



Convention on Biological Diversity

Distr.: General 30 March 2024

Original: English

Subsidiary Body on Scientific,
Technical and Technological Advice
Twenty-sixth meeting
Nairobi, 13–18 May 2024
Item 3 of the provisional agenda*
Monitoring Framework for the
Kunming-Montreal Global
Biodiversity Framework

Monitoring framework for the Kunming-Montreal Global Biodiversity Framework

Note by the Secretariat

I. Introduction

- 1. In its decision 15/5 of 19 December 2022, the Conference of the Parties adopted the monitoring framework for the Kunming-Montreal Global Biodiversity Framework contained in annex I to that decision. In that same decision the Conference of the Parties decided to establish an ad hoc technical expert group on indicators for the Framework, with a time-bound mandate until the sixteenth meeting of the Conference of the Parties, to advise on the further operationalization of the monitoring framework for the Kunming-Montreal Global Biodiversity Framework.
- 2. The present note was prepared on the basis of the results of the work of the Ad Hoc Technical Expert Group on Indicators for the Kunming-Montreal Global Biodiversity Framework, specifically annex I to the report of its sixth meeting.¹

II. Background

- 3. In its decision 15/5, the Conference of the Parties requested the Subsidiary Body on Scientific, Technical and Technological Advice to review the outcomes of the Expert Group to complete the scientific and technical review of the monitoring framework. Pursuant to that request, the Subsidiary Body will report relevant findings related to the discussions on planning, monitoring, review and reporting to the Subsidiary Body on Implementation for consideration at its fourth meeting. It should be noted that the Subsidiary Body on Implementation will consider the use of the monitoring framework in national biodiversity strategies and action plans, national reports and the global review of collective progress in the implementation of the Framework as part of the mechanism for planning, monitoring, review and reporting. In its decision 15/7, the Conference of the Parties decided to establish the Technical Expert Group on Financial Reporting to support the Ad Hoc Technical Expert Group on Indicators.
- 4. On the basis of that, the Ad Hoc Technical Expert Group on Indicators was established in April 2023. It met six times, twice in-person and four times online. Between its establishment and the present meeting

^{*} CBD/SBSTTA/26/1.

¹ See CBD/IND/AHTEG/2024/6/2.

of the Subsidiary Body, it also had numerous email exchanges and smaller group meetings and developed joint documents in consultations with Parties and others. The meeting reports are available online.²

- 5. The Technical Expert Group on Financial Reporting was established in June 2023. It met three times, twice in-person and once online between its establishment and the present meeting of the Subsidiary Body. The Co-Chairs of the Technical Expert Group on Financial Reporting participated in the meetings of the Ad Hoc Technical Expert Group on Indicators and had regular exchanges with its Co-Chairs. The reports of the meetings of the Technical Expert Group on Financial Reporting are available online.³
- 6. In its decision 15/5 the Conference of the Parties also invited the Ad Hoc Open-ended Working Group on Article 8(j) and Related Provisions of the Convention to continue the development and operationalization of indicators related to traditional knowledge and indigenous peoples and local communities, and to report on this work to the Conference of the Parties, and in its decision 15/8, it requested the Informal Advisory Group on Technical and Scientific Cooperation to support the Ad Hoc Technical Expert Group on Indicators if necessary. In decision 15/5, the Conference of the Parties also requested the Executive Secretary, in collaboration with the Ad Hoc Technical Expert Group on Indicators, to convene moderated online discussions on the monitoring framework and to develop guidance on the monitoring framework.
- 7. The Ad Hoc Technical Expert Group on Indicators organized its work, taking into account views shared through an online discussion forum and in collaboration with the ongoing processes of the Technical Expert Group on Financial Reporting and the Ad Hoc Open-ended Working Group on Article 8(j) and Related Provisions of the Convention. In addition, the Ad Hoc Technical Expert Group on Indicators received inputs on Targets 20 and 21 from the Informal Advisory Group on Technical and Scientific Cooperation, and on Target 17 from the Liaison Group on the Cartagena Protocol on Biosafety. It should be noted that the views shared in the moderated online discussions primarily related to gaps in the monitoring framework, either in terms of gaps related to specific goals or targets or gaps related to monitoring in line with section C of the Kunming-Montreal Global Biodiversity Framework.⁴
- 8. The Expert Group provided a report on its work to the Subsidiary Body on Scientific, Technical and Technological Advice at its twenty-fifth meeting, including proposals for questions and options for answers for the binary indicators. On this basis, the Subsidiary Body developed recommendation 25/1 which included further guidance to the Expert Group.
- 9. The present note describes the outputs and recommendations of the Expert Group, based on its work described above.

III. Summary of the outputs of the Ad Hoc Technical Expert Group on Indicators for the Kunming-Montreal Global Biodiversity Framework

- 10. In line with its terms of reference, the Ad Hoc Technical Expert Group on Indicators has updated the list of indicators of the monitoring framework and prepared guidance to support its implementation and further development, as summarized in the following paragraphs.
- (a) The Expert Group has provided metadata for each of the headline indicators (including binary indicators). The metadata have been compiled into a single information document (CBD/SBSTTA/26/INF/14) and are also available online.⁵ These metadata include methodologies and recommended disaggregation of the indicators, developed by the Expert Group (further to paras. 1 (a) (i)

² https://www.cbd.int/conferences/indicators-ahteg.

³ See CBD/FM/TEG/2023/1/3 and CBD/FM/TEG/2024/1/2.

⁴ All views are available online: www.cbd.int/gbf/related/monitoring/ind/forum. Note that there were: 35 posts for Goal A and Targets 1-8 with 3 posts from Expert Group members requesting inputs, 1 from a Party and 30 other posts; 7 posts for Goal B and Targets 9-12 with 3 from Expert Group members requesting inputs, none from Parties and 3 other posts; 3 posts for Goal C and Target 13 with 1 post from the Secretariat, none from Parties and 2 other posts; 14 posts for Goal D and Targets 14-23 with 1 post from the Secretariat, 2 from one Party, 3 from indigenous peoples' organizations, 1 from a women's group and 7 other posts; and 17 posts on general or cross-cutting issues with 1 from a Party, 7 from indigenous organizations, 1 from a women's group, 1 from a youth organization, 1 from a human rights organization and 6 other posts.

⁵ gbf-indicators.org.

- and 1 (a) (ii) of the terms of reference) for all of the indicators including seven of the nine indicators previously without methodologies. For the remaining two headline indicators, the Expert Group recommended the use of a binary indicator (for indicator 1.1) and the disaggregation of another indicator (for indicator 9.1), pending potential further work. The information document also contains guidance related to the application of the headline and binary indicator metadata across the framework, including on the global aggregation of binary indicators (further to recommendation 25/1, para. 7 of the Subsidiary Body);
- (b) The primary purpose of the metadata is to support national planning and reporting, and thus, the metadata also includes information on the operationalization of each headline indicator at the national level (further to paras. 1 (a) (iii) and 1 (b) of the terms of reference), including the methods of computation, data sources and collection methods. Gaps in the operationalization of each indicator is identified in the metadata. The Online Reporting Tool is being developed taking into account the descriptions in the metadata and will be tested with Parties between April and June 2024. The Online Reporting Tool will include functionality for capturing the headline, binary, component, complementary and national indicators;
- (c) The Expert Group has reviewed and proposed the wording for the binary indicators (further to paragraph 1(a)(iv) of the terms of reference) and developed proposed questions and responses for each of them (further to para. 1 (a) (v) of the terms of reference). The Expert Group has also noted that the binary indicators contribute to filling the gaps in the framework (further to para. 1 (a) (i) of the terms of reference). The Subsidiary Body reviewed this work at its twenty-fifth meeting and prepared a list of binary indicator questions in the annex to recommendation 25/1. As requested in the same recommendation, the Expert Group has subsequently provided further advice on the wording of these questions and responses, which is available in document CBD/SBSTTA/26/2/Add.1;
- (d) The Expert Group has also reviewed the component and complementary indicators (further to para. 1 (a) (iv) of the terms of reference), removing duplication and references to indicators that do not exist. It also proposed moving some of the indicators from the complementary indicator to the component indicator level in order to ensure, as far as possible, that each of the key components of each goal and target has at least one headline or component indicator;
- (e) The Expert Group has developed guidance on how the cross-cutting considerations in section C the Kunming-Montreal Global Biodiversity Framework can be taken into account when using the indicators of the monitoring framework and how this can help to address gaps and imbalances in the monitoring framework (further to para. 9 of recommendation 25/1 and as related to para. 1 (a) (i)). This guidance is also available in the aforementioned information document (CBD/SBSTTA/26/INF/14) and online.⁵ This includes guidance on disaggregation of the indicators for different groups of people (indigenous peoples, local communities, women, youth, etc), on monitoring and engaging these groups when implementing the monitoring framework. This section also includes guidance on typologies for ecosystems with a view to facilitating the use of consistent typologies;
- (f) The Expert Group is developing advice on the existing capacity, gaps and needs related to the monitoring of the Kunming-Montreal Global Biodiversity Framework (further to paras. 1 (c) and 1 (d), as well as para. 1 (a) (i), of the terms of reference). The guidance will be made available in an information document (CBD/SBSTTA/26/INF/19). It includes a gap analysis across the monitoring framework as a whole to identify elements of the goals and targets that are not covered by the headline or binary indicators and for which no component or complementary indicators could be identified. The document describes additional research needed on some topics. It also provides advice on filling temporal and spatial data gaps, including through the use of big data, citizen science, community-based monitoring and information systems, remote sensing, modelling and statistical analysis, and other forms of data and other knowledge systems. However, more guidance on this topic will continue to be needed the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services monitoring assessment may contribute to filling these gaps.

