



Co-operation for the Convention on Biological Diversity

**Report on knowledge needs in relation to the CBD
prioritised by negotiators including possible emer-
gent issues and knowledge gaps**

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Preface

Biodiversity is life on earth and humans are an integral part of biodiversity. Biodiversity also constitutes a global natural asset of tremendous value to present and future generations. Yet, the ongoing global change leads to unprecedented biodiversity loss, from genetic variation to the diversity and place-bound integrity of ecosystems. Involving almost 200 countries, the Convention on Biological Diversity (CBD) stands as the main international legal instrument for the conservation and sustainable use of biodiversity, including equitable sharing of the benefits from genetic resources. CBD is one of the three Rio Conventions (in addition to United Nations Framework Convention on Climate Change UNFCCC and United Nations Convention on Combating Desertification UNCCD) which were adopted during the UNCED 1992, also known as the Rio Earth Summit. The decisions of the CBD are negotiated during the Conferences of the Parties (COPs). In 2022, at CBD COP15 Parties adopted the Kunming Montreal Global Biodiversity Framework (GBF) with tangible goals and targets. To ensure that relevant and scientifically accurate information is available for making decisions during the COP, the CBD has established knowledge support processes. These include (1) open-ended working groups (OEWGs), (2) ad hoc technical expert groups (AHTEGs), (3) informal advisory groups (IAGs), and (4) informal advisory committees (IACs). In addition, there are permanent subsidiary bodies to the CBD: (5) the SBSTTA (Subsidiary Body on Scientific, Technical and Technological Advice) and (6) the SBI (Subsidiary Body on Implementation). Depending on their mandate, these groups support the work of CBD with technical expertise by addressing specific issues during the intersessional periods between the biennial COPs.

The project Co-operation for the Convention on Biological Diversity (CO-OP4CBD) is dedicated to strengthening the engagement of experts in the Convention on Biological Diversity (CBD) process. Our mission is to enhance coordination within the EU to advance the implementation of the CBD and related international agreements by leveraging expertise from scientists and practitioners from the EU, its Member States and Associated countries, including National Focal Points (NFPs) and members of other EU-funded projects and initiatives. The Kunming-Montreal Global Biodiversity Framework (GBF), adopted by Parties to the CBD, provides a roadmap for global action on biodiversity, and our project aims to ensure that the EU plays a pivotal role in its realisation.

CO-OP4CBD supports the implementation of the GBF by improving the proficiency of decision-makers and experts participating in CBD processes. Providing a space to exchange and enhance technical knowledge, including on tools that can be considered in implementing the GBF, is core to the mission of CO-OP4CBD. Work package 1 (WP1: Mapping the landscape of expertise for technical and scientific cooperation) of the project informs this work through three interlinked objectives. Firstly, WP1 identifies and maps the knowledge needs within the CBD and, based on the input from negotiators to the CBD, detects priorities within these needs. Secondly, WP1 identifies and maps knowledge holders, institutions, networks, and platforms relevant for the CBD agenda. Thirdly, WP1 creates a mechanism for easily identifying who can contribute to CBD processes now and in the future to achieve the aims of knowledge support for CBD. The current deliverable reports work of CO-OP4CBD Task 1.1 regarding the first objective (identifying and prioritising issues with CBD negotiators), with input towards achieving the second (identifying and mapping relevant knowledge sources), and the third objective (enabling future contributions for knowledge support in relation to CBD agenda).

Taking place over two rounds of interactions with the CBD negotiators and NFPs, the knowledge needs and priorities identified by Task 1.1 are meant to be clarified and concretised by the other work packages of the project. This report summarises the results of both rounds of information collection; the first round took place in Spring–Summer 2023 (at the beginning of the CO-OP4CBD project) and the second round in Winter 2024 (within the second quarter of the project). With the early-on dialogue and engagement with negotiators, the project aims for a higher ownership and uptake of the knowledge and expertise provided in CO-OP4CBD.

Based on the two rounds of interactions with the NFPs and negotiators, Deliverable 1.1 presents an extended list of issues relevant to the CBD agenda covered by subsidiary bodies and working groups and identifies the main priorities for expert support among EU and its Member States' and Associated countries' negotiators. The presented results further contribute to identifying new and emerging issues that are relevant for the CBD, as well as policy issues and knowledge gaps that may hinder progress within the CBD meetings or implementation of the CBD. The preferred formats to provide expert support to delegations in the preparation and run of CBD meetings are identified.

Highlights

- Knowledge gaps, knowledge processing needs, knowledge dissemination needs, and needs for improved implementation were identified by European CBD negotiators and NFPs during the intersessional period between COP 15 and COP 16.
 - A key issue is unavailability of information for reporting under the Monitoring Framework for the GBF.
 - Needs for new interdisciplinary research were detected in relation to Biodiversity and Health, Biodiversity and Climate Change.
 - Up-to-date scientific syntheses would benefit all CBD agenda items and Digital Sequence Information and Synthetic Biology in particular.
 - The preferred format of acquiring the information is a brief, scientifically accurate written document with direct connection to the CBD agenda items.
 - National experts provide important knowledge support for the CBD negotiators and NFPs. Direct contact with them is also valued in situations with limited time frames.
 - Guidance is needed for managing the national processes and networks in implementing the COP decisions. Often national collaboration is restricted by rigid sectoral administration, which challenges the implementation of the CBD.
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Summary

Negotiators and the National Focal Points to the CBD have knowledge needs that are not covered by the knowledge support provided by the CBD-based working groups (for example, the AHTEGs) and subsidiary bodies (such as the SBSTTA). The current deliverable presents an extended list of issues relevant to the COP 15 and COP 16 agendas that require expert support, as identified by NFPs, CBD delegates, and European Commission representatives across the European and the Associated Countries' region. Knowledge needs were mapped through online workshops and surveys that were organised in March–April 2023 and February–March 2024, covering most of the intersessional period between COP 15 (December 2022) and COP 16 (October 2024).

Participating CBD negotiators and NFPs identified scientific knowledge gaps within multiple fields of research, recognised data deficiencies, needs for better communication and dissemination of knowledge, as well as needs to facilitate and standardise use of knowledge, information, and data within the CBD processes. The analysis highlighted the Monitoring Framework for the GBF adopted at COP15 as being the item that raised most concerns and knowledge needs. The participants asked for more detailed descriptions of the indicators of the Monitoring Framework and emphasised the needs for continued knowledge support in relation to the overall Planning, Monitoring, Reporting, and Review mechanisms, the GBF targets, and mainstreaming of the CBD. Many of the issues dealt with unavailability of data for monitoring and reporting or lack of clarity in how to manage the national processes and networks in implementing the COP decisions. Gaps in scientific knowledge were detected in relation to Digital Sequence Information and Synthetic Biology. Biodiversity and Health was highlighted as requiring broader cross-sectoral perspective to be understood in full. Wide-scale system level knowledge is also needed to better address Biodiversity and Climate Change and issues related to Marine and Coastal Biodiversity.

The CBD negotiators and the NFPs provided clear preferences on the formats in which they receive information. CBD background information documents and short policy/technical briefs were seen as highly useful. Brevity, scientific accuracy of the documents, and a direct connection of the content to the CBD agenda items were valued. The option to speak to and consult experts – preferably national experts – was highlighted as a particularly valuable resource during the COP and useful in preparation for the COPs.

Finally, the collected information shed light on the capacity needs of the NFPs and the CBD negotiators. A lack of in-depth understanding of the CBD procedures was seen as a major obstacle in one's ability to effectively negotiate. A need for training on the CBD process and mechanisms also covered the scientific experts; oftentimes scientists are delivering the information too late, as the national positions need to be formed well in advance of the COP. Furthermore, the CBD negotiators and NFPs described situations in which a rigid sectoral administration restricts national collaboration, monitoring and reporting efforts. Capacity to break down organisational silos is therefore key to improve implementation of the CBD.

List of abbreviations

AHTEG	Ad Hoc Technical Expert Group
CBD	Convention on Biological Diversity
CEE	Central and Eastern Europe
COP	Conference of the Parties
DSI	Digital Sequence Information on genetic resources
EC	European Commission
EU	European Union
FRB	French Foundation for Research on Biodiversity
GBF	Global Biodiversity Framework
HUN-REN CER	HUN-REN Centre for Ecological Research
IAC	Informal Advisory Committee
IAG	Informal Advisory Group
IAS	Invasive Alien Species
INF-doc	Information document
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
NFP	National Focal Point
NINA	Norwegian Institute for Nature Research
RBINS	Royal Belgian Institute for Natural Sciences
SBI	Subsidiary Body on Implementation
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice
Syke	Finnish Environment Institute
UN	United Nations
UNEP	United Nations Environment Programme
UNEP-WCMC	United Nations Environment Programme World Conservation Monitoring Centre

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1 Introduction

1.1 Convention on Biological Diversity

As defined in the Convention, the term biodiversity, or biological diversity, is meant to include the variability among living organisms from all sources, referring to the diversity within species, between species and of ecosystems. Nowadays it is widely recognised that biodiversity is vital for the processes that support life on Earth, including humans and their economic and social development, as well as physical and mental well-being, and constitutes as such a global asset of tremendous value to present and future generations. Biodiversity loss and ecosystem collapse was considered the 3rd most important global risk ranked by severity over the next 10-year term (World Economic Forum 2024). To mitigate this risk and reverse the trend, safeguarding biodiversity, halting and reversing biodiversity loss has been acknowledged as an important component of international goals.

The origins of the Convention on Biological Diversity (CBD) take us back to the United Nations (UN) Conference on the Human Environment that took place in 1972 in Stockholm. The United Nations Environment Programme (UNEP) was established following the conference. In November 1988, UNEP convened an Ad Hoc Working Group of Experts on Biological Diversity to explore the need for an international legal instrument for the conservation and sustainable use of biological diversity. The work of this group was finalised on 22 May 1992 in Nairobi. The Convention on Biological Diversity was adopted. During the United Nations Conference on Environment and Development (together with the two other 'Rio Conventions' at the Rio Earth Summit) in June 1992, the CBD was opened for signature.

From its very beginning, the CBD has had three objectives: the conservation of biological diversity, the sustainable use of the components of biological diversity and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources. The aim of the CBD is to acknowledge the contribution of traditional knowledge to sustainable development and integrate the different knowledge sources in the CBD work. To ensure the inclusion of Indigenous Peoples and local communities in the CBD, the Working Group on the Implementation of Article 8(j) and Related Provisions was established by COP Decision IV/9 in 1998.

Today, the CBD is ratified by 195 countries and the EU, and stands as the main international/global legal instrument for the conservation and sustainable use of biodiversity. The supreme governing body for the CBD is the Conference of Parties (COP) that takes place biennially. All decisions of the CBD are made during the COPs, making these gatherings – and the negotiations taking place during them – of the utmost importance in advancing biodiversity conservation and sustainable use of natural resources.

In the decades following the adoption of the CBD and its coming into force in December 1993, the CBD was supplemented by two additional international agreements. The Cartagena Protocol on Biosafety to the Convention on Biological Diversity was adopted in January 2000 to provide an agreement on governing the movements of living modified organisms. Another supplementary agreement, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation to the Convention on Biological Diversity, was adopted in October 2010. The Nagoya Protocol provides a transparent legal framework for the effective implementation of the fair and equitable sharing of benefits arising out of the utilisation of genetic resources. In 2010, the CBD also adopted its Strategic Plan for Biodiversity 2011–2020 with its 20 Aichi Biodiversity Targets. Unfortunately, none of the targets were met in full.

In December 2022, at COP 15, Parties adopted the Kunming-Montreal Global Biodiversity Framework (GBF), as the follow up to the Strategic Plan and its Aichi targets. The GBF is to be fully implemented by 2030 to pave the way towards the 2050 goal of living together in

harmony with nature. The GBF has four goals¹ to be achieved by 2050 and 23 targets (<https://www.cbd.int/gbf/targets>) to be achieved by 2030.

The work of the COP is assisted by the Subsidiary Body on Scientific, Technical, and Technological Advice, (SBSTTA), and the Subsidiary Body on Implementation (SBI). The COP also establishes further subsidiary bodies in the form of Ad Hoc Open-ended Working Groups, responsible for dealing with specific issues as they emerge. These are characterised as “ad hoc” because they are established for a limited and specific mandate and period and are generally open for participation by all Parties as well as observers. For example, the Open-ended Working Group on the Post-2020 Global Biodiversity Framework had a mandate to advance preparations for the development of the post-2020 global biodiversity framework.

Additionally, Ad Hoc Technical Expert Groups (AHTEGs), Advisory Committees, Informal Advisory Committees (IACs), and Informal Advisory Groups (IAGs) are constituted based on nominations received by the CBD Secretariat from Parties. These groups are established based on COP decisions and their composition takes into account not only appropriate expertise but also regional participation to ensure balanced representation of all five UN regional groups. Their mandate is always aligned with CBD topics in discussion. These groups provide science-based technical information for the CBD process. While the Working Groups activity is based on a programme of work spanning for several years, the AHTEGs, IACs, and IAGs address specific issues identified by Parties, usually during shorter time periods. For example, to operationalise the Monitoring Framework for the Kunming-Montreal GBF, the COP 15 decided to establish an Ad Hoc Technical Expert Group (AHTEG) on Indicators. The AHTEG is composed of 45 experts, 30 nominated by Parties and 15 by Observers. The AHTEG has been established for the period leading up to COP 16.

The Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) was established by Article 25 of the CBD as an open-ended intergovernmental scientific advisory body to provide the COP and, as appropriate, its other subsidiary bodies, with timely advice relating to the implementation of the CBD on a continual basis. As a subsidiary body of the COP, SBSTTA is to report regularly to the COP on all aspects of its work. SBSTTA meets on a yearly basis, twice between each ordinary session of the COP. The first SBSTTA meeting took place in 1995, and in 2024, the 26th SBSTTA was organised in May.

SBSTTA is attended by Parties, observers, NGOs, and stakeholders to the CBD, but it is mostly composed of government representatives competent in the relevant field of expertise. SBSTTA produces recommendations, which are then considered for adoption by the COP. The text in the SBSTTA recommendations is not always endorsed in full by the COP. The SBSTTA recommendations are scrutinised during the political negotiations, and, ultimately, the final text of the decision (should it be adopted at COP) takes form.

The other subsidiary body to the CBD is the Subsidiary Body on Implementation (SBI), which was established by the decision XII/26 of COP 12 to replace the Ad Hoc Open-ended Working Group on Review of Implementation of the Convention. The SBI reviews progress on the implementation of the CBD and assists the COP in preparing decisions on enhancing the implementation of the CBD, as appropriate. While the first meeting of the SBI took place in 2016, the frequency of the SBI meetings has been irregular, having taken place once in 2018 and 2022 and twice in 2024.

