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FIFTH EDITION OF THE *GLOBAL BIODIVERSITY OUTLOOK*, NATIONAL REPORTING AND INDICATORS FOR ASSESSING PROGRESS TOWARDS THE AICHI BIODIVERSITY TARGETS

Note by the Executive Secretary

I. INTRODUCTION

1. The Conference of the Parties, in decision XII/1, requested the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) to evaluate the scope, process and findings of the *Global Biodiversity Outlook* in the light of, and avoiding duplication with, the ongoing work of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) on a global assessment on biodiversity and ecosystem services (para. 19). In the same decision, the Conference of the Parties also requested the Executive Secretary to develop a proposal on guidelines for the sixth national report (para. 9(a)), and to convene a meeting of the Ad Hoc Technical Expert Group on Indicators for the Strategic Plan for Biodiversity 2011-2020 (para. 20(b)).

2. The Subsidiary Body addressed some aspects of these matters at its nineteenth meeting and adopted recommendations XIX/4 (Indicators for the Strategic Plan for Biodiversity 2011-2020) and XIX/5 on (Work of SBSTTA in the light of the 2014-2018 Work Programme of the Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services and relationship with the Subsidiary Body on Implementation).

3. The present note responds to the aforementioned requests of the Conference of the Parties in the light of further guidance in recommendations XIX/4 and XIX/5.

4. With regard to *Global Biodiversity Outlook*, the Subsidiary Body, at its nineteenth meeting, reviewed lessons from the fourth edition and considered how successive editions of the *Global Biodiversity Outlook* related to, and made use of, relevant scientific assessments and scenario analyses and drew conclusions on the modalities of the fifth edition.

5. The Subsidiary Body recommended that the fifth edition of the *Global Biodiversity Outlook* (GBO-5) should provide a concise final report on the implementation of the Strategic Plan for Biodiversity 2011-2020 as well as a basis for the follow-up to the Strategic Plan for Biodiversity 2011-2020, to be considered by the Conference of the Parties at its fifteenth meeting (recommendation XIX/5). The Subsidiary Body also recommended that GBO-5 should draw, among other things, on the

* UNEP/CBD/SBSTTA/20/1/Rev.1.

sixth national reports, including national assessments of progress towards the Aichi Biodiversity Targets or national equivalents, an evaluation of global indicators, the regional and global assessments on biodiversity and ecosystem services of IPBES and additional deliverables such as a number of fast-track assessments, and the thematic assessment of land degradation and restoration.

6. In this context, and further to decision XII/25 (para. 5(e)), by which the Conference of the Parties requested the Executive Secretary to bring the deliverables of IPBES to the attention of SBSTTA for its consideration with regard to the relevance of the findings for the work of the Convention, and for the development, as appropriate, of recommendations to the Conference of the Parties, the present note considers, in section II, the scoping report for the IPBES and global assessment on biodiversity and ecosystem services which was finalized at its fourth Plenary meeting in February 2016.

7. The present note also considers, in section III, the assessment of methodologies for scenario analysis and modelling of biodiversity and ecosystem services, one of the first deliverables of IPBES, which was also finalized by IPBES at its fourth plenary meeting, in February 2016, and is particularly relevant to the preparation of the fifth edition of the *Global Biodiversity Outlook*. Other relevant outcomes of the fourth plenary meeting in February 2016 of IPBES are described in an information document.

8. With regard to the development of a proposal on guidelines for the sixth national report (decision XII/1, para. 9(a)), SBSTTA, at its nineteenth meeting, requested the Executive Secretary to take into account the lessons learned from the fourth and fifth national reports and the technical considerations on the timing, form and content of the sixth national report as contained in paragraphs 47 to 51 of the note by the Executive Secretary,[1] and to include in the proposal an item on the experiences of Parties in the use of tools to evaluate the effectiveness of specific measures undertaken to implement the Strategic Plan for Biodiversity 2011-2020; and the consideration of mainstreaming of biodiversity concerns within and across sectors, including cross-cutting policy frameworks on biodiversity and evaluation of their effectiveness, best practices and lessons learned (recommendation XIX/5, para. 3).

9. The proposal on guidelines for the sixth national report is contained in an addendum to this note (UNEP/CBD/SBSTTA/20/13Add.1). Section IV of this note provides technical considerations underlying the proposed guidelines. The note by the Executive Secretary on national reporting (UNEP/CBD/SBI/1/11) provides complementary information on national reporting as well as draft recommendations for consideration by the Subsidiary Body on Implementation (SBI) at its first meeting.

10. With regard to indicators for the Strategic Plan, in recommendation XIX/4, paragraph 10(c), SBSTTA welcomed the report of the Ad Hoc Technical Expert Group on Indicators for the Strategic Plan for Biodiversity 2011-2020, took note of the proposed list of generic and specific indicators for the Strategic Plan for Biodiversity 2011-2020 identified by the Group and requested the Executive Secretary to facilitate peer review of the list and to update it accordingly, and to develop guidance on national indicators and approaches to monitor progress towards the Aichi Biodiversity Targets arising from the work of the Ad Hoc Technical Expert Group. SBSTTA also requested the Executive Secretary to continue collaborating with various relevant organizations. These matters are addressed in section V of this note and the revised list of indicators is provided in an annex.

11. Section VI contains draft recommendations for consideration by SBSTTA.

II. THE IPBES GLOBAL ASSESSMENT ON BIODIVERSITY AND ECOSYSTEM SERVICES

12. At its fourth plenary meeting, in February 2016, IPBES finalized the scoping report for its global assessment on biodiversity and ecosystem services, and approved the undertaking of the assessment.[2]

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[1] "Work of the Subsidiary Body on Scientific, Technical and Technological Advice in the light of the 2014-2018 work programme of the Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services and relationship with the Subsidiary Body on Implementation" (UNEP/CBD/SBSTTA/19/9).

[2] The scoping report is available in all official languages of the United Nations at: http://www.ipbes.net.

13. The global assessment will critically assess the state of knowledge on past, present and possible future trends in multi-scale interactions between people and nature, taking into consideration different world views and knowledge systems, using the IPBES Conceptual Framework.[3] The assessment will address the following questions:

(a) What is the status of and trends in nature, nature's benefits to people, and indirect and direct drivers of change?

(b) How do nature and its benefits to people contribute to the implementation of the Sustainable Development Goals? What is the evidence-base that can be used for assessing progress towards the achievement of the Aichi Biodiversity Targets?

(c) What are the plausible futures for nature, nature's benefits to people and their contribution to a good quality of life between now and 2050?

(d) What pathways and policy intervention scenarios relating to nature, nature's benefit to people and their contributions to good quality of life can lead to sustainable futures?

(e) What are the opportunities and challenges, as well as options available to decision makers at all levels relating to nature, nature's benefit to people and their contributions to good quality of life?