⁶ This advice is being informed by a survey on the capacity needs of Parties with respect to the headline indicators of the monitoring framework (see notifications 2024-013 and 2024-030).

- 11. The list of headline, binary, component and complementary indicators is contained in annex I. As noted above, this includes a revised list of component and complementary indicators, as well as wording changes to the headline indicators proposed for technical reasons on the basis of the methodological work described in the metadata. It also lists disaggregations of the headline indicators.
- 12. A summary of the status of operationalization of each of the headline indicators and of the coverage of the cross-cutting issues of the Kunming-Montreal Global Biodiversity Framework is contained in annex II.
- 13. A summary of the gap analysis across the monitoring framework and of research needs to address the gaps is presented in annex III to the present note. Some of these issues also related to gaps will be discussed under agenda item 4 of this meeting of the Subsidiary Body.
- 14. The information developed by the Technical Expert Group on Indicators, outlined above, was informed by a number of other reports, studies and guidance, which are being made available as information documents:
- (a) Scientific and technical review of the traditional knowledge indicators (CBD/SBSTTA/26/INF/11);
- (b) Study on access and benefit-sharing indicators as they relate to Target 13 and Goal C of the Framework (CBD/SBSTTA/26/INF/12);
- (c) Report of second meeting of the Technical Expert Group on Financial Reporting (CBD/FM/TEG/2024/1/2), other documents produced for that meeting, and the study on the Kunming-Montreal Global Biodiversity Framework Indicator D.3 on Private Funding (CBD/SBSTTA/26/INF/20);
- (d) Report of the expert meeting on developing a methodology for headline indicator 7.2 on pesticide use under the monitoring framework of the Kunming-Montreal Global Biodiversity Framework (CBD/SBSTTA/26/INF/18), convened by the Food and Agriculture Organization of the United Nations, in collaboration with the Secretariat of the Convention on Biological Diversity;
- (e) Report of the online discussions of the Liaison Group on the Cartagena Protocol on Biosafety on the monitoring framework for the Kunming-Montreal Global Biodiversity Framework as it relates to Target 17 (CBD/SBSTTA/26/INF/13);
- (f) Guidance from the Informal Advisory Group on Technical and Scientific Cooperation regarding indicators for Target 20 (CBD/TSC/IAG/2024/1/2).

IV. Recommendation⁷

- 15. The Subsidiary Body is expected to:
- (a) Review and endorse the list of headline, binary, component and complementary indicators contained in annex I;
- (b) Finalize the list of binary indicators and related questions and responses, on the basis of the annex to its recommendation 25/1, taking into account the further advice of the Ad Hoc Technical Expert Group on Indicators on the wording of these questions and responses available in document CBD/SBSTTA/26/2/Add.1;
- (c) Take note of the summary of the status of operationalization of each of the headline indicators and of the coverage of the cross-cutting issues of the Kunming-Montreal Global Biodiversity Framework contained in annex II and of the summary of research needs and indicator development required for improved monitoring of the Kunming-Montreal Global Biodiversity Framework contained in annex III;

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⁷ The Ad Hoc Technical Expert Group on Indicators has provided advice on the wording of the binary indicators (in document CBD/SBSTTA/26/2/Add.1), as requested by the Subsidiary Body on Scientific, Technical and Technological Advice in paragraph 6 of its recommendation 25/1.

- (d) Take note of the guidance on using the indicators of the monitoring framework, including metadata and on implementing section C of the Framework (CBD/SBSTTA/26/INF/14), and the analysis of gaps in the monitoring framework relating to spatial and temporal coverage, capacity and scientific and technical needs, and guidance to address the gaps (CBD/SBSTTA/26/INF/19).
- 16. The Subsidiary Body may wish to prepare a draft decision for the Conference of the Parties along the following lines:

The Subsidiary Body on Scientific, Technical and Technological Advice,

Recommends that the Conference of the Parties, at its sixteenth meeting, adopt a decision along the following lines:

The Conference of the Parties,

Recalling its decision 15/5 of 19 December 2022, by which it adopted a monitoring framework for the Kunming-Montreal Global Biodiversity Framework and established the ad hoc technical expert group on indicators for the Kunming-Montreal Global Biodiversity Framework,

Recalling also its decision 15/7 of 19 December 2022, in which it established the Technical Expert Group on Financial Reporting to work on financial indicators for the monitoring framework as a contribution to the work of the Ad Hoc Technical Expert Group on Indicators for the Kunming-Montreal Global Biodiversity Framework,

Recalling further its decisions 15/4, 15/8, 15/10, and 15/22 of 19 December 2022,

Welcoming the work conducted by the Ad Hoc Technical Expert Group on Indicators for the Kunming-Montreal Global Biodiversity Framework and the inputs from the Technical Expert Group on Financial Reporting, 8 the Informal Advisory Group on Technical and Scientific Cooperation, 9 the scientific and technical review of the traditional knowledge indicators requested by the Ad Hoc Openended Intersessional Working Group on Article 8(j) and Related Provisions of the Convention at its the twelfth meeting, 10 and the work of the Liaison Group on the Cartagena Protocol on Biosafety, 11

Welcoming also the contributions of international organizations and initiatives to the work of the Ad Hoc Technical Expert Group on Indicators, as well as the work to maintain national and global databases and data collection relevant for monitoring the Kunming-Montreal Global Biodiversity Framework,

Welcoming the work under the Bern process 12 to improve collaboration on the development of indicators related to biodiversity,

Noting the ongoing processes to fill monitoring gaps through the development of human health indicators further to decision 15/29 and indicators for the Global Strategy for Plant Conservation further to decisions 15/5 and 15/13:¹³

Noting with appreciation the financial contributions from the Government of the United Kingdom of Great Britain and Northern Ireland and the European Union, which enabled the work of the Expert Groups, the contribution of the Food and Agriculture Organization of the United Nations for hosting an expert meeting on indicator 7.2, and the financial contributions from the Governments of the United Kingdom for the study on access and benefit-sharing indicators for the Kunming-Montreal Global Biodiversity Framework, the study on private sector finance (indicator D.3) and the capacity needs analysis; and of Canada for the development of the explanatory guidance and gap

⁸ See CBD/FM/TEG/2024/1/2.

⁹ See CBD/TSC/IAG/2024/1/2.

¹⁰ See CBD/SBSTTA/26/INF/11.

¹¹ See CBD/SBSTTA/26/INF/13.

¹² See www.unep.org/events/conference/bern-iii-conference-cooperation-among-biodiversity-related-conventions.