¹Goal A: Increasing the integrity and resilience of ecosystems, species, and genetic diversity; Goal B: Sustainable use and management of Biodiversity; Goal C: Utilisation of genetic resources and digital sequence information; and Goal D: Adequate means of implementation (incl. financial resources and capacity-building)

The turn of the 20th century into the 21st century brought about a realisation that there was not enough progress in terms of halting biodiversity loss. This raised a need to further strengthen the evidence base underlying conservation, sustainable use, and policies. Compared to the CBD, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is a relatively recent body, established in April 2012 in Panama by 94 countries for the purpose of strengthening the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being, and sustainable development. It is an independent intergovernmental body.

As part of its work, IPBES produces assessments on specific themes related to biodiversity (e.g. “Pollinators, Pollination and Food Production”); methodological issues (e.g. “Scenarios and Modelling”); and at both the regional and global levels (e.g. “Global Assessment of Biodiversity and Ecosystem Services”). Decision IPBES-1/3 specifically states that “multilateral environmental agreements related to biodiversity and ecosystem services can send requests to the Platform on scientific and technical matters that require the Platform’s attention and action.”

CBD decision XII/25 “decides that the Subsidiary Body on Scientific, Technical and Technological Advice may exchange scientific and technical information with the Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services, where the subject is within the mandate given to it by the Conference of the Parties”. This decision strengthens the link between the CBD and IPBES as supporting each other for the benefit of biodiversity. In fact, the negotiations and text leading to the adoption of the GBF often referred to the global assessment of biodiversity and ecosystem services which IPBES had produced in 2019 (IPBES 2019). The second global assessment of biodiversity and ecosystem services is currently in development and expected by 2028.

1.2 The role of the National Focal Points and the CBD process

Each country that is a Party to the CBD establishes a National Focal Point (NFP) for the Convention. A focal point is the person or institution designated by a government to represent the Party between COP meetings in its routine dealings with the Secretariat in matters involving the Convention (CBD 2006). Normally, the focal point is nominated by a higher authority within a government, such as the environment ministry, to act as liaison between the Convention and its organs and the appropriate bodies/ministries and other groups within a Party (CBD 2009).

Routine activities of the NFP include communications, dissemination of information, representation at meetings, responding to various requests, collaboration with other stakeholder groups, and monitoring, promoting and/or facilitating national implementation of the Convention, including the development of an NBSAP (National Biodiversity Strategies and Action Plan) or reporting activities (CBD 2009).

In addition to the primary NFP, additional focal points may be nominated for specific topics, following decisions of the COP (CBD 2009). Examples include the national SBSTTA and SBI focal points. There are also focal points for the Cartagena Protocol and Nagoya Protocol that specialise in matters described in those agreements. In the absence of multiple focal points acting in various roles with respect to the CBD, the NFP, by default, assumes the entire role and responsibilities associated with the Convention (CBD 2009).

In this deliverable, we do not distinguish between different kinds of national focal points (CBD or SBSTTA) unless the distinction is necessary in terms of understanding the content. One reason for this is that in some countries the same person holds both the CBD and the SBSTTA NFP position. There are also differences between countries in the size of the delegation that attends the CBD negotiations. As all delegates of the target countries (EU and the Associated Countries) were invited to take part in surveys and workshops organised under Task 1.1, we

use the term 'CBD negotiator' parallel to NFPs to also include their input for the work reported here.

The work of NFPs is structured around the CBD process, determined by the schedule of recurring meetings (Figure 1). COP, the decision-making body for CBD, takes place every two years, while the SBSTTA meets every year and SBI every other year (generally). In relation to these meetings, NFPs represent their Parties and collaborate with other NFPs; in particular, those from their regional group. Within the CBD process, there are also other working groups that meet during the inter-sessional period. NFPs have the responsibility of identifying the experts taking part in the ad hoc technical expert groups, assessment processes, and other CBD-related processes. All this work centres around identifying the best available knowledge and pre-existing frameworks to advance the implementation of the GBF – and, thus, the objectives of the CBD. The cyclical nature of the CBD processes (Figure 1) means that the NFPs have responsibilities not only relating to the COPs but are also responsible for many tasks in the intersessional period.

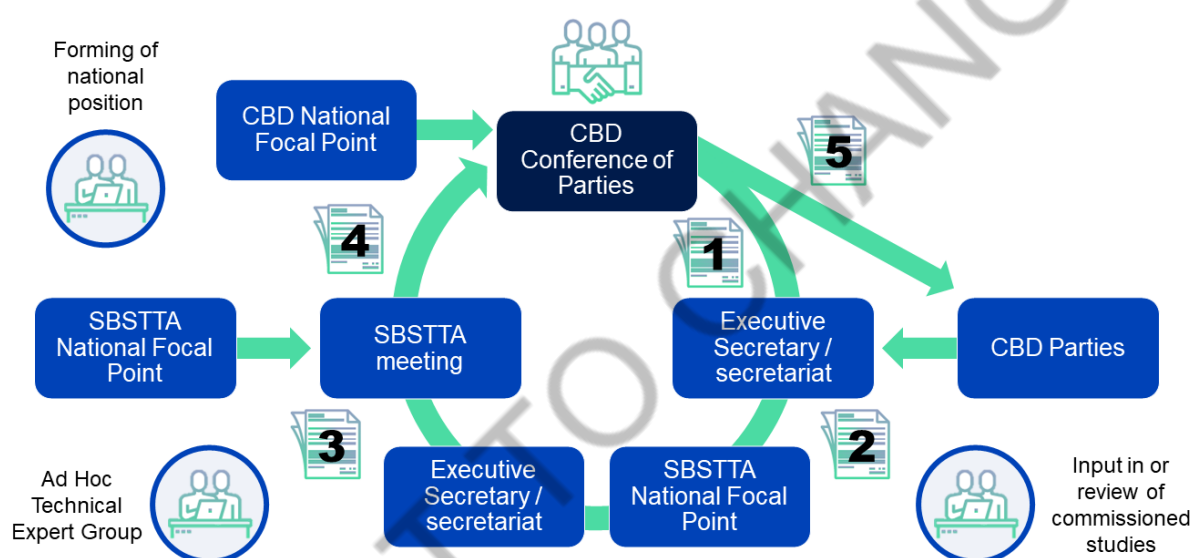


Figure 1. An overview of the workflow during the CBD intersessional period, showing the specific duties of the SBSTTA NFPs, CBD NFPs, and the Parties to the Convention as well as AHTEGs and the key documents produced during the process (numbered 1–5). Inclusion of any topic into the CBD process begins with a decision made in COP (1). The CBD secretariat gives a notification (2) on the matter, and commissions on targeted studies are given as needed. Information documents and pre-session documents (3) are produced based on the collected information. If an AHTEG group has been nominated for the topic, they play a key role at this stage. In a SBSTTA meeting, the compiled information is reflected against the national positions of the Parties, and a SBSTTA recommendation to COP (4) is formulated. In the following COP, the topic is negotiated and a decision (5) is made that obliges the Parties and/or the Secretariat of the CBD to implement the necessary actions and report progress accordingly, or invites other bodies to do so. The cycle involves three possible places for experts to provide scientific knowledge to the process; these are marked with circular symbols. Adapted from a presentation by Hendrik Segers (CO-OP4CBD Capacity Building workshop for experts, October 4th, 2023).

1.3 Knowledge in the context of CBD

There are a number of ways in which knowledge is relevant in the context of the CBD. A few distinctions are necessary before delving into the knowledge needs of CBD negotiators in section 3. The term 'knowledge' is often used to refer to scientific and technical (Western) knowledge, but in the context of the CBD, traditional, indigenous, and local knowledge are also relevant. However, the scope of Task 1.1 (i.e. mapping the knowledge needs of the negotiators) covers mainly (Western) scientific knowledge and knowledge-building practices. There are significant calls in CBD to design and adopt approaches for assessing the contribution of Indigenous Peoples and local communities, but as the implementation of such approaches has not yet become mainstream, Task 1.1 approaches traditional and Indigenous knowledges as potential knowledge needs.

It is also important to acknowledge the difference between data, information, and knowledge on the one hand and capacity on the other. The UN refers to capacity as the "skills, instincts, abilities, processes and resources that organisations and communities need to survive, adapt, and thrive in a fast-changing world" (UN 2024). Essentially, capacity is needed to acquire and utilise the different forms of knowledge. The CBD negotiators often discussed their needs for data, knowledge, and capacity simultaneously.

The aim of Task 1.1 is to identify, map, and prioritise the knowledge needs of the CBD NFPs and negotiators, while the work in Work package 4 focuses on building capacities. To ensure synergies between different work packages, the Task 1.1 workshops and surveys included elements concerning capacities, as well.

2 Methods

2.1 Data collection

As outlined in the CO-OP4CBD plan, Task 1.1 collected information on the knowledge needs of CBD negotiators and NFPs within two rounds of inquiry. The first round took place in Spring/Summer of 2023, when two identical online workshops for European Union (EU) Member states and Associated countries' CBD NFPs and an online survey for EU and Associated countries' CBD delegations were organised. In the workshops and in the survey, participants were asked about their knowledge needs, priorities, and preferred methods of receiving information. They also touched on other knowledge needs, primarily on the CBD procedures. The second round took place in Winter 2024, including one online workshop and an online survey. In the second round, the focus of the inquiry was on selected SBSTTA 26 agenda items that were identified as needing knowledge support during the previous round. The data collection covers most of the intersessional period between COP 15 (December 2022) and COP 16 (October 2024), thus reflecting the European CBD negotiators' and NFPs' knowledge needs during this period.

2.2 Year 2023 workshops and survey

In preparation for the two workshop sessions held on 24 and 27 March 2023, the Norwegian Institute for Nature Research (NINA) was responsible for key logistical aspects, working closely with the Finnish Environment Institute (Syke). NINA organised the working group facilitators and rapporteurs from the project partners; except those from Syke, which were handled by Syke directly. After distributing the guidelines for facilitators, prepared by Syke, workshop co-organisers held a preparatory session with the facilitators and rapporteurs. The latter were representatives of the following partner institutions: HUN-REN CER, NINA, RBINS, Syke, and UNEP-WCMC.

To map the potential participants, NINA prepared the list of CBD and SBSTTA NFPs, alongside the list of Clearing-House Mechanism NFPs; however, the latter representatives were not participating in the workshop. In cooperation with Syke, it was agreed to focus on CBD and SBSTTA NFPs only, while Clearing-House Mechanism NFPs would be targeted by other project work packages, such as Work package 4.

The workshops utilised regional working groups as break-out groups. The division of participants into working groups was prepared in advance. There were 11 EU countries and nine Associated countries represented, with some countries having more than one representative. During the first workshop session (24 March 2023), there were five regional working groups, including:

- Central and Eastern Europe (CEE) (EU Member States)
- Two groups from CEE (Associated countries)
- Northern Europe
- Western Europe.

During the second workshop session (27 March 2023), the initial aim was to have two working groups (CEE/Southern Europe and Northern/Western Europe), based on the registrations prior to the workshop. During the workshop it was, however, decided to work in only one group due to the low number of participants present (especially from the CEE/Southern Europe region). In general, Southern Europe was least represented at the workshops, while high interest was recorded from the CEE region, especially the Associated countries.

Prior to the workshops, NINA prepared and distributed personalised invitations to 70 NFPs from EU Member States and Associated countries to the EU Horizon programme² on 14 February 2023. It prepared an online registration survey and monitored the number of registered participants. The draft agenda was distributed on 15 March 2023, while the final agenda was shared with the participants on 23 March. Pensoft ensured the event was duly acknowledged via social media, also keeping in mind that the event was not open for public participation.

The online platform used for the workshops was MS Teams. The meeting invitations were sent to the registered participants prior to the workshops. The working group sessions and plenary sessions were recorded by NINA, while Syke ensured implementation of the interactive JamBoard platform for noting the discussions during the sessions. NINA downloaded all transcripts, audio files, and JamBoard documentation after the sessions and placed them on the project's SharePoint. Group-wise notes written by the rapporteurs observing the working group discussions were also uploaded there. After the workshop, the final list of participants and working group distribution and all preparatory documents relevant for the organisation of the workshop were uploaded to the project's SharePoint.

To complement the information gathered during the workshop sessions, Syke prepared a survey for workshop attendees and all invitees that NINA distributed on 24 April 2023. The survey was available until 5 May 2023.

² In relation to the Associated countries, the invitations were sent to all NFPs from these countries except to Faroe Island, Kosovo and Moldova that do not have a CBD NFP. The Associated countries include Albania, Armenia, Bosnia and Herzegovina, Faroe Islands (a self-governing overseas administrative division of the Kingdom of Denmark), Georgia, Iceland, Israel, Kosovo (designation without prejudice to positions on status, and in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence), Liechtenstein, Moldova, Montenegro, North Macedonia, Norway, Serbia, Switzerland, Tunisia, Türkiye, Ukraine, and United Kingdom.

While 48 NFPs registered to attend one of the two workshop sessions, the total number of NFP participants was 33. Including the project partners who participated at the workshop sessions either as facilitators of regional working groups, rapporteurs, or observers, the total number of attendees was 50. In total, there were 31 respondents to the accompanying survey. There was some overlap between the survey and the workshops, as some NFPs took part in both. While the workshop invitations were sent exclusively to CBD NFPs, the potential participant group for the survey was broader, targeting everyone in a CBD delegation. Consequently, in the survey, the roles of participants varied: almost 10 were either Heads of Delegation or Alternate Heads of Delegation and around half were experts. Approximately just over half of the participants in the questionnaire were for senior or quite senior and primarily from countries with small delegations of up to five people.

2.3 Year 2024 workshop and survey

Syke and NINA shared responsibility over the organisational aspects of the international workshop held on 8 February 2024. NINA updated the database of CBD and SBSTTA NFPs and added the Marine and Coastal Biodiversity Thematic NFPs and Cartagena Protocol on Biosafety and Biosafety Clearing-House Mechanism NFPs to the list. The representatives of EU Member States and Associated countries of these stakeholder groups were invited to participate at the workshop.

After developing the registration webpage, NINA prepared and distributed to all the invitees the Save-the-Date notification containing the registration link, embedded in Microsoft Teams meeting invitation. The Save-the-Date was sent out on 24 November 2023. 144 personalised invitations were distributed to all relevant NFPs on 13 December 2023, while the reminder to register and the draft agenda were shared on 17 January 2024. The EC Project Officers were also duly invited to attend the event. The final agenda of the event was distributed on 6 February 2024.

Two briefing sessions with facilitators, rapporteurs, and keynote speakers were coordinated by the workshop organisers via Teams platform (1 and 5 February 2024). These briefing sessions were used to discuss the script for the facilitators, prepared to help guide the working groups session, and discuss the guidelines for keynote speakers – all prepared by Syke. Instead of the JamBoards used in the previous round, Flinga boards were prepared in advance to help with information and knowledge gathering during the workshop. Each working group had their own Flinga board and the functionalities of these were tested during the briefing sessions.

After the registration deadline, NINA worked on the composition of the working groups. In total, there were 97 registered participants consisting of: 73 NFPs or CBD-related government officials and EC representatives, 20 CO-OP4CBD project members, and four keynote speakers. The statistics provided a valid rationale for developing six geographically based working groups to enable participants with common issues to brainstorm and work together. The groups were as follows:

- Two groups from CEE (EU Member States)
- CEE (Associated countries)
- Northern Europe
- Southern Europe
- Western Europe.