14. The scope of the assessment is designed to be complementary to and provide an input to the proposed fifth edition of the *Global Biodiversity Outlook*. The completion of the assessment will be timed to provide information relevant to the assessment of progress towards the Aichi Biodiversity Targets and the review of implementation of the Strategic Plan for Biodiversity 2011–2020, and also contribute to the follow-up of the Strategic Plan, foreseen at the fifteenth meeting of the Conference of the Parties. The assessment is due to be approved at the seventh session of the IPBES plenary, in the second quarter of 2019, and, as indicated in the note by the Executive Secretary on the IPBES assessment on pollinators, pollination and food production (UNEP/CBD/SBSTTA/19/9), it is expected that SBSTTA will consider the assessment and its implications for the future work of the Convention at a meeting in the fourth quarter of that year, ahead of publication of the fifth edition of the *Global Biodiversity Outlook*, in 2020.

III. THE IPBES METHODOLOGICAL ASSESSMENT OF SCENARIOS AND MODELS OF BIODIVERSITY AND ECOSYSTEM SERVICES: IMPLICATIONS FOR THE FIFTH EDITION OF THE *GLOBAL BIODIVERSITY OUTLOOK* AND OTHER WORK UNDER THE CONVENTION

15. The methodological assessment of scenarios and models of biodiversity and ecosystem services, prepared by IPBES, was recently finalized. The Summary for Policy Makers was approved by the IPBES Plenary at its fourth meeting at the end of February 2016, and the full report was also accepted.

16. The assessment provides guidance for the use of scenarios and models in the regional, global and thematic assessments conducted under the Platform, as well as more broadly. The focus of the assessment is on providing guidance on the use of scenarios and models to inform policymaking and decision-making in a variety of contexts.[4]

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[3] Diaz et al (2015) A Rosetta Stone for Nature's Benefits to People, PLOS 13 1 available at http://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.1002040; and Diaz et al, 2015 The IPBES Conceptual Framework — connecting nature and people, Current Opinion in Environmental Sustainability, 14, Pages 1–16, available at: http://www.sciencedirect.com/science/article/pii/S187734351400116X. See also: http://www.ipbes.net/conceptual-framework.

[4] "Models" are qualitative or quantitative descriptions of key components of a system and of relationships between those components. The assessment focuses mainly on models describing relationships between: (i) indirect and direct drivers; (ii) direct drivers and nature; and (iii) nature and nature's benefits to people. "Scenarios" are representations of possible futures for one or more components of a system, particularly, in the assessment, for drivers of change in nature and nature's benefits, including alternative policy or management options.

17. In line with recommendation XIX/4, the fifth edition of the *Global Biodiversity Outlook*, is expected to draw heavily on the deliverables of IPBES, in particular on the outcomes of its work on scenario analysis and modelling of biodiversity and ecosystem services as well as the thematic and regional assessments and the global assessment. Therefore the methodological assessment is expected to help guide the use of scenarios and models that support the preparation of the fifth edition of the *Outlook*.

18. Further to earlier guidance under the Convention which encourages Parties to conduct national or local assessments of biodiversity and ecosystem services (decisions VIII/9 and X/2), the information in the methodological assessment is also expected to be useful in informing national and other subnational assessment exercises on the use of scenarios and models.

19. The summary for policymakers aggregates the findings in three high-level messages:

(a) Scenarios and models can contribute significantly to policy support, even though several barriers have impeded their widespread use to date;

(b) Many relevant methods and tools are available, but these should be matched carefully with the needs of any given assessment or decision-support activity, and applied with care, taking into account uncertainties and unpredictability associated with model-based projections;

(c) Appropriate planning, investment and capacity building, among other efforts, could overcome significant remaining challenges in developing and applying scenarios and models.

20. Scenarios and models play complementary roles, with scenarios describing possible futures for drivers of change or policy interventions, and models translating those scenarios into expected consequences for nature and nature's benefits to people. The contributions of scenarios and models to policymaking and decision-making are usually mediated by some form of assessment which ideally draws on a broad range of knowledge, including knowledge from indigenous peoples and local communities. In the context of the Convention on Biological Diversity, scenarios and models prepared by IPBES could therefore help to ensure that Articles 8(j) and 10(c) of the Convention and Aichi Biodiversity Target 18 are further mainstreamed across all elements of the Convention and the Strategic Plan for Biodiversity 2011-2020.

21. The IPBES assessment found that different types of scenarios can play important roles in relation to the major phases of the policy cycle: (a) agenda setting, (b) policy design, (c) policy implementation, and (d) policy review. With regard to the role of scenarios in policy review, in "retrospective policy evaluation" (also known as "ex-post evaluation") the observed trajectory of a policy implemented in the past is compared to scenarios that would have achieved the intended target. A major challenge for GBO-4 was to review not only outcomes achieved in relation to actions undertaken but to compare these with likely outcomes if the actions had not been undertaken (counterfactuals). Retrospective policy evaluation could be a powerful tool in supporting SBSTTA in its task to assess the effectiveness of types of measures taken in accordance with the provisions of the Convention (Article 25 (b)).

22. The IPBES assessment noted that further work is required to improve the understanding among policymaking and decision-making practitioners of the benefits of and limits to using scenarios and models in support of decision-making. It is also necessary to enhance engagement of scientists, policymakers, practitioners, indigenous peoples and local communities and others in scenario development, and thereby enhance the transparency of underlying assumptions and understanding of uncertainties and limitations of scenarios and models and resulting projections.

23. The IPBES assessment found that spatial and temporal scales at which scenarios and models need to be applied vary markedly among different policy and decision contexts. No single set of scenarios and models can address all pertinent spatial and temporal scales, and many applications will require linking of multiple scenarios and models dealing with drivers or proposed policy interventions operating at different scales. In GBO-4, these matters had been addressed by making statistical extrapolations to 2020 using datasets of over 40 indicators with a sufficiently long-time series while assuming underlying processes remain constant. These were complemented with an analysis of alternative pathways to achieve the 2050 vision of the Strategic Plan for Biodiversity 2011-2020 by modelling the biodiversity outcomes of a range

of transformations in the major productive sectors. Such combinations of scenario and modelling approaches would also be desirable for GBO-5, given its dual role in assessing the achievement of the Strategic Plan for Biodiversity to 2020 and providing the technical basis for a follow-up strategy including its alignment with the 2030 Sustainable Development Agenda as well as the 2050 vision.

24. The IPBES assessment emphasizes that it will be important to seize opportunities for enhancing the compatibility of scenarios used to support decision-making on biodiversity and climate change, respectively, to advance policy coherence and enable a holistic understanding of interactions between biodiversity and climate and options for maximizing co-benefits from action taken under either of these agendas. It noted that scenarios of the Intergovernmental Panel on Climate Change in their current form pose a number of challenges for use in the context of biodiversity as they use: (a) an incomplete set of direct and indirect drivers needed to model impacts on biodiversity and ecosystem services; (b) adaptation and mitigation strategies that focus on climate change sometimes to the detriment of biodiversity and key aspects of human well-being; and (c) focus on long-term (decades to centuries) global-scale dynamics which are often incompatible with short-term and subglobal scale scenarios frequently used for biodiversity. Thus, the assessment suggests[5] that IPBES may want to consider encouraging and working closely with the wider scientific community to develop a flexible and adaptable suite of multi-scaled scenarios specifically tailored to its objectives. While this work may go well beyond the criteria underlying the current development of other scenarios, such as the Shared Socioeconomic Pathways being catalysed by IPCC, it would benefit from close collaboration and coordination with the scientific community developing the Shared Socioeconomic Pathways.[6] The compatibility of scenarios used to support decision-making on biodiversity and climate change is also particularly relevant for the development of a follow-up strategic plan beyond 2020.