¹³ See also recommendation 25/4 of the Subsidiary Body on Scientific, Technical and Technological Advice.

analysis; as well as the in-kind support from the United Nations Environment Programme World Conservation Monitoring Centre in support of the work of the Ad Hoc Technical Expert Group on Indicators,

- 1. Adopts the updates to the monitoring framework contained in annex I to the present decision, comprising headline, binary, component and complementary indicators, and headline indicator disaggregations, which supersede the lists of indicators contained in annex I to decision 15/5;¹⁴
- 2. *Adopts* the list of questions and responses for formulating the binary indicators, contained in annex XX to the present decision;¹⁵
- 3. *Takes note* of the current status of development of the headline indicators and the current status of guidance related to the consideration of section C of the Kunming-Montreal Global Biodiversity Framework when implementing the headline and binary indicators contained in annex II, as prepared by the Technical Expert Group on Indicators, while recognizing that methodological development is an ongoing process;
- 4. *Encourages* the organizations listed in annex II to continue to work with Parties and relevant organizations to develop and improve headline indicator methodologies, to propose updates and to share proposed updates to the metadata with the Executive Secretary, ¹⁶ including on headline indicators 1.1 and 9.1 which do not yet have a methodology;
- 5. *Notes* that the monitoring framework provides good coverage in terms of monitoring the overall scope of the Kunming-Montreal Global Biodiversity Framework, but that there are a number of gaps where further scientific and technical research and guidance is needed, as described in annex III;¹⁷
- 6. *Encourages* Parties, multilateral environmental agreements, relevant academic and research institutions and other relevant organizations, including the Biodiversity Indicators Partnership, to conduct research and undertake work to fill the gaps described in annex III;
- 7. Welcomes current work under multilateral environmental agreements, including that of the Convention on the Conservation of Migratory Species of Wild Animals on connectivity indicators related to migratory species, the Minamata Convention on Mercury through its decision MC-5/17 on additional indicators related to highly hazardous chemicals and mercury, the United Nations Convention to Combat Desertification on improving the assessment of the extent of land degradation, and the United Nations Framework Convention on Climate Change on the Cancun Adaptation Framework on indicators related to climate change and biodiversity;
- 8. *Highlights* the importance of mainstreaming the indicators across relevant processes, and invites multilateral environmental agreements and other processes to use the indicators contained in annex I, as appropriate;
- 9. Welcomes the guidance on the monitoring framework provided by the Ad Hoc Technical Expert Group on Indicators, ¹⁸ and invites Parties to make use of the guidance as relevant and appropriate, including the metadata for the headline and binary indicators, the approaches to taking section C of the Kunming-Montreal Global Biodiversity Framework into consideration when

¹⁴ The headline indicator list is the same as in decision 15/5 but includes technical adjustments to the indicator titles for C.1, C.2, 7.2, 15.1 and 18.2 based on the methodological work to progress those indicators and a renumbering of indicators 2.2 to 2.1.

¹⁵ This paragraph has been reproduced from recommendation 25/1 of the Subsidiary Body on Scientific, Technical and Technological Advice. The annex will be based on the annex to recommendation 25/1, taking into account the advice on the wording of the questions and responses prepared by the Expert Group and contained in document CBD/SBSTTA/26/2/Add.1.

¹⁶The contact organization and person will be listed in section 10 of each metadata sheet presented in document CBD/SBSTTA/26/INF/14. ¹⁷ Many of the monitoring gaps correspond to a need for scientific and technical tools and guidance to support implementation of the targets of the Framework as described in document CBD/SBSTTA/26/3 and its associated information documents, being considered under agenda item 4.

¹⁸ CBD/SBSTTA/26/INF/14.

implementing the monitoring framework, and the overarching guidance on implementing the monitoring framework and on gaps and opportunities;

- 10. Urges Parties and other Governments to take section C of the Framework into consideration when implementing the monitoring framework, including through disaggregating the headline indicators by indigenous peoples and local communities, gender, age, persons with disability and other relevant groups and ecosystem functional group, when possible, using relevant component, complementary and national indicators relevant to section C and strengthening community-based monitoring systems applying the traditional knowledge indicators, where relevant and applicable;
- 11. *Encourages* Parties and other Governments to take a consistent approach to monitoring ecosystems and reporting data across the goals and targets of the Framework and to make use of the Global Ecosystem Typology level 3,¹⁹ including by mapping national ecosystem data to the Global Ecosystem Typology level 3;
- 12. *Invites* private philanthropies and other relevant organizations to share data on biodiversity-related finance, in alignment with the monitoring framework, where possible;
- 13. *Urges* Parties and other Governments to invest in and strengthen their national monitoring systems, involving all relevant national institutions and stakeholders in a participatory manner, and collaborating with relevant international organizations and initiatives, in particular to facilitate the reporting of indicators in the seventh national report due in February 2026;
- 14. *Encourages* Parties and other Governments to make use of globally available data, where relevant, to complement data in national monitoring systems;
- 15. *Requests* the Global Environment Facility to provide financial resources for the development and implementation of national monitoring systems to support the efforts of recipient countries;
- 16. *Requests* the Subsidiary Body on Scientific, Technical and Technological Advice, at a meeting prior to the seventeenth meeting of the Conference of the Parties, to consider options for how a global biodiversity observing system could be developed and operationalized;
- 17. *Encourages* Parties and relevant organizations, including the Biodiversity Indicators Partnership, to continue to further develop methodologies and build capacity related to the headline indicators and to the consideration of section C of the Kunming-Montreal Global Biodiversity Framework when implementing the monitoring framework;
- 18. *Encourages* Parties and other Governments in a position to do so, as well as relevant organizations, to consider providing resources to contribute to the global monitoring systems, standards and datasets that support Parties in implementing the monitoring framework;
- 19. *Encourages* Parties and other Governments, and invites other organizations to coordinate and cooperate, including in supporting Parties in strengthening national monitoring systems and in support for national, regional and global assessments;
- 20. *Notes* that capacity-building for the implementation of the monitoring framework at the national level is included in decision 15/8 on capacity-building and development and technical and scientific cooperation, and requests the subregional and regional technical and scientific cooperation support centres under the coordination of the global coordination entity to provide support for capacity-building for the implementation of the monitoring framework;
- 21. *Invites* the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services to consider the gaps described in annex III and in document CBD/SBSTTA/26/INF/19 in undertaking the fast-track methodological assessment on monitoring biodiversity and nature's

¹⁹ The Global Ecosystem Typology level 3 was adopted at the fifty-fifth session of the Statistical Commission as an official classification (dec. 55/119(d), E/2024/24-E/CN.3/2024/37) and its use was encouraged by the World Conservation Congress of the International Union for Conservation of Nature in its resolution 7.061.

contributions to people and the fast-track methodological assessment on integrated biodiversity-inclusive spatial planning and ecological connectivity;

- 22. *Decides* to review the implementation of the monitoring framework, including the functioning and effectiveness of the headline, binary, component, complementary and national indicators, in conjunction with the global review of collective progress in the implementation of the Kunming-Montreal Global Biodiversity Framework to be conducted at the seventeenth and nineteenth meeting of the Conference of the Parties;²⁰
 - 23. Requests the Executive Secretary, subject to the availability of resources:
- (a) To support methodological work on the indicators, including through working with the organizations mentioned in annex II to update the metadata, as necessary, and to share information with Parties on these updates on an ongoing basis;
- (b) To update the list of complementary indicators on an annual basis to include indicators related to the Framework which are developed and/or adopted by the Conference of the Parties at its future meetings, as well as by intergovernmental organizations, multilateral environmental agreements and the Biodiversity Indicators Partnership;
- (c) To prepare an analysis of the functioning of the headline, binary, component, complementary and national indicators, as an input to the review of the implementation of the monitoring framework (described in para. 22 above);
- (d) To undertake capacity-building activities related to the implementation of the monitoring framework at the national level, including in collaboration with the subregional and regional technical and scientific cooperation support centres and global coordination entity, in accordance with decision 15/8;
- (e) To prepare an analysis of options for how a global biodiversity observing system could be developed and operationalized and submit the results to the Subsidiary Body for consideration, as described in paragraph 16 above.

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²⁰ The procedures for the global review of collective progress in the implementation of the Framework will be discussed under agenda item 3 of the fourth meeting of the Subsidiary Body on Implementation.

 $\label{eq:continuous} \textbf{Annex}~\textbf{I}^*$ Proposed indicators for the Kunming-Montreal Global Biodiversity Framework

Goal/ Target	Headline/binary indicator ²¹	Possible disaggregations	Component indicator	Complementary indicator
A	A.1 Red List of Ecosystems A.2 Extent of natural ecosystems	For A.1: By realm and by ecosystem functional group (Global Ecosystem Typology level 3) By Indigenous and traditional territories By protected areas/ other effective area-based conservation measures By drivers (matched to the International Union for Conservation of Nature threats classification scheme) For A.2 By realm and by ecosystem functional group (Global Ecosystem Typology level 3) By indigenous and traditional territories By natural and seminatural ecosystem, if feasible	 Ecosystem Intactness Index Ecosystem Integrity Index Species Habitat Index Biodiversity Habitat Index Biodiversity Intactness Index Protected Connected (ProtConn) index Protected Area Representativeness & Connectedness (PARC-Connectedness) Number of extinctions averted Evolutionarily Distinct and Globally Endangered index Living Planet Index Wild Bird Index 	 Forest area as a proportion of total land area Rate of tree cover loss Mountain Green Cover Index Continuous global mangrove forest cover Mangrove forest fragmentation Mangrove extent Global saltmarsh extent Wetland Extent Trends Index Forest Fragmentation Index Forest Landscape Integrity Index Global Vegetation Health Products Bioclimatic Ecosystem Resilience Index Relative magnitude of fragmentation Ocean Health Index Extent of physical damage to predominant seafloor habitats River Fragmentation Index Mean Species Abundance Species Protection Index Changes in plankton biomass and abundance

^{*} The present annex is being issued without formal editing.

