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POST-2020 GLOBAL BIODIVERSITY FRAMEWORK: SCIENTIFIC AND TECHNICAL INFORMATION TO SUPPORT THE REVIEW OF THE UPDATED GOALS AND TARGETS, AND RELATED INDICATORS AND BASELINES

PROPOSED INDICATORS AND MONITORING APPROACH FOR THE POST-2020 GLOBAL BIODIVERSITY FRAMEWORK

Note by the Executive Secretary

I. INTRODUCTION

1. In the light of the relevant requests by the Conference of the Parties at its fourteenth meeting, by the Subsidiary Body on Scientific, Technical and Technological Advice at its twenty-third meeting, and by the Open-ended Working Group on the Post-2020 Global Biodiversity Framework at its first and second meetings (see CBD/SBSTTA/24/3), the present document, in section II, proposes an approach for the use of indicators to help monitor progress in the implementation of the post-2020 global biodiversity framework, and, in section III, provides considerations for the establishment of baselines for the post-2020 global biodiversity framework. Proposed headline indicators are listed in annex I to document CBD/SBSTTA/24/3. A full list of headline, component and complementary indicators are included in the annex to this document. A draft recommendation for the consideration of the Subsidiary Body is presented in document CBD/SBSTTA/24/3. The updated zero draft of the post-2020 global biodiversity framework is presented in CBD/POST2020/PREP/2/1.

2. The Secretariat has also issued an information document pursuant to paragraph 13 of recommendation [SBSTTA-23/1](#), which identifies the range of relevant existing indicators, baselines, baseline dates, or other appropriate methods for monitoring changes in biodiversity, indicator gaps and, where relevant, options for filling such gaps and for a monitoring framework for the post-2020 global biodiversity framework, taking into account the outcomes of the second meeting of the Open-ended Working Group on the Post-2020 Global Biodiversity Framework. In addition, the present document is also supported by an information document prepared in line with the recommendation of the Working Group on the Post-2020 Global Biodiversity Framework at its second meeting (CBD/WG2020/REC/2/1, para. 6) providing an analysis of the linkages between the proposed goals, targets and monitoring framework of the post-2020 global biodiversity framework and the Sustainable Development Goals within the scope of the Convention.

* Reissued for technical reasons on 30 April 2021.

** CBD/SBSTTA/24/1.

II. PROPOSED MONITORING FRAMEWORK FOR THE POST-2020 GLOBAL BIODIVERSITY FRAMEWORK

A. Background

3. A draft monitoring framework for the post-2020 global biodiversity framework was prepared on the basis of:

- (a) The indicators identified in decisions [XIII/28](#) and [X/3](#);
- (b) Existing reporting processes under the Convention and its Protocols;
- (c) The indicators used for monitoring the implementation of the Sustainable Development Goals;
- (d) Indicators developed by the members of the Biodiversity Indicators Partnership;
- (e) Information provided to the Working Group on the Post-2020 Global Biodiversity Framework at its second meeting.

4. The draft monitoring framework was made available for peer review from 24 June to 15 August 2020.¹ The Secretariat received 233 submissions from 53 Parties, 1 other Government and 179 observers.² The peer review comments included general comments on the design of a monitoring framework for the post-2020 global biodiversity framework as well as specific comments on indicators. Many of the comments highlighted the need for a simple monitoring framework which is nationally relevant, imbued with a clear monitoring logic, is aligned with existing processes and agreed measurement frameworks and is structured around agreed headline indicators.

5. An analysis of the use of indicators in the fifth and sixth national reports to the Convention on Biological Diversity was also undertaken to, among other things, further inform the development of the monitoring framework for the post-2020 global biodiversity framework.³ The analysis highlighted the need for indicators which are built on national data sources and which are nationally relevant. Among its main findings were:

- (a) The total number of indicators used in the national reports significantly increased from an average of 49 indicators in the fifth national reports to 84 indicators in the sixth national reports;
- (b) In the sixth national reports, nationally compiled indicators were used 11 times more frequently compared to indicators from global data providers;
- (c) The proportion of indicators used in the national reports derived from global sources increased slightly between the fifth and sixth national reports, while the proportion of indicators from national data sources decreased slightly;
- (d) While there remains a strong bias towards the use of indicators related to Strategic Goals B (direct pressures on biodiversity) and C (the status of biodiversity) of the Strategic Plan for Biodiversity 2011-2020, there was a marked improvement in indicator use across all Strategic Goals, particularly for Goals A (underlying causes of biodiversity loss) and E (implementation);
- (e) The proportion of indicators in the sixth national reports which matched those on the list of indicators developed by the Ad Hoc Technical Expert Group (AHTEG) on Indicators for the Strategic Plan for Biodiversity 2011-2020⁴ and recommended as generic indicators increased significantly, to 30 per cent, compared to the fifth national reports. In the fifth national reports, the proportion was 22 per cent. Though the proportion is increasing, the analysis still indicates a minimal utilization of the recommended indicators by Parties in their national reports.

¹ See notification 2019-108.

² All of the peer review comments are accessible from <https://www.cbd.int/conferences/post2020/submissions/2020-045>

³ The analysis was conducted by NatureServe with funding from the Government of the United Kingdom of Great Britain and Northern Ireland.

⁴ See [UNEP/CBD/SBSTTA/19/INF/5](#).

6. The draft monitoring framework for the post-2020 global biodiversity framework was updated to take into account the comments received through the peer review process noted above as well as the results of the analysis of the fifth and sixth national reports.

B. Proposed monitoring approach

7. In the light of the above, a monitoring framework composed of three groups of indicators is proposed for monitoring the implementation of the post-2020 global biodiversity framework:

(a) Group 1 - Headline indicators: A minimum set of high-level indicators which capture the overall scope of the goals and targets of the post-2020 global biodiversity framework which can be used for tracking national progress, as well as for tracking regional and global progress. These indicators could also be used for communication purposes. Additionally, some countries may wish to use a subset of these indicators or only the goal level headline indicators for high-level communication and outreach;

(b) Group 2 - Component indicators: A set of indicators for monitoring each component of each goal and target of the post-2020 global biodiversity framework at the national level as well as for tracking regional and global progress;

(c) Group 3 - Complementary indicators: A set of indicators for thematic or in-depth analysis of each goal and target. These indicators will be used at the global level, and, as appropriate at regional and national levels. However, these indicators may be less relevant or applicable, for a majority of countries. Some of these indicators have significant data collection gaps or are highly specific.

8. Within these three groups, a range of indicator types are proposed for the goals and targets of the post-2020 global biodiversity framework. The indicators proposed for the goals focus on outcomes (i.e. the status and trends of biodiversity), and the benefits biodiversity provides to people, as well as the conditions necessary for implementing the framework. The indicators proposed for the targets aim to monitor the actions taken to reach the targets and their impacts. To the extent possible, each indicator has been included in the monitoring framework only once. However, for some of the proposed component and complementary indicators, there is some duplication owing to the linkages that exist within the post-2020 global biodiversity framework.

9. All of the indicators in the monitoring framework for the post-2020 global biodiversity framework should meet the following criteria:

(a) The data and metadata related to the indicator are (or will be) publicly available;

(b) The methodology for the data product is either published in a peer reviewed academic journal or has gone through a scientific peer review process;

(c) There is evidence that the indicators will be regularly updated with a time lag of less than five years between updates;

(d) There is an existing mechanism for maintaining the indicators, including, for example, by a member of the Biodiversity Indicators Partnership, an intergovernmental organization or a well-established scientific or research institution.