25. According to the IPBES assessment, there is a wide range of models available to assess impacts of scenarios of drivers and policy interventions on biodiversity and ecosystem services, but important gaps remain, including gaps in (a) models explicitly linking ecosystem services to biodiversity; (b) models addressing ecological processes at temporal and spatial scales relevant to the needs of assessment and decision-support activities; and (c) models anticipating, and thereby providing early warning of, ecological breakpoints and regime shifts. Additionally, comparisons between models could improve the interpretation of results from each of these models.

26. The assessment also noted that links between biodiversity, ecosystem functioning and ecosystem services are only weakly accounted for in most assessments or in policy design and implementation and that the same is true for links between ecosystem services and quality of life. Any advances made in these areas over the coming years could also be beneficial for GBO-5 and would also help to address some to the technical and scientific needs identified by Parties at SBSTTA-17. Thus, the Subsidiary Body may wish to emphasize the need to fill these gaps.

27. The IPBES assessment also provides a number of guidance points for science and policy:

(a) Guidance point 1: Scientists and policy practitioners may want to ensure that the types of scenarios, models and decision-support tools employed are matched carefully to the needs of each particular policy or decision context;

(b) Guidance point 2: The scientific community, policymakers and stakeholders should consider improving, and more widely applying, participatory scenario methods in order to enhance the relevancy and acceptance of scenarios for biodiversity and ecosystem services. This would include broadening the predominantly local-scale focus of participatory approaches to regional and global scales;

[5] IPBES guidance point 2.

[6] A workshop on these issues will be held in collaboration with UNESCO and the CBD Secretariat in April 2016.

(c) Guidance point 3: The scientific community may want to give priority to addressing gaps in methods for modelling impacts of drivers and policy interventions on biodiversity and ecosystem services that have been identified in the assessment;

(d) Guidance point 4: The scientific community may want to consider developing practical and effective approaches to evaluating and communicating levels of uncertainty associated with scenarios and models, as well as tools for applying those approaches to assessments and decision-making;

(e) Guidance point 5: Data holders and institutions may want to consider improving the accessibility of well-documented data sources and work in close collaboration with research, observation communities (including citizen science) and communities working on indicators to fill gaps in data collection and provision;

(f) Guidance point 6: Human and technical capacity for scenario development and modelling may need to be enhanced, including through the promotion of open and transparent access to scenario and modelling tools, as well as to the data required for their development and testing.

28. These points are generally consistent with guidance developed under the Convention and SBSTTA may wish to consider and endorse or reinforce these points.

IV. TECHNICAL CONSIDERATIONS RELATED TO THE PROPOSED GUIDELINES FOR THE SIXTH NATIONAL REPORT

29. In its recommendation XIX/5 the Subsidiary Body provided guidance on specific issues to be included in the proposed guidelines for the sixth national report including an evaluation of the effectiveness of measures undertaken and the consideration of mainstreaming of biodiversity concerns within and across sectors.

30. In the same recommendation, the Subsidiary Body recommended that the Conference of the Parties initiate the preparation for GBO-5 which should include, among other things, a target-by-target analysis of progress towards the achievement of the Aichi Biodiversity Targets, based on a transparent and replicable methodology.

31. On the basis of this guidance and consultations with Parties, it is suggested that the sixth national report should:

(a) Facilitate self-assessments by countries of progress towards each national biodiversity target set in line with the Strategic Plan for Biodiversity 2011-2020 and on that basis to assess the national contribution towards the achievement of the Aichi Biodiversity Targets and the targets of the Global Strategy for Plant Conservation, focusing on outcomes achieved;

(b) Facilitate the identification of lessons learned, specific technical, scientific and capacity needs, as well areas for further work;

(c) Support the assessment of the achievement of Aichi Biodiversity Target 20 through the financial reporting framework agreed in decision XII/3.

32. It is envisaged that reporting on progress in implementation of the Convention's thematic programmes of work, its cross-cutting issues or other provisions or the Convention would be linked to national targets and Aichi Biodiversity Targets as an organizing framework.

33. It is envisaged that the guidelines for the sixth national report will include a combination of questions with multiple-choice answers, complemented by opportunities to provide narrative information. Specifically, Parties will be invited to assess progress towards each of their national targets or the Aichi Biodiversity Targets using one of five possible categories of progress. This will facilitate the identification, nationally, of those areas where most progress has been made and those issues which may be in need of further attention. Further, the use of these categories will more easily allow for a global assessment of progress towards the targets to be prepared for further consideration by Parties during their meetings. The categories proposed are general and can be applied to different types of targets (both qualitative and quantitative). As such, the categories indicate the current trajectory of progress and

assume that this remains unchanged between the time of the assessment and the target date. The categories of progress being proposed for use in the national report assessment, consistent with those used in the fourth edition of the *Global Biodiversity Outlook*, are the following:[7]

(a) *On track to exceed target* – A target with this assessment indicates that the national actions taken will allow for the criteria/thresholds established by the target to be exceeded. In the case of those targets with quantitative elements, this would mean that the identified threshold will be surpassed. In the case of qualitative targets, this would mean the different actions or conditions required to be meet have been surpassed;

(b) *On track to achieve target* – This category indicates that the actions which have been taken and the current status of the issues addressed by the target indicates that the target will be met by the target deadline;

(c) *Progress towards target but at an insufficient rate* – This category indicates that significant progress towards the attainment of the target has been made since it was established. The progress could take the form of actions being taken or actual improvements in the status of the issues being addressed. However, while this category indicates an improving situation, the progress that has been made will be insufficient for the target to be met by the deadline;

(d) *No significant change* – This category indicates that since the target was set there has been either no significant progress towards its attainment or no significant deterioration. Assessments using this category imply that no significant actions to reach the target have been taken;

(e) *Moving away from target* – This category indicates that the issues the target is seeking to address are deteriorating. This could be because no actions have been taken or the actions that have been taken have been ineffective. It could also be because pressures are increasing or other changes to national circumstances.

34. The progress categories provided by countries would serve primarily to facilitate the tracking of change over time within a country as well as informing the global assessment of progress in implementation. Because of differences in national targets and potentially different interpretations of global targets that do not include numerical elements, as well as differences in the assessment approaches, the scores would not be used for comparison among countries.

35. The decision as to which category to use when assessing progress towards the target will require, in most cases, the consideration of different types of information (indicators, literature review, stakeholder consultation, expert opinion, among others). Further, information on the status or trends of the element of the target being considered as well as any actions taken should also be considered in the undertaking of the assessment. It is important to consider the actions taken as there can often be time lags between when an action is taken and its effect become visible.