²¹ The titles of indicators are included in recommendation 25/1 of the Subsidiary Body on Scientific, Technical and Technological Advice. Once an agreement on the text is reached, they will be included in the present table.

Goal/ Target	Headline/binary indicator ²¹	Possible disaggregations	Component indicator	Complementary indicator
	A.4 The proportion of populations within species with an effective population size > 500	For A.3 ²² By realm and ecosystems (matched to the Global Ecosystem Typology) By migratory species By drivers (matched to the International Union for Conservation of Nature threats classification scheme) For A.4: Species Taxonomic groups		 Comprehensiveness of conservation of socioeconomically as well as culturally valuable species Number of plant and animal genetic resources for food and agriculture secured in either medium- or long-term conservation facilities Proportion of local breeds classified as being at risk of extinction Red List Index (wild relatives of domesticated animals) Species Status Information Index Expected loss of phylogenetic diversity Proportion of populations maintained within species maintained
В	B.1 Services provided by ecosystems B.b Text of binary indicator to be inserted	For B.1: By type of ecosystem service By realm and by ecosystem functional group (Global Ecosystem Typology level 3) By indigenous and traditional territories	Red List Index (for utilized species) Living Planet Index for utilized species Total value of ecosystems services in monetary units	 Ecological footprint Red List Index (pollinating species) Green Status of Species Level of water stress: freshwater withdrawal as a proportion of available freshwater resources Proportion of bodies of water with good ambient water quality Forestry production & trade (wood fuel) Index of Linguistic Diversity United Nations Educational, Scientific and Cultural Organization - culture 2030 indicators
С	C.1 Monetary benefits received in accordance with applicable internationally agreed Access and Benefit-sharing instruments	For C.1: By monetary benefits received by indigenous peoples and local communities		Number of users that have provided information relevant to the utilization of genetic resources to designated checkpoints Total number of internationally recognized certificates published in the Access and Benefit-sharing Clearing-House Number of checkpoint communiqués published in the Access and Benefit-sharing Clearing-House

²² Specific Red List disaggregations are also included in the relevant targets as complementary indicators.

Goal/ Headline/binary Target indicator ²¹	Possible disaggregations	Component indicator	Complementary indicator
C.2 Non-monetary benefits arising from applicable international access and benefit-sharing instruments	For C.2: By type of non-monetary benefit By non-monetary benefits received by indigenous peoples and local communities		Number of internationally recognized certificates of compliance for non-commercial purposes in the Access and Benefit-sharing Clearing-House
13.b Text of binary indicator to be inserted			
D.1 International public funding, including official development assistance for conservation and sustainable use of biodiversity and ecosystems D.2 Domestic public funding on conservation and sustainable use of biodiversity and ecosystems D.3 Private funding (domestic and international) on conservation and sustainable use of biodiversity and ecosystems	For D3: For D3: By funding source (international private philanthropy for development, private biodiversity finance mobilized by official development finance (separate bilateral and multilateral indicators), biodiversity offsets, payment for ecosystem services, domestic private donations, sustainable commodities, private benefit-sharing schemes, other instruments, including biodiversity-relevant bonds (impact investing, credit markets, insurance products)		 Number of researchers per population Joint scientific papers published (in Ocean Biodiversity Information System) by sector Proportion of total research budget allocated to research in the field of marine technology Volume of official development assistance flows for scholarships by sector and type of study Global imports of information and communications technology goods as presented by bilateral trade flows by information and communications technology goods categories Total amount of funding for developing countries to promote the development, transfer, dissemination and diffusion of environmentally sound technologies International funding that targets indigenous peoples and local communities within biodiversity-related activities International funding that targets gender equality and women's rights policy objectives within biodiversity-related activities Monetary value of the annual budget for biodiversity from total national budget Percentage of annual biodiversity expenditure of total national government budget Domestic funding that targets indigenous peoples and local communities within biodiversity-related activities

Goal/ Target	Headline/binary indicator ²¹	Possible disaggregations	Component indicator	Complementary indicator
				 Domestic funding that targets youth within biodiversity-related activities Domestic funding that targets gender equality and women's rights policy objectives within biodiversity-related activities Private funding that targets indigenous peoples and local communities within biodiversity-related activities Private funding that targets youth within biodiversity-related activities Private funding that targets gender equality and women's rights policy objectives within biodiversity-related activities Private funding mobilized for indigenous peoples and local communities, women and youth
1	A.1 Red List of Ecosystems A.2 Extent of natural ecosystems	Described in Goal A. Note that some disaggregations may be more relevant for the specific target		Proportion of transboundary basin area with an operational arrangement for water cooperation (Sustainable Development Goal indicator 6.5.2)
	1.1 Percent of land and sea area covered by biodiversity-inclusive spatial plans 1.b Text of binary indicator to be inserted	No metadata currently proposed for 1.1.		
2	2.1 Area under restoration	By ecosystem functional group (Global Ecosystem Typology level 3) By indigenous and traditional territories By protected areas/ other effective area-based conservation measures By type of restoration activity	Land degradation (Sustainable Development Goal indicator 15.3.1)	Global Ecosystem Restoration Index Proportion of Key Biodiversity Areas in favourable condition

Goal/ Target	Headline/binary indicator ²¹	Possible disaggregations	Component indicator	Complementary indicator
3	3.1 Coverage of protected areas and other effective areabased conservation measures	By protected areas and other effective area-based conservation measures; By realm and by ecosystem functional group (Global Ecosystem Typology level 3) By areas of importance for biodiversity (existing Sustainable Development Goal indicators 4.5.1, 15.1.2, 15.4.1) By effectiveness (Protected Area Management Effectiveness) By governance type By Indigenous and traditional territories	Protected Connected (ProtConn) index Protected Area Connectedness Index (PARC-connectedness) Species Protection Index	 Rate of Protected Area Downgrading, Downsizing and Degazettement events International Union for Conservation of Nature-Commission on Ecosystem Management Green List of Protected and Conserved Areas Proportion of Key Biodiversity Areas in favourable condition Protected Area Isolation Index Protected Areas Network metric (ProNet) The number of protected areas that have completed a Site-level Assessment of Governance and Equity
4	A.3 Red list Index A.4 The proportion of populations within species with an effective population size > 500	Described in Goal A. Note that some disaggregations may be more relevant for the specific target	Living Planet Index Number of plant and animal genetic resources for food and agriculture secured in medium or long-term conservation facilities Green status of species Proportion of local breeds classified as being at risk of extinction	Species Threat Abatement and Restoration Metric Red List Index (wild relatives of domesticated animals) Number of island invasive alien species eradications
5	5.1 Proportion of fish stocks within biologically sustainable levels	By the Food and Agriculture Organization of the United Nations major marine fishing areas	Red List Index (impacts of utilisation) for utilised species Living Planet Index for utilised species Degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing	 Inland fisheries threat indicator Red List Index (for internationally traded species)) Red List Index (impacts of fisheries) [Disaggregation of A3] Marine Stewardship Council Fish Certified Catch Total catch of cetaceans under the International Convention for the Regulation of Whaling Bycatch of vulnerable and non-target species Number of Marine Stewardship Council Chain of Custody Certification holders by distribution country Biodiversity-based trade, growth rates
6	6.1 Rate of invasive alien species establishment	By Taxonomic group By Pathway		Red List Index (impacts of invasive alien species)