10. Further headline indicators should meet additional criteria as specified below.

C. Group 1 - Headline indicators

11. Headline indicators constitute a minimum set of high-level indicators which capture the overall scope of the goals and targets of the post-2020 global biodiversity framework and which are necessary for tracking progress towards them. They are nationally relevant indicators which can be used by all Parties, and at the regional and global levels. In addition, headline indicators should constitute one of the main components of the national reports and support national planning processes. These indicators should use methodologies agreed by Parties and be calculated based on national data provided and/or validated by Parties, including through their national statistical offices. Headline indicators would allow for consistent, standardized and

scalable tracking of global goals and targets. To facilitate the use of these headline indicators at the national level, capacity-building activities and other support would likely be needed in many countries.

12. In order to maximize uptake and minimize the reporting burden, the proposed list of headline indicators comprises a small number of indicators which are intended to capture the overall scope of a goal or target in the post-2020 global biodiversity framework. The headline indicators may not capture all components of a goal or a target but for analytical purposes can be complemented, as appropriate, with the component and complementary indicators.

13. The proposed headline indicators were identified on the basis of the minimum criteria set out in paragraph 8 and the following criteria:

(a) The indicators currently exist or have a high likelihood of being available by the sixteenth meeting of the Conference of the Parties;

(b) The indicators have been or are likely to be agreed through a scientific or intergovernmental process and where there is an existing body that will continue to review and revise the methodology as needed, such as the indicators identified for monitoring implementation of the 2030 Agenda for Sustainable Development;

(c) The indicators are nationally relevant, including the ability of the indicator to be disaggregated and aggregated from global to national and national to global scales without creating bias.

14. For indicators that met the criteria above, further preference was given to:

(a) Indicators for which regular compilation is feasible, with data and metadata for the data set which is publicly available and nationally validated, which adheres to open data standards, and for which a global programme exists for monitoring;

(b) Indicators that are already being used by some national Governments, ideally where there is an opportunity to work with the United Nations Statistical Commission to promote the use of the indicator (for example, indicators aligned with the United Nations System of Environmental Economic Accounts or included in the Framework for the Development of Environment Statistics);

(c) Indicators where subnational or geospatial disaggregation is possible.

15. For some of the proposed goals and targets in the updated zero draft of the post-2020 global biodiversity framework it was not possible to identify indicators which are currently operational, and which meet the above criteria. Where this was the case, an indicator formulation is presented in a way to capture the main scope of the goal or target; however, these indicators would require further development to become operational. These indicators have been denoted with an asterisk (*) in the table in the annex below. Parties may wish to consider how these gaps could be filled, including by selecting indicators from the lists of component and complementary indicators.

16. Based on the above criteria and preferences and bearing in mind the need to keep the number of headline indicators small while also covering the breadth of issues addressed by the post-2020 global biodiversity framework, a set of 47 headline indicators have been identified. A total of 11 of these indicators are related to the goals of the post-2020 global biodiversity framework and 36 are related to targets. The proposed headline indicators are presented in CBD/SBSTTA/24/3, annex I. They are also included in the annex below along with the component and complementary indicators. A subset of the headline indicators could be used for communication purposes. For example, the headline indicators related to the goals could be used to raise awareness of the progress towards the post-2020 global biodiversity framework. In addition, headline indicators could be used nationally to communicate progress on national priorities, successes and challenges.

17. To help with the operationalization of the proposed headline indicators, the Subsidiary Body may wish to consider recommending that the Conference of the Parties establish an informal advisory group to provide advice on indicator methodologies, identify metadata, technical issues related to the use of the indicators, filling indicator gaps, needed capacity-building activities, and on the development of tools to

support the visualization of indicators among other things. Draft terms of reference for such a group are presented in CBD/SBSTTA/24/3, annex II.

D. Group 2 - Component indicators

18. Component indicators represent a set of indicators for monitoring each component of each of the goals and targets of the post-2020 global biodiversity framework at the national, regional and global level. Parties should be encouraged to use these indicators, including in their national reports and relevant planning processes, where nationally relevant and appropriate.

19. The proposed list of component indicators is contained in the annex to this document. They were identified using the same criteria as the headline indicators. However, they relate to the components of the goals and targets of the post-2020 global biodiversity framework rather than directly to goals and targets. Many of the component indicators are disaggregations of the headline indicators. This level of indicator also includes disaggregated information which is not included at the headline level.

E. Group 3 - Complementary indicators

20. Complementary indicators are a set of indicators for thematic or in-depth analysis of each goal and target. These are indicators which are primarily applicable at the global and regional levels. They should meet the criteria listed in paragraph 9 above.

III. OPTIONS FOR BASELINES AND REFERENCE PERIODS FOR THE POST-2020 GLOBAL BIODIVERSITY FRAMEWORK

21. In recommendation 23/1, the Subsidiary Body on Scientific, Technical and Technological Advice requested the Executive Secretary to invite written submissions from Parties and others on, among other things, views on possible baselines for the post-2020 global biodiversity framework. Pursuant to this request, submissions were invited between 3 December 2019 and 3 February 2020.⁵ Views on baselines and reference periods were also shared during the second meeting of the Working Group on the Post-2020 Global Biodiversity Framework.⁶

22. Baselines provide context for evaluating progress at the national, regional or global scales. They can be set with reference to a directly observable record/state or can be inferred using models or proxies if direct observations are not possible. In the context of the post-2020 global biodiversity framework, baselines could be set for specific indicators or for the framework as a whole. In addition, they could be linked to a specific date, for an average of several dates or a more general period of history depending on the variability of the indicator and the context of the issue on which it informs. Through the process for developing the post-2020 global biodiversity framework, different perspectives on possible baselines for the post-2020 global biodiversity framework have been suggested. These include, pre-human disturbance, pre-industrial, 1970, 1992, 2000, 2010, and 2020.

23. In the light of the above, the Subsidiary Body may wish to note that different baselines may be appropriate for different purposes, while using 2020, or the period 2016-2020, as appropriate, as the global reference year or reference period for monitoring progress towards the implementation of the post-2020 global biodiversity framework and its associated goals and targets. This could provide the most feasible starting point for tracking the implementation of the global biodiversity framework as the aim would be to track actions and interventions taken after 2020 (as opposed to prior to 2020). However, longer-term time series for the indicators should still be made available when possible. In cases where data for 2020 is not available, data from the next closest available year could be used (for example 2019 or 2021). Further, in cases where an indicator has high annual variability, an average of five years is proposed (from 2016 to 2020) to indicate recent rates of change. This reference year would allow more indicators to be used in monitoring progress in implementation by allowing more recently developed indicators to be used. It would also provide a continuation from the Strategic Plan for Biodiversity 2011-2020. Additionally, using a 2020

⁵ The submissions received are accessible from <https://www.cbd.int/conferences/post2020/submissions/2019-108>

⁶ CBD/WG2020/2/4.

reference year, or 2016-2020 reference period would reduce the reporting burden on Parties as they would not need to identify and draw on historic records.