36. The use of these different types and lines of information allows for a more robust assessment of progress. However it can also create challenges in reconciling different lines of evidence. For these reason most assessment will require a degree of interpretation. This can be reflected in the assessment by indicating the level of confidence associated to the assessment. Three levels of confidence are proposed for use in the sixth national reports. These are:

(a) *Based on comprehensive evidence* – This level of confidence implies that indicators and additional sources of information exist to support the assessment and that these allow for all elements of the target to be assessed;

(b) *Based on partial evidence* – This level of confidence implies that some indicators exist for assessing progress towards the target but that not all elements can be assessed with indicators or that the indicators have limitation. Therefore additional sources of information have been used to fill gaps;

[7] Paragraphs 29 to 32 are reproduced in UNEP/CBD/SBI/1/11 (paras. 29-32).

(c) *Based on limited evidence* – This level of confidence implies that there are few or no indicators to assess progress towards the target and that the assessment draws heavily on other types of information reconciled with expert opinion. For this reason, the assessment is largely based on expect opinion.

37. The guidelines for the sixth national report will be available online and in a downloadable electronic format. To facilitate the reporting process, an online reporting tool which allows Parties to prepare and submit their national report electronically has been designed for Parties to use if they so wish. The online reporting tool will facilitate internal consultations as draft information is visible only to designated national users until it is formally published. The online reporting tool also allows Parties, if they wish, to make portions of their national report available as they are ready or to wait until their national report has been completed before doing so. Reports not submitted through the online reporting tool would be made available online by the Secretariat so as to make all submissions accessible and to facilitate analysis.

38. Further information on progress concerning the development of the online reporting tool is provided in UNEP/CBD/SBI/1/11.

39. The draft guidelines for the sixth national report are issued as an addendum to this note (UNEP/CBD/SBSTTA/20/13/Add.1). They are also available for consideration by the Subsidiary Body on Implementation at its first meeting (UNEP/CBD/SBI/1/11/Add.1) and accompany a note on national reporting which includes a recommendation on this matter (UNEP/CBD/SBI/1/11). SBSTTA may wish to provide technical observations on the guidelines to inform the preparation of recommendations by SBI. In doing so, SBSTTA may wish to specifically address considerations of transparency, objectivity and replicability of the self-assessments of progress towards achieving national targets or equivalent objectives as well as approaches for assessing the effectiveness of measures taken and transmit them to SBI.

V. INDICATORS FOR THE STRATEGIC PLAN FOR BIODIVERSITY 2011-2020

A. List of global indicators

40. SBSTTA at its nineteenth meeting considered a document on indicators for the Strategic Plan for Biodiversity 2011-2020 (UNEP/CBD/SBSTTA/19/5) drawing on the work of the Ad Hoc Technical Expert Group on Indicators for the Strategic Plan for Biodiversity 2011-2020 at its meeting in Geneva, Switzerland, from 14 to 17 September 2015.

41. In its recommendation XIX/4, the Subsidiary Body on Scientific, Technical and Technological Advice took note of the proposed list of generic and specific indicators for the Strategic Plan for Biodiversity 2011-2020 identified by the Ad Hoc Technical Expert Group and requested a peer review of this list, including information on the source of the indicator and its underlying data, using the following criteria: availability of the indicator; its use in the *Global Biodiversity Outlook*; its suitability for communication; possibility for aggregation or disaggregation of data used.

42. In line with this request, the Executive Secretary issued notification 2015-130, dated 19 November 2015, inviting CBD National Focal Points, SBSTTA Focal Points, Primary National Focal Point to the Cartagena Protocol on Biosafety, National Focal Points on Access and Benefit-sharing, and relevant organizations including the secretariats of the biodiversity-related conventions, indigenous peoples and local communities and members of the Biodiversity Indicators Partnership to provide peer-review comments on the proposed list of indicators.

43. A total of nine submissions from Parties[8] and 27 from organizations[9] were received by 10 February 2016 and were taken into account in preparing a revised list of indicators.

[8] Canada, China, the European Union, Finland, India, Japan, Mexico, New Zealand and the United Kingdom of Great Britain and Northern Ireland.

44. In the light of the review comments received the proposed list of indicators has been refined. These indicators for the Strategic Plan for Biodiversity 2011-2020, alongside supplementary information on the criteria requested by the Subsidiary Body, are contained in the annex to the present note.

B. Alignment of indicators with those for the Sustainable Development Goals and with the other Rio conventions

45. As was noted in the report of the Ad Hoc Technical Expert Group on Indicators for the Strategic Plan for Biodiversity 2011-2020, the list of indicators should include all indicators agreed for the Sustainable Development Goals in order to maximize alignment and synergies and focus monitoring efforts. The status of development of indicators for the Sustainable Development Goals, as reflected in the list, is based on documentation prepared for the forty-seventh session of the United Nations Statistical Commission. A column showing their status is included. Based on the outcomes of the forty-seventh session of the Commission and further work of the Interagency Expert Group, the indicators that are ultimately agreed would be reflected in the list.

46. In decision 9/COP.12 on leveraging of synergies among the Rio conventions and promoting partnerships with other international agencies and bodies, the Conference of the Parties to the United Nations Convention to Combat Desertification (UNCCD) proposed the use of three land-based progress indicators for reporting under the Rio conventions. An expert meeting is organized jointly by UNCCD, CBD and FAO in collaboration with the GEF-STAP to develop the methodology for these indicators (Washington, DC., United States of America, 25-26 February 2016) as an input to target 15.3 of the Sustainable Development Goals and for use by each of the conventions.

C. Guidance on the use of national indicators and approaches to monitor progress

47. SBSTTA also called for the development of guidance on the use of national indicators and approaches to monitor progress towards the Aichi Biodiversity Targets and gave guidance on the preparation process, information source and communication of this guidance.

48. Accordingly, a guidance document has been prepared in collaboration with members of the Biodiversity Indicators Partnership. It draws on the outcomes of the meeting of the Ad Hoc Technical Expert Group (AHTEG) on Indicators for the Strategic Plan for Biodiversity 2011-2020 and documents prepared for it. It also considers the information contained in 156 fifth national reports to the Convention on Biological.

49. In reviewing information provided in the fifth national reports, the document notes that most Parties make use of at least a few indicators in their national reports, while recognizing that the use is highly variable:

(a) The indicators in the national reports tend to be a mixture of both outcome or impact indicators (those that measure a change in the status of biodiversity) and process indicators (those that measure actions taken);

(b) Some reports have referred to and made use of comprehensive sets of indicators, however most have used them in a less systematic way;

(c) Many of the indicators used are not specific to biodiversity;

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[9] Australian Museum, Conservation International, the European Union Joint Research Council, Food and Agriculture Organization of the United Nations, Fondazione Edmund Mach, Forest Peoples Programme, Friends of the Earth – Europe, German Centre for Integrative Biodiversity Research (iDiv), Global Forest Coalition, Harvard University, ICCA Consortium, Indian Council of Forestry Research and Education, Institut de recherche pour le développement (IRD), International Nitrogen Initiative, Groupement National Interprofessionnel des Semences et Plants (GNIS), IUCN, Morton Arboretum, Museo delle Scienze, the Natural History Museum, Organisation for Economic Co-operation and Development, Pennsylvania State University, Royal Society for the Protection of Birds, United Nations Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs (DOALOS/OLA), University of Auckland, University of Michigan, Whitley Wildlife Conservation Trust, Wildlife Conservation Society and the World Association of Zoos and Aquariums.