Goal/ Target	Headline/binary indicator ²¹	Possible disaggregations	Component indicator	Complementary indicator
	6.b Text of binary indicator to be inserted			
7	7.1 Index of coastal eutrophication potential 7.2 Aggregated Total Applied Toxicity	For 7.1: By type of nutrient By sub-basin For 7.2: By pesticide type By sectors use of pesticide products.	 Cropland nutrient budget Proportion of domestic and industrial wastewater flow safely treated Floating plastic debris density (by micro and macro plastics (Sustainable Development Goal indicator 14.1.1(b)) Red List Index (impact of pollution) 	 Trends in loss of reactive nitrogen to the environment. Trends in nitrogen deposition Municipal solid waste collected and managed Hazardous waste generation Trends in the amount of litter, including microplastics, in the water column and on the seafloor Plastic debris density Pesticide use per area of cropland
8	8.b Text of binary indicator to be inserted	B1 disaggregation: Total climate regulation services provided by ecosystems and by ecosystem type	Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030 which include biodiversity Bioclimatic Ecosystem Resilience Index	 Above-ground biomass stock in forest (tonnes/ha) National greenhouse gas inventories from land use, land-use change and forestry Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies Index of coastal eutrophication Sustainable Development Goal indicator 14.3.1 (Marine Acidity)
9	9.1 Benefits from the sustainable use of wild species 9.2 Percentage of the population in traditional occupations 9.b Text of binary indicator to be inserted	For 9.1: No metadata currently proposed. B1 disaggregations provided under Goal B For 9.2: By type of occupations By indigenous peoples and local communities By gender By age category By rural/urban	Red List Index (species used for food and medicine) Living Planet Index for utilized species	 Degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing Number of Marine Stewardship Council Chain of Custody Certification holders by distribution country Spawning stock biomass (related to commercially exploited species) Number of plant and animal genetic resources for food and agriculture secured in medium- or long-term conservation facilities Volume of production per labour unit by classes of farming/pastoral/ forestry enterprise size Red List Index (impacts of fisheries) Red List Index (impact of utilization)
10	10.1 Proportion of agricultural area	For 10.1:	Area of forest under sustainable management: total forest	Agrobiodiversity Index

Goal/ Target	Headline/binary indicator ²¹	Possible disaggregations	Component indicator	Complementary indicator
Turger	under productive and sustainable agriculture 10.2 Progress towards sustainable forest management	By household and non-household sector farms By crops, livestock For 10.2: By indigenous and traditional territories	management certification by the Forest Stewardship Council and the Programme for the Endorsement of Forest Certification • Average income of small-scale food producers, by sex and indigenous status	 Soil organic carbon stocks (Sustainable Development Goal indicator 15.3.1) Red List Index (wild relatives of domesticated animals) Red List Index (pollinating species) Red List Index (forest-specialist species) Red List Index (impacts of fisheries) Proportion of local breeds classified as being at risk of extinction Proportion of land that is degraded over total land area
11	B.1 Services provided by ecosystems	B1 disaggregations presented under Goal B	 Annual mean levels of fine particulate matter (e.g., PM2.5 and PM10) in cities Proportion of bodies of water with good ambient water quality Level of water stress 	Air emission accounts Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management Proportion of population using safely managed drinking water services Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services Number of deaths, missing persons and directly affected persons, attributed to disasters per 100,000 population
12 ^b	12.1 Average share of the built-up area of cities that is green/blue space for public use for all 12.b Text of binary indicator to be inserted	By space type: by realm and by ecosystem functional group (Global Ecosystem Typology level 3)	Singapore Index on Cities' Biodiversity index	
13 ^b	C.1 Monetary benefits received in accordance with applicable internationally agreed Access and	Described in Goal C	Total number of internationally recognized certificates published in the Access and Benefit-sharing Clearing-House	Total number of transfers of crop material from the Multilateral System of the International Treaty on Plant Genetic Resources for Food and Agriculture received in a country

Goal/ Target	Headline/binary indicator ²¹	Possible disaggregations	Component indicator	Complementary indicator
	Benefit-sharing instruments C.2 Non-monetary benefits arising from applicable international Access and Benefit-sharing instruments 13.b Text of binary indicator to be inserted			Number of users that have provided information relevant to the utilization of genetic resources to designated checkpoints Number of checkpoint communiqués published in the Access and Benefit-sharing Clearing-House Number of internationally recognized certificates of compliance for non-commercial purposes in the Access and Benefit-sharing Clearing-House
14 ^b	14.b Text of binary indicator to be inserted		Integration of biodiversity into national accounting and reporting systems, defined as implementation of the System of Environmental-Economic Accounting (Sustainable Development Goal indicator 15.9.1b)	
15 ^b	15.1 Number of companies disclosing their biodiversity- related risks, dependencies and impacts 15.b Text of binary indicator to be inserted	By sector	Number of organizations within the country that have signalled an intent to start adopting the Taskforce on Nature-related Financial Disclosures Recommendations	Number of companies publishing sustainability reports (Sustainable Development Goal indicator 12.6.1)

Goal/	Headline/binary	Possible disaggregations	Component indicator	Complementary indicator
Target 16 ^b	indicator ²¹ 16.b Text of binary indicator to be inserted		 Food Waste Index Material Footprint per Capita Global Environmental Impacts of Consumption Ecological Footprint 	Extent to which (a) global citizenship education and (b) education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in: (i) national education policies; (ii) curricula; (iii) teacher education; and (iv) student assessments Recycling rate Human Appropriation of Net Primary Production Carbon dioxide emission per unit of value added Change in water-use efficiency over time Indicators from the Life Cycle Impact Assessment Poverty level
17 ^b	17.b Text of binary indicator to be inserted			Indicators related Cartagena Protocol on Biosafety to the Convention
18	18.1 Positive incentives in place to promote biodiversity conservation and sustainable use 18.2 Value of subsidies and other incentives harmful to biodiversity our or reformed	For 18.1 By type of incentive (taxes, fees and charges, subsidies, tradable permits, payment for ecosystem services programmes and offset schemes) For 18.2 By sector (agricultural, fisheries, fossil fuels and other sectors)	 Revenue generated from biodiversity-relevant taxes, fees and charges Monetary value of biodiversity-positive subsidies Revenue generated by biodiversity-relevant tradable permits (if auctioned) Monetary value of payments for ecosystem services Monetary value of biodiversity offsets Number of other positive incentives in place for biodiversity (by type) Monetary value of other positive incentives in place for biodiversity 	Biodiversity-relevant taxes Biodiversity-relevant charges and fees Biodiversity-relevant tradable permit schemes Potentially environmentally harmful elements of government support to agriculture (producer support estimate) Fossil-fuel subsidies per unit of gross domestic product (production and consumption)
19	See Goal D indicators	Described in Goal D		See Goal D indicators
20	20.b Text of binary indicator to be inserted			 Number of researchers per population Joint scientific papers published (in Ocean Biodiversity Information System) by sector

Goal/ Target	Headline/binary indicator ²¹	Possible disaggregations	Component indicator	Complementary indicator
				 Proportion of total research budget allocated to research in the field of marine technology Volume of official development assistance flows for scholarships by sector and type of study Global imports of information and communication technology goods as presented by bilateral trade flows by information and communication technology goods categories Total amount of funding for developing countries to promote the development, transfer, dissemination and diffusion of environmentally sound technologies
21	21.1 Indicator on biodiversity information for monitoring the Kunming-Montreal Global Biodiversity Framework	By type of information	Species Information Index Participation in decision-making of indigenous peoples and local communities in the implementation of the Convention at all levels Index of Linguistic Diversity	 Growth in number of records and species in the Living Planet Index database Growth in species occurrence records accessible through the Global Biodiversity Information Facility Growth in marine species occurrence records accessible through the Ocean Biodiversity Information System Proportion of known species assessed through the International Union for Conservation of Nature - Red List of Threatened SpeciesTM Number of assessments on the International Union for Conservation of Nature - Red List of Threatened SpeciesTM World Association of Zoos and Aquariums bio-literacy survey (biodiversity literacy in global zoo and aquarium visitors)
22 ^b	22.b Text of binary indicator to be inserted	9.2 is highly relevant for Target 22 Disaggregations by indigenous and traditional territories and governance of all indicators are relevant for Target 22	 Participation in decision-making of indigenous peoples and local communities in the implementation of the Convention at all levels Index of Linguistic Diversity Proportion of total adult population with secure tenure rights to land, (a) with legally recognized documentation, and (b) who perceive their rights to land as secure, by sex and type of tenure 	 Percentage of positions in national and local institutions, including: (a) the legislatures; (b) the public service; and (c) the judiciary, compared to national distributions, by sex, age, persons with disabilities and population groups Number of countries with systems to track and make public allocations for gender equality and women's empowerment Proportion of total agricultural population with ownership or secure tenure rights over agricultural land, by sex; and share of women among owners or rights-bearers of agricultural land, by type of tenure