Annex

PROPOSED HEADLINE, COMPONENT AND COMPLEMENTARY INDICATORS TO MONITOR IMPLEMENTATION OF THE POST-2020 GLOBAL BIODIVERSITY FRAMEWORK

2050 Goals, milestones and Targets ⁷	Headline indicators ⁸	Components of the Goals and Targets ⁹	Component indicators ¹⁰	Complementary indicators ¹¹
<p>Goal A: The area, connectivity and integrity of natural ecosystems increased by at least [X%] supporting healthy and resilient populations of all species while reducing the number of species that are threatened by [X%] and maintaining genetic diversity;</p> <p>2030 Milestones: (i) The area, connectivity and integrity of natural systems increased by at least [5%]. (ii) The number of species that are</p>	<p>A.0.1 Extent of selected natural ecosystems (forest, savannahs and grasslands, wetlands, mangroves, saltmarshes, coral reef, seagrass, macroalgae and intertidal habitats)</p> <p>A.0.2 Living Planet Index</p> <p>A.0.3 Red list index</p> <p>A.0.4 Species habitat index</p> <p>A.0.5 The proportion of populations</p>	<p>A.1. Increased extent of natural ecosystems (terrestrial, freshwater and marine ecosystems)</p> <p>A.2. Ecosystem integrity and connectivity (terrestrial, freshwater and marine ecosystems)</p> <p>A.3. Prevent extinction and improve the conservation status of species</p> <p>A.4. Increase the population and health of species</p> <p>A.5. Maintain genetic diversity</p> <p>A.6. Protection of critical ecosystems</p>	<p>A.1.1. Extent of natural ecosystem (A.0.1) by type</p> <p>A.2.1. Ecosystem Integrity Index</p> <p>A.2.2. Proportion of land that is degraded over total land area (SDG indicator for SDG 15.3.1)</p> <p>A.3.1. Red list index by species group (including for terrestrial, freshwater and marine species)</p> <p>A.3.2. Number of species extinctions by species group (including for terrestrial, freshwater and marine species)</p> <p>A.4.1. Species habitat index by species group</p> <p>A.5.1. The proportion of populations maintained within species (A.0.5) by species group</p> <p><i>Protection indicators are captured in the Targets</i></p>	<p>a.1. Forest area as a proportion of total land area (SDG indicator 15.1.1)</p> <p>a.2. Forest distribution</p> <p>a.3. Tree cover loss</p> <p>a.4. Grassland and savannah extent</p> <p>a.5. Mountain Green Cover Index</p> <p>a.6.. Peatland extent and condition</p> <p>a.7. Permafrost thickness, depth and extent</p> <p>a.8. Red List of Ecosystems</p> <p>a.9. Continuous Global Mangrove Forest Cover</p> <p>a.10. Trends in mangrove forest fragmentation</p> <p>a.11. Change in the extent of water-related ecosystems over time (SDG indicator 6.6.1)</p> <p>a.12. Trends in mangrove extent</p> <p>a.13. Live coral cover</p>

⁷ The 2050 goals and 2030 milestones and targets are as proposed in document CBD/POST2020/PREP/2/1.

⁸ The headlines indicators are the same as in document CBD/SBSTTA/24/3.

⁹ These components are unchanged from those presented in the documentation related to [notification 020-024](#).

¹⁰ Links to relevant headline indicators as well as to indicators for the Sustainable Development Goals have been noted where relevant. The Component indicators correspond to a component of the Goals or Targets.

¹¹ Links to relevant headline indicators as well as to indicators for the Sustainable Development Goals have been noted where relevant. The Complementary indicators may cover multiple aspects of the Goals or Targets and are numbered sequentially.

2050 Goals, milestones and Targets⁷	Headline indicators⁸	Components of the Goals and Targets⁹	Component indicators¹⁰	Complementary indicators¹¹
<p>threatened is reduced by [X%] and the abundance of species has increased on average by [X%].</p>	<p>maintained within species*</p>			<p>a.14. Hard Coral cover and composition a.15. Global coral reef extent a.16. Global Seagrass Extent (Seagrass Cover and composition) a.17. Global saltmarsh extent a.18. Kelp canopy extent a.19. Macroalgal Canopy Cover and Composition a.20. Cover of key benthic groups a.21. Fleshy algae cover a.22. Wetland Extent Trends Index a.23. Change in the extent of inland water ecosystems over time a.24. Change in the extent of water related ecosystems (SDG Indicator 6.6.1) a.25. Forest Fragmentation Index a.26. Forest Landscape Integrity Index a.27. Biomass of selected natural ecosystems (A.0.2) a.28. Biodiversity Habitat Index a.29. Global Vegetation Health Products a.30. Bioclimatic Ecosystem Resilience Index (BERI) a.31. Relative Magnitude of Fragmentation (RMF) a.32. Ecoregion Intactness Index a.33. Biodiversity Intactness Index a.34. Ocean Health Index</p>

2050 Goals, milestones and Targets ⁷	Headline indicators ⁸	Components of the Goals and Targets ⁹	Component indicators ¹⁰	Complementary indicators ¹¹
				<p>a.35. Extent of physical damage indicator to predominant seafloor habitats physical damage</p> <p>a.36. Wetland Extent Trends Index</p> <p>a.37. River Fragmentation Index</p> <p>a.38. Dendritic Connectivity Index</p> <p>a.39. Percentage of threatened species that are improving in status according to the Red List</p> <p>a.40. EDGE Index</p> <p>a.41. Number of threatened species by species group</p> <p>a.42. Wild bird index</p> <p>a.43. Mean Species Abundance (MSA)</p> <p>a.44. Species Protection Index</p> <p>a.45. Changes in plankton biomass and abundance</p> <p>a.46. Fish abundance and biomass</p> <p>a.47. The number of populations (or breeds) within species with an effective population size > 500 compared to the number < 500</p> <p>a.48. Genetic scorecard for wild species</p> <p>a.49. Species richness/Changes in local terrestrial diversity (PREDICTS)</p> <p>a.50. Marine species richness</p> <p>a.51. Comprehensiveness of conservation of socioeconomically as well as culturally valuable species.</p>