(d) Many of the reports make use of indicators related to regional processes;

(e) The use of indicators varies across the Aichi Biodiversity Targets. Indicators are most often used for targets 5, 11, and 12 while relatively few Parties used indicators to assess progress towards targets 2, 3, 13, 16, 17, 18 and 19.

50. The document then lists examples of the indicators used for each Aichi Biodiversity Target. It should be noted that even where the same or similar name is used for the indicator, there tend to be differences in methodologies, baselines and definitions.

51. The document notes that multiple approaches are being used to monitor and assess progress in the implementation of the Strategic Plan for Biodiversity. These include the use of quantitative indicators, expert opinion, stakeholder consultation and case studies. Most Parties have used combinations of these different approaches to assess progress towards the Aichi Biodiversity Targets and their national biodiversity targets.

52. Almost all of the assessments of progress towards the Aichi Biodiversity Targets in the fifth national reports made use of various sources of information in addition to indicators to arrive at their conclusions. The information from the national reports suggests that Parties tend to make pragmatic use of information by drawing on multiple sources of information and making the best use of these in reaching a conclusion regarding progress towards the Aichi Biodiversity Targets.

53. It should also be noted that there is a wide range of guidance already available on the development and use of national indicators and monitoring systems. For example, the Biodiversity Indicators Partnership has developed a national indicator development toolkit.[10]

54. The document on guidance on the use of national indicators and approaches to monitor progress is available is an information document (UNEP/CBD/SBSTTA/20/INF/34).

VI. SUGGESTED RECOMMENDATIONS

55. Complementing recommendations XIX/4 and XIX/5, the Subsidiary Body on Scientific, Technical and Technological Advice may wish to adopt a recommendation along the following lines:

The Subsidiary Body on Scientific, Technical and Technological Advice

1. *Welcomes* the decision of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services at its fourth plenary meeting, in February 2016, to undertake a global assessment on biodiversity and ecosystem services, noting that this assessment is designed to provide inputs and be complementary to the fifth edition of the *Global Biodiversity Outlook*, by providing information relevant to the assessment of progress towards the Aichi Biodiversity Targets and contribute to the follow-up of the Strategic Plan for Biodiversity 2011-2020 to be considered by the Conference of the Parties at its fifteenth meeting;

2. *Welcomes* the completion of the methodological assessment of scenarios and models of biodiversity and ecosystem services by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, and the approval of the Summary for Policy Makers by the Plenary of the Platform;

3. *Encourages* Parties, other Governments, relevant organizations, stakeholders and indigenous and local communities to make use of, and contribute to, the further development of scenarios and models and their application in supporting decision making, and to consider improving, and more widely applying, participatory scenario methods in order to enhance the relevancy and acceptance of scenarios for biodiversity and ecosystem services;

[10] See http://www.bipindicators.net/nationalindicatordevelopment.

4. *Encourages* Parties, other Governments and relevant organizations including funding organizations to support efforts to develop human and technical capacity for scenario development and modelling needs and to promote open and transparent access to scenario and modelling tools, as well as the data required for their development and testing;

5. *Encourages* the scientific community:

(a) To address key gaps in methods for modelling impacts of scenarios of drivers and policy interventions on biodiversity and ecosystem services that have been identified in the assessment;

(b) To develop practical and effective approaches to evaluating and communicating levels of uncertainty associated with scenarios and models, as well as tools for applying those approaches to assessments and decision-making;

6. *Encourages* data holders and institutions to improve the accessibility of well documented data sources and work in close collaboration with research, observation (including citizen science) and indicator communities to fill gaps in data collection and provision;

7. *Encourages* the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services and the Intergovernmental Panel on Climate Change to foster further enhanced collaboration between the scientific communities working on scenarios and models and requests the Executive Secretary to also promote such collaboration;

8. *Recommends* that the Conference of the Parties:

(a) *Welcomes* the report of the Ad Hoc Technical Expert Group on Indicators for the Strategic Plan for Biodiversity 2011-2020;

(b) *Takes note* of the updated list of indicators for the Strategic Plan for Biodiversity 2011-2020;

(c) *Emphasizes* that the indicators provide a flexible framework for Parties to adapt, as appropriate, to their national priorities and circumstances;

(d) *Welcomes* the alignment of indicators for the Strategic Plan for Biodiversity 2011-2020 with indicators for the Sustainable Development Goals and other relevant processes;

(e) *Decides* that the indicators should be kept under review with a view to enabling the future incorporation of other relevant indicators.

Annex

GENERIC AND SPECIFIC INDICATORS FOR ASSESSING PROGRESS IN THE ATTAINMENT OF THE AICHI BIODIVERSITY TARGETS, INCLUDING AN ASSESSMENT OF THEIR MAIN CHARACTERISTICS

The table below identifies a set of indicators for assessing progress in the attainment of the Aichi Biodiversity Targets. Both generic and specific indicators have been identified. The generic indicators identify types of issues that could be monitored while the specific indicators are those operational indicators that can be used to monitor changing trends in these issues. Only indicators which are currently available or are under active development have been included in the table. Further for each specific indicator their alignment to a set of criteria has been indicated. The criteria considered were the availability of the indicator; its suitability for communication; possibility for aggregation or disaggregation of data used and its use in the third or fourth edition of the *Global Biodiversity Outlook*. The source of the indicator has also been indicated

Indicators being proposed by the United Nations system for the Sustainable Development Goals have been included in the table.[11] Changes to the Sustainable Development Goals indicators may be required in the light of the outcomes of the forty-seventh session of the United Nations Statistical Commission.

In many cases the identified indicators are relevant to the several Aichi Biodiversity targets. However each indicator has only been included in the table once in order to limit the size of the table, with each indicator listed according to the Aichi Biodiversity Target to which it is most relevant. In some cases no specific indicator has been identified for the generic indicator. These represent gaps that need to be addressed.

Aichi Biodiversity Target	Generic Indicator	Specific Indicator	Available today (X) or under active development (Y)	Easy to communicate	Global indicator can be disaggregated to create national indicator or is aggregated from national data	National data are aggregated to form global indicator	Used in GBO3/ GBO4	Proposed SDG indicator	Source
Target 1 - By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably	Trends in awareness and attitudes to biodiversity	Biodiversity Barometer	X	X		X	X		UEBT
		Online interest in biodiversity (Google Trends)	X		X	X	X		Google trends
		WAZA global visitor survey	X						WAZA
	Trends in public engagement with biodiversity	*No specific indicators identified*							
Target 2 - By 2020, at the latest, biodiversity	Trends in incorporation of	Number of countries implementing natural resource accounts, excluding energy, within the System of	X	X		X	X		UNSTATS, World Bank

[11] The current list of proposed indicators for the Sustainable Development Goals, which will be considered during the forty-seventh session of the United Nations Statistical Commission from 8 to 11 March 2016, can be accessed from http://unstats.un.org/unsd/statcom/47th-session/documents/.