Goal/ Target	Headline/binary indicator ²¹	Possible disaggregations	Component indicator	Complementary indicator
			Number of verified cases of killings and other attacks against environmental human rights defenders in the previous 12 months	Number of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control Proportion of population who believe decision-making is inclusive and responsive, by sex, age, disability and population group Area covered by the reported territories and areas governed, managed, and conserved by custodian indigenous peoples and local communities (ICCAs— territories of life)
23 ^b	23.b Text of binary indicator to be inserted	Disaggregations by gender, age and governance for other indicators are relevant	Proportion of seats held by women in (a) national parliaments and (b) local governments Land-use change and land tenure in the traditional territories of indigenous peoples and local communities Proportion of total adult population with secure tenure rights to land, (a) with legally recognized documentation; and (b) who perceive their rights to land as secure, by sex and type of tenure	 Percentage of positions in national and local institutions, including: (a) the legislatures; (b) the public service; and (c) the judiciary, compared to national distributions, by sex, age, persons with disabilities and population groups Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and share of women among owners or rightsbearers of agricultural land, by type of tenure Proportion of population who believe decision-making is inclusive and responsive, by sex, age, disability and population group (Sustainable Development Goal indicator 16.7.2) Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control

Annex II*

Status of the headline indicators and consideration of section C of the Kunming-Montreal Global Biodiversity Framework in the implementations of the monitoring framework

The present annex includes two tables: table 1 on the headline indicators and table 2 on considering section C of the Framework in the implementations of the monitoring framework

Table 1 **Headline indicators**

Headline/binary indicator	Contact organization	Future methodological work ²³
A.1 Red List of Ecosystems	International Union for Conservation of Nature	4 - This indicator is ready for use, but guidance will continue to be developed.
A.2 Extent of natural ecosystems	United Nations Statistics Division	4 - This indicator is ready for use, but guidance will continue to be developed.
A.3 Red List Index	International Union for Conservation of Nature	5 - This indicator is ready for use, but the taxonomic scope of the global red list index (and national disaggregation of these) is expected to be substantially expanded in the next few years to better represent invertebrate and plant groups.
A.4 The proportion of populations within species with an effective population size > 500	The Group on Earth Observations - Biodiversity Observation Network	4- This indicator is ready for use, but guidance will continue to be developed.
B.1 Services provided by ecosystems	United Nations Statistics Division	3 - Further finalizing guidance on this indicator, including methods to aggregate across service types and to disaggregate to beneficiaries, as well as further testing of this indicator is being conducted by the Statistics Division of the United Nations.
C.1 Monetary benefits received in accordance with applicable internationally agreed Access and Benefit-sharing instruments	Secretariat of the Convention on Biological Diversity	2 - This methodology was developed by the Expert Group. Additional guidance to support Parties in developing national monetary benefit reporting systems including, where appropriate, national funds to aggregate total monetary benefits received is needed. Some multilateral Access and Benefit-sharing instruments (digital sequence information under the Convention, the Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction) are still under development and cannot report on monetary benefits yet. Guidance on disaggregation by beneficiary is needed. Further development of this guidance is subject to the availability of resources.

^{*} The present annex is being issued without formal editing.

²³ The status is as follows: 1. Methods not yet developed, and a process needs to be established to develop these; 2. Methods not yet developed, but a process is underway to develop them, led by one or more organizations, to develop them; 3. Methods developed (or partially developed) and tested/piloted, but data not yet widely available (and/or collection not yet underway). (Indicator/methodology maintained by an organization(s)); 4. Methods established, data being compiled, and indicator operational in at least some countries, but further investment in methods ongoing and/or further (data collection required); 5. Methods established, data being compiled and accessible, and indicator operational for most/all countries. (Indicator/methodology maintained by an organization); Sustainable Development Goal: the indicator aligns with or is identical to a defined indicator for the Sustainable Development Goals.

C.2 Non-monetary benefits arising from applicable international Access and Benefit-sharing instruments	Secretariat of the Convention on Biological Diversity	2 – This methodology was developed by the Expert Group. A global non-monetary benefit-sharing database compiled from outcomes of national Access and Benefit-sharing agreements is in a pilot phase and will be further developed, subject to the availability of resources. Further research is needed to expand the scope of the global database beyond the number of research publications. Additional guidance is also needed on the issues listed under indicator C.1.
D.1 International public funding, including official development assistance for conservation and sustainable use of biodiversity and ecosystems	Organisation for Economic Co-operation and Development / Development Assistance Committee	5 - This indicator is operational. However, the Organisation for Economic Co-operation and Development is working to expand coverage (provider countries; multilateral organizations), refining the Rio marker methodology and other biodiversity-related development finance statistics and refine biodiversity-related reporting.
D.2 Domestic public funding on conservation and sustainable use of biodiversity and ecosystems	United Nations Development Programme Biodiversity Finance Initiative and United Nations Statistics Division	4 - This indicator is operational; however, further work on the Global Biodiversity Expenditure Taxonomy and the Classification of Environmental Purposes is ongoing.
D.3 Private funding (domestic and international) on conservation and sustainable use of biodiversity and ecosystems	Secretariat of the Convention on Biological Diversity	2 – The methodology was developed by the Technical Expert Group on Financial Reporting. There are a number of different data sources and information which could be used. A guidance document has been developed.
1.1 Percent of land and seas covered by biodiversity-inclusive spatial plans	No metadata / Secretariat of the Convention on Biological Diversity	1 - The binary indicator for Target 1 can be used to measure Target 1 in the seventh national report. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services methodological assessment on spatial planning and ecological connectivity is expected to provide information which could inform further indicator development in time for use in the eighth round of national reporting.
2.1 Area under restoration	Food and Agriculture Organization of the United Nations / Framework for Ecosystem Restoration Monitoring	4 - The Framework for Ecosystem Restoration Monitoring database is operational, but guidance still needs to be developed.
3.1 Coverage of protected areas and other effective area-based conservation measures	United Nations Environment Programme World Conservation Monitoring Centre; International Union for Conservation of Nature; BirdLife International	5 - The method for disaggregating by effectiveness is now under consultation, coordinated by the United Nations Environment Programme World Conservation Monitoring Centre, for finalization by end of 2024. The World Conservation Monitoring Centre and the International Union for Conservation of Nature are providing guidance on other effective area-based conservation measures, effectiveness and governance and the Key Biodiversity Area partners are providing ongoing support for identification of areas of importance for biodiversity.
5.1 Proportion of fish stocks within biologically sustainable levels	Food and Agriculture Organization of the United Nations	5 - This is a Sustainable Development Goal indicator (14.4.1); however, the indicator relates to the sustainability of fish stocks that often move across national boundaries and in areas beyond national jurisdiction and is therefore primarily reported at regional and global levels. A framework for meaningful country-level reporting has been provided by the Food and Agriculture Organization of the United Nations since 2018; submission of national data through the Sustainable Development Goal process is needed to improve data coverage.

6.1 Rate of invasive alien species establishment	The Group on Earth Observations - Biodiversity Observation Network	4 - This indicator is ready for use; however, development of indicator workflows combining data and models are being prepared by the Group on Earth Observations - Biodiversity Observation Network.
7.1 Index of coastal eutrophication potential	United Nations Environment Programme	4- This is a Sustainable Development Goal indicator (14.2.1). The United Nations Environment Programme is now calculating the non-riverine component, due October 2024, then will start working on nationalizing the global model of the index of coastal eutrophication potential and preparing national step-by-step guidelines.
7.2 Aggregated Total Applied Toxicity	Food and Agriculture Organization of the United Nations	3- Before it can be operational, the indicator requires further development, including guidelines and protocols (in particular on identification of best sources of data for annual use, calculation of Risk Threshold Levels and weighting of toxicities for species groups), and testing. The Food and Agriculture Organization of the United Nations could convene a working group to finalize and test the Aggregated Total Applied Toxicity indicator and support this indicator. ²⁴
9.1 Benefits from the sustainable use of wild species	No metadata/Secretariat of the Convention on Biological Diversity	1 - The binary indicator for Target 9 and relevant disaggregations of other indicators can be used in the seventh round of national reports. A proposal could be considered for the development of an indicator in the future.
9.2 Percentage of the population in traditional occupations	International Labour Organization	3 - This indicator relies on national census data using standard classifications of occupations (note: this includes "own work", not only paid employment), complemented by national and/or community surveys. Future work could include using this classification (in census) and/or the survey approach, and expanding to include local communities and census coverage of indigenous population. This indicator is being further developed as one of the four traditional knowledge indicators.
10.1 Proportion of agricultural area under productive and sustainable agriculture	Food and Agriculture Organization of the United Nations	5 - This indicator is operational; submission of national data through the Sustainable Development Goal process is needed in order to improve data coverage.
10.2 Progress towards sustainable forest management	Food and Agriculture Organization of the United Nations	5 - This indicator is operational; submission of national data through the Sustainable Development Goal process is needed in order to improve data coverage.
12.1 Average share of the built-up area of cities that is green/blue space for public use for all	UN Habitat	5 - This indicator is operational; submission of national data through the Sustainable Development Goal process is needed in order to improve data coverage. The currently available data covers cities and urban areas of various sizes but is not classified by typology of open public space i.e. green, blue and artificial surfaces. A methodology for identifying and classifying green space (shrublands and forest) is being developed and piloted at this time (20–30 cities). However, a methodology is needed for blue (freshwater or marine) spaces.
15.1 Number of companies disclosing-their biodiversity-related risks, dependencies and impacts	Secretariat of the Convention on Biological Diversity	2 – This methodology was developed by the Expert Group. While guidance for companies on disclosing biodiversity related risks, dependencies, and impacts, is evolving and increasingly available (e.g. through Taskforce on Nature-related Financial Disclosures), much work needs to be done to develop capacity and systems for gathering data (at national or global levels) about the number of companies disclosing compliant information.