2050 Goals, milestones and Targets ⁷	Headline indicators ⁸	Components of the Goals and Targets ⁹	Component indicators ¹⁰	Complementary indicators ¹¹
				<p>a.52. Number of plant and animal genetic resources for food and agriculture secured in either medium- or long-term conservation facilities (SDG 2.5.1)</p> <p>a.53. Proportion of local breeds classified as being at risk, extinction</p> <p>a.54. Red List Index (wild relatives of domesticated animals)</p> <p>a.55. Protection indicators are captured in the Targets</p>
<p>Goal B: Nature’s contributions to people have been valued, maintained or enhanced through conservation and sustainable use supporting global development agenda for the benefit of all people;</p> <p>2030 Milestones: (i) Nature contributes to the sustainable diets and food security, access to safe drinking water and resilience to natural disasters for at least [X%] million people. (ii) Nature is valued through green investments, ecosystem service valuation in</p>	<p>B.0.1 Population benefiting from ecosystem services*</p> <p>B.0.2 Value of all final ecosystem services (Gross Ecosystem Product)*</p>	<p>B.1. Nature’s regulating contributions including climate regulation, disaster prevention and others</p> <p>B.2. Nature’s material contributions, including food, water and others</p> <p>B.3. Nature’s non-material contributions including cultural</p>	<p>B.1.1. Population benefiting from ecosystem services (B.0.1) by type of ecosystem service</p> <p>B.1.2. Additional indicators are captured in Targets 6-11 Headline indicators and across the framework</p> <p>B.2.1. Value of all final ecosystem services (Gross Ecosystem Product) (B.0.2) for material service-related ecosystem services</p> <p>B.3.1. Natural capital component of inclusive wealth</p> <p>B.3.2. Value of all final ecosystem services (Gross Ecosystem Product) (B.0.2) for non-material service-related ecosystem services</p>	<p>b.1. Expected loss of Phylogenetic Diversity (IPBES phylogenetic diversity indicator)</p> <p>b.2. Red List Index (pollinating species)</p> <p>b.3. Green status index (pollinators)</p> <p>b.4. Air quality index</p> <p>b.5. Air pollution emissions account</p> <p>b.6. Zoonotic disease in wildlife</p> <p>b.7. Climatic impact index</p> <p>b.8. Ocean acidification (SDG 14.3.1)</p> <p>b.9. Level of water stress: freshwater withdrawal as a proportion of available freshwater resources</p> <p>b.10. Proportion of bodies of water with good ambient water quality (SDG indicator 6.3.2)</p> <p>b.11. Eflow index</p> <p>b.12. Change in the quality of inland water ecosystems over time</p>

2050 Goals, milestones and Targets ⁷	Headline indicators ⁸	Components of the Goals and Targets ⁹	Component indicators ¹⁰	Complementary indicators ¹¹
national accounts, and public and private sector financial disclosures.				b.13. Change in the quality of coastal water ecosystems over time b.14. Level of erosion b.15. Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population (SDG indicator 11.5.1) b.16. Intact wilderness b.17. Biofuel production b.18. Maximum fish catch potential b.19. Population involved in hunting and gathering b.20. Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale b.21. Forestry Production & Trade (Wood Fuel) b.22. Trends in the legal trade of medicinal plants b.23. Visitor management assessment b.24. Number of formal and non-formal education programmes transmitting spiritual and cultural values in the UNESCO World Network of Biosphere Reserves b.25. Number of mixed sites (having both natural and cultural Outstanding Universal Values), cultural landscapes (recognized as combined works of nature and people) and natural sites with cultural values including those supporting local and indigenous

2050 Goals, milestones and Targets ⁷	Headline indicators ⁸	Components of the Goals and Targets ⁹	Component indicators ¹⁰	Complementary indicators ¹¹
				<p>knowledge and practices inscribed on the UNESCO World Heritage List and UNESCO World Network of Biosphere Reserves</p> <p>b.26. Index of Linguistic Diversity - Trends of linguistic diversity and numbers of speakers of indigenous languages</p> <p>b.27. Index of development of the standard- setting framework for the protection and promotion of culture, cultural rights and cultural diversity</p> <p>b.28. Cultural vitality index</p> <p>b.29. UNESCO Culture 2030 (multiple indicators)</p>
<p>Goal C: The benefits, from the utilization of genetic resources are shared fairly and equitably;</p> <p>2030 Milestones: (i) Access and benefit-sharing mechanisms are established in all countries. (ii) Benefits shared increased by [X%].</p>	<p>C.0.1 Amount of monetary benefits (in United States dollars) received by countries from utilization of genetic resources as a result of an ABS agreement, including traditional knowledge</p> <p>C.0.2 Number of research and development results or publications shared</p>	<p>C.1. Access to Genetic resources</p> <p>C.2. Sharing of the benefits</p>	<p>C.2.1. Amount of monetary benefits received by countries from utilization of genetic resources as a result of an ABS agreement, including traditional knowledge (C.0.1) by beneficiary type</p> <p>C.2.2. Number of research and development results or publications shared as a result of an ABS agreement (C.0.2) by beneficiary type</p>	<p>c.1. Number of users that have provided information relevant to the utilization of genetic resources to designated checkpoints</p> <p>c.2. Total number of internationally recognized certificates published in the APB Clearing-House</p> <p>c.3. Number of checkpoint communiqués published in the ABS Clearing-House</p> <p>c.4. Number of internationally recognized certificates of compliance for non-commercial purposes</p>

2050 Goals, milestones and Targets ⁷	Headline indicators ⁸	Components of the Goals and Targets ⁹	Component indicators ¹⁰	Complementary indicators ¹¹
	as a result of an ABS agreement			
<p>Goal D: Means of implementation are available to achieve all goals and targets in the framework.</p> <p>2030 Milestones: (i) By 2022, means to implement the framework for the period 2020 to 2030 are identified and committed. (ii) By 2030, means to implement the framework for the period 2030 to 2040 are identified or committed.</p>	<p>D.0.1. Index of coverage of national biodiversity strategies and action plans with formal processes for ensuring that women, indigenous peoples and local communities and youth are engaged and which capture means of implementation*</p> <p>D.0.2. National funding for implementation of the global biodiversity framework*</p>	<p>D.1. Availability of sufficient financial resources</p> <p>D.2. Sufficient capacity-building, technology transfer and scientific cooperation</p> <p>D.3. Access to technology</p>	<p>D.1.1. Financial resources captured in the headline indicators for Target 18</p> <p>D.2.1. Financial resources mobilized for capacity-building, technology transfer and scientific cooperation</p> <p><i>Headline indicator 19.0.1</i></p>	<p>d.1. Financial resources captured in the headline indicators for Target 18</p> <p>d.2. Finance mobilized for capacity-building</p> <p>d.3. Financial and technical assistance provided in dollars (including through South-South, North-South and triangular cooperation)</p> <p>d.4. Finance mobilized for promoting the development, transfer, dissemination and diffusion of technology</p> <p>d.5. Number of scientists per population</p> <p>d.6. Joint scientific papers published (in Ocean Biodiversity Information System (OBIS)) by sector</p> <p>d.7. Number of marine monitoring stations</p> <p>d.8. Number of water quality monitoring stations</p> <p>d.9. Nationally maintained research vessels</p> <p>d.10. Proportion of total research budget allocated to research in the field of marine technology</p> <p>d.11. Volume of official development assistance flows for scholarships by sector and type of study</p> <p>d.12. Global imports of information and communication technology (ICT) goods</p>