Aichi Biodiversity Target	Generic Indicator	Specific Indicator	Available today (X) or under active development (Y)	Easy to communicate	Global indicator can be disaggregated to create national indicator or is aggregated from national data	National data are aggregated to form global indicator	Used in GBO3/ GBO4	Proposed SDG indicator	Source
values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.	measures of stock and flow of natural capital into national accounting	Environmental-Economic Accounting (SEEA)							
	Trends in number of countries that have assessed values of biodiversity, in accordance with the Convention	Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011-2020 (proposed indicator for SDG target 15.9)						X	
	Trends in integration of biodiversity and ecosystem service values into sectoral and development policies	Number of countries that have integrated biodiversity in National Development Plans, poverty reduction strategies or other key development plans	X	X		X	X		Roe D. (2010)
Target 3 - By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in	Trends in the number and value of incentives, including subsidies, harmful to biodiversity, removed, reformed or phased out	Trends in potentially harmful elements of government support to agriculture (produced support estimates)	X	X	X	X			OECD
		Trends in potentially harmful elements of government support to fisheries	Y						OECD
		Producer Support Estimate (proposed indicator for SDG target 2.b)						X	
		Agricultural export subsidies (proposed indicator for SDG target 2.b)						X	
	Trends in development and	Number of countries with national instruments on biodiversity-relevant taxes, charges and fees	Y						OECD

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harmony with the Convention and other relevant international obligations, taking into account national socioeconomic condition	application of incentives that promote biodiversity conservation and sustainable use	Number of countries with national instruments on REDD plus schemes	X			X	X		UN-REDD programme
		Number of countries with national instruments on biodiversity relevant tradable permit schemes	Y						OECD
Target 4 - By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.	Trends in population and extinction risk of utilized species, including species in trade	Red List Index (impacts of utilization)	X	X	X		X		IUCN, BirdLife International and other Red List Partners
		Percentage of Category 1 nations in CITES	X			X	X		CITES
		Red List Index for species in trade	X	X	X				IUCN, BirdLife International and other Red List Partners
		Proportion of traded wildlife that was poached or illicitly trafficked (proposed indicator for SDG target 15.7)						X	
	Trends in use of natural resources and/or related concepts	Ecological footprint	X	X	X	X	X		Global Footprint Network
		Material footprint (MF) and MF per capita, per GDP (proposed indicator for SDG targets 8.4 and 12.2)						X	
		Domestic material consumption (DMC) and DMC per capita, per GDP (proposed indicator for SDG targets 8.4 and 12.2)						X	

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		Number of countries with sustainable consumption and production (SCP) national action plans or SCP mainstreamed as a priority or target into national policies (proposed indicator for SDG target 12.1)						X	
	Ecological limits assessed in terms of sustainable production and consumption	Human appropriation of net primary productivity	X		X	X	X		Krausmann etal (2013)
		Human appropriation of fresh water (water footprint)	X			X	X		Joint Research Centre
		Change in water use efficiency over time (proposed indicator for SDG target 6.4)						X	
		Level of water stress: freshwater withdrawal as a proportion of available freshwater resources (proposed indicator for SDG target 6.4)						X	
	Trends in biodiversity of cities	Number of cities applying and reporting on the Cities Biodiversity Index	Y						Secretariat of the Convention on Biological Diversity
		Ratio of land consumption rate to population growth rate (proposed indicator for SDG target 11.3)						X	
	Trends in extent to which biodiversity and ecosystem service values are	*No specific indicators identified*							

Aichi Biodiversity Target	Generic Indicator	Specific Indicator	Available today (X) or under active development (Y)	Easy to communicate	Global indicator can be disaggregated to create national indicator or is aggregated from national data	National data are aggregated to form global indicator	Used in GBO3/ GBO4	Proposed SDG indicator	Source
	incorporated into organizational accounting and reporting								
Target 5 - By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.	Trends in extent of forest	Trends in forest extent (tree cover)	X	X	X				Hansen et al
		Forest area as a percentage of total land area (proposed indicator for SDG target 15.1)	X	X	X	X		X	FAO
		Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type (proposed indicator for SDG target 15.1)						X	
		Progress towards sustainable forest management (proposed indicator for SDG target 15.2)						X	
	Trends in extent of natural habitats other than forest	Change in the extent of water-related ecosystems over time (proposed indicator for SDG target 6.6)	X	X				X	UN Water
		Natural habitat extent (land area minus urban and agriculture)	X				X		Netherlands Environmental Assessment Agency (PBL)
	Trends in fragmentation of forest and other natural habitats	*No specific indicators identified*							
	Trends in degradation of forest and other natural habitats	Biodiversity Habitat Index	Y						CSIRO
		Proportion of land that is degraded over total land area (proposed indicator for SDG target 15.3)	Y					X	UNCCD
	Trends in extinction risk and populations of habitat specialist	Red List index (forest specialists)	X	X	X				IUCN, BirdLife International

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	species in each major habitat type								and other Red List Partners
		Living Planet Index (forest specialists)	Y						WWF/ZSL
		Species Habitat Index	Y						GEOBON
Target 6 - By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.	Trends in certified sustainable fisheries	Trends in fisheries certified by the Marine Stewardship Council	X	X	X		X		Marine Stewardship Council
	Trends in proportion of depleted, target and bycatch species with recovery plans	*No specific indicators identified*							
	Trends in population and extinction risk in target and bycatch species	Red List Index (harvested aquatic species)	Y						IUCN and other Red List Partners
		Red List Index (impacts of fisheries)	X	X	X		X		IUCN, BirdLife International and other Red List Partners
		Living Planet Index (trends in target and bycatch species)	Y						WWF/ZSL
	Trends in fishing practices	Global effort in bottom trawling	X	X			X		University of British Columbia Institute for the Oceans and Fisheries
		Progress by countries in the degree of implementation of international instruments aiming to combat illegal,						X	

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		unreported and unregulated fishing (proposed indicator for SDG target 14.6)							
	Trends in proportion of fish stocks outside safe biological limits	Proportion of fish stocks within biologically sustainable levels (proposed indicator for SDG target 14.4)	X	X	X	X	X	X	FAO
	Trends in catch per unit effort	Estimated fisheries catch and fishing effort	X		X				University of British Columbia Institute for the Oceans and Fisheries
		Progress by countries in the degree of application of a legal/regulatory/policy/institutional framework which recognizes and protects access rights for small-scale fisheries (proposed indicator for SDG target 14.b)						X	
Target 7 - By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.	Trends in proportion of area of agriculture under sustainable practices	Areas of agricultural land under organic production	X	X	X		X		International Foundation for Organic Agriculture
		Areas of agricultural land under conservation agriculture	X		X	X	X		FAO
		Proportion of agricultural area under productive and sustainable agriculture (proposed indicator for SDG target 2.4)	X					X	FAO
	Trends in extinction risk and populations of agro-ecosystem associated species	Wild Bird Index for farmland birds / Living Planet Index (farmland specialists)	X	X	X	X	X		BirdLife International /EBCCC