²⁴ If this indicator is supported by Parties in the formal processes under the Convention, then the Food and Agriculture Organization of the United Nations has expressed a willingness to continue to support the indicator.

		To operationalize this indicator, there is a need for further work, including: (a) To identify entities (at national, regional, global levels) that can lead capacity-building and data-collection efforts; (b) To commission a study that can help identify and disseminate (at the national level) best-practices on data collection on -and assessment of-biodiversity related company disclosures. Additional guidance on this indicator could be produced by the Secretariat in cooperation with partners, subject to availability of resources.
18.1 Positive incentives in place to promote biodiversity conservation and sustainable use	Organisation for Economic Co-operation and Development	4 - This indicator is operational in the Organisation for Economic Co-operation and Development Policy Instruments for the Environment database.
18.2 Value of subsidies and other incentives harmful to biodiversity	Organisation for Economic Co-operation and Development	3 - Guidance exists on agriculture, fisheries and fossil fuel subsidies, but guidance for countries on how to measure other sectors and report information could be further developed.
21.1 Indicator on biodiversity information for monitoring the global biodiversity framework	Secretariat of the Convention on Biological Diversity/ Group on Earth Observations - Biodiversity Observation Network	2 - The Expert Group recommended that the Group on Earth Observations - Biodiversity Observation Network in collaboration Global Biodiversity Information Facility, Biodiversity Indicators Partnership, United Nations Environment Programme World Conservation Monitoring Centre and the Secretariat of the Convention continue to develop this indicator. The explicit quantitative dimension to this indicator in order to assess progress should be added to the metadata. There is no established methodology in place for the production of this headline indicator on biodiversity information. A number of component indicators can be used to support reporting while the methodology for the headline is being tested and piloted.

Table 2 **Issues related to section C of the Kunming-Montreal Global Biodiversity Framework**

Section C element	Existing guidance	Linkages	Future methodological work
(a) Contribution and rights of indigenous peoples and local communities	Metadata are available on the 4 traditional knowledge indicators; Collective benefit, Authority to control, Responsibility and Ethics (CARE) Principles for Indigenous Data Governance; Disaggregations and relevant indicators by indigenous peoples and local communities are proposed across the monitoring framework; Ad Hoc Open-ended Intersessional Working Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity provides guidance on community-based monitoring and the use of traditional knowledge.	Specific indicators and disaggregations in Goals A, B, C and D and Targets 1, 2, 3, 9, 10, 20, 21, 22 and 23	The Ad Hoc Open-ended Intersessional Working Group on Article 8(j) and Related Provisions continues to develop four indicators relating to traditional knowledge. The International Indigenous Forum on Biodiversity Working Group on Indicators will engage in future processes on monitoring and will strengthen capacity of indigenous peoples and local communities on monitoring and indicators. The Indigenous Navigator is being upgraded to facilitate monitoring of the proposed indicators and disaggregations, including a biodiversity module relevant to monitoring the Framework. Forest Peoples Programme is developing a database on community-based monitoring and information systems in the context of the Convention.
(b) Different value systems	The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services assessment of the diverse values and valuation of nature is an existing resource. The traditional knowledge indicators partially address this topic.	Existing questions in binary indicator for Target 14	Further work and guidance may be needed to address gaps in the monitoring framework to take into consideration diverse value systems.
(c) Whole-of- government and whole-of-society approach;	Based on country context, national biodiversity strategies and action plans and national reports guidance could be applied.	Partly addressed in the binary indicators for Targets 1, 13, 17, 20, 22 and 23	Could be addressed through guidance on national biodiversity strategies and action plans and national reports and other national level guidance as opposed to specific guidance on monitoring.
(d) National circumstances, priorities and capabilities	Based on country context, national biodiversity strategies and action plans and national reports guidance could be applied.	All	Could be addressed through guidance on national biodiversity strategies and action plans and national reports and other national level guidance as opposed to specific guidance on monitoring.
(e) Collective effort towards the targets	Based on country context, national biodiversity strategies and action plans and national reports guidance could be applied.	All	Could be addressed through guidance on national biodiversity strategies and action plans and national reports and other national level guidance as opposed to specific guidance on monitoring.
(f) Right to development	Based on country context, national biodiversity strategies and action plans and national reports guidance could be applied.	Partly addressed in the indicators for Goals B and C and Targets 9, 10, 11, 12, 13, 15 and 18	Could be addressed through guidance on national biodiversity strategies and action plans and national reports and other national level guidance as opposed to specific guidance on monitoring.
(g) Human rights- based approach	Office of the United Nations High Commissioner for Human Rights has produced Guidance on	Partly addressed in the binary indicator for Targets 22 and 23	Guidance on applying a human rights-based approach to monitoring is lacking and could be developed.

Section C element	Existing guidance	Linkages	Future methodological work
	integrating human rights in national biodiversity strategies and action plans And Human Rights Indicators - A Guide to Measurement.		
(h) Gender	Disaggregated data by sex should be collected wherever possible; Women4Biodiversity has produced guidance; Guidance on gender in national biodiversity strategies and action plans and developing a Gender Plan of Action exists.	Partly addressed in the indicators for Goal D, Targets 9, 10, 12, 15, 20, 21, 22 and 23.	Women4Biodiversity is developing additional guidance, including with the United Nations Environment Programme World Conservation Monitoring Centre, to develop/adapt their national indicators to measure the gender responsive implementation of their national biodiversity strategies and action plans and/or Gender Plan of Action.
(i) Fulfilment of the three objectives of the Convention and its Protocols and their balanced implementation	National biodiversity strategies and action plans and national reports and other national level guidance could be applied.	Partly addressed in the binary indicators for Targets 13 and 17	Could be addressed through guidance on national biodiversity strategies and action plans and national reports and other national level guidance as opposed to specific guidance on monitoring.
(j) Consistency with international agreements or instruments;	National biodiversity strategies and action plans and national reports and other national level guidance could be applied.	Partly addressed in the indicators for Goal C and Target 13	Could be addressed through guidance on national biodiversity strategies and action plans and national reports and other national level guidance as opposed to specific guidance on monitoring.
(k) Principles of the Rio Declaration	National biodiversity strategies and action plans and national reports and other national level guidance could be applied.	All	Could be addressed through guidance on national biodiversity strategies and action plans and national reports and other national level guidance as opposed to specific guidance on monitoring.
(1) Science and innovation	Subsidiary Body on Scientific, Technical and Technological Advice provides guidance on science. Additionally, a 2021 United Nations Educational, Scientific and Cultural Organization Recommendation on Open Science is an international legal framework on the topic.	Partly addressed in all indicators, in particular for Goals C and D and Targets 13, 17, 20 and 21.	Could be addressed through guidance on national biodiversity strategies and action plans and national reports and other national level guidance as opposed to specific guidance on monitoring.
(m) Ecosystem approach	The Framework includes a number of ecosystem- focused targets and indicators; using the International Union for Conservation of Nature Global Ecosystem Typology level 3 (ecosystem functional group) is proposed to consistently measure across the framework.	Proposed for use in Goal A and B and Targets 2, 3 and other geospatial indicators	Further development of guidance and tools for crosswalks between the Global Ecosystem Typology and national, regional and global ecosystem classifications is being developed by the International Union for Conservation of Nature, Eurostat and the Committee of Experts on Environmental-Economic Accounting. Ongoing development of a global ecosystem map following the Global Ecosystem Typology is being undertaken by the International Union for Conservation of Nature, the Commission on Ecosystem Management of the International Union for Conservation of Nature, the Committee of Experts