2050 Goals, milestones and Targets ⁷	Headline indicators ⁸	Components of the Goals and Targets ⁹	Component indicators ¹⁰	Complementary indicators ¹¹
				as presented by bilateral trade flows by ICT goods categories
Reducing threats on biodiversity				
<p>Target 1. By 2030, [50%] of land and sea areas globally are under spatial planning addressing land/sea use change, retaining most of the existing intact and wilderness areas, and allow to restore [X%] of degraded freshwater, marine and terrestrial natural ecosystems and connectivity among them.</p>	<p>1.0.1 Percentage of land covered by landscape scale land-use plans for terrestrial, freshwater and marine ecosystems*</p>	<p>1.1. Increase in area of terrestrial, freshwater and marine ecosystems under spatial planning 1.2. Prevention of reduction and fragmentation of natural habitats due to land/sea use change 1.3. Priority retention of intact/wilderness areas 1.4. Restoration of degraded ecosystems 1.5. Maintenance and restoration of connectivity of natural ecosystems</p>	<p>1.1.1. Sustainable forest management (SDG indicator 15.2.1) 1.1.2. Number of countries using ecosystem-based approaches to managing marine areas (SDG indicator 14.2.1) 1.1.3. Degree of integrated water resources management (SDG indicator 6.5.1) <i>Habitat extent, fragmentation and connectivity are captured in Goal A.</i></p>	<p>t1.1. Number of countries using natural capital accounts in planning processes t1.2. Percentage of spatial plans utilising information on key biodiversity areas t1.3. Habitat patches located within marine protected areas or integrated coastal zone management (ICZM) t1.4. Other spatial management plans (not captured as ICZM or marine spatial planning in 14.2.1) t1.5. Number of countries using ocean accounts in planning processes t1.6. Proportion of transboundary basin area with an operational arrangement for water cooperation (SDG indicator 6.5.2) t1.7. Percent of total land area that is under cultivation t1.8. Habitat distributional range t1.9. Index of Species Rarity Sites, High Biodiversity Areas, Large Mammal Landscapes, Intact Wilderness and Climate Stabilization Areas t1.10. Increase in secondary natural forest cover t1.11. Annual Tropical Primary Tree Cover Loss t1.12. Forest Landscape Integrity Index</p>

2050 Goals, milestones and Targets ⁷	Headline indicators ⁸	Components of the Goals and Targets ⁹	Component indicators ¹⁰	Complementary indicators ¹¹
				t1.13. Global Ecosystem Restoration Index t1.14. Cumulative human impacts on marine ecosystems. t1.15. Physical damage to seafloor habitats t1.16. Free flowing rivers t1.17. Percentage of cropped landscapes with at least 10% natural land t1.18. Bioclimatic Ecosystem Resilience Index (BERI)
Target 2. By 2030, protect and conserve through well connected and effective system of protected areas and other effective area-based conservation measures at least 30 per cent of the planet with the focus on areas particularly important for biodiversity.	2.0.1 Protected area coverage of important biodiversity areas 2.0.2 Species Protection Index	2.1. Area of terrestrial, freshwater and marine ecosystem under protection and conservation 2.2. Areas of particular importance for biodiversity are protected and conserved as priority 2.3. Representative system of protected areas and other effective area-based conservation measures 2.4. Effective management and equitable governance of the system of protected areas and other effective	2.1.1. Protected area coverage by type (marine, freshwater, mountain and terrestrial) 2.2.1. Protected area coverage of important biodiversity areas (by type (marine, freshwater, mountain and terrestrial) 2.3.1. Protected Area Representativeness Index (PARC-Representativeness) 2.4.1. Headline indicator for Target 3 2.5.1. Protected Connected (Protconn) index 2.6.1. Area of Protected areas and other effective area-based conservation measures meeting their documented ecological objectives (Protected areas effectiveness) 2.6.2. Area of protected areas and other effective area-based	t2.1. Protected area downgrading, downsizing and degazettement (PADDD) t2.2. Status of key biodiversity areas t2.3. Protected area coverage of key biodiversity areas t2.4. Protected area coverage of coral reefs t2.5. IUCN Green List of Protected and Conserved Areas t2.6. Number of hectares of UNESCO designated sites (natural and mixed World Heritage sites and Biosphere Reserves) t2.7. Proportion of terrestrial, freshwater and marine ecological regions which are conserved by protected areas or other effective area-based conservation measures t2.8. Species Protection Index

2050 Goals, milestones and Targets ⁷	Headline indicators ⁸	Components of the Goals and Targets ⁹	Component indicators ¹⁰	Complementary indicators ¹¹
		area-based conservation measures 2.5. Connectivity within the system of protected areas and other effective area-based conservation measures 2.6. Increased protection and conservation effectiveness 2.7. Integration into landscape and seascape context	conservation measures in each of the four governance types	t2.9. Protected Area Connectedness Index (PARC-Connectedness) t2.10. Ramsar Management Effectiveness Tracking Tool (R-METT) t2.11. Number of protected areas that have completed a site-level assessment of governance and equity (SAGE) t2.12. Number of certified forest areas under sustainable management with verified impacts on biodiversity conservation t2.13. Percentage of biosphere reserves that have a positive conservation outcome and effective management t2.14. Extent of indigenous peoples and local communities' lands that have some form of recognition
Target 3. By 2030, ensure active management actions to enable wild species of fauna and flora recovery and conservation, and reduce human-wildlife conflict by [X%].	3.0.1 Protected areas management effectiveness 3.0.2 Species recovery programmes*	3.1. Active recovery and conservation management actions 3.2. Reduced human-wildlife conflicts 3.3. Number of countries with a national species recovery plan	3.1.1. Status of species captured in Goal A 3.1.2. Proportion of conservation dependent species (IUCN Green Status of Species Index)	t3.1. Species threat abatement and restoration metric t3.2. IUCN Green Status of Species Index by sub-indicators t3.3. Changing status of evolutionary distinct and globally endangered species (EDGE Index) t3.4. Percentage of threatened species that are improving in status. t3.5. Number of CMS daughter agreements
Target 4. By 2030, ensure that the harvesting, trade and use	4.0.1 Proportion of traded wildlife that is legal and safe	4.1. Harvest is legal, sustainable and safe	4.1.1. Proportion of fish stocks within biologically sustainable levels (T4.0.2) by fish type	t4.1. Sustainable watershed and inland fisheries index

2050 Goals, milestones and Targets ⁷	Headline indicators ⁸	Components of the Goals and Targets ⁹	Component indicators ¹⁰	Complementary indicators ¹¹
of wild species of fauna and flora is legal, at sustainable levels and safe.	(not poached, illicitly trafficked or unsustainable) 4.0.2 Proportion of fish stocks within biologically sustainable level	for human health and biodiversity 4.2. Trade is legal, sustainable and safe for human health and biodiversity 4.3. Use is legal, sustainable and safe for human health and biodiversity	4.2.1. Proportion of traded wildlife that was poached or illicitly trafficked (SDG indicators 15.7.1 and 15.c.1) 4.2.2. The conservation status of species listed in the CITES Appendices has stabilized or improved	t4.2. Marine Stewardship Council Fish catch t4.3. Total catch of cetaceans under International Convention for the Regulation of Whaling t4.4. By catch of vulnerable and non-target species t4.5 Degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing (SDG indicator 14.6.1). t4.6. Proportion of legal and illegal wildlife trade consisting of species threatened with extinction t4.7. Illegal trade by CITES species classification t4.8. Number of countries incorporating trade in their national biodiversity policy t4.9. The conservation status of species listed in the CITES Appendices has stabilized or improved t4.10. Implementation of measures designed to minimize the impacts of fisheries and hunting on migratory species and their habitats
Target 5. By 2030, manage, and where possible control, pathways for the introduction of invasive alien species, achieving	5.0.1 Rate of invasive alien species spread 5.0.2 Rate of invasive alien species impact	5.1. Identification, control and management of pathways for introduction of invasive alien species	5.1.1. Numbers of invasive alien species introduction events 5.2.1. An established an alert system for prevention and control of IAS	t5.1. Number of invasive alien species in national lists as per the Global Register of Introduced and Invasive Species* t5.2. Proportion of countries adopting relevant national legislation and

