Agenda for Sustainable Development and the SDGs to catalyse cooperative action, increase funding, and facilitate cross-cluster cooperation and collaboration, seems an obvious step to take given its cross-sectoral approach and international recognition. This could include embedding both biodiversity and chemicals and waste considerations in the development of national Sustainable Development Cooperation Frameworks.
- iii. Communications: Increasing collaboration and coordination with respect to communication and public awareness is likely to be an 'easy win', with shared and consistent messaging reaching a larger audience and ultimately having more impact. This could be particularly important in raising political visibility.
- iv. Post-2020 and beyond 2020: The ongoing processes to develop the post-2020 global biodiversity framework and the beyond 2020 framework on sound management of chemicals and waste provides an important impetus to active engagement between the clusters and discussion at the national level in advance of negotiations would be valuable.
- v. Ensuring focus: Working together is generally seen as a 'good thing', but there needs to be clear focus and added value. For example, identifying one or more major areas of focus which are relevant to both clusters, such as human health or pollinators, can provide valuable orientation for both communication and action at all levels. It is also important to think about both long-term targets and the practical steps that may be necessary to achieve them.
- vi. Identifying opportunities: Exploring opportunities for aligning targets, indicators, national planning, monitoring and reporting more effectively within and between clusters is of potential value for identifying areas where mutual support and promotion of complementarities could be effective. Also identifying common issues which could benefit from a common approach.
- vii. Building on existing initiatives: There is value in building biodiversity and ecosystem services more effectively into existing and future chemicals and waste institutions, projects, initiatives and guidance, and vice versa. Building on what already exists can be more effective than creating something new.
- viii. Capacity needs: In identifying capacity needs, future technical assistance and capacity needs assessments need to also consider the situation across clusters. The aim should be to understand where capacity needs are overlapping and where advantage can be taken of collaboration and coordination.
- ix. Resources and cost-effectiveness: While strengthening cooperation and coordination is valuable, successful implementation needs both technical and financial resources. However, it is important to also focus on what is gained through increased efficiency and cost-effectiveness, including both the benefits and co-benefits.

- x. Science-policy interface: Effective use of data, information and knowledge is key. It is essential to engage the scientific community to develop the knowledge base (including producing any necessary metrics and indicators) and build a science-policy interface that effectively informs both decision and action at all appropriate levels.
- xi. Limitations: Key limitations include differences in language and terminology between the two clusters, and this is relevant both to strengthening collaboration and coordination and to communication. Good common understanding and meaningful communication is essential.

While much of the focus of discussion was on options for action at the national level, the value of supporting action at the international level, including through the use of intergovernmental fora, was well recognised. Some of the supporting activities most frequently mentioned during discussion included the following.

- i. Role of secretariats: MEA/SAICM secretariats and UNEP have a role to play in identifying opportunities and potential modalities for cooperation, as does the GEF. This includes facilitating the sharing of experience among countries. For example, attention was drawn to the pivotal role played by the CMS Secretariat in supporting the engagement of CMS Parties in development of the post-2020 global biodiversity framework, providing briefing to the national focal points to help them in considering issues and discussing them within the CBD counterparts at national level.
- ii. One body supporting another: Collaboration can be fostered through the support provided by the governing body of one MEA to the work of other MEAs and intergovernmental initiatives. An example is the mandate given to the CMS Secretariat in COP decisions 13.7 and 13.8²⁴⁴ to coordinate and provide CMS Party support to development of the post-2020 global biodiversity framework. This needs to be championed by Parties.
- iii. Shared governing body decisions: There is possibility for developing shared decisions across MEA governing bodies concerning issues of common interest, as already happens in the BRS COPs. This can be a very powerful approach if encouragement for action comes through governing body decisions of both clusters. This needs to be championed by Parties.
- iv. Joint meetings: Joint meetings, including joint meetings of COPs, subsidiary bodies, expert bodies, regional groups, etc can provide opportunities to discuss topics of common interest, priorities, and points of convergence. These can be formal or informal in nature, and vary in the extent to which stakeholders are engaged.
- v. Post-2020 and beyond 2020: The importance of building links through the ongoing post-2020 and beyond 2020 negotiation processes, and subsequently aligning implementation, was recognised. There may be further opportunities for supporting Parties/Governments and stakeholders in their engagement in order to seek opportunities for increased alignment.
- vi. Promoting nexus issues: There is an important role to be played in increasing international focus on nexus issues, and in improving understanding of the ways in which key issues and key sectors are related, thereby raising political awareness on the interlinkages. This also relates to action to achieve the SDGs. Increased understanding and support for a 'nexus approach' provides essential