The workshop consisted of a joint plenary session followed by a session with working groups. As an introduction, the plenary session briefly presented the project and summarised the main findings from the first set of workshops held in March 2023, as provided by NINA. The introductory part was followed with keynote addresses on four SBSTTA 26 substantive agenda

items (Monitoring Framework of the Kunming-Montreal GBF, Biotechnology and Synthetic Biology, Marine and Coastal Biodiversity, Biodiversity and Health). During the 2023 round, NFPs identified having knowledge gaps on these topics; and thus, they were selected as the main focus for the 2024 workshop. The keynote speakers represented prominent institutions: RBINS, the International Centre for Genetic Engineering and Biotechnology, and Syke. One keynote speech was given by a retired professor from the Royal Veterinary College London. The keynote presentations were published online on the project's website (<https://www.coop4cbd.eu/training-corner>).

The working group session was launched after the keynote presentations. Each of the six working groups was facilitated by one member of a CO-OP4CBD project team from the following partner institutions: HUN-REN CER, National Museum of Natural History (MNHN), NINA, RBINS, Syke, UNEP-WCMC. The discussions were documented using the Flinga boards with notes taken by dedicated rapporteurs for each group. The rapporteurs were also from partner institutions, namely from Alternet, HUN-REN CER, NINA, Syke, and UNEP-WCMC, as in year 2023. When the working groups closed, the participants returned to the plenary to share brief reporting from the working groups before the closing of the workshop. The plenary session was facilitated by Syke and NINA.

Some of the groups experienced difficulties to a certain extent, primarily due to lack of participants. While the registrations were very positive in terms of the number of participants (97 in total), the working groups session suffered from low participation. The plenary was still well attended with 64 participants (including 41 NFPs or CBD delegates or EC representatives), but there were only 47 participants in the six working groups; i.e., 29 country representatives, and the rest being staff from the project together with the keynote speakers. Most of them were participating in only two working groups (as per earlier prepared composition of the groups), leaving some groups with a very small number of participants. The online format did not allow for fast reaction and redistribution of groups. Nevertheless, the workshop was successful in both presenting the background to key SBSTTA 26 substantive agenda items and gathering critical knowledge needs in relation to these topics, best formats for expert support, and some capacity needs.

The workshop was fully recorded, and all the materials (preparatory and post-workshop) were uploaded to the project's SharePoint. After the workshop, the participants received a feedback form; however, there were only three responses, an insufficient threshold for appropriate analysis of the event.

In cooperation with Pensoft, the workshop was announced on the CO-OP4CBD website and social media accounts, while the follow up article was posted on the project website after the workshop.

As in the previous year, the 2024 workshop was accompanied with a survey. The questionnaire was compiled and managed by Syke and was targeted to both those NFPs who were present in the workshop, as well as to those who did not take part in the workshop.

Syke formulated a draft of the survey in early January 2024 based on experiences from the last survey round and mutual discussions and exchange among Work package 1 representatives, after which the survey draft was again circulated for comments within the work package. As in the workshop, the survey focused on the NFPs' knowledge needs and preferred formats for expert support on the four specified SBSTTA 26 substantive agenda items (Monitoring Framework of the Kunming-Montreal GBF, Biotechnology and Synthetic Biology, Marine and Coastal Biodiversity, and Biodiversity and Health). Furthermore, a section on capacity needs regarding the CBD, CBD procedures, and negotiation was added to the survey to inform activities in Work package 4.

The survey was targeted to the invited NFPs regardless of whether they could participate in the 8 February workshop or not, and the invitees were encouraged to share the survey with their colleagues working with the CBD. The survey was sent several times to the invitees, both before the workshop in mid-January and after the 8 February workshop. The original deadline for answers was 29 February but, due to low number of responses, the answering period was extended to 4 March. A reminder note with the information on the extended deadline was sent to the invitees.

The survey received nine responses. The low representability of the survey respondent group set certain limits for the data analysis and representation of the results, which has been taken into account in the following sections. To briefly outline the respondent group, five out of nine respondents had a minimum of seven years' experience of being involved in the CBD negotiations as a Party representative, whereas four were newer to the CBD process; two had been involved for 1–3 years and two less than a year. Four respondents were not NFPs to the CBD, while those five who were NFPs had various positions, including CBD NFP, SBSTTA NFP, SBI NFP, Clearing-House Mechanism NFP, Nagoya Protocol NFP, Cartagena Protocol NFP, and Biosafety Clearing-House NFP. Based on the records it seems usual for one person to hold more than one NFP position. When the respondents were asked whether they participated in the year 2023 workshop organised by the project, three replied that they took part, one was unsure, and five replied they did not participate in the previous workshop.

2.4 Data analysis

The workshop recordings, their transcriptions, the notes made during the working group discussions, and the results collected in the online platforms (JamBoards and Flinga boards) served as the primary information sources for the qualitative analysis on negotiators' knowledge needs. During Spring 2024, a through-listening of the recordings was done while reading the automatically generated transcriptions, accompanied with compilation of memos for each of the group discussions. These memos were complementary to the notes made during the event by the working group rapporteurs. A similar data compilation was done for both year 2023 and 2024 workshops, resulting in a total of 28 pages of written documentation parallel to the six JamBoards and five Flinga boards used by the participants during the workshops. Content of these documents was analysed to investigate the knowledge needs of the negotiators. The analysis consisted of the following steps:

1. Reading the workshop documentation (in print) and flagging all content that was related to the question "What knowledge is needed?";
2. Collecting the mentioned knowledge needs into a tabular format (an Excel sheet), with each group as a column and the issues specified during the group discussions as rows;
3. Grouping the knowledge needs according to CBD agenda items, which served as overall topics and were used to structure the workshop discussions:
 - Monitoring Framework
 - Planning, Monitoring, Reporting, and Review mechanisms
 - Sustainable Wildlife Management
 - Plant Conservation
 - Marine and Coastal Biodiversity
 - Invasive Alien Species
 - Biodiversity and Climate Change
 - Biodiversity and Health
 - Nature and Culture
 - Synthetic Biology (in 2024 labelled as Biotechnology)
 - Living Modified Organisms: Detection and Identification
 - Digital Sequence Information on Genetic Resources (DSI);
4. Placing any other emergent knowledge needs under a group of their own ("Other knowledge needs discussed");

5. Calculating the number of different knowledge needs mentioned over the groups. Here, two levels of summaries were produced:
 - Number of knowledge needs identified in relation to each CBD agenda item (first tier categorisation)
 - Number of mentions of the actual issues specified during the discussion (second tier categorisation).

The content analysis was done in a similar manner for both workshop rounds, taking into consideration that in year 2024 the discussion was structured around a lesser number of CBD agenda items (i.e., Monitoring Framework, Biotechnology, Marine and Coastal Biodiversity, Biodiversity and Health, Other topics / agenda items).

As the convenient formats for receiving information were directly inquired from the negotiators during the workshops, information on preferred formats was collected from the workshop notes and accompanying JamBoards and Flinga boards. Concerning year 2023 data, a difference was made between knowledge needed when preparing for negotiations and during negotiations, as the timing within the CBD process (intersessional vs. during COP) had an impact on which formats were perceived as convenient. In 2024, timing of receiving information was not specified in the workshop discussions.

After the qualitative workshop documentation was analysed, the results were compared with the results from the quantitative surveys that were distributed also to those focal points who were unable to participate in the workshops. In 2023, the survey received 31 respondents. However, 12 of them were either from France (n=8) or Belgium (n=4). To avoid bias resulting from the overrepresentation of these two countries, the data was analysed in two phases: firstly, with all respondents included (n=31), and secondly, with French and Belgian respondents excluded (n=19). The results from these two analyses were then compared to see any differences between the samples. The quantitative analyses were descriptive, i.e., counting frequencies of categorical responses and calculating mean ranks of priorities given to response options using arithmetic averages. In 2024, the survey received only nine respondents. Due to the small sample size the 2024 survey results are indicative and not applicable for NFPs in general. Thus, the analysis was kept simple, and the results are presented in the most simple and straightforward manner possible (i.e., summarising numbers of respondents per questionnaire items while no further calculative measures such as means were derived).

3 Results

3.1 Year 2023 workshops and survey: all CBD agenda items

3.1.1 CBD negotiators' knowledge needs

This section begins with a summary of the knowledge needs brought up during the first round of CBD negotiators' working group discussions. The results are presented in the order of frequency of the CBD agenda items being mentioned during the workshop (Figure 2A). Also, particular knowledge needs relating to each agenda item are described as issues specified by the participants (the number of which is depicted in Figure 2B by each agenda item). These specific knowledge needs are grouped under four categories: knowledge gaps, knowledge processing needs, knowledge dissemination needs, and needs for improved implementation.

- Knowledge gaps:
 - need to encourage new research
 - needs for more/better data
 - lack of data, information, or knowledge due to non-existence or poor quality
- Knowledge processing needs:
 - needs for more/better utilisation of existing science and data
 - need to verify or validate existing data

- lack of data, information, or knowledge due to inaccessibility or unavailability
- lack of national experts to provide knowledge support
- Knowledge dissemination needs:
 - needs for improved communication of existing knowledge
 - need for better synthesis of existing knowledge
 - need to share data, information, and experience more effectively (incl. between Parties)
- Needs for improved implementation of CBD decisions and the related measures arising from them:
 - need for more/better guidance on how to utilise existing knowledge, data, or information in the CBD context
 - need for better communication of existing guidance, including with respect to standardisation of certain CBD-related processes and definitions of key concepts or measures
 - need for more/better guidance on how to apply existing knowledge to advance aims that are defined by the CBD.

Notably, the participating negotiators pointed out that general information is needed for each of the CBD agenda items. These unspecified knowledge needs fell mainly under the category of knowledge dissemination, as they called for overviews of the agenda items. Also, the participants mentioned several needs for actions that are to be taken by the COP and then acted upon. These were not exactly knowledge needs but requirements for clear guidance so that the Parties can take the necessary actions. In addition, some suggestions were made of potential actions to address the identified knowledge needs. These accounts were placed under needs for improved implementation. Finally, the participants brought up additional knowledge needs that did not fall under any of the specified CBD agenda items, and a summary of these topics is included. The section ends with a complementary analysis of priorities set for the knowledge needs by the negotiators who responded in the survey that accompanied the workshops in 2023. The priorities expressed in the survey and in the workshops were well aligned with each other.

SUBJECT TO APPROVAL



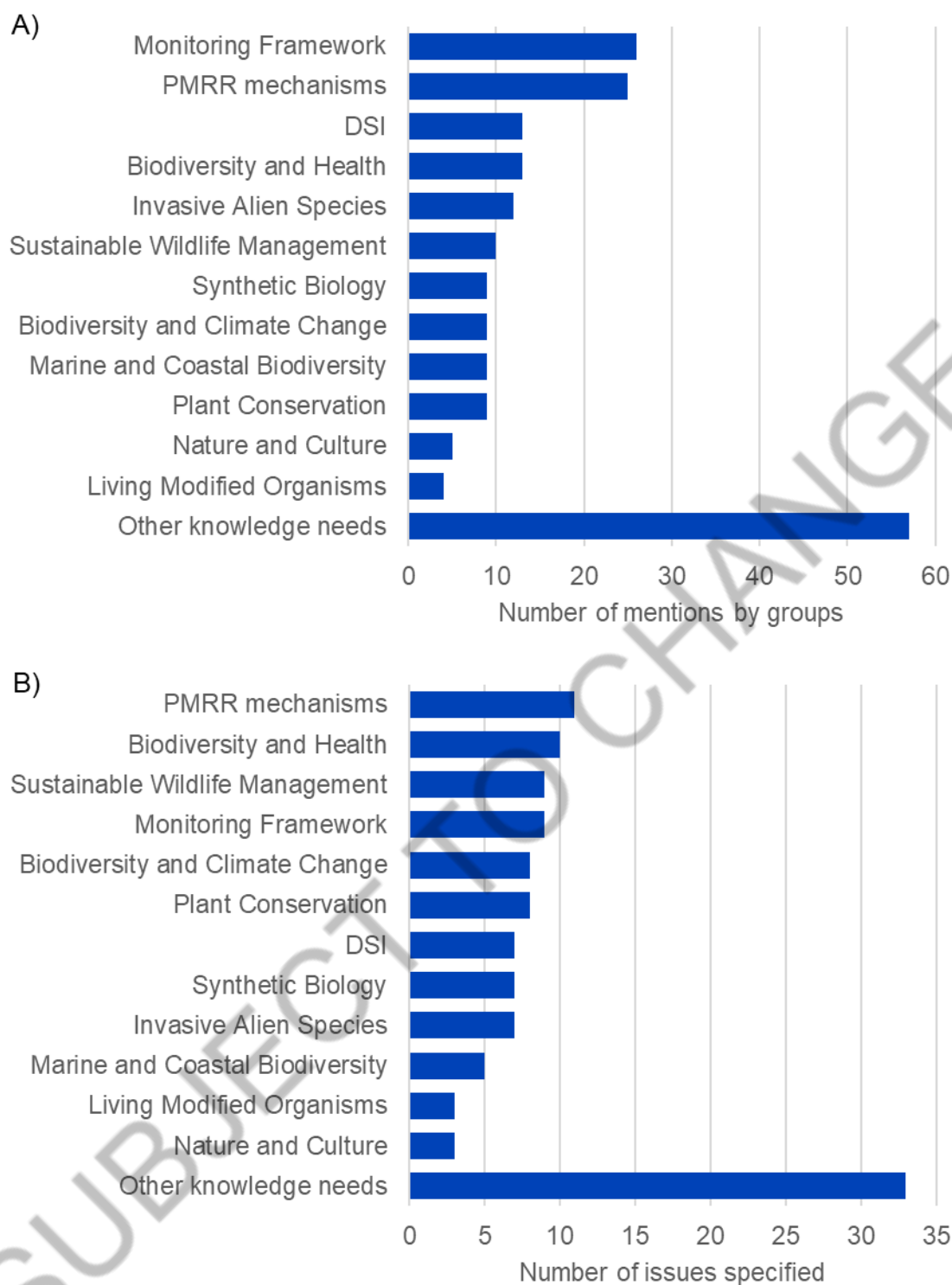


Figure 2: CBD agenda items with the expressed knowledge needs (year 2023 workshops). Mentions by groups (panel A) is counted as the sum over all working groups, indicating the frequency of the agenda items being brought up during the discussions. Issues specified (panel B) give the number of the knowledge needs that were specified under each agenda item. DSI refers to Digital Sequence Information on Genetic Resources and PMRR mechanisms refer to Planning, Monitoring, Reporting, and Review mechanisms.

Out of the CBD agenda items, the *Monitoring Framework* for the GBF raised the most attention in the year 2023 workshops. Issues and knowledge needs relating to the Monitoring Framework were discussed by all six working groups, being mentioned 26 times in total (Figure 2A). Specific knowledge needs included nine topics that were identified from the discussions.