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<p>[50%] reduction in the rate of new introductions, and control or eradicate invasive alien species to eliminate or reduce their impacts, including in at least [50%] of priority sites</p>		<p>5.2. Effective detection, identification, prioritization and monitoring of invasive alien species 5.3. Establishment of measures for eradication, control and management of invasive alien species 5.4. Eliminated or reduced impacts of invasive alien species 5.5. Eradication, control or management of invasive alien species in priority sites</p>	<p>5.3.1. Rate of invasive alien species eradication by species type 5.4.1. Red List Index (impacts of invasive alien species) 5.5.1. Proportion of key biodiversity areas threatened by invasive alien species</p>	<p>adequately resourcing the prevention or control of invasive alien species</p>
<p>Target 6. By 2030, reduce pollution from all sources, including reducing excess nutrients [by x%], biocides [by x%], plastic waste [by x%] to levels that are not harmful to biodiversity and ecosystem functions and human health</p>	<p>6.0.1 Proportion of water with good ambient water quality (freshwater and marine) 6.0.2 Plastic debris density 6.0.3 Pesticide use per area of cropland 6.0.4 Proportion of municipal solid waste collected and managed in controlled facilities out of total</p>	<p>6.1. Reduction of pollution from excess nutrients 6.2. Reduction of pollution from biocides 6.3. Reduction of pollution from plastic 6.4. Reduction of pollution from other sources</p>	<p>6.1.1. Nitrogen balance (in rivers from SDG indicator 6.3.2 and in oceans from SDG indicator 14.1.1) 6.1.2. Phosphate balance (in rivers from SDG indicator 6.3.2 and in oceans from SDG indicator 14.1.1) 6.1.3. Fertilizer use 6.2.1. Pesticide use by type of pesticides 6.3.1. Plastic debris density by location (beach litter, floating debris, debris in the sea column, debris on the sea floor) 6.3.2. Ingested plastic and entanglement</p>	<p>t6.1 Trends in Loss of Reactive Nitrogen to the Environment.</p>

2050 Goals, milestones and Targets ⁷	Headline indicators ⁸	Components of the Goals and Targets ⁹	Component indicators ¹⁰	Complementary indicators ¹¹
	municipal solid waste generated by cities		6.4.1. Hazardous waste generated per capita; and proportion of hazardous waste treated, by type of treatment (SDG indicator 12.4.2) 6.4.2. Recycling rate (from SDG indicator 12.5.1)	
<p>Target 7. By 2030, increase contributions to climate change mitigation adaption and disaster risk reduction from nature-based solutions and ecosystems-based approaches, ensuring resilience and minimizing any negative impacts on biodiversity</p>	7.0.1 Total climate regulation services provided by ecosystems*	<p>7.1. Increased biodiversity contribution to climate change mitigation, adaptation and disaster risk reduction</p> <p>7.2. Minimized negative impacts on biodiversity from any mitigation, adaptation and disaster risk reduction measures</p>	7.1.1. Total climate regulation services provided by ecosystems by ecosystem type	<p>t7.1. Above-ground biomass stock in forest (tonnes/ha)</p> <p>t7.2. Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030 (SDG indicator 13.1.2)</p> <p>t7.3. Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies (SDG indicator 13.1.3)</p> <p>t7.4. Number of least developed countries and small island developing States with nationally determined contributions, long-term strategies, national adaptation plans, strategies as reported in adaptation communications and national communications (SDG indicator 13.b.1)</p>
Meeting people’s needs through sustainable use and benefit-sharing				
<p>Target 8. By 2030, ensure benefits, including nutrition, food security, livelihoods,</p>	8.0.1 Number of people using wild resources for energy, food or	8.1. Sustainable management of aquatic wild species of fauna	8.1.1. Average income of small-scale food producers, by sex and	t8.1. Proportion of fish stocks within biologically sustainable levels (SDG indicator 14.4.1)

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<p>health and well-being, for people, especially for the most vulnerable through sustainable management of wild species of fauna and flora</p>	<p>culture (including firewood collection, hunting and fishing, gathering, medicinal use, craft making, etc.)* 8.0.2 Percentage of the population in traditional employment</p>	<p>and flora, including fisheries 8.2. Sustainable management of terrestrial wild species of fauna and flora</p>	<p>indigenous status (SDG indicator 2.3.2)</p>	<p>t8.2. Degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing (SDG indicator 14.6.1) t8.3. Spawning stock biomass (related to commercially exploited species) t8.4. Number of plant and animal genetic resources for food and agriculture secured in medium- or long-term conservation facilities (SDG indicator 2.5.1) t8.5. Red List Index (species used for food and medicine) t8.6. Volume of production per labour unit by classes of farming/pastoral/forestry enterprise size (SDG indicator 2.3.1)</p>
<p>Target 9. By 2030, support the productivity, sustainability and resilience of biodiversity in agricultural and other managed ecosystems through conservation and sustainable use of such ecosystems, reducing productivity gaps by at least [50%].</p>	<p>9.0.1 Proportion of agricultural area under productive and sustainable agriculture</p>	<p>9.1. Sustainable management of agricultural biodiversity, including soil biodiversity, cultivated plants and farmed and domesticated animals and of wild relatives 9.2. Sustainable management of aquaculture 9.3. Sustainable management of all types of forests</p>	<p>9.1.1. Changes in land productivity 9.1.2. Proportion of land that is degraded over total land area (SDG indicator 15.3.1) 9.1.3. Number of plant and animal genetic resources for food and agriculture secured in either medium or long-term conservation facilities 9.2.1. Aquaculture production 9.3.1. Area of forest under sustainable management: total forest management certification by Forest Stewardship Council and Programme</p>	<p>t9.1. Changes in soil organic carbon stocks t9.2. Red List Index (wild relatives of domesticated animals) t9.3. Red List Index (pollinating species) t9.4. Proportion of local breeds classified as being at risk of extinction t9.5. Progress towards sustainable forest management (SDG indicator 15.2.1)</p>

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			for the Endorsement of Forest Certification	
<p>Target 10. By 2030, ensure that nature-based solutions and ecosystem approach contribute to regulation of air quality, hazards and extreme events and quality and quantity of water for at least [XXX million] people</p>	<p>10.0.1 Population living in areas with clean air and clean and accessible water*</p> <p>10.0.2 Ecosystems providing reduced coastal erosion, flood protection and other services)*</p>	<p>10.1. Regulation of air quality</p> <p>10.2. Regulation of hazards and extreme events</p> <p>10.3. Regulation of freshwater quantity, quality, location and timing</p>	<p>10.1.1. Mortality rate attributed to household and ambient air pollution (SDG indicator 3.9.1)</p> <p>10.2.1. Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population (SDG indicator 11.5.1)</p> <p>10.3.1. Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services) (SDG indicator 3.9.2)</p> <p>10.4.1. Mortality rate attributed to unintentional poisoning (SDG indicator 3.9.3)</p>	<p>t10.1. Air emission accounts</p> <p>t10.2. Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management (SDG indicator 6.b.1)</p> <p>t10.3. Proportion of population using safely managed drinking water services (SDG indicator 6.1.1)</p>
<p>Target 11. By 2030, increase benefits from biodiversity and green/blue spaces for human health and wellbeing, including the proportion of people with access to such spaces by at least [100%], especially for urban dwellers.</p>	<p>11.0.1 Average share of the built-up area of cities that is green/blue space for public use for all</p>	<p>11.1. Access to green/blue spaces</p> <p>11.2. Contributions of biodiversity to human health and well-being</p>	<p>11.1.1.1 Average distance to green/blue space for public use (modification of SDG indicator 11.7.1)</p> <p>11.1.1.2 Ratio of land consumption rate to population growth rate (SDG indicator 11.3.1)</p>	
<p>Target 12. By 2030, increase by [X] benefits shared for the</p>	<p>12.0.1 Numbers of users that have shared benefits</p>	<p>12.1. Access to genetic resources</p>	<p>12.1.1. Number of access and benefit-sharing permits, or their equivalent, granted for genetic</p>	<p>t12.1. Total number of transfers of crop material from the Multilateral System of the International Treaty on Plant Genetic</p>