244. CMS COP Decisions 13.7 to 13.8 on migratory species in the post-2020 global biodiversity framework (www.cms.int/en/page/decisions-137-138-migratory-species-post-2020-global-biodiversity-framework)

support to working across clusters.

- vii. United Nations Environment Assembly: There is potential for utilizing UNEA as the convening universal body to facilitate cooperation between the biodiversity and chemicals and waste clusters. In this context, UNEP has a mandate to take forward support for building cooperation across MEAs with respect to implementation.
- viii. Regional support: Regional collaboration provides a 'safe space' for discussion and coordinated action as a result of similar challenges and shared environment. Examples provided during the workshop included the focus and work of the Regional Seas Conventions and programmes, and the regional centres under the Basel and Stockholm conventions.
- ix. Inter-ministerial fora on health and biodiversity: There is potential to mobilise the scientific and normative capacities of both the environment and health sectors through use of the existing regional inter-ministerial fora on health and the environment, focusing on issues of common interest.

d) Practical examples

The following practical examples of efforts to strengthen collaboration and coordination across the clusters were contributed by one or more participants, or were referred to in discussions.

- Regular meetings of all national focal points, formally at agreed times during the year, and informally through day-to-day activities.
- National committees or similar bringing together national focal points and key stakeholders on a period basis to address issues of common interest.
- Inter-ministerial bodies for information exchange and considering intersectoral cooperation, including with respect to the implementing the 2030 Agenda for Sustainable Development.
- Coordination of all MEAs from a single office or ministry as a means for helping to ensure consistency in international relations and consistency in implementation.
- Communities of practice and other platforms to share knowledge and experience so as to increase good practice.
- Use of tools such as DaRT²⁴⁵ to facilitate national reporting to multiple conventions and processes.
- Multi-stakeholder platforms and partnerships which bring together stakeholders with different knowledge, experience and mandates as a basis for mutual learning and action.
- Secretariats keeping each other informed, and informing their parties, so as to encourage increased cooperation and collaboration where it is needed.

245. See <https://dart.informea.org/>

Next steps

It was recognised that both the workshop discussions and the study report provided good 'food for thought', and a range of useful 'options for action' had been identified. Release of the study report later in the year, its communication to interested individuals, and active follow up would lead to further consideration of what should be done next, and text on this will be included in the study report.

Meanwhile, specific examples of follow up actions identified by meeting participants included:

- Briefings for national teams working on aspects of implementation, including national focal points.
- Communication of the study report and workshop findings to MEA and SAICM secretariats.
- Communication of outcome to those leading the post-2020 and beyond 2020 processes.
- Notification from all participating secretariats, communicating the outcome and encouraging dialogue.
- Communication at upcoming COPs through information documents, reports, interventions, side events.
- Discussion during sessions on cooperation at MEA governing and subsidiary body meetings.
- Briefings for incoming teams preparing for Presidency of the Council of the European Union.
- Communication through coordination groups, including UNEP administered conventions, BLG, JLG, etc.²⁴⁶
- Briefings for regional centres under the Basel and Stockholm conventions.
- Raise the profile of cross-cluster collaboration through UNEA, including through Leadership dialogues.
- Communication of relevant elements into GEF-8 discussions.
- Consideration of workshop discussions during review of NBSAPs.
- Increase messaging on interdependencies.