Knowledge gaps:

- There is a need for baseline data (both nationally and globally) as baseline interpretation allows for distinguishing between state changes and trends (two working groups)
- There is a lack of basic information on the state of biodiversity nationally, including biodiversity mapping and time series data for monitoring (two working groups)

Knowledge processing needs:

- Questions were raised on what data are already available and how to acquire additional data (two working groups)

Knowledge dissemination needs:

- The IPBES experts could be better involved in the implementation of the Monitoring Framework (one working group)

Needs for improved implementation:

- More information on the Monitoring Framework is needed on a general level, including the current state of its development as well as the related legal frames and existing policies internationally (brought up by all six working groups)
- Descriptions of the indicators need to be completed (five working groups)
- Information on indicator-specific methodology and metadata is lacking, including headline indicators and binary indicators (four working groups)
- More details are required for the implementation of the Monitoring Framework at the national level, including how to organise the monitoring network nationally and how to fill in gaps related to specific goals and targets of the Monitoring Framework (three working groups)
- Guidance for reporting on the Monitoring Framework is needed, including which tools to use (two working groups)
- There is a need for general guidelines for planning and monitoring, including national to regional monitoring needs (one working group).

Planning, Monitoring, Reporting, and Review mechanisms related to the CBD were discussed by all but one working group (which was one of the two groups representing Central and Eastern Europe with Associated countries). Overall, the Planning, Monitoring, Reporting, and Review mechanisms were mentioned 25 times by the working groups, with 11 different knowledge needs identified. Most of these knowledge needs evolved around national issues, oftentimes related to data availability – and thus relating to concerns around the Monitoring Framework – but also to national implementation of the GBF's global targets for 2030. In addition, the negotiators raised a few knowledge needs that went beyond the national scope.

Knowledge gaps:

- More detailed technical information (especially numerical data) and scientific knowledge, preferably national, are needed (three working groups)

Knowledge processing needs:

- There is a lack of national data for reporting; sometimes the information is not available for the responsible ministry even if it exists; in relation to this, there is a need to improve consistency in reporting across countries (four working groups)
- More information is needed for national reporting and review in general (two working groups)
- There are issues with data quality that are difficult to tackle due to lack of information, or the data source not being obvious (one working group)

Knowledge dissemination needs:

- Important classic issues, such as mechanisms for biodiversity conservation, still deserve more attention (one working group)

Needs for improved implementation:

- The compliance of national legislation, processes, and initiatives with CBD and vice versa needs be analysed (two working groups)
- Guidance on how to effectively revise the National Biodiversity Strategies and Action Plans is needed; also, information on the progress in making and implementing them should be exchanged between countries (two working groups)
- There is a need for better guidance on how to implement the CBD targets and follow the progress nationally, including actual measuring and monitoring; it would be important to share lessons learnt between the countries (three working groups)
- There are uncertainties hindering implementation of national targets regarding sustainable consumption, mainstreaming, pollution, restoration, etc. (two working groups)
- Certain global targets need clarification in terms of meaning, mapping, implementation, and integration (target 3: Conserve 30% of Land, Waters and Seas; target 14: Integrate Biodiversity in Decision-Making at Every Level; target 15: Businesses Assess, Disclose and Reduce Biodiversity-Related Risks and Negative Impacts; and target 16: Enable Sustainable Consumption Choices to Reduce Waste and Overconsumption) (two working groups)
- There is a need to receive more information on the Planning, Monitoring, Reporting, and Review mechanisms of CBD in general, to support their implementation (three working groups).

DSI (Digital Sequence Information on Genetic Resources) was discussed by all six working groups, with 13 mentions in total that dealt with seven specific knowledge needs. Apart from a need for a better general understanding on DSI that was shared by all working groups, the other knowledge needs varied across the groups.

Knowledge gaps:

- There is a need to better understand the potential economic and societal impacts in relation to DSI (e.g., taxation) (one working group)

Knowledge processing needs:

- There are no proper experts on DSI nationally (one working group)

Knowledge dissemination needs:

- DSI is uncovered by the European Topic Centres (one working group)
- Gaining a better overview of DSI would reduce its complexity, making it easier to obtain an agreed position prior to the CBD meetings (one working group)

Needs for improved implementation:

- A benefit-sharing framework for DSI needs to be developed and communicated to Parties (two working groups)
- There is a lack of knowledge on resource mobilisation regarding DSI (one working group).

Issues relating to *Biodiversity and Health* were discussed by four working groups (Northern Europe and all three groups representing Central and Eastern Europe, including EU Member States and Associated countries). There were a total of 13 mentions during the discussions, concerning 10 specific issues, most of which originated from single working groups and many dealing with origins and spreading of different zoonoses and representing knowledge gaps that need to be met with new research.

Knowledge gaps:

- There is a lack of knowledge on zoonotic diseases, including their linkages to biodiversity loss (two working groups)

- More research-based information is needed on potential and emerging pathogens threatening human health (one working group)
- Transmission paths are poorly known (one working group)
- Viruses and their spread deserve more research (one working group)
- More research is needed on interactions between domestic and wild species (one working group)
- The impacts of pollution on biodiversity and people's health are poorly known (one working group)
- The impacts of climate change on biodiversity and people's health should be studied more (one working group)
- The ways in which biodiversity loss affects health and the extent of such effects should be researched, including interlinkages of biodiversity (e.g., green spaces) and health, with attention also to positive impacts benefiting people (one working group)

Knowledge dissemination needs:

- There is a need to compile system-wide institutional knowledge from other UN organisations (e.g., WHO, FAO, CITES) together to increase integration of different sectors and their respective knowledge bases in relation to Biodiversity and Health (one working group)
- Also, a need for better overall understanding on Biodiversity and Health -related topics was acknowledged (three working groups).

Invasive Alien Species were discussed by all but one working group (that being Northern Europe), with 12 mentions under seven specific issues ranging from basic ecological knowledge needs to applications on species management and prevention of invasive species dispersal.

Knowledge gaps:

- A better understanding on species' spread, including speed and dispersal pathways, is required (three working groups)
- Data on the occurrence of species categorised as Invasive Alien Species is lacking (one working group)
- Threats and effects of invasive species on ecosystems need more research (one working group)
- Different management practices should be studied and evaluated for their effectiveness through transdisciplinary analyses involving scientists and practitioners (one working group)

Knowledge dissemination needs:

- Overall information on Invasive Alien Species is needed (three working groups)
- There is a need to exchange knowledge of different ways to avoid new introductions (one working group)

Needs for improved implementation:

- More information, including guidelines, is needed on management and regulation of invasive species (two working groups).

Sustainable Wildlife Management was discussed by four working groups (all three Central and Eastern European working groups and Western Europe). Most knowledge needs were raised by one working group representing Central and Eastern Europe, including Associated countries. There were a total of 10 mentions of nine specific knowledge needs, with a rough division on issues related to data availability on one hand and practices of management on the other.

Knowledge gaps:

- There is a need to study the population ecology of target species (particularly large carnivores/mammals), as well as to monitor their population trends (two working groups)
- Effective inventories are required (one working group)

- Wildlife-oriented diseases need more research (one working group)
- There is a need to better understand how wildlife-human conflicts can be avoided (one working group)
- There is a need to conduct an economic/conservation analysis of wildlife management practices informed by Indigenous Peoples and local communities (one working group)

Knowledge processing needs:

- Managing hunting poses a challenge and therefore data on game species is difficult to obtain (one working group)
- Reliability of available data is questionable and should be assessed (one working group)

Knowledge dissemination needs:

- There is a need for a better overall understanding on topics related to Sustainable Wildlife Management (one working group)

Needs for improved implementation:

- There is a need for guidelines on wildlife management (one working group).

Topics related to *Synthetic Biology* were discussed by five out of six working groups (one group representing Central and Eastern Europe with Associated countries not discussing the topic). There were a total of nine mentions during the discussions, with seven knowledge needs specified. The knowledge needs varied across the working groups, all pointing to a need for knowledge synthesis and support on the EU level, as national expertise on matters relating to Synthetic Biology was often lacking.

Knowledge gaps:

- Understanding of biosafety issues is lacking (one working group)
- Possible effects and use of Synthetic Biology applications, including grasping the scale of application, need to be studied (one working group)

Knowledge processing needs:

- There are no proper experts nationally, and therefore national-level knowledge is missing (one working group)

Knowledge dissemination needs:

- General overview of Synthetic Biology is lacking (three working groups)
- Compilation of scientific background information is needed on a broader level, including establishing the link of Synthetic Biology to biodiversity and risk assessments (one working group)
- There is no EU body with expertise on Synthetic Biology, and therefore regional-level knowledge is missing (one working group)
- If the European Joint Research Centre collected data in relation to Synthetic Biology, it would support forming a common EU position (one working group).

Biodiversity and Climate Change was discussed by the two working groups representing Central and Eastern Europe with Associated countries. There were nine mentions of the agenda item in total with eight specific knowledge needs identified, all of which covered rather broad topics and most require new research.

Knowledge gaps:

- More research is needed on the exact effects and impacts of climate change on biodiversity (one working group)
- There is a need to better understand the time lags in the effects of climate change on biodiversity (one working group)
- There is a need for rigorous background information and detailed scientific analysis on biodiversity loss with regards to climate change (one working group)

- Linkages between climate change and other processes of environmental deterioration are not established, including issues of biodiversity loss, species endangerment, desertification, erosion, floods, fires, etc. (one working group)
- A better understanding is needed of the effects of climate change on the long-term survival of populations and to observe species' trends (one working group)
- More knowledge is needed on climate change mitigation and adaptation (one working group)

Knowledge dissemination needs:

- The overall understanding of Biodiversity and Climate Change-related topics should be improved (one working group)

Needs for improved implementation:

- There is a need to organise monitoring of biodiversity status at 10-year intervals to observe biodiversity trends (both [two] working groups).

Issues related to *Marine and Coastal Biodiversity* were discussed by all but one working group (being one of the Central and Eastern Europe/Associated countries' working groups). Across the five working groups, there were nine mentions of the topic in total, with five specific issues raised.

Knowledge gaps:

- Systematic biodiversity monitoring is needed in marine ecosystems to get information on the status of marine species and habitats (two working groups)

Knowledge processing needs:

- The evident lack of data on marine species and habitats is sometimes an issue of information being unreachable for the ministry (two working groups)

Knowledge dissemination needs:

- Overall information on topics related to Marine and Coastal Biodiversity is needed (four working groups)

Needs for improved implementation:

- There is a need to increase focus on marine issues in the light of the recent BBNJ treaty adoption (one working group)
- There is a need to apply spatial planning tools and implement the outcomes of spatial analyses to enhance and enlarge networks of marine protected areas, including connectivity considerations (one working group).

Plant Conservation was discussed by three working groups of which one was most active (representing Central and Eastern Europe/Associated countries; the other two represented EU Member States from Central and Eastern Europe and Western Europe). In total, there were nine mentions on eight specific knowledge needs.

Knowledge gaps:

- There is a lack of data; inventories are needed (two working groups)
- There is a need to conduct scientific evaluation of conservation practices for plant species (one working group)

Knowledge processing needs:

- Bias for well-known species is a risk in the existing data (one working group)
- National experts are lacking (one working group)

Knowledge dissemination needs:

- There is a need to improve the general-level knowledge on topics related to Plant Conservation (one working group).
- More information is needed on the conservation status of plant species (one working group)
- More information is needed on/for the IUCN Red Lists on plant species (one working group)

Needs for improved implementation:

- Information of new topics under the item of Plant Conservation is lacking (one working group).

Issues related to *Nature and Culture* were discussed by three working groups (Northern Europe, Western Europe, and one group representing Central and Eastern Europe/Associated countries). There were five mentions in total, with three knowledge needs specified.

Knowledge dissemination needs:

- Overall understanding of topics encompassed by the agenda item is lacking (two working groups)
- There is a need to better integrate perspectives from traditional knowledge holders into the work of CBD, especially those of Indigenous Peoples and local communities (two working groups)

Needs for improved implementation:

- There is a lack of knowledge on how to combine biodiversity conservation with protection of cultural monuments (one working group).

Detection and Identification of Living Modified Organisms was discussed by two working groups (one group representing Central and Eastern Europe/Associated countries and the other being the combined working group of the 2nd workshop session). Both working groups noted a lack of overall knowledge on the topic, and the other elaborated on the need for additional expertise. In total, there were four mentions that fell under three knowledge needs.

Knowledge processing needs:

- There are no proper national experts on issues dealing with Living Modified Organisms (one working group)

Knowledge dissemination needs:

- Overall understanding on the topic is lacking (two working groups)
- Regional or international expertise will be welcomed, if possible (one working group).

Finally, there were a total of 57 mentions on knowledge needs that were not directly tied to any of the CBD agenda items. All working groups raised up other knowledge needs, which fell under 33 specific issues. Four working groups – Northern Europe, Western Europe, one group representing Central and Eastern Europe with Associated countries, and the combined working group from the second workshop day – were particularly active in pointing out knowledge needs beyond the CBD agenda items. These knowledge needs are summarised here according to interrelated topics:

A more thorough understanding of the CBD process, including improved communication at the science–policy interface and acquisition of skills to negotiate better, was called for:

- Experts and researchers need to be better acquainted with the CBD process, including timing issues (three working groups)
- Negotiators need support in engaging in the CBD process, including best practices in preparing for the COPs, categories, rules, etc. (two working groups)
- Tailored interpretative knowledge would help the negotiators, e.g. providing syntheses of the CBD documents, explaining their contents, and describing the outputs in terms of consequences for the Member States (esp. obligations) (two working groups)
- Clarifying of ambitions arising from the EU and other international coalitions would support policy coherence by ensuring that negotiators would not risk contradicting or failing to align with what has already been agreed upon (e.g., EU positions) (three working groups)

- Due to overly specific professional language, it is hard for the negotiators to get a grasp of the information flow (one working group).

Scale-dependent knowledge needs included an overall request for more science-derived information, but also topics emphasising cross-sectoral collaboration, strengthening of human capacity, resources, and science-policy interfaces were mentioned. These knowledge needs were mostly discussed on the national level, but in connection with the international demands:

- There are scale issues evolving around connecting global and national information needs together (two working groups)
- More scientific knowledge on global/international level is needed (two working groups)
- More scientific knowledge on European/regional level is needed (two working groups)
- More accurate country-specific scientific knowledge is needed (two working groups)
- There is a need for better understanding of the national implementation of policies and the impacts on people, including procedural matters across the different sectors of society (two working groups)
- A global inventory is needed to understand the current state, policy, and legal frame of CBD issues, especially regarding the Monitoring Framework; this would help to understand how other countries organise their CBD-related work and governance (two working groups)
- There is a need to clarify what nature-based solutions are and how they can be used and adapted at the national level (esp. regarding Biodiversity and Climate Change) (three working groups)
- Finally, the lack of scientific data for monitoring and human capacity on a general level was again mentioned (one working group).