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	Trends in proportion of production of aquaculture under sustainable practices	*No specific indicators identified*							
	Trends in proportion of area of forest production under sustainable practices	Proportion of area of forest production under FSC and PEFC certification	X	X	X	X	X		FSC/PEFC
		Progress towards sustainable forest management (proposed indicator for SDG target 15.2)	Y					X	FAO
		Wild Bird Index for specialist forest birds / Living Planet Index (forest specialists)	X	X	X	X	X		BirdLife International /EBCCC
	Trends in extinction risk and populations of forest-specialist species in production forest	*No specific indicators identified*							
Target 8 - By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity	Trends in pollutants	Trends in emissions, NOX	X	X	X	X	X		International Nitrogen Initiative
		Trends in emissions, SOX	X	X	X	X			International Nitrogen Initiative
		Trends in emissions, POPs	X	X	X	X			Stockholm Convention
		Trends in mercury emissions	X						UNEP
		Trends in pesticide use	X	X	X	X	X		FAO
		Index of Coastal Eutrophication (ICEP) and Floating Plastic debris Density (proposed indicator for SDG target 14.1)						X	
		Mortality rate attributed to household and ambient air pollution (proposed indicator for SDG target 3.9)						X	

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		Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe WASH services) (proposed indicator for SDG target 3.9)						X	
		Mortality rate attributed to unintentional poisoning (proposed indicator for SDG target 3.9)						X	
	Trends in extinction risk and populations driven by pollution	Red List Index (impacts of pollution)	X	X	X		X		IUCN, BirdLife International and other Red List Partners
	Trends in ecosystems affected by pollution	Water Quality Index for Biodiversity	X				X		UNEP GEMS Water
	Trends in nutrient levels	Trends in nitrogen deposition	X	X	X				International Nitrogen Initiative
		Loss of reactive nitrogen to the environment	X	X	X	X	X		International Nitrogen Initiative
		Trends in global surplus of nitrogen	X	X	X		X		The Netherlands Environmental Assessment Agency (PBL)
		Proportion of bodies of water with good ambient water quality (proposed indicator for SDG target 6.3)						X	
		Percentage of wastewater safely treated (proposed indicator for SDG target 6.3)						X	

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Target 9 - By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.	Trends in identification and prioritization of invasive alien species	*No specific indicators identified*							
	Trends in the distribution and populations of invasive alien species	*No specific indicators identified*							
	Trends in eradication of priority invasive alien species	Trends in invasive alien species vertebrate eradications	X						IUCN Invasive Species Specialist Group, Island Conservation
	Trends in extinction risk and populations driven by invasive alien species impacts	Red List Index (impacts of invasive alien species)	X	X	X		X		IUCN, BirdLife International and other Red List Partners
	Trends in impacts of invasive alien species on ecosystems	*No specific indicators identified*							
	Trends in the numbers of invasive alien species introduction and	Trends in the numbers of invasive alien species introduction events	X	X	X	X	X		ISSG

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	establishment events								
	Trends in implementation of policy responses preventing the introduction and establishment of invasive alien species	Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species (proposed indicator for SDG target 15.8)	X			X	X	X	IUCN SSC Invasive Species Specialist Group, Monash University, BirdLife International, Concordia University
Target 10 - By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.	Trends in extent and condition of coral reefs	Trends in proportion of live coral cover	X	X	X		X		Mumby et al
	Trends in extinction risk and populations of coral and coral-reef dependent species	Red List Index (reef-building coral species)	X	X	X		X		IUCN and other Red List Partners
	Trends in pressures on coral reefs	Average marine acidity (pH) measured at agreed suite of representative sampling stations (proposed indicator for SDG target 14.3)						X	
	Trends in responses to reduce pressures on coral reefs	*No specific indicators identified*							
	Trends in extent and condition of other vulnerable ecosystems impacted by climate change or ocean acidification	*No specific indicators identified*							

Aichi Biodiversity Target	Generic Indicator	Specific Indicator	Available today (X) or under active development (Y)	Easy to communicate	Global indicator can be disaggregated to create national indicator or is aggregated from national data	National data are aggregated to form global indicator	Used in GBO3/ GBO4	Proposed SDG indicator	Source
	Trends in species extinction risk and populations or condition of other vulnerable ecosystems impacted by climate change or ocean acidification	Climatic Impact Index for birds	X		X		X		BirdLife International /EBCC
		Red List Index (impacts of climate change)	Y						IUCN, BirdLife International and other Red List Partners
	Trends in pressures on other vulnerable ecosystems impacted by climate change or ocean acidification	*No specific indicators identified*							
	Trends in responses to reduce pressures on other vulnerable ecosystems impacted by climate change or ocean acidification	*No specific indicators identified*							
Target 11 - By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are	Trends in area of terrestrial and inland water areas conserved	Percentage of terrestrial and inland water areas covered by protected areas	X	X	X	X	X		UNEP-WCMC and IUCN
	Trends in area of coastal and marine areas conserved	Percentage of marine and coastal areas covered by protected areas	X	X	X	X	X		UNEP-WCMC and IUCN
		Coverage of protected areas in relation to marine areas (proposed indicator for SDG target 14.5)	X	X	X	X	X	X	UNEP-WCMC and IUCN

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conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.	Trends in areas of particular importance for biodiversity conserved	Protected area coverage of Key Biodiversity Areas (including Important Bird and Biodiversity Areas, Alliance for Zero Extinction sites)	X	X	X	X	X		BirdLife International /IUCN/AZE
		Protected Area Overlays with Biodiversity	X	X	X	X	X		WCMC/Bird Life International /IUCN/AZE
	Trends in areas of particular importance for ecosystem services conserved	*No specific indicators identified*							
	Trends in ecological representativeness of areas conserved	Protected area coverage of terrestrial, marine and freshwater ecoregions	X	X	X	X	X		WCMC
		Species Protection Index	Y						GEOBON
		Protected Area Representativeness Index	Y						GEOBON
	Trends in effectiveness and/or equitability of management of conserved areas	Management effectiveness of protected areas	X		X	X	X		WCMC
		The Wildlife Picture Index (disaggregated by protected area)	X	X					Tropical Ecology Assessment and Monitoring (TEAM) Network
	Trends in connectivity and integration of conserved areas	Protected Area Connectedness Index	Y						UNEP
Target 12 - By 2020 the extinction of known threatened species has been prevented and	Trends in number of extinctions	Number of species extinctions	X	X	X		X		IUCN, BirdLife International and other

Aichi Biodiversity Target	Generic Indicator	Specific Indicator	Available today (X) or under active development (Y)	Easy to communicate	Global indicator can be disaggregated to create national indicator or is aggregated from national data	National data are aggregated to form global indicator	Used in GBO3/ GBO4	Proposed SDG indicator	Source
their conservation status, particularly of those most in decline, has been improved and sustained.									Red List Partners
	Trends in extinctions prevented	Number of extinctions prevented by conservation action	Y						IUCN, BirdLife International and other Red List Partners
	Trends in extinction risk and populations of species	Red List Index (proposed indicator for SDG target 15.5)	X	X	X		X	X	IUCN, BirdLife International and other Red List Partners
		Living Planet Index	X	X	X		X		WWF/ZSL
		Species Protection Index for species in decline	Y						GEOBON
		Local biodiversity intactness index	Y						PREDICTS
		Wild Bird Index	X	X	X	X	X		BirdLife International /EBCC
		Wildlife Picture Index	X	X			X		Tropical Ecology Assessment and Monitoring (TEAM) Network
Target 13 - By 2020, the genetic diversity of cultivated plants and farmed and	Trends in genetic diversity of cultivated plants	Number of plant and animal genetic resources for food and agriculture secured in either medium- or long-term conservation facilities (proposed indicator for SDG target 2.5)						X	FAO