In addition, it was noted that a draft decision would be prepared for the next BRS COPs which included invitation to Parties to take the post-2020 global biodiversity framework into account when implementing the BRS Conventions, and also to give consideration to areas where the BRS Conventions could work more closely with the biodiversity cluster. Extension of this sort of approach to other MEAs and intergovernmental processes would be valuable with respect to both the post-2020 global biodiversity framework and the beyond 2020 framework on sound management of chemicals and waste.

Attention was drawn to the active engagement of both parties and secretariats of a range of MEAs at the Second Consultation Workshop of Biodiversity Related Conventions on the Post-2020 Global Biodiversity Framework (Bern II).²⁴⁷ There may be value in considering how the work done in the current workshop can also build on the recommendations of this earlier workshop.

246. BLG and JLG are both MEA secretariat liaison mechanisms, the Liaison Group of Biodiversity-Related Conventions, and the Joint Liaison Group between the three Rio Conventions respectively

247. CBD/SBI/3/INF/29 Report of the second consultation workshop on biodiversity-related conventions on the post-2020 global biodiversity framework (Bern II) (www.cbd.int/doc/c/39f2/7257/df0b4d2bdd7e383051e58f0/sbi-03-inf-29-en.pdf)

Finally, it was recognised that for many issues it may be appropriate to address within the biodiversity or chemicals and waste cluster themselves. Strengthening collaboration and coordination across the clusters needs to be based on clearly identified needs, whether to bring about an improvement or address a problem, in order to build interest and encourage engagement. It is therefore important to identify opportunities or topics that are of mutual interest as a stimulus for follow up, and to communicate why collaboration and coordination is important.

Acknowledgements

Organization of the workshop was led by Tita Korvenoja of UNEP, with the support of Joyce Jelagat and Njoki Kibe, also of UNEP. The workshop was facilitated by Neville Ash of UNEP-WCMC and the two-page synthesis and the workshop report were prepared by Jerry Harrison, also of UNEP-WCMC. The project steering committee comprises Marjaana Kokkonen (project manager) and Laura Niskanen from the Ministry of Environment in Finland, Lone Schou and Mona Westergaard from the Ministry the Environment in Denmark, Lajla Tunaal White from the Ministry of Climate and Environment in Norway, and Sofia Tingstorp from the Ministry of Environment in Sweden.

Breakout group sessions were facilitated by Laura Niskanen and Tuulia Toikka from the Ministry of Environment in Finland, Sofia Tingstorp from the Ministry of Environment in Sweden, Nalini Sharma from the SAICM Secretariat, and Haddy Guisse and Diane Klaimi from UNEP. Notes were taken by Joyce Jelagat and Hyun Sung from UNEP, Caridad Canales from the CBD Secretariat, and Daniela Guarás from UNEP-WCMC. The panellists were Maria Ivanova from the Center for Governance and Sustainability at the University of Massachusetts, Boston, Norbert Baerlocher from the Federal Office for the Environment in Switzerland, Patrick Umuhoza from the Rwanda Environment Management Authority, Kerstin Stendahl from the UNEP Regional Seas Programme, and Maria Cristina Cardenas-Fischer from the Secretariat of the BRS Conventions. Nalini Sharma from the SAICM Secretariat facilitated discussion on national examples.

Annex 2, Appendix a: Workshop programme

Times are indicative, and in in East African Time (UTC+3)