A range of topical syntheses of CBD-related issues was called for to support understanding of the relative importance of the issues within a larger context. The discussions specified that the following topics needed an overview:

- A synthesis is needed on the impacts and interrelations between the thematic areas and cross-cutting issues of CBD concern (four working groups)
- There is a need to summarise existing scientific knowledge on CBD topics, including recurring agenda items and other issues under discussion (three working groups)
- Updating negotiators' personal expertise requires gaining a better understanding of ongoing scientific debates around CBD topics, particularly recurring agenda items (two working groups)
- On new topics all information is welcome; it would be good to improve inter-regional exchange on them (two working groups)
- An overview to prioritise focal issues within the CBD agenda would be beneficial (one working group)
- Clear definitions of key concepts are needed (e.g., restoration, strict protection, biodiversity inclusive spatial planning) (one working group)
- There is a need to clarify knowledge gaps that should be targeted by new research inquiries (one working group).

Socio-economic and cultural aspects were also discussed, including matters of equity and involving of Indigenous Peoples and local communities, but also those of monetary value:

- Human rights and equity perspectives in relation to CBD topics need to be addressed, including the gender dimension (two working groups)
- All possible information is needed, including not only scientific information but also Indigenous, traditional, and local knowledge (two working groups)

- Full and effective participation of Indigenous Peoples and local communities is needed in implementation of the GBF – but with caution considering the fact that the applicability and accuracy of Indigenous (or traditional) knowledge(s) may be challenged by global change (one working group)
- Opportunity costs of strict protection need to be analysed on the national level (one working group)
- Monetary value [of nature/biodiversity] needs to be clarified (one working group)
- Degrowth as a topic should be studied in relation to supporting the CBD agenda (one working group)
- Resource mobilisation is a constant issue to be addressed (one working group; not specified under any topic).

Finally, needs for targeted research were mentioned, including biotechnology and genomics but also other specific topics:

- Genetic level of biodiversity is poorly known (two working groups)
- Biotechnology needs more research attention (one working group)
- Effects of natural disasters on biodiversity should be studied (one working group)
- More knowledge is needed on soil biodiversity (one working group)
- Restoration and security in Europe are emerging knowledge needs (one working group)
- Methodological development is needed on how to define an ecological footprint (one working group).

3.1.2 Prioritisation of the agenda items

In 2023, the survey accompanying the workshops focused on national prioritisation of SBSTTA 25 agenda items on the one hand and, more broadly, prioritisation of CBD agenda items on the other. These data were complementary to the workshops, which also included prioritisation of knowledge needs. The results from the workshops and the survey were supportive of each other, and therefore this section builds primarily on the survey results while bringing out additional insight from the workshop discussions at the end of the section.

Of the 31 survey respondents, 12 were French or Belgian representatives. To ensure that this geographical bias would not distort the interpretation of the survey results, the results are shown both for all respondents (n=31) and for a restricted set of respondents that includes the representatives of the 15 countries that were not from France or Belgium (n=19). These 15 countries included 12 other EU Member States and five Associated countries.

The survey results on the national priorities of the SBSTTA 25 agenda items were consistent between the two groups of respondents (Table 1). Two topics – Monitoring Framework and Planning, Monitoring, Reporting, and Reviewing mechanisms – were clearly the two primary priorities among the majority of the respondents. Of the other five options, Biodiversity and Climate Change and Programme of Work of IPBES were ranked as 3rd and 4th most important, while the final three (Invasive Alien Species, Sustainable Wildlife Management, and Plant Conservation) were all ranked as having lower priority across most respondents' answers (n=31). Perhaps a key difference, albeit not a major one, is that when excluding France and Belgium (n=19), the difference in the average ranking between the items of Invasive Alien Species and Programme of Work of IPBES was remarkably small (4,5 for both items). However, whilst Programme of Work of IPBES was most often ranked as the 3rd most important item nationally, Invasive Alien Species was placed lower, in the 6th position (n=19). Within this restricted set of respondents, Biodiversity and Climate Change continued to be of relatively high national priority, with its average ranking indicating slightly higher priority than that of Programme of Work of IPBES (Table 1).

Table 1: The national priorities of the SBSTTA 25 agenda items by survey respondents in 2023. Columns with n=31 include all respondents, representing 12 EU Member States and five Associated countries. Columns with n=19 show results from data excluding eight respondents from France and four from Belgium. The response options ranged from one indicating the highest priority to seven indicating the lowest priority. For each item, most frequent ranks in terms of priority were derived as counts from the data (number of respondents giving the same answer in brackets). Average rankings are based on calculation of arithmetic mean over the prioritisations provided by the respondents.

SBSTTA 25 agenda items	National priority (n=31)	Most frequent rank (n=31)	Average ranking (n=31)	National priority (n=19)	Most frequent rank (n=19)	Average ranking (n=19)
Monitoring Framework for the GBF	1	1 st priority (22 out of 31)	1,5	1	1 st (14 out of 19)	1,6
Mechanisms for Planning, Monitoring, Reporting, and review	2	2 nd (18 out of 31)	2,3	2	2 nd (11 out of 19)	2,6
Biodiversity and Climate Change	3	3 rd (14 out of 31)	3,7	3	3 rd (7 out of 19)	3,8
Programme of Work of IPBES	4	3 rd = 4 th (tie: both options 9 of 31)	4,2	4	3 rd (6 out of 19)	4,5
Invasive Alien Species	5	6 th (10 out of 31)	5,0	5	6 th (6 out of 19)	4,5
Sustainable Wildlife Management	6	6 th (8 out of 31)	5,3	6	7 th (6 out of 19)	5,3
Plant Conservation	7	7 th (16 out of 31)	6,0	7	7 th (8 out of 19)	5,6

When examining the CBD agenda items more broadly outside the SBSTTA 25 listing, the GBF received the highest priority (Table 2). Of the 31 respondents, seven placed the GBF as the most important agenda item based on the most pressing knowledge needs, and 20 respondents mentioned it as being a priority overall (i.e., receiving a ranking of first to fifth priority among the full list of agenda items). Mainstreaming of Biodiversity within and across sectors was generally seen as the second most important agenda item, with 16 mentions from the respondents, of whom three indicated top priority and five ranked the item as second most important (n=31). Notably, DSI received relatively high rankings from those 12 respondents who saw it as a priority, with six placing it either on first or second priority (n=31). Overall, all items except for one (Living Modified Organisms) were mentioned at least once as a priority (n=31). Of the full list of 22 items, nine were chosen as priorities by 10 or more respondents and these are shown in Table 2 (n=31). When excluding French and Belgian respondents, seven items prioritised by more than seven respondents were identified (Table 2, n=19). Among this restricted set of respondents, the GBF remained the most important item, while second priority was given to Planning, Monitoring, Reporting, and Review mechanisms, and Mainstreaming of Biodiversity was left to third place.

Table 2: The prioritisation of the CBD agenda items by survey respondents. The respondents chose five agenda items from a list of 22 items based on the most pressing knowledge needs and prioritised them in order from one (being top priority) to five (being the fifth priority). Number of prioritisations shows how many respondents out of the sample ranked the item as being a first to fifth priority (n=31 for all respondents, n=19 for France and Belgium excluded). Average prioritisation shows the arithmetic mean over the prioritisations provided by the respondents.

CBD agenda item	Number of prioritisations (n=31)	Average prioritisation (n=31)	Number of prioritisations (n=19)	Average prioritisation (n=19)
Global Biodiversity Framework (GBF)	20	1,7	12	2,0
Mainstreaming of Biodiversity within and across Sectors	16	2,8	9	2,4
Planning, Monitoring, Reporting, and Review mechanisms	13	3,0	10	2,9
Biodiversity and Agriculture	13	3,2	-	-
Digital Sequence Information (DSI) on Genetic Resources	12	2,3	8	2,3
Biodiversity and Climate Change	12	3,1	8	3,4
Resource Mobilisation and the Financial Mechanism	11	3,2	8	3,0
Marine and Coastal Biodiversity	10	2,9	7	2,7
Biodiversity and Health	10	4,1	-	-

The prioritisation of the knowledge needs in the workshops proved similar to that done in the survey when looking at the overall content of the working group discussions. When the participants were asked to bring up specific agenda items and issues that need the most scientific and expert support, they highlighted DSI as being the most urgent issue from a scientific point of view. From an applied perspective, development of indicators for the Monitoring Framework and the methods for measuring them was also emphasised. In addition, Biodiversity and Health was raised as a crosscutting issue needing interdisciplinary research effort.

3.1.3 Preferred formats of information

The second part of the survey in 2023 collected information on the CBD negotiators' favourite means of acquiring the knowledge they need. The survey respondents were asked to choose their three preferred formats of receiving information in two different situations: either before the negotiations, i.e., during the intersessional period or during the COP. Table 3 shows that when preparing their position for the negotiations, most respondents preferred to read background information documents (first choice for 12 out of 31 respondents), short policy briefs (first choice for seven out of 31 respondents), and scientific syntheses on the item (first choice for five out of 31 respondents). These findings are in line with the preferences expressed during the workshop discussions.

Table 3: Survey respondents' preferred information format before CBD negotiations (all respondents included: n=31, France and Belgium excluded: n=19). The respondents indicated their preferred three formats (first, second, and third preference) from the listed eight options. Average preference shows the arithmetic mean over the respondents' preferences on a scale from one to three.

Information format when preparing the position	Mentions (n=31)	Average preference (n=31)	Mentions (n=19)	Average preference (n=19)
Background information documents (e.g., CBD INF-docs)	20	1,6	14	1,6
Short policy briefs	21	2,0	12	2,2
Scientific syntheses on the item	14	1,8	7	1,9
International experts (e.g., IPBES or CBD AHTEG)	13	2,3	7	2,4
National experts to consult	10	2,5	7	2,4
Global reports	8	2,0	6	2,0
Videos of experts explaining the agenda item	6	2,2	3	1,7
Side events at CBD meetings	1	2,0	1	2,0

Written answers provided by the respondents illustrated that different kinds of reports and syntheses are important information sources before the negotiations. The respondents valued documents that were concise and scientifically accurate:

“As we move closer to the negotiation meetings our agendas are usually packed. What we prefer is peer reviewed material that we know are up to date on recent reports in a short format so that it is easily accessible.”

The importance of CBD information documents was further underlined:

“Background information documents for the meeting are easiest since they're easily accessible in one location. Short briefs are useful for the topics which are not the highest priority, but we urgently need information.”

“INF doc is the most common way, but they sometimes appear too late or are too numerous, hence early short briefs or direct consultation of experts may be better. After the meetings, a synthesis of some of these INF docs into guidance, glossaries, etc. would be very useful (e.g. by Global Knowledge Support Service for Biodiversity).”

Different types of overviews, including scientific syntheses, policy briefs and glossaries, were also valued; and these need not always be in writing:

“Scientific syntheses are very important and complementary to policy briefs that could propose more focused solutions. Addressing the question of vocabulary, particularly vocabulary used during UN previous agreements.”

“It is important that there is scientific information available in order to understand the issues and also to form a position. It was helpful to have the scientific briefs that were done prior to COP 15 in order to understand the issue. Also, the webinars with experts were very helpful.”

“Having a clear view on all the scientific inputs linked to the topics could be very useful (e.g., in the same way of what the “science briefs” did for the GBF negotiations). Having them summarised, with some more policy briefs and option would also be very useful. Lastly, these inputs should be put into short videos for people who do not have much time to read and prepare. In this exercise, neutrality and transparency of information provided is key.”

Closer to the COP, the element of time becomes even more crucial and the lack of time during negotiations restricts the means to acquire information. This fact was highlighted in the workshop discussions, where one working group noted that sometimes the lack of time ahead of the COP meeting is so pressing that the preparations are left incomprehensive. The survey showed that during CBD negotiations, being in direct contact with national experts and reading short policy briefs were emphasised as the two best ways of getting information, with nine and eight respondents ranking these as their first choices, respectively (Table 4, n=31). Background information documents continued to play an important role (first choice for five out of 31 respondents). Contacting international experts and reading scientific syntheses (both being the first choice for three out of 31 respondents) were also frequently mentioned as being useful.

Table 4: Survey respondents' preferred information format during CBD negotiations (all respondents included: n=31, France and Belgium excluded: n=19). The respondents indicated their preferred three formats (first, second, and third preference) from the list of eight options. Average preference shows the arithmetic mean over the respondents' preferences on the scale from one to three.

Information format when reacting to other countries' positions	Mentions (n=31)	Average (scale 1-3)	Mentions (n=19)	Average (scale 1-3)
Short policy briefs	21	1,8	14	1,8
National experts to consult	18	1,8	10	2,0
Background information documents (e.g., CBD INF-docs)	12	1,8	8	1,8
Scientific syntheses on the item	12	2,2	5	2,2
International experts (e.g., IPBES or CBD AHTEG)	10	1,8	5	1,6
Global reports	8	2,5	7	2,4
Side events at CBD meetings	5	2,4	2	3,0

Videos of experts explaining the agenda item	2	2,5	2	2,5
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During the negotiations, global reports seemed to play a less important role for French and Belgian representatives when compared to other respondents. Only one French respondent mentioned global reports being an important source of information, whereas seven out of 19 respondents representing other countries identified them as the second or third most preferred information format. Otherwise, the results from the two respondent groups were well aligned with each other.

The written answers highlight the sense of urgency during the COP even more:

“During negotiation you have very limited time, therefore more information available before the start of negotiations is best.”

During the negotiations, the knowledge needs appear to be narrower. Information gaps relate to specific questions for which it is easiest to get the answer verbally, through direct contact with experts on the matter. This can happen either by a quick phone call or having the experts present at the COP as observers or at side events. Importantly, the nature of this interaction is consultative, as the negotiators need to align their arguments also with the predetermined national or regional positions, as well as with the bulk of information collected before the COP.

“During negotiations, the questions that are raised are more concrete, hence the possibility to consult an expert would be very valuable.”

“During negotiations it is helpful to be able to consult national experts on specific items. Also global reports can give information and better understanding of a position of a determined party. Scientific syntheses are the basis as all decisions should be based on scientific evidence.”

“We prefer to have experts in the room following the negotiations. Pull-asides in the margins of the meeting are most effective. Possibly with policy briefs etc. as a follow up. Time is short, so information needs to travel fast. [It is a] huge advantage if the negotiators know the experts. That there is trust and contact is established before the actual negotiation.”

To complement the survey, the convenient formats of receiving information were discussed during the 2023 workshops. The results were largely the same, as the participants preferred reading CBD information documents, short policy briefs, scientific papers, and summaries of reports. They also found it useful to consult experts, other negotiators, or colleagues from their ministries. Additional information formats mentioned during the workshops were webinars, dissemination of information via email, and infographics.