Section C element	Existing guidance	Linkages	Future methodological work
			on Environmental-Economic Accounting, the Secretariat of the Convention on Biological Diversity and the Group on Earth Observations Global Ecosystems Atlas.
(n) Intergenerational equity	Disaggregated data by age should be collected whenever possible, OHCHR ahs provided guidance in their publications entitled, <i>Meaningful Youth Engagement in Policy and Decision-making Processes</i> and <i>Youth, Peace and Security: A Programming Handbook</i> .	Partially through the binary indicators for Targets 22 and 23.	Additional guidance is needed. The Global Youth Biodiversity Network is developing guidance that could contribute.
(o) Formal and informal education	The United Nations Educational, Scientific and Cultural Organization has guidance on environmental education and there is guidance on national biodiversity strategies and action plans, and national reports that is relevant.	Partially by the indicators for Targets 16 and 21	Could be addressed through guidance on national biodiversity strategies and action plans, national reports and other national level guidance as opposed to specific guidance on monitoring.
(p) Access to financial resources	Addressed in Goal D and Target 18	Addressed in Goal D and Target 18	
(q) Cooperation and synergies	National biodiversity strategies and action plans, national reports and other national level guidance could be applied.	All	Could be addressed through guidance on national biodiversity strategies and action plans, national reports and other national level guidance as opposed to specific guidance on monitoring.
(r) Biodiversity and health	The draft action plan on biodiversity and health presents a set of actions to mainstream biodiversity and health interlinkages in the implementation of the Framework.	See links in the draft action plan on biodiversity and health	Decision XX ²⁵ recommends developing biodiversity and health indicators (this is included in the draft decision and will need to be decided by the Conference of the Parties to the Convention at its sixteenth meeting)

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²⁵ Biodiversity and health will be discussed under agenda item 9. The reference will be updated to reflect the correct decision number.

Annex III*

Gap analysis: research needs and indicator development required for improved monitoring of the Kunming-Montreal Global Biodiversity Framework

Overall, the monitoring framework covers the goals and targets in the Framework as a whole reasonably well. However, if one considers all the elements within each of the goals and targets in detail, there are inevitably some gaps. The Expert Group identified these through an analysis of the coverages of each element of section C and of each goal and target with relevant headline, binary, component and complementary indicators (CBD/SBSTTA/26/INF/19). The table below highlights the most important gaps remaining for each goal or target. The list is not exhaustive and does not cover all possible gaps in the monitoring framework.

Goal/target	Key gaps in the indicators in the monitoring framework for covering specific elements of the goals or target
Section C	Some key elements from section C are not well covered in the monitoring framework. The monitoring framework does not effectively track how diverse value systems are represented and included across the Framework. In addition, there is currently no consideration of intergenerational equity, an important element in measuring sustainability. The role of youth in the Framework could/should be better monitored. Furthermore, assessing science and innovation for biodiversity is not yet possible. Lastly, the role of informal and formal education for biodiversity is not yet included.
A	Goal A is well covered overall by the headline indicators of the Framework. Only one major gap was identified: data on the abundance of native wild species. However, other aspects, such as extinction rate, connectivity and integrity require additional steps to be accurately represented by the headline indicator.
В	Two major gaps were identified for Goal B. Monitoring the value of nature's contribution to people and their restoration cannot be achieved with the current headline indicator. In addition, sustainability is poorly addressed by the current headline indicator.
С	The methodology for Goal C headline indicators is still being developed but it is expected that it will cover most aspects of the goal. Issues regarding digital sequence information will need to be resolved once negotiations on the subject have been completed.
D	Elements of Goal D focused on resources are well covered by the headline indicators. However, technical and scientific cooperation and transfer of technology are not covered.
1	The binary indicator for Target 1 offers an overall good coverage of the objectives. However, it does not provide a measure of the spatial coverage of biodiversity-inclusive spatial planning. The binary indicator does not address the areas of high biodiversity importance; a key gap in this target.
2	The effectiveness of restoration measures is not tracked by the headline indicator. Therefore, there are gaps in the ability to measure improvements in biodiversity, ecosystem functions and services, integrity and connectivity.
3	Two major gaps were identified for Target 3: the coverage of areas of particular importance for ecosystem functions and services by protected areas and other effective area-based conservation measures and the connectivity of these areas. A further gap is the lack of guidance for the identification and recognition of indigenous and traditional territories
4	The headline indicator for Target 4 does not sufficiently inform on the recovery of species nor the management actions in place to support it. In addition, the minimization of human-wildlife conflicts is not addressed by the indicator.

^{*} The present annex is being issued without formal editing.

Goal/target	Key gaps in the indicators in the monitoring framework for covering specific elements of the goals or target
5	The headline indicator only partially addresses the sustainable use and harvesting of wild populations by focusing on fish. All other aspects of the target are currently not covered well.
6	Two major gaps were identified for the headline indicator for Target 6: it does not currently address the impacts of invasive alien species on ecosystem services nor the eradication and control of invasive alien species on priority sites such as islands.
7	Two major gaps were identified for the headline indicators for Target 7: it does not currently address plastic pollution nor the overall impacts of pollution.
8	The binary indicator for Target 8 focuses on the measures and processes in place but fails to address the impacts of climate action, climate change and ocean acidification on biodiversity.
9	There currently is no method to assess sustainable use of wild species, therefore no indicator captures the benefits (social, economic, environmental) derived from it.
10	Gaps identified for Target 10 centred around fisheries. Namely, the indicator fails to address inland fisheries and does not track aquaculture practices.
11	Target 11 is well covered by its headline indicator. However, the specific contributions of ecosystem-based approaches or nature-based solutions to the restoration, maintenance and enhancement of nature's contribution to people are not addressed.
12	There are significant gaps in the coverage of the headline indicator for Target 12. Only area and access to green spaces will be addressed. None of the following will be addressed: well-being, mainstreaming, benefits, connectivity or quality.
13	Two main gaps were identified for Target 13. Digital sequence information remains undefined and no agreements on it have been reached, making its monitoring infeasible. Furthermore, the current indicators do not address access to genetic resources.
14	The binary indicator for Target 14 addresses the structural changes and processes required to implement all aspects of the target. However, it does not allow tracking of the outcomes of these efforts within all levels of government and across all sectors. In addition, there is a lack of information on the way that indicators are used in other plans.
15	Target 15 is well covered by its headline and binary indicators. However, more work could be done to measure the effectiveness of certification standards and track the list of statutory requirements and mechanisms to regulate businesses and financial institutions.
16	The binary indicator for Target 16 currently does not address the reduction of the global footprint of consumption nor the reduction of global food waste by half. In addition, this indicator does not allow for quantification of the outcomes of efforts linked to Target 16.
17	The binary indicator for Target 17 does not address the strengthening of capacity for biosafety measures nor the handling of biotechnology and distribution of its benefits. In addition, this indicator does not measure the environmental outcomes from the implementation of Articles 8(g) and 19.
18	One major gap was identified for Target 18: the identification of incentives, including subsidies, harmful to biodiversity. Neither of the headline indicators currently enable reporting on these efforts.
19	Target 19 is overall well addressed by its indicators. However, the optimization of cobenefits and synergies of finance for climate and biodiversity is not well covered and neither is the role of non-market-based approaches.
20	The binary indicator for Target 20 tracks the establishment of the conditions required to deliver on Target 20 but it does not address whether these lead to realized outcomes. In addition, it does not address the strengthening of research and monitoring capacity.

Goal/target	Key gaps in the indicators in the monitoring framework for covering specific elements of the goals or target
21	The headline indicator for Target 21 does not address two major gaps: the inclusion of non-biodiversity data to guide effective and equitable governance, integrated and participatory management of biodiversity and aspects of communication, education and awareness-raising.
22	The binary indicator for Target 22 addresses the structural changes and processes required to implement all aspects of the target. However, it does not allow tracking of the outcomes of these efforts in ensuring the participation and access to justice and information of children and youth, persons with disabilities, women and girls and indigenous peoples and local communities.
23	The binary indicator for Target 23 addresses the structural changes and processes required to implement all aspects of the target. However, it does not allow tracking of the outcomes of these efforts in the extent to which a gender-responsive approach is implemented nor women's participation and leadership is enhanced nor access and equal rights to land and natural resources is recognized.