Thursday 23 September	
	Introduction to the workshop by moderator, Neville Ash , UNEP-WCMC
	Opening remarks by co-organizers
14:00–14:20	• Welcoming remarks, Tita Korvenoja, Law Division, UNEP • Project Background, Marjaana Kokkonen, Ministry of Environment Finland • Brief introduction to the study report, Jerry Harrison, UNEP-WCMC
	Panel discussion: An understanding of the interlinkages between biodiversity and chemicals and waste. Practical action and experiences from the two clusters.
	Speakers/panelists:
14:20–15:20	• Maria Ivanova, Center for Governance and Sustainability at the University of Massachusetts, Boston • Norbert Baerlocher, Federal Office for the Environment (FOEN), Switzerland • Patrick Umuhoza, Rwanda Environment Management Authority (REMA) • Kerstin Stendahl, UNEP, Regional Seas Programme • Maria Cristina Cardenas-Fischer, Secretariat of the Basel, Rotterdam and Stockholm (BRS) Conventions
15:20–15:30	Break while moving to the breakout groups
	Discussion in smaller groups on "options for action": These discussions will draw on the study report and in particular annex 3, but these inputs should provide 'food for thought' for discussion rather than restrict it.
	Breakout groups:
15:30–16:35	• a) Strengthening institutional and focal points structures to enhance national implementation (focusing on options 1-3 in paragraph 80 of the draft study report, and the related part of annex 3) • b) Strengthening national planning and mainstreaming including links to 2030 Agenda (focusing on options 4–6 in paragraph 81 of the draft study report, and the related part of annex 3) • c) Coordination of cross-cluster collaborative activities and projects in the key areas and resource mobilization (focusing on options 7–8 in paragraph 82 and option 16 in paragraph 84 of the draft study report, and the related parts of annex 3)
16:35–17:00	Reports back from breakout groups

Friday 24 September	
14:00–14:10	Recap and introduction to the day's work
14:10–14:40	Reflections on the pre-recorded presentations/country submissions on synergies across biodiversity and chemicals clusters, facilitated by Nalini Sharma of the SAICM Secretariat
	Discussion in smaller groups on “options for action”: These discussions will draw on the study report and in particular annex 3, but these inputs should provide ‘food for thought’ for discussion rather than restrict it.
	Breakout groups:
	• Communication, awareness raising, and education (focusing on option 10 in paragraph 82 of the draft study report, and the related part of annex 3)
14:40–16:10	• Building the knowledge base, scientific cooperation, and science-policy interface (focusing on options 11–13 in paragraph 83 of the draft study report, and the related part of annex 3) • Monitoring, reporting and indicator work (focusing on option 9 in paragraph 82 of the draft study report, and the related part of annex 3) • Advancing key international initiatives providing opportunities for cooperation and collaboration across biodiversity and chemicals and waste clusters (focusing on options 14–15 and 17–19 in paragraph 84 of the draft study report, and the related part of annex 3)
16:10–16:20	Break while moving to the plenary
16:20–17:00	Reports back from breakout groups

Between days 2 and 3 a brief synthesis of the discussions, also drawing on the material available in the draft study report will be prepared. This will inform discussion on the final day. It would be helpful if participants made available some time ahead of the final session to read the synthesis.

Monday 27 September	
14:00–14:10	Recap and introduction to the day's work
14:10–14:30	Synthesis of discussions on options for recommendations Jerry Harrison, UNEP-WCMC
14:30–15:20	Plenary discussion on the synthesis
15:20–15:30	Break
15:30–16:35	Plenary discussion on next steps
	Summary observations
16:35–17:00	Closing remarks from Tita Korvenoja , Law Division, UNEP, and Marjaana Kokkonen , Ministry of Environment Finland, and the Nordic Steering Committee on behalf of the Nordic Council of Ministers