3.2 Year 2024 workshop and survey: SBSTTA 26 agenda items

In 2024, the inquiry was restricted to a selected set of CBD agenda items, namely those included in the SBSTTA 26 meeting that took place in May 2024 (roughly three months after the CO-OP4CBD workshop). The topics to be discussed included the Monitoring Framework for the GBF, Biotechnology, Marine and Coastal Biodiversity, Biodiversity and Health, and other topics or agenda items. The purpose of the timing of the workshop (early February 2024) was to collect information on knowledge needs of the negotiators so that the project could help them to prepare for the forthcoming SBSTTA 26 as well as for COP 16 arranged at the end of October 2024. The following sections present the results from the 2024 workshop, starting with the knowledge needs specified in discussions in a similar manner as it was done for year

2023 workshops. To avoid repetition, the specific knowledge needs raised in 2023 and mentioned again in 2024 are excluded from this section unless the 2024 working group discussions provided additional insight on them. After presenting the knowledge needs, the preferred formats of information for the agenda items under discussion are summarised based on the survey and reflected against the insight provided by the six working groups attending the workshop.

3.2.1 Knowledge needs

As in the previous year, the *Monitoring Framework* was the most frequently discussed agenda item in terms of knowledge needs (Figure 3A). Only one working group – one of the two groups with Central and Eastern European representatives – did not discuss the Monitoring Framework at all. Most issues brought up by the other five working groups were related either to the Monitoring Framework in general or to its indicators and indicator methodologies (Figure 3B). No additional knowledge needs emerged when compared to the results from 2023.

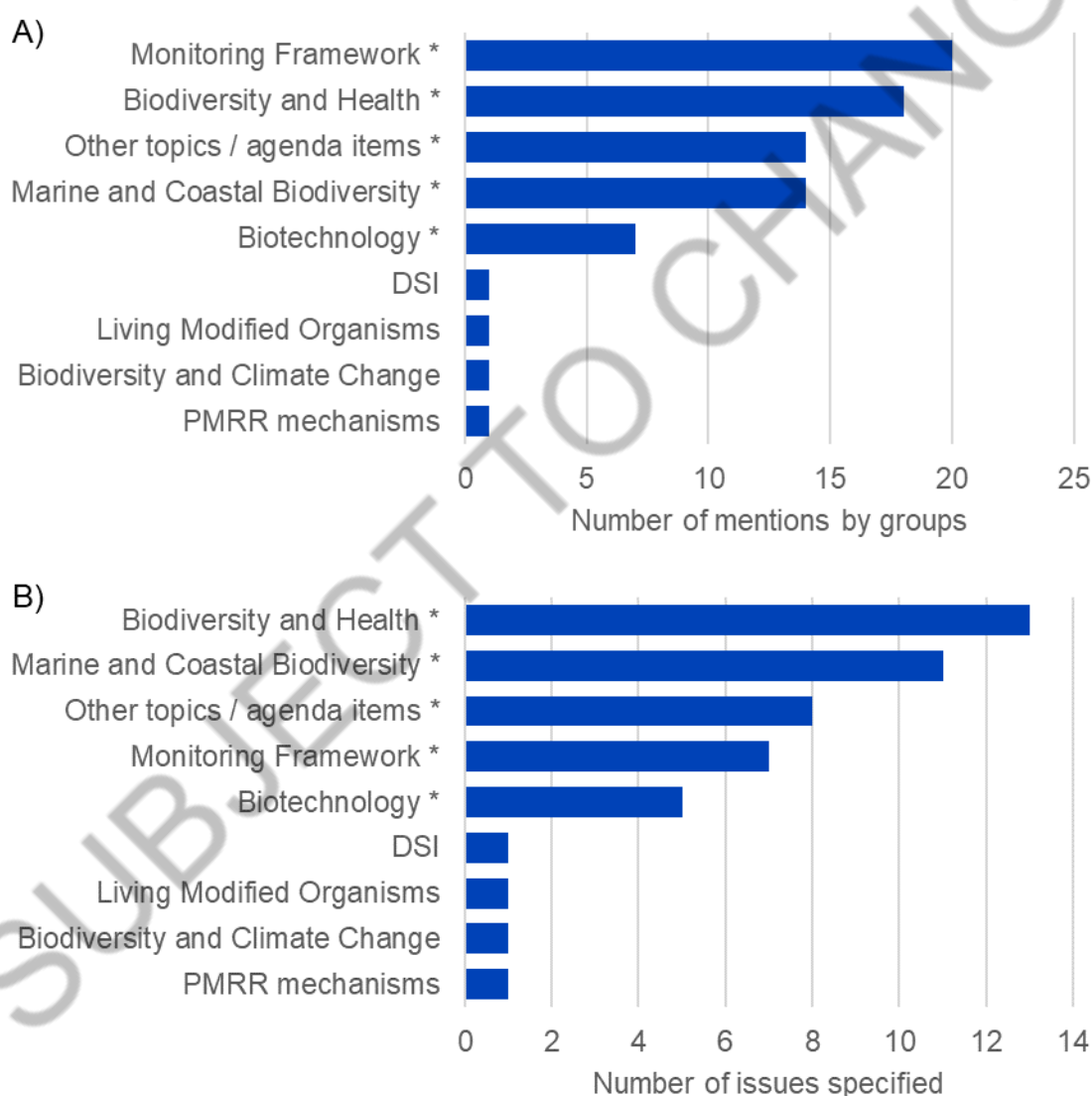


Figure 3: CBD agenda items with the expressed knowledge needs (year 2024 workshop). Items marked with an asterisk (*) were specified as the focus of the discussion. Mentions by groups (panel A) is counted as the sum over all working groups, indicating the frequency of which the agenda items were brought up during the discussions.

Issues specified (panel B) give the number of the knowledge needs that were specified under each agenda item. DSI refers to Digital Sequence Information on Genetic Resources and PMRR mechanisms refer to Planning, Monitoring, Reporting, and Review mechanisms.

Biodiversity and Health was discussed by five working groups, and one of them (Northern Europe) was particularly active on the topic. One of the two groups representing Central and Eastern Europe did not discuss knowledge needs related to Biodiversity and Health. Four working groups highlighted a need for additional information on a general level. In addition to this overall desire to know more, which was already evident in the earlier workshops, a wide range of more specific knowledge needs was discussed. Eight of these were new when compared to year 2023 workshop results.

Knowledge gaps:

- More interdisciplinary insight is needed on the linkages of human health and biodiversity; as such, health should be approached as a horizontal and crosscutting issue within CBD (two working groups)
- More research is needed on urban [bio]diversity as a health-related topic; for example, regarding insect vectors (one working group)
- Translation of health benefits into monetary terms is lacking (one working group)
- Perspectives from Indigenous Peoples are missing (one working group)

Knowledge dissemination needs:

- Overall, scientific reviews and compiled facts and figures are needed on the item of Biodiversity and Health (one working group)
- An overview of guidance on health initiatives under other MEAs would be helpful, e.g. climate-related agreements, the United Nations Convention to Combat Desertification (UNCCD), the Sendai Framework for Disaster Risk Reduction etc. (one working group)

Needs for improved implementation:

- There is a need to promote co-benefits of conservation and/or restoration for biodiversity and human health (one working group)
- A proper science-based action plan is needed, based on systematically reviewed and structured information (one working group).

Marine and Coastal Biodiversity was mostly discussed by one working group (Northern Europe). Overall, three of the six working groups discussed the topic, mostly acknowledging a need for a better overview on it. When compared to 2023, six additional knowledge needs were mentioned.

Knowledge gaps:

- There is a lack of knowledge on threats to marine biodiversity, including climate change (one working group)
- There is a general lack of knowledge on migratory species in marine and coastal areas, including ways to conserve them (one working group)
- Coverage and effectiveness of current marine conservation measures should be studied (one working group)

Knowledge dissemination needs:

- Comprehensive and reliable review of the main issues under Marine and Coastal Biodiversity would be beneficial (one working group)

Needs for improved implementation:

- More information is needed on the establishment of Ecologically or Biologically Significant Marine Areas (two working groups)
- New, dynamic approaches to conservation are needed that take environmental change into account (one working group).

Biotechnology was not discussed at all among half of the working groups, while the other three working groups expressed a firm need for general information on the topic. One working group (Northern Europe) also raised two new knowledge needs, both of which relate to improved implementation of CBD:

- There is a need to find and mainstream solutions for the future governance of Synthetic Biology; regulation is needed but arrangements are lacking
- In general, CBD is lagging behind in matters related to biotechnology.

Additionally, four other CBD agenda items were discussed by individual working groups, although they were not targeted during the workshop. Regarding *DSI* and *Living Modified Organisms*, the need for overall knowledge on both agenda items was brought up. Global targets of GBF were discussed in relation to *Planning, Monitoring, Reporting, and Review mechanisms*. When compared to the 2023 workshop, a new specific topic was raised by one of the keynote speakers, related both to *Biodiversity and Climate Change* and *Biodiversity and Health*: namely, that the effects of climate change on insect biogeographies from a disease vector perspective should be studied more.

Finally, working groups raised up other additional knowledge needs that were not directly related to any of the agenda items. Out of the eight topics specified, six were repeats of year 2023 topics, while two new ones were mentioned:

- Research is needed on emerging threats to nature (knowledge gap brought up by one working group)
- Clarification is needed on the definition of the OECMs, as well as on how to deal with them (two working groups; an issue of improving knowledge dissemination).

The results from the 2024 survey were mostly aligned with the workshop results. When asked whether they had knowledge needs on the upcoming SBSTTA 26 agenda items, six respondents reported having knowledge needs on the Monitoring Framework. This was in line with the findings from the workshop, where the Monitoring Framework was clearly the most discussed agenda item. Four survey respondents indicated knowledge needs in relation to Biotechnology and Synthetic Biology and two respondents noted that they had knowledge needs on Biodiversity and Health-related matters. Only one respondent mentioned knowledge needs on Marine and Coastal Biodiversity, which is in contrast with the workshop, where Marine and Coastal Biodiversity was identified as lacking both background ecological data and guidance on conservation practices. One survey respondent replied stating that they had not identified specific knowledge needs so far. Each respondent could choose several topics if they were applicable.

3.2.2 Preferred formats of information

Confirming the findings from year 2023, the data collected in 2024 portrayed policy briefs and information documents as the CBD negotiators' preferred format of receiving information – the shorter and more accurate, the better. In 2024, no difference was made in the time between receiving the information. Instead, the survey respondents were asked to specify their format preferences according to each of the upcoming SBSTTA 26 agenda items (Table 5). Not surprisingly, as the largest knowledge gap was identified around the Monitoring Framework, this item was connected to the broadest range of applicable information sources, including global reports and insight from international experts. In the case of Biotechnology and Synthetic Biology, the respondents tended to lean on short policy briefs and different kinds of visual materials, including informative videos; however, this observation is not generalisable due to the small number of respondents (n=9).

Table 5: Preferred knowledge formats in relation to the selected SBSTTA 26 agenda items (columns) by survey respondents (2024, n=9). The respondents could choose all options they considered applicable for themselves.

Format for receiving information	Monitoring Framework	Biotechnology and Synthetic Biology	Marine and Coastal Biodiversity	Biodiversity and Health	Other items/topics	Total
Short policy briefs	4	4	1	2	1	12
Background information documents (e.g. CBD INF docs)	4	1	1	1	1	8
International experts (e.g. IPBES or CBD AHTEG)	4	2	0	1	0	7
Visual materials, e.g. videos of experts explaining the agenda item	2	3	0	2	0	7
Global reports	4	1	1	0	0	6
Scientific syntheses on the item	3	2	0	0	1	6
National experts to consult	3	1	0	1	0	5
Online materials/courses (MOOC)	2	1	0	1	0	4
Side events at CBD meetings	1	1	0	1	0	3
Following a request for knowledge/ information via WhatsApp	0	1	0	1	0	2
In your national language	0	1	0	1	0	2
Some other format	0	0	0	0	0	0

During the 2024 workshop, the working groups discussed the most convenient formats for receiving information in more detail. These discussions, again, were dominated by accounts emphasising the importance of written material in its many formats. Background information documents and pre-session documents were repeatedly mentioned and, in addition to these, the participants brought up the usefulness of scientific syntheses and different kinds of briefs. These included policy briefs, but also technical briefs that focus on the scientific background rather than on policy recommendations. The importance of the technical briefs was highlighted by those participants who wished to make a clear separation between sourcing evidence-based information and making political decisions informed by science. It was noted, though, that the technical briefs could benefit from integration of the main CBD documents in terms of references and hyperlinks; and that this would help to strengthen the science–policy interface. In addition, reports ranging from national and regional to global level were utilised; and to keep all Parties on the same page, glossaries were seen as key.

Reading the background materials was often complemented by discussions with relevant experts. It was clear that when the NFPs used expert consultation, they needed information primarily from their national experts. This finding is in line with the results from 2023. In addition to national experts, regional consultations and input from international experts were mentioned. Informal interaction was seen as beneficial, whether it was organised as a bilateral meeting, as part of a Vilm meeting, or taking place during a CBD meeting side-event. When asked how expert contact could be facilitated, the creation of contact lists (e.g., listing European experts on SBSTTA agenda items) was mentioned; group chat services such as WhatsApp were also seen as a potential tool for outreach.

The participants mentioned different kinds of online materials, including forums and online courses, as useful. Audiovisual materials such as videos of experts explaining and contextualising relevant topics, webinars focusing on the upcoming agenda items, and the publication of pre-session documents, were brought up as conveying timely information. As a whole, the internet serves as the basic medium of delivering information to the NFPs. The CBD website is a key source for much of the written materials (INF docs, pre-session documents, glossaries etc.). Some participants noted, however, that the CBD website is hard to navigate, which makes finding the information sometimes inefficient.

To ease the actual negotiations, some participants said that summaries of the positions of major negotiation partners, prepared in advance, would be helpful. And, repeating what was already said in the previous workshops, the participants emphasised timely input of information: if the experts' input arrives too close to the COP, it is impossible to take it into consideration as the agenda has been finalised and the Parties' positions have already been formed. This, and the ease of accessing the relevant documents, was emphasised also in the following comment that was provided by a respondent in the year 2023 survey:

“The most important issue is that knowledge and information are readily available well before the start of the negotiations. In the EU, we negotiate our positions internally well before the start of the global negotiations, so it is important that information is available easily and sufficiently early. Also, information documents are very important, and it is very convenient that they can be found easily among the documents for a specific meeting, such as SBSTTAs or COPs.”

3.3 Capacity needs on CBD procedures

In addition to CBD negotiators' knowledge needs and preferred formats of receiving information, insight into their capacity needs were inquired. Although mapping of capacity needs is not the focus of Task 1.1 of CO-OP4CBD, it is tied to the overall aim of the project to support the implementation of the CBD. Collecting information on NFPs' capacity needs assists the work done under Work package 3 on supporting monitoring, reporting, and review; and, more specifically, that of Work package 4, which has specific aims for supporting technical and scientific cooperation around the CBD. The following section briefly outlines capacity needs identified from the 2023 and 2024 surveys and workshops, in which the Party representatives reflected on their abilities to engage with the CBD processes.

In the 2023 survey, the respondents (n=31) were confident in their understanding of the CBD procedures, their ability to follow the negotiations, and that their positions were backed by science/knowledge (these statements were scored on averages over 4 out of a max of 5 (4,1, 4,3, and 4,0 respectively). The respondents indicated relatively high confidence also in their ability to defend their position and knowing who to reach out to (with averages of 3,9 and 3,8). The lowest score was given to the statement on the availability of information in one's preferred language, but the difference was not large (on average, 3,7). However, in the 2024 survey (n=9) finding information in one's native language was not identified as an issue when asked in relation to the upcoming SBSTTA 26 agenda items (Table 5).