Aichi Biodiversity Target	Generic Indicator	Specific Indicator	Available today (X) or under active development (Y)	Easy to communicate	Global indicator can be disaggregated to create national indicator or is aggregated from national data	National data are aggregated to form global indicator	Used in GBO3/ GBO4	Proposed SDG indicator	Source
domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.	Trends in genetic diversity of farmed and domesticated animals	Proportion of local breeds, classified as being at risk, not-at-risk or unknown level of risk of extinction (proposed indicator for SDG target 2.5)	X	X	X	X	X	X	FAO
	Trends in extinction risk and populations of wild relatives	Red List Index (wild relatives)	Y						IUCN, BirdLife International and other Red List Partners
		Species Habitat Index (wild relatives)	Y						GEOBON
	Trends in protected area coverage of wild relatives (to be resolved)	Species Protection Index (wild relatives)	Y						GEOBON
	Trends in genetic diversity of socio-economically as well as culturally valuable species	*No specific indicators identified*							
	Trends in development and implementation of strategies for minimizing genetic erosion and safeguarding genetic diversity	Level of implementation of global plan of actions on genetic resources for food and agriculture	Y						Commission on Genetic Resources for Food and Agriculture (FAO)
Target 14 - By 2020, ecosystems that provide essential services, including	Trends in safeguarded ecosystems that provide essential	Wetland extent	X	X	X		X		WCMC

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services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.	services								
	Trends in extinction risk and populations of species that provide essential services	Red List Index (species used for food and medicine; pollinating species)	X	X			X		IUCN/ BirdLife International
		Living Planet Index (utilized species)	X	X	X		X		WWF/ZSL
		Species Habitat Index (species that provide essential services)	Y						GEOBON
	Trends in benefits from ecosystem services	Better Life Index	X						OECD
		Mountain Green Cover Index (proposed indicator for SDG target 15.4)	Y					X	FAO
		Coverage by protected areas of important sites for mountain biodiversity (proposed indicator for SDG target 15.4)						X	
	Trends in restoration of ecosystems that provide essential services	*No specific indicators identified*							
	Trends in the degree to which ecosystem services provides for the needs of women, indigenous and local communities, and the poor and vulnerable	Inadequate access to food – average dietary energy supply adequacy (measured by the Food Insecurity Experience Scale)	X						FAO
		Percentage of population using safely managed drinking water services (proposed indicator for SDG target 6.1)	X	X	X	X		X	WHO/ UNICEF
Target 15 - By 2020, ecosystem resilience and the contribution of biodiversity to carbon	Trends in ecosystem resilience	*No specific indicators identified*							

Aichi Biodiversity Target	Generic Indicator	Specific Indicator	Available today (X) or under active development (Y)	Easy to communicate	Global indicator can be disaggregated to create national indicator or is aggregated from national data	National data are aggregated to form global indicator	Used in GBO3/ GBO4	Proposed SDG indicator	Source
stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.	Trends in carbon stocks within ecosystems	Trends in forest carbon stocks	Y						FAO/GFW
		Global ecosystem restoration index	Y						GEOBON/ iDiv
Target 16 - By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.	Trends in the implementation of the Nagoya Protocol	Number of permits or their equivalents made available to the Access and Benefit-sharing Clearing-House established under the Nagoya Protocol and number of Standard Material Transfer Agreements, as communicated to the Governing Body of the International Treaty	X			X	X		Secretariat of the Convention on Biological Diversity and FAO
		Number of countries that have adopted legislative, administrative and policy frameworks for the implementation of the Nagoya Protocol (proposed SDG indicator 15.6)						X	Secretariat of the Convention on Biological Diversity
Target 17 - By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an	Trends in adoption and implementation of national biodiversity strategies and action plans, as policy	Number of countries with developed or revised NBSAPs	X	X		X	X		Secretariat of the Convention on Biological Diversity

Aichi Biodiversity Target	Generic Indicator	Specific Indicator	Available today (X) or under active development (Y)	Easy to communicate	Global indicator can be disaggregated to create national indicator or is aggregated from national data	National data are aggregated to form global indicator	Used in GBO3/ GBO4	Proposed SDG indicator	Source
effective, participatory and updated national biodiversity strategy and action plan	instruments including development, comprehensiveness, adoption and implementation	Number of countries with NBSAPs adopted as policy instruments	Y						Secretariat of the Convention on Biological Diversity
Target 18 - By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels	Trends in land-use change and land tenure in the traditional territories of indigenous and local communities (decision X/43)	(a) Percentage of people with ownership or secure rights over agricultural land (out of total agricultural population), by sex; and (b) Share of women among owners or rights-bearers of agricultural land, by type of tenure (proposed green indicator for SDG target 5.a)						X	
	Trends in the practice of traditional occupations (decision X/43)	*No specific indicators identified*							
	Trends in which traditional knowledge and practices are respected through their full integration, safeguards and the full and effective participation of indigenous and local communities in the national implementation of the Strategic Plan	Number of local community-based monitoring on traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity	X	X					Satoyama Initiative

Aichi Biodiversity Target	Generic Indicator	Specific Indicator	Available today (X) or under active development (Y)	Easy to communicate	Global indicator can be disaggregated to create national indicator or is aggregated from national data	National data are aggregated to form global indicator	Used in GBO3/ GBO4	Proposed SDG indicator	Source
	Trends of linguistic diversity and numbers of speakers of indigenous languages (decision VII/30 and VIII/15)	Global Index of Linguistic Diversity and language threat level.	X		X	X	X		Teralingua
Target 19 - By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.	Number of maintained species inventories being used to implement the Convention	Species represented in the barcode of life data system	X				X		Barcode of Life Data Systems
		Growth in species occurrence records accessible through GBIF	X	X	X	X	X		GBIF
		Species Status Information Index	Y						GEOBON
		Proportion of known species assessed through the IUCN Red List	X		X				IUCN
Target 20 - By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially	Trends in the mobilization of financial resources	Information provided through the financial reporting framework, adopted by decision XII/3 (https://chm.cbd.int/search/financial-reporting)	X	X		X	X		Secretariat of the Convention on Biological Diversity
		Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems (proposed indicator for SDG target 15.a and 15.b)						X	

Aichi Biodiversity Target	Generic Indicator	Specific Indicator	Available today (X) or under active development (Y)	Easy to communicate	Global indicator can be disaggregated to create national indicator or is aggregated from national data	National data are aggregated to form global indicator	Used in GBO3/ GBO4	Proposed SDG indicator	Source
from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.									