Annex 2, Appendix b: Workshop participants

National experts and focal points			
Name	Affiliation	Country	Cluster
Carolina Rotolo	Ministry of Foreign Affairs, Directorate of Environmental Affairs	Argentina	Chemicals/waste
Narelle Montgomery	Department of the Environment, Water, Heritage and the Arts	Australia	Biodiversity
Mr Hamadjoda	Ministry of Environment, Protection of Nature and Sustainable Development	Cameroon	Chemicals/waste
Stanislaus Lebaga Killa Gwankobe	Ministry of Environment, Protection of Nature and Sustainable Development	Cameroon	Both
Ziekine Angele Wadou	Ministry of Environment, Protection of Nature and Sustainable Development	Cameroon	Biodiversity
Greg Filyk	Environment and Climate Change Canada	Canada	Both
Zhang Caili	Foreign Environmental Cooperation Center, Ministry of Ecology and Environment	China	Chemicals/waste
Jing Zhao	Solid Waste and Chemicals Management Center, Ministry of Environment and Ecology	China	Chemicals/waste
Yueqing Zhang	Nanjing Institute of Environmental Sciences, Ministry of Environment and Ecology	China	Chemicals/waste
Zhenhua Zhang	Nanjing Institute of Environmental Science, Ministry of Ecology and Environment	China	Biodiversity
María Solano Trejos	Ministry of Environment and Energy	Costa Rica	Chemicals/waste
Kateřina Šebková	Research Centre for Toxic Compounds in the Environment, and Stockholm Convention Regional Centre	Czech Republic	Chemicals/waste
Lukas Pokorný	Research Centre for Toxic Compounds in the Environment, Masaryk University	Czech Republic	Chemicals/waste

Marina von Weissenberg	Ministry of the Environment	Finland	Biodiversity
Tuulia Toikka	Ministry of the Environment	Finland	Chemicals/waste
Teona Karchava	Ministry of Environment and Natural Resources Protection	Georgia	Biodiversity
Lucy Wambui Nganga	Ministry of Environment and Forestry	Kenya	Biodiversity
Zona Zaidi	Ministry of Climate Change	Pakistan	Biodiversity
Alexander Romanov	Scientific Research Institute for Atmospheric Air Protection	Russia	Chemicals/waste
Patrick Umuhoza	Rwanda Environment Management Authority	Rwanda	Both
Nopasika Malta Qwathekana	Department of Environmental Affairs and Tourism	South Africa	Biodiversity
Brenda Maphanga	Department of Forestry, Fisheries and the Environment	South Africa	Chemicals/waste
Norbert Bärlocher	Federal Office for the Environment (FOEN)	Switzerland	Biodiversity
Ellie Bates	Department for Environment, Food and Rural Affairs	UK	Chemicals/waste
Joseph Moss	Department of Environment, Food and Rural Affairs	UK	Chemicals/waste
Judith Torres	National Environmental Directorate, Office of International Environmental Affairs	Uruguay	Chemicals/waste
Project Steering Committee			
Marjaana Kokkonen	Ministry of the Environment	Finland	Biodiversity
Laura Niskanen	Ministry of the Environment	Finland	Chemicals/waste
Mona Mejsen Westergaard	Ministry of Environment	Denmark	Chemicals/waste
Lone Schou	Ministry of Environment	Denmark	Chemicals/waste
Sofia Tingstorp	Ministry of the Environment	Sweden	Chemicals/waste

Panellists		
Maria Ivanova	Associate Professor of Global Governance, Director of the Center for Governance and Sustainability	University of Massachusetts Boston
Norbert Bärlocher	Head Rio Conventions (Climate Change, Biodiversity)	Federal Office for the Environment, Switzerland
Patrick Umuhoza	International Environmental Agreements Officer	Rwanda Environment Management Authority
Kerstin Stendahl	Chief, Ecosystems Integration Branch, Ecosystem Division	UNEP
Maria Cristina Cardenas-Fischer	Senior Policy and Strategy Advisor	BRS Secretariat

Secretariats	
Maria Cristina Cardenas-Fischer, Marylene Beau	BRS Secretariat
Neil Pratt, Chantal Robichaud, Laetitia Sieffert, Caridad Canales	CBD Secretariat
Umberto Gallo-Orsi	CMS Secretariat
Nina Arden	EMG Secretariat
Nalini Sharma, Delfina Cuglievan	SAICM Secretariat
Mechtild Rossler, Susanna Kari	UNESCO World Heritage Centre

UNEP	
Tita Korvenoja, Diane Klaimi, Haddy Guisse, Hyun Sung, Joyce Jelagat, Njoki Kibe, Paxon Maina	Law Division
Pierre Quiblier, Sandra Averous-Monnery, Malgorzata Alicja Stylo	Economy Division
Neville Ash, Jerry Harrison, Daniela Guarás	UNEP-WCMC

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