Both surveys (2023 and 2024) included questions related to Parties' capacities to engage in CBD negotiation processes. First, the respondents were asked the typical size of their CBD delegation in different meetings (Figure 4). Most respondents reported that their Party had a small delegation of one to five delegates attending both the SBSTTA/SBI and the COP meetings. Many of them represented Eastern European countries. Regarding the COP meetings, however, there was more variation, and larger delegations were more common. In 2023, nine respondents reported that the Party was represented in the COP by a delegation of more than 20 attendees. Five of these nine respondents were representing France, and their estimates on the size of the French delegation ranged from 20 to 100 attendees. Other countries with larger delegations included Belgium, United Kingdom, and Germany. When compared to other respondents, the French and the Belgian representatives seemed to struggle to estimate the size of the COP delegation, as there was variation among their responses. In 2024, one respondent reported that the (EU-level) delegation consisted of 30 attendees, while another reported 50 attendees (from France).

During the workshops, the small size of CBD delegations, consisting of one or two delegates in the case of smaller countries, was mentioned as challenging for the full participation in the COP events. This concern was brought up in a following comment from the 2023 survey:

“Usually, my problem is that we have very small delegation (I am alone or maybe with a few colleagues), and this is why I am physically not able to follow all items. Easy-to understand briefings on all items and CBD procedures would be useful.”

In the workshops (both in 2023 and 2024), more capacity needs were brought up. This was probably because the workshops were attended by relatively many NFPs that were new to their duties. One capacity-related concern that was repeatedly raised in the workshops (both 2023 and 2024) was the need to support negotiators and experts to better understand the CBD processes. An account from the 2023 survey further illustrates that the need to familiarise with the actual CBD procedures is not limited to new NFPs:

“CBD procedures are very challenging to grasp, even for someone who is experienced in the CBD process. More information and explanations on this topic would be much appreciated and needed. Therefore, negotiating our position is harder due to lack of knowledge in the procedural processes.”

SUBJECT TO CHANGE



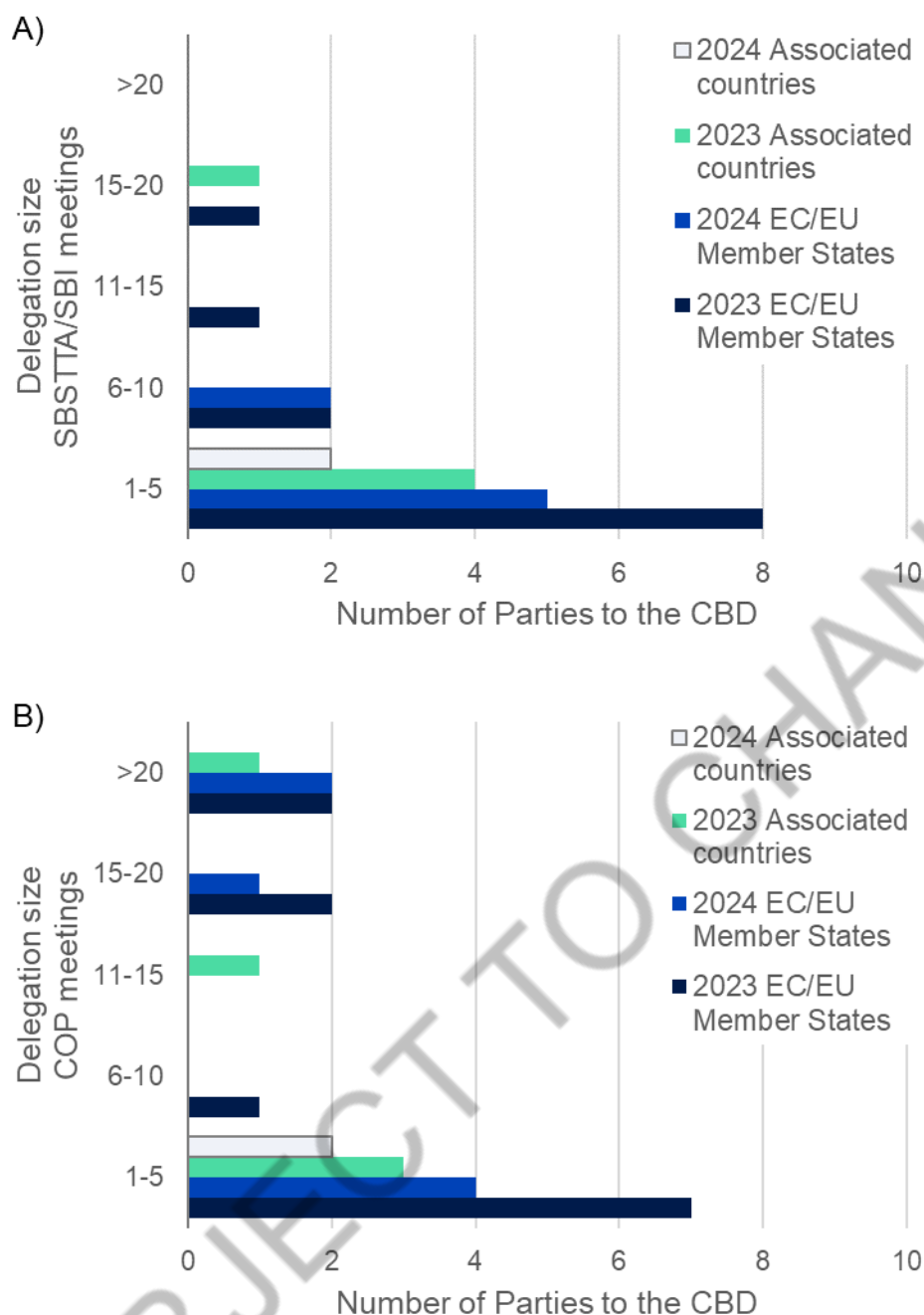


Figure 4: Delegation sizes, defined as the number of persons attending the event on behalf of the Party, in SBSTTA/SBI meetings (panel A) and COP meetings (panel B) according to surveys in 2023 and 2024. Year 2023 data includes 17 countries and year 2024 data includes eight countries and the EU representation. For countries with several respondents, the median size of the delegation was derived if there was variation among the responses to produce a single value for each Party to the CBD (applies to Germany, Belgium, and France).

The year 2024 survey addressed the Party representatives' individual capacity needs by asking the respondents several questions on their preparedness to engage in CBD negotiations as well as their insight into implementation of the COP outputs (Table 6). Needs for CBD-related training were brought up both by new and more experienced negotiators. Two out of the nine respondents indicated having no training needs; they both held leading positions in negotiations and had several years' experience in attending various kinds of CBD meetings.

Table 6: CBD negotiators' individual-level capacity needs (2024 survey, n=9). The numbers show the count of respondents choosing the response option; NA means that the option was not applicable for a specific question.

Question	Yes	No	Not sure / Maybe
Are you familiar with the history, process, and implementation mechanisms of the CBD?	7	0	2
Would you benefit from a training on the history, processes, and implementation mechanisms of the CBD?	5	3	NA
Would you find it useful to have elements of comparison between the CBD and other multilateral environmental conventions?	7	1	1
Would you be interested in a training to read and write CBD documents?	7	2	0
Would you be interested in a training on negotiations?	7	2	0

In addition, one respondent commented on being frequently asked about the legal implications of CBD decisions and felt that covering this dimension in a training would be useful.

Capacity needs were further discussed during the 2024 workshop as the dedicated topic of the last part of the working group session. The discussion was facilitated with a predetermined typology of enabling environmental, organisational, individual, and other capacity needs. These were further divided into negotiation-related and implementation-related capacity needs. Unfortunately, some working groups ran out of time and did not manage to discuss capacity needs at all. Other working groups raised several issues that fell under two broader categories: firstly, those related to engagement with CBD processes and linked to the negotiations; and secondly, those related to national implementation of the outcomes of CBD meetings.

For those NFPs who were new or relatively new to the CBD context, the mechanisms, processes, and protocols proved challenging to manage. It was mentioned that a targeted training on the CBD negotiations would alleviate these individual-level capacity needs, and that the preferred way to organise such training would be through peer collaboration, so that those NFPs with more experience could share their knowhow with the newer NFPs. In addition to such capacity-building training, other training needs were also expressed. These included ways to apply the Monitoring Framework to national reporting and trainings on specific topics (for example OECMs and DSI).

Regarding engaging with CBD processes on the national level, the working groups expressed overall capacity needs on the levels of enabling environment and organisation. A common organisational capacity need concerned insufficient integration of biodiversity-related topics across administrative sectors. The dissemination of the CBD through mainstreaming was seen as lacking, despite the overarching nature of many of the CBD agenda items. One such example that was discussed by the working groups was Biodiversity and Health. One participant brought up the difficulties in dealing with the item on the national level since CBD issues were placed under the Ministry of the Environment, whereas the Ministry of Health was not involved in the CBD-related matters at all. Overall, it was highlighted that the health sector and the experts therein should be more involved with the CBD. Another example was that of Synthetic Biology, which was managed within the Ministry of Agriculture in one country and, due to the lack of collaboration between ministries, the link between CBD and matters related to Synthetic Biology was weak nationally. Overall, the administrative sectorisation was recognised as being a large issue, discussed by several working groups. Most often there were challenges in receiving information for monitoring and reporting from data sources managed by other sectoral ministries. Also, the general lack of knowledgeability on the CBD was often

mentioned. The issue on how to promote international commitments to other ministries was even framed as a 'sales' problem; the participants felt it difficult yet necessary to motivate those colleagues whose work was related to the CBD indirectly, but who were not paid for taking part in CBD processes.

National implementation of the outcomes of CBD meetings also sparked discussion on how to better couple the national and the international processes together. It was brought up that as parallel processes are ongoing nationally and in the EU, there is a need to feed the missing elements of the proposals from the national level to the EU-level and vice versa.

4 Discussion

4.1 Four types of knowledge needs

The work presented in this deliverable illustrates the breadth of knowledge needed by the CBD negotiators and NFPs. When asked for their knowledge needs, they did not only identify scientific knowledge gaps within multiple fields of research, but recognised needs for better communication and dissemination of knowledge as well as needs to facilitate and standardise use of knowledge, information, and data within the CBD processes. Evidently, the level of experience with the CBD as well as the knowledge resources already available for the negotiators and NFPs affected the needs they expressed. In practice, this means that to be most useful, future knowledge support should cover a range of issues identified here, and the negotiators and NFPs should be able to choose the kind of knowledge support that best fits their needs. Based on the workshop materials, four general categories of knowledge needs were identified (Figure 5). In this section, these categories are elaborated in more detail.

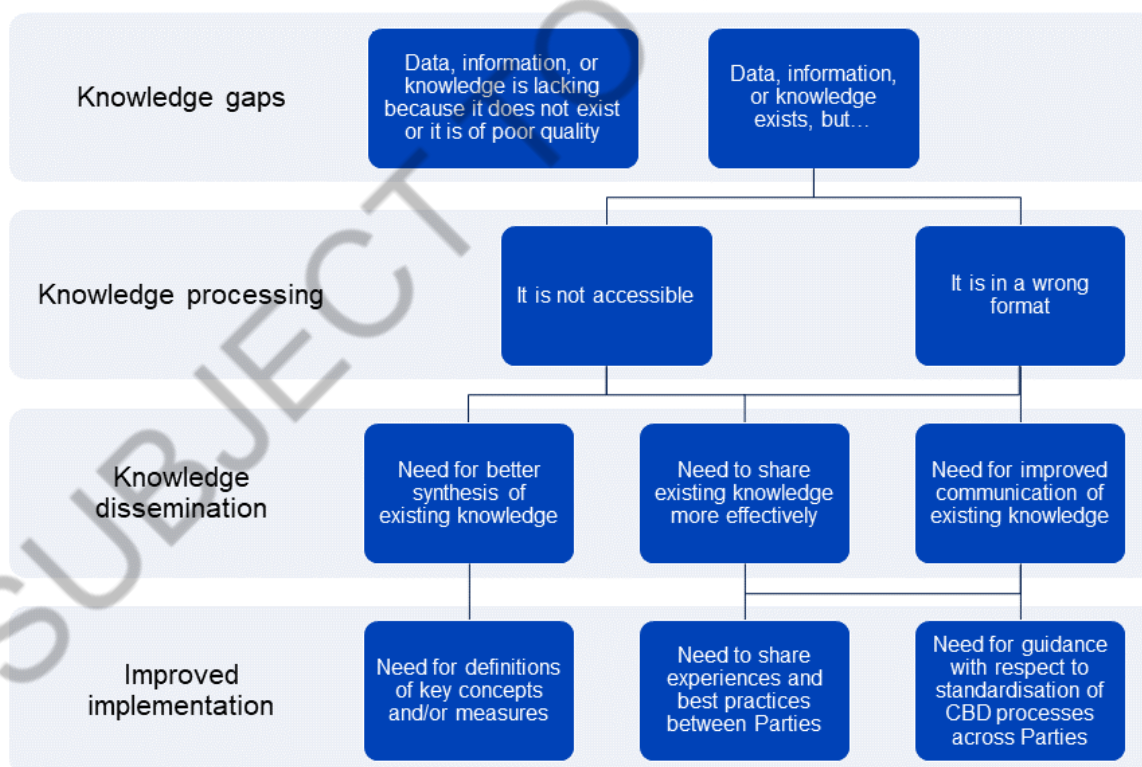


Figure 5: The four categories of CBD negotiators and National Focal Points' knowledge needs identified from the workshop materials, and main characteristics of the related issues under each category.

The knowledge needs under each category in Figure 5 have unique challenges that require different kinds of responses. The most fundamental category, *knowledge gaps*, includes cases where scientific evidence base is inadequate, resulting in unavailability of information. In such cases, the only way to address the knowledge needs is through new research. Under the CBD agenda items, research gaps were identified specifically in relation to Biodiversity and Health and Biodiversity and Climate Change, both of which are topics that cut across multiple sectors of society and require adoption of interdisciplinary approaches to produce the needed basis of knowledge. An additional type of knowledge gap was identified regarding unavailability of accurate data: lack of empirical research means that there are no datasets collected, either. The CBD negotiators and NFPs highlighted that Monitoring Framework for the GBF and Planning, Monitoring, Reporting, and Review mechanisms require scientific data which may not exist, or the existing data can be unusable due to poor quality. Such data deficiencies were detected regarding Marine and Coastal Biodiversity, Sustainable Wildlife Management, Plant Conservation, and Invasive Alien Species.