2050 Goals, milestones and Targets ⁷	Headline indicators ⁸	Components of the Goals and Targets ⁹	Component indicators ¹⁰	Complementary indicators ¹¹
conservation and sustainable use of biodiversity through ensuring access to and the fair and equitable sharing of benefits from the utilization of genetic resources	from the utilization of genetic resources and/or traditional knowledge associated with genetic resources with the providers of the resources and/or knowledge 12.0.2 Number of access and benefit-sharing permits or their equivalent granted for genetic resources (including those related to traditional knowledge) 12.0.3 Extent to which legislative, administrative or policy frameworks to ensure fair and equitable sharing of benefits have been adopted*	12.2. Benefit shared from the use of genetic resources 12.3. Benefits resulting from use of traditional knowledge associated with genetic resources	resources (including those related to traditional knowledge) by type of permit 12.2.1. Numbers of users that have shared benefits from the utilization of genetic resources and/or traditional knowledge associated with genetic resources with the providers of the resources and/or knowledge (12.0.1) by sex 12.3.2. Numbers of users that have shared benefits from the utilization of genetic resources and/or traditional knowledge associated with genetic resources with the providers of the resources and/or knowledge (12.0.1) by indigenous status	Resources for Food and Agriculture (ITPGRFA) received in a country t12.2. Total number of permits, or their equivalent, granted for access to genetic resources t12.3. Total number of internationally recognized certificates of compliance published in the ABS Clearing-House t12.4. Number of countries that require prior informed consent that have published legislative, administrative or policy measures on access and benefit-sharing in the ABS Clearing-House t12.5. Number of countries that require prior informed consent that have published information on ABS procedures in the ABS Clearing-House t12.6. Number of countries that have adopted legislative, administrative and policy frameworks to ensure fair and equitable sharing of benefits (SDG Indicator 15.6.1) t12.7. Estimated % of monetary and non- monetary benefits directed towards conservation and sustainable use of biodiversity
Tools and solutions for implementation and mainstreaming				
Target 13. By 2030, integrate biodiversity values into policies, regulations, planning,	13.0.1 Extent to which national targets have been adopted for	13.1. Biodiversity reflected in policies and planning at all levels	<i>Headline indicators for Target 13</i>	

2050 Goals, milestones and Targets ⁷	Headline indicators ⁸	Components of the Goals and Targets ⁹	Component indicators ¹⁰	Complementary indicators ¹¹
development processes, poverty reduction strategies and accounts at all levels, ensuring that biodiversity values are mainstreamed across all sectors and integrated into assessments of environmental impacts.	integrating biodiversity values into policies, regulations, planning, development processes, poverty reduction strategies and accounts at all levels, ensuring that biodiversity values are mainstreamed across all sectors and integrated into assessments of environmental impacts* 13.0.2 Integration of biodiversity into national accounting and reporting systems, defined as implementation of the System of Environmental-Economic Accounting	13.2. Biodiversity reflected in national and other accounts 13.3. Biodiversity values are reflected in policies and regulations, including on biodiversity inclusive environmental impact assessments and strategic environmental assessments	13.1.1. The number of countries that have incorporated the BioTrade Principles and Criteria	
Target 14. By 2030, achieve reduction of at least [50%] in negative impacts on biodiversity by ensuring production	14.0.1 Potential population and species loss from terrestrial and marine human modification*	14.1. Reduction of at least [50%] in negative impacts on biodiversity 14.2. Sustainable production practices, including circular	14.1.1. Potential population and species loss from terrestrial and marine human modification (14.0.1) by type of modification 14.2.1. Corporate sustainability reporting includes impacts on	t14.1. Ecological Footprint t14.2. Human Appropriation of Net Primary Production (HANPP)

2050 Goals, milestones and Targets ⁷	Headline indicators ⁸	Components of the Goals and Targets ⁹	Component indicators ¹⁰	Complementary indicators ¹¹
practices and supply chains are sustainable.	14.0.2 Corporate sustainability reporting includes impacts on biodiversity*	economy and waste management and sustainable supply chains at national and international levels 14.3. Sustainable supply chains at national and international levels	biodiversity by industrial (International Standard Industrial Classification of All Economic Activities) classification 14.2.2 Number of countries developing, adopting or implementing policy instruments aimed at supporting the shift to sustainable consumption and production (SDG indicator 12.1.1)	t14.3. Number of MSC Chain of Custody Certification holders by distribution country
Target 15. By 2030, eliminate unsustainable consumption patterns, ensuring people everywhere understand and appreciate the value of biodiversity, and thus make responsible choices commensurate with 2050 biodiversity vision, taking into account individual and national cultural and socioeconomic conditions.	15.0.1 Biomass material footprint per capita	15.1. Sustainable consumption patterns 15.2. New vision of good quality of life based on sustainability and new social norms for sustainability 15.3. Peoples' responsibility for their choices	15.1.1. Material footprint by type (biomass, fossil fuels, metal ores non-metallic minerals) (SDG indicators 8.4.1 and 12.2.1) 15.1.2. Domestic material consumption by type (biomass, fossil fuels, metal ores non-metallic minerals) (SDG indicators 8.4.2 and 12.2.2) 15.1.3. (a) Food loss index and (b) food waste index (SDG indicator 12.3.1) 15.1.4. Biodiversity Engagement Indicator <i>Headline indicators captured in Target 19</i>	t15.1. CO ₂ emission per unit of value added (SDG indicator 9.4.1) t15.2. Change in water-use efficiency over time (SDG indicator 6.4.1)
Target 16. By 2030, establish and implement measures to prevent, manage or control potential adverse impacts of biotechnology on	16.0.1 Extent to which necessary legal, administrative, technical and other biosafety measures	16.1. Measures to prevent potential adverse impacts of biotechnology on biodiversity and human health	<i>Captured in headline indicator for Target 16</i>	t16.1. Number of countries that have the necessary biosafety legal and administrative measures in place t16.2. Number of countries that implement their biosafety measures