The second category, *knowledge processing needs*, includes issues of existing information and data being applicable in principle while unattainable in practice. The CBD negotiators and NFPs described how these cases can arise in national settings due to data ownership and management issues, resulting in situations where information or certain datasets cannot be accessed or are in a format that is unsuitable for the CBD context. Knowledge processing needs were highlighted particularly in relation to Planning, Monitoring, Reporting, and Review mechanisms, but they were mentioned also under other agenda items. These included Sustainable Wildlife Management and Marine and Coastal Biodiversity, both of which deal with population size monitoring data (e.g., on game species and fish stocks) that are managed by other ministries than those directly involved in the CBD. In these situations, cross-sectoral collaboration and opening the datasets for other users would solve the issue of information being inaccessible. The issue of data being in wrong format can be solved through purposeful data conversions, when possible, or adjusting the ways in which data are collected and stored.

Engaging in such data management efforts requires expertise, which leads to another knowledge processing need that was repeated in the workshop discussions: the lack of national experts who could provide the needed information. In general, collaboration with national experts was framed as a crucial asset for the CBD negotiators and NFPs. There were, however, differences in Parties' ability to reach experts. Representatives of smaller countries often mentioned lacking the input of national experts as they had few resources for engaging them in CBD-related work. Furthermore, the discussions illustrated that not all fields connected to the CBD are equally covered by national expertise. National experts were frequently mentioned as missing in relation to biotechnology (agenda items: DSI, Synthetic Biology, and Detection and Identification of Living Modified Organisms). At least in some countries the issue was a lack of research in these fields, resulting in a situation where national expertise was missing and could not be built unless more resources were given for targeted research. One practical suggestion to increase the provision of the needed knowledge support was to strengthen the regional collaboration by having regional experts who could collaborate with several countries. In addition, information facilitation provided by the EU was mentioned as useful, for example through European Topic Centres.

Thirdly, *knowledge dissemination needs* were identified under all CBD agenda items discussed during the workshops. Dissemination needs are instances where information and/or data are available in a suitable format but grasping them efficiently requires navigation and synthesis of the existing knowledge rather than producing new knowledge. Regional coordination in knowledge sharing and communication was seen important also in this sense, together with collaboration with scientists who could review literature to produce up-to-date scientific overviews on topics under their fields of expertise. One concrete solution mentioned in the workshops was to increase collaboration with IPBES expert groups and national IPBES panels (if such national groups existed) so that the outputs of IPBES would better feed into

the CBD processes. Another action raised by the CBD negotiators and NFPs targeted specifically Biodiversity and Health -related topics: they suggested that institutional knowledge across the UN organisations could be compiled to increase integration of different sectors and to produce more coherent and comprehensive understanding on the impacts of biodiversity on human health.

The fourth and final knowledge need category included *needs for improved implementation*. Here implementation refers to CBD mechanisms and processes, such as reporting under the Monitoring Framework or developing National Biodiversity Strategies and Action Plans, but is also inclusive of advancing the overall aims related to the CBD through practical measures (e.g., adoption of more effective and efficient conservation practices). According to the CBD negotiators and NFPs, the knowledge needs for improved implementation were primarily tied to shortage of practical guidance and lack of clarity in the technical language of the CBD. Improved implementation needs highlight cases where the actual knowledge, information, or data in question can be well established but there is a need to better understand how they should be used. The CBD negotiators and NFPs mentioned needs for more guidance, or a need to better communicate existing guidance from the CBD; needs to accurately define key concepts and/or measures within CBD processes; needs to standardise approaches across Parties; and needs to share experiences and best practices internationally to help countries meet their responsibilities and fulfil their parts in achieving the global aims. Among the CBD agenda items, needs for improved implementation most often related to the Monitoring Framework and Planning, Monitoring, Reporting, and Reviewing mechanisms. These are explained in more detail in the following section. In addition, best practices and guidelines were called for regulating invasive species, managing wildlife sustainably, improving marine conservation, and improving inclusion of cultural aspects into nature conservation.

4.2 CBD agenda items with most knowledge needs

In general, the identified knowledge needs during the intersessional period between COP 15 (December 2022) and COP 16 (October 2024) highlighted the newly launched *Monitoring Framework for the GBF* as the item with the most concerns and knowledge needs among European CBD negotiators and NFPs. Various topics touching all four knowledge need categories were specified that would benefit from more detailed, scientifically grounded information. These fell under three overarching themes: indicators, data issues, and national implementation of the Monitoring Framework. More detailed definitions of the indicators were called for, together with exact descriptions of the methodologies that should be applied to collect the needed data. Data availability and quality issues were concerns repeated by all working groups. In addition, the NFPs mentioned that the guidance on how to organise monitoring nationally was lacking. The vast interest given to the Monitoring Framework was expected as it was one of the main outputs of COP 15 and, as such, the guidelines for its implementation have been in preparation during the intersessional period. At the same time, the importance of monitoring the implementation of the Convention was further highlighted by the fact that knowledge needs relating to the *Planning, Monitoring, Reporting, and Review mechanisms* received high priority among the CBD negotiators and the NFPs.

Important knowledge needs were detected also in relation to other CBD agenda items, including *DSI* and *Synthetic Biology*, which are emerging fields fuelled by rapid technological advancement, as well as *Biodiversity and Health* -related matters. Many of the identified knowledge needs included gaps in both basic and applied research. Understanding of zoonoses was frequently mentioned as lacking sufficient scientific input within CBD processes. The concern over zoonoses was not surprising given that the negotiators and the NFPs were contacted shortly after the global COVID-19 pandemic that not only greatly influenced the practicalities of organising CBD interactions and events but also brought the risks of human–nature contacts into public discussion. As already discussed, Biodiversity and Health was highlighted as being a cross-cutting item that needs to be addressed in relation to other agenda items,

requiring broader cross-sectoral perspective to be understood in full. The cross-sectoral collaboration was acknowledged as hard to get at, given the divergence of health and biodiversity issues into different organisations both internationally and nationally. Yet, the development of a shared, cross-sectoral and – essentially – interdisciplinary knowledge basis was seen as the necessary next step. Importantly, taking this step also requires adoption of participatory approaches as transdisciplinary research is needed to identify and measure the full scale of health and well-being benefits of nature. Transdisciplinary research by default necessitates integration of scientific knowledge with other more informal types of knowledge³. These include Indigenous, local, and traditional knowledge(s) that can bring about insight into human and non-human wellbeing from otherwise unattainable perspectives (e.g., experiential, place-based, or inherited information). Such inclusion may prove complicated as the role and possibilities of participation of these knowledge holders, namely Indigenous Peoples and local communities, has not been straightforward in the CBD context; this was brought up in the workshop discussions.

According to the negotiators and NFPs, wide-scale system level knowledge is needed on the 'big' issues within the CBD agenda, e.g., *Biodiversity and Climate Change*. Despite the research effort on the effects of climate change on biodiversity or on the trade-offs between climate change mitigation and biodiversity conservation, the actual local impacts have proved difficult to anticipate and manage. These issues were especially crucial in relation to marine ecosystems. The negotiators and NFPs identified *Marine and Coastal Biodiversity* as facing both a lack of baseline ecological data and applied research on how to mitigate the adverse effects of climate change on marine nature. To ensure a robust conception of the full extent of global change and the CBD's role in it, the negotiators and NFPs noted that it would be particularly relevant to get more knowledge on the linkages, impacts, and relations between different agenda items (including resource mobilisation).

As such, the negotiators' knowledge needs described in this deliverable match well with the research needs expressed in CBD Decisions until COP 14 (reviewed by Institute for Biodiversity Network e.V. & German Federal Agency for Nature Conservation [2019]). For example, topical issues under Marine and Coastal Biodiversity in COP 10 (October 2010) included assessing and mapping the distribution and abundance of species in the sea and addressing climate change adaptation and mitigation issues; based on the analysis presented here, these knowledge gaps prevail. Among the cross-cutting issues, Biodiversity and Health has been gaining interest in the more recent COPs, with COP 13 (December 2016) listing several research needs ranging from the effects of biodiversity in the living environment on the human microbiome to the interlinkages between dietary diversity, health and diversity of crops, livestock, and other components of biodiversity in agricultural ecosystems, as well as marine and inland water ecosystems. As noted by the negotiators and NFPs, there is a need to combine and review existing knowledge on linkages between biodiversity and health to achieve a more complete understanding on such a complex matter; and this work should be done not only interdisciplinarily, but with inclusion of traditional and Indigenous knowledge. In the CBD Decisions reviewed by the Institute for Biodiversity Network e.V. and German Federal Agency for Nature Conservation (2019), Synthetic Biology was listed under New and Emerging Issues. Most of the identified research needs on Synthetic Biology targeted the potential risks of genetically modified organisms, components, and products on biodiversity and the need to assess these risks in advance using a case-by-case approach (COP 12 in 2012, COP 13 in 2016, and COP 14 in 2018). In comparison, the negotiators and NFPs were perhaps more

³ Transdisciplinary research addresses socially relevant problems labelled with uncertainty and dispute; typically there is a great deal at stake for those concerned by the problems and involved in dealing with them. The transdisciplinary research process uses participatory approaches that go beyond doing research on actors, allowing the actors help shape the research process (Pohl & Hadorn 2008).

concerned with the rapid progress of Synthetic Biology and the fact that the field lacks regulation.

The work of the NFPs includes many responsibilities that take place during the intersessional period. Organising the national monitoring and reporting of the CBD is one such duty, and most of the related issues raised by the workshop participants dealt with unavailability of data to fulfil the monitoring and reporting demands. In addition, NFPs' duties include dissemination of the CBD and its protocols to various actors and levels, collaboration within and around the CBD processes, and enabling the national implementation of the CBD. In relation to these tasks, knowledge support is clearly needed in relation to the GBF targets (development of national targets, applying global targets to national context) and mainstreaming of the CBD. There were also questions about how to best manage the national processes and networks so that they better support the work of the CBD. Regarding the last point, administrative barriers between different governance sectors such as those dedicated for the environment, agriculture, and use of natural resources – as well as the previously mentioned health sector – were mentioned as hindering collaboration. This issue falls under organisational capacity needs rather than knowledge needs, but it is worth noting that there are situations in which the flow of information is restricted or even blocked due to rigid sectoral administration, as was highlighted in the earlier section that outlined knowledge processing needs experienced by the CBD negotiators and NFPs.

4.3 How and when to provide knowledge support

As emphasised in the first section of the Discussion, different kinds of knowledge needs require different responses (e.g., conducting new research to meet knowledge gaps vs. practice-oriented guidelines for improved implementation). However, these responses can be channelled through various mediums of knowledge exchange. The negotiators and NFPs provided clear preferences regarding the formats in which they receive information. Concise written reports, including background information documents of CBD and short policy/technical briefs, were seen as highly useful, especially if they are synthetic in nature and provide up-to-date overviews of issues in plain language. Ease of access to the information source, most often via the internet, was also highlighted. Information should be relevant to the agenda item, brief and to the point, grounded in science, and (optionally) provide different policy options and their implications. Although reading as a means of deriving the information was most important, it is restricted by the availability of time, and therefore directly contacting experts on specific matters was also highly valued. The option to speak to and consult experts – preferably national experts – in an impromptu manner was highlighted as a particularly valuable resource during the negotiations when time is lacking. Tight timelines and busy schedules were identified as major factors in both preparing for the negotiations and being present at the negotiations. Overall, the aim of gathering new information often is to update one's 'knowledge base' as the NFPs are knowledgeable on certain topics but cannot be expected to cover all CBD agenda items; nevertheless, a certain level of general understanding on all issues is required. With time, NFPs build their know-how and thus the knowledge needs (as well as many of their personal capacity needs) vary with experience.

One way to support NFPs' access to expert knowledge that was brought up in the workshop discussions was domestic institutional arrangements, which help when preparing for the negotiations (e.g., CBD and IPBES working groups). Such domestic institutions can provide expertise even if the NFP does not know who the individual expert on a specific matter is, as these institutions help find the right person through their networks. These arrangements also can alleviate the challenge of getting information in time: in between COPs the input from scientists and other experts often comes too late considering that the national positions must be formed well before the COP, and in some cases before the SBSTTA meetings.

Many European SBSTTA NFPs took part in the workshops and/or responded to the surveys. They highlighted that training of experts on the CBD process and protocols is needed, as it is

important for them to understand when scientific knowledge can be brought into the CBD process and how (through which venues). They noted that the work of SBSTTA is already inherently political, leaving little space for scientific and technical discussions. This finding is further supported by experiences from Work package 2 (Engaging expertise in CBD processes), where support of experts to fulfil the knowledge needs within CBD is sought. In practice, the CBD Parties share and negotiate national (and regional) positions well before attending the SBSTTA meetings. Following from this, the scientists' input is needed in the stages preceding the SBSTTA meetings. This can happen through contributions in the AHTEGs, IAGs, and IACs and reports and assessments crafted by these dedicated working groups, yet it should be noted that not all issues have such bodies. Some SBSTTA documents contain and rely on technical works produced much earlier in the CBD process. As a result, engaging expertise into CBD discussions would be more consistent and effective when these scientific and technical works are produced well ahead of SBSTTA meetings (see Figure 1). Of course, taking part in this background work is not by open call since the authors and members of the working groups are usually identified through snowball sampling. However, SBSTTA NFPs can often suggest relevant experts, and being in contact with them can provide one way of participating in the CBD process. Alternatively, scientists can provide input in support of national delegations and any coordination meetings if there are such. Here, again, the NFPs are key contact persons. It should also be noted that IPBES provides an important path for involving science in the CBD currently. The ways to get involved in the IPBES Expert Groups and Taskforces are beyond the scope of this deliverable.

4.4 Overview of capacity needs

Finally, the work done under Task 1.1 shed light on capacity needs faced by CBD negotiators and NFPs that are briefly summarised here. Although the results from the 2023 survey suggested that NFPs had high levels of confidence in their ability to participate in CBD procedures, the need to improve negotiator skills was frequently brought up in the 2023 and 2024 workshops as well as in the open comments in the survey. A lack of in-depth understanding of the CBD procedures was seen as a major obstacle in one's ability to effectively negotiate. Even experienced negotiators noted that the procedures are difficult to learn and understand well. Such capacity needs can be complex and rooted in context rather than in the availability of relevant information (scientific, procedural, etc.). One important institutional capacity issue that was often raised by the representatives of Parties with smaller delegations was the lack of resources to participate in CBD events or in the overall process. This could materialise as a lack of travel funds, time restrictions due to other overlapping work responsibilities, or a lack of staff who have been employed for a long time and have accumulated experience. Some NFPs pointed out that organising the CBD-related events in hybrid format and thus allowing for remote participation has hugely helped them to be more involved in the CBD. The actual negotiations taking place during the COP and most of the CBD related meetings, however, still very much rely on in-person attendance.

In conclusion, there is a need to provide knowledge support for the negotiators and NFPs on a variety of topics and, more specifically, in relation to those CBD agenda items that have been identified as having research gaps. This future knowledge support should be timely, evidence-based, and should provide clear messages in short formats. Parallel to the scientific background information on the topics specified by the participants in this inquiry, the less experienced negotiators and NFPs highlighted important topics for capacity support. They identified a need to strengthen their understanding of the CBD processes and improve their skills and knowhow regarding the actual negotiations, preferably through peer-learning.

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