2050 Goals, milestones and Targets ⁷	Headline indicators ⁸	Components of the Goals and Targets ⁹	Component indicators ¹⁰	Complementary indicators ¹¹
biodiversity and human health reducing these impacts by [X].	are in place to prevent, manage and control potential adverse impacts of biotechnology on biodiversity*	<p>16.2. Measures to manage adverse impacts of biotechnology on biodiversity and human health</p> <p>16.3. Measures to control adverse impacts of biotechnology on biodiversity and human health</p> <p>16.4. Restoration and compensation for damage to biodiversity caused by living modified organisms</p>		<p>t16.3. Number of countries that have the necessary measures and means for detection and identification of products of biotechnology</p> <p>t16.4. Number of countries that carry out scientifically sound risk assessments to support biosafety decision-making</p> <p>t16.5. Number of countries that establish and implement risk management measures</p> <p>t16.6. Percentage of Parties to the Cartagena Protocol on Biosafety implementing the relevant provisions of the Protocol</p> <p>t16.7. Number of countries with legal and technical measures for restoration and compensation</p> <p>t16.8. Percentage of Parties to the Nagoya – Kuala Lumpur Supplementary Protocol implementing the relevant provisions of the Supplementary Protocol</p>
Target 17. By 2030, redirect, repurpose, reform or eliminate incentives harmful for biodiversity, including [X] reduction in the most harmful subsidies, ensuring that incentives, including public and private economic and regulatory incentives, are	17.0.1 Biodiversity relevant taxes, charges and fees on payments for ecosystem services and on biodiversity relevant tradable permit schemes as a percentage of GDP	<p>17.1. Increase in positive public and private economic and regulatory incentives</p> <p>17.2. Elimination, phasing out or reform of incentives and subsidies the most harmful to biodiversity</p>	<i>Captured in headline indicator for Target 17</i>	<p>t17.1. Number of countries with biodiversity-relevant taxes</p> <p>t17.2. Number of countries with biodiversity-relevant charges and fees</p> <p>t17.3. Number of countries with biodiversity-relevant tradable permit schemes</p> <p>t17.4. Trends in potentially environmentally harmful elements of</p>

2050 Goals, milestones and Targets ⁷	Headline indicators ⁸	Components of the Goals and Targets ⁹	Component indicators ¹⁰	Complementary indicators ¹¹
either positive or neutral for biodiversity.	17.0.2 Potentially harmful elements of government support to agriculture, fisheries and other sectors (environmentally harmful subsidies) as a percentage of GDP			government support to agriculture (producer support estimate) t17.5. Trends in the number and value of government fossil fuel support measures t17.6. Amount of fossil-fuel subsidies per unit of GDP (production and consumption) (SDG indicator 12.c.1)
Target 18. By 2030, increase by [X%] financial resources from all international and domestic sources, through new, additional and effective financial resources commensurate with the ambition of the goals and targets of the framework and implement the strategy for capacity-building and technology transfer and scientific cooperation to meet the needs for implementing the post-2020 global biodiversity framework.	18.0.1 Official development assistance, public expenditure and private expenditure on conservation and sustainable use of biodiversity and ecosystems*	18.1. Identification of funding needs to meet ambition of the goals and targets of the Framework 18.2. Increase in financial resources from international sources 18.3. Increase in financial resources from domestic sources 18.4. Implementation of the strategy for capacity-building 18.5. Implementation of the strategy for technology transfer and scientific cooperation	18.1.1. Number of countries with a nationally determined target for increasing the level of domestic resources, reported to the Convention 18.2.1. Official development assistance for the conservation and sustainable use of biodiversity and ecosystems* 18.3.1. Public expenditure on the conservation and sustainable use of biodiversity and ecosystems* 18.3.2. Private expenditure on the conservation and sustainable use of biodiversity and ecosystems* 18.3.3. Dollar value of all resources made available to strengthen statistical capacity in developing countries (SDG indicator 17.19.1) 18.5.1. Volume of official development assistance flows for scholarships by sector and type of study	t18.1. Amount of funding provided through the Global Environment Facility and allocated to the biodiversity focal area (decision X/3) t18.2. Amount and composition of biodiversity-related finance reported to the OECD Creditor reporting system t18.3. Dollar value of financial and technical assistance (including through North-South, South-South and triangular cooperation) committed to developing countries t18.4. Dollar value of all resources made available to strengthen statistical capacity in developing countries (SDG indicator 17.19.1) t18.5. Amount of biodiversity-related philanthropic funding t18.6. Proportion of total research budget allocated to research in the field of marine technology

2050 Goals, milestones and Targets ⁷	Headline indicators ⁸	Components of the Goals and Targets ⁹	Component indicators ¹⁰	Complementary indicators ¹¹
				t18.7. Total amount of approved funding for developing countries to promote the development, transfer, dissemination and diffusion of environmentally sound technologies (SDG indicator 17.7.1)
<p>Target 19. By 2030, ensure that quality information, including traditional knowledge, is available to decision makers and public for the effective management of biodiversity through promoting awareness, education and research.</p>	<p>19.0.1 Biodiversity information index* 19.0.2 Extent to which (i) global citizenship education and (ii) education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in: (a) national education policies, (b) curricula, (c) teacher education and (d) student assessments</p>	<p>19.1. Availability of reliable and up-to-date biodiversity related information 19.2. Promotion of awareness of values of biodiversity 19.3. Promotion of biodiversity in education 19.4. Availability of research and knowledge, including traditional knowledge, innovations and practices of indigenous peoples and local communities with their free, prior and informed consent</p>	<p>19.1.1. Biodiversity information index by type of information 19.1.2. Species Status Information Index 19.1.3. Biodiversity Barometer 19.1.4. Growth in Species Occurrence Records Accessible Through GBIF 19.4.1. Trends of linguistic diversity and numbers of speakers of indigenous languages (B) (decision VII/30 and VIII/15)</p>	<p>t19.1. Growth in number of records and species in the Living Planet Index database t19.2. Growth in marine species occurrence records accessible through OBIS* t19.3. Proportion of known species assessed through the IUCN Red List. t19.4. Number of assessments on the IUCN Red List of threatened species t19.5. World Association of Zoos and Aquariums (WAZA) bio-literacy survey (Biodiversity literacy in global zoo and aquarium visitors)</p>
<p>Target 20. By 2030, ensure equitable participation in decision-making related to biodiversity and ensure rights over relevant resources of indigenous peoples and local</p>	<p>20.0.1 Land tenure in the traditional territories of indigenous peoples and local communities</p>	<p>20.1. Equitable participation of indigenous peoples and local communities in decision-making related to biodiversity and rights over relevant resources</p>	<p><i>Captured in headline indicator for target 20</i></p>	<p>t20.1. Percentage of population who believe decision making is inclusive and responsive, by sex, age, disability and population group (SDG indicator 16.7.2). t20.2. Percentage of positions in national and local institutions, including (a) the legislatures; (b) the public service; and</p>

2050 Goals, milestones and Targets⁷	Headline indicators⁸	Components of the Goals and Targets⁹	Component indicators¹⁰	Complementary indicators¹¹
<p>communities, women and girls as well as youth, in accordance with national circumstances.</p>	<p>20.0.2 Population with secure tenure rights to land 20.0.3 Extent to which indigenous peoples and local communities, women and girls as well as youth participate in decision-making related to biodiversity*</p>	<p>20.2. Equitable participation of women and girls in decision-making related to biodiversity and rights over relevant resources 20.3. Equitable participation of youth in decision-making related to biodiversity and rights over relevant resources</p>		<p>(c) the judiciary, compared to national distributions, by sex, age, persons with disabilities and population groups t20.3. Proportion of seats held by women in (a) national parliaments and (b) local governments (SDG indicator 5.5.1) t20.4. Number of countries with systems to track and make public allocations for gender equality and women’s empowerment (SDG indicator 5.c.1) t20.5. Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure t20.6 Number of countries where the legal framework (including customary law) guarantees women’s equal rights to land ownership and/or control</p>