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AD HOC TECHNICAL EXPERT GROUP MEETING
ON INDICATORS FOR THE STRATEGIC PLAN
FOR BIODIVERSITY 2011-2020
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GLOBAL INDICATORS AND SUB-GLOBAL APPROACHES TO MONITOR PROGRESS IN THE IMPLEMENTATION OF THE STRATEGIC PLAN FOR BIODIVERSITY 2011-2020

Revised note by the Executive Secretary

I. INTRODUCTION

1. In decision XI/3 the Conference of the Parties to the Convention on Biological Diversity took note of an indicative list of indicators available for assessing progress towards the goals of the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets. This list, which Parties recognized as a starting point for assessing progress in the achievement of the Strategic Plan, was developed based on work undertaken by the first meeting of the Ad Hoc Technical Expert Group Meeting (AHTEG) on Indicators for the Strategic Plan for Biodiversity 2011-2020 held in High Wycombe, United Kingdom of Great Britain and Northern Ireland in 2011.[1] The list of indicators contains 96 operational indicators divided into three categories: Indicators which are ready for use at the global level (A), indicators which could be used at the global level but which require further development to be ready for use (B), additional indicators for consideration for use at the national or other subglobal level (C).

2. In paragraph 20(b) of decision XII/1, the Conference of the Parties requested the Executive Secretary to convene a further meeting of the Ad Hoc Technical Expert Group (AHTEG) on Indicators for the Strategic Plan for Biodiversity 2011-2020. In the terms of reference for the meeting, the Conference of the Parties requested the AHTEG:

(a) To identify a small set of measurable potential indicators that could be used to monitor progress at the global level towards the Aichi Biodiversity Targets with a focus on those that are currently not well addressed and those that may be relevant to the United Nations post-2015 development agenda and sustainable development goals;

(b) To prepare guidance on the different types of indicators and approaches used to monitor progress in the implementation of the Strategic Plan for Biodiversity 2011-2020 at the regional, national and subnational levels, reflecting, as appropriate, different perspectives among Parties for achieving conservation and sustainable use of biodiversity, drawing on a review of national reports and other relevant submissions to the Convention as well as reports prepared in compliance with other relevant processes.

3. The information in this document draws on a set of information documents prepared to support the work of the AHTEG. These documents are a review of the global indicator suite, key gaps and options for the future assessment of the Strategic Plan for Biodiversity 2011-2020 (UNEP/CBD/ID/AHTEG/2015/1/INF/1), a review of national approaches to assessing progress towards

[1] For further details on this meeting see - https://www.cbd.int/doc/?meeting=AHTEG-SP-IND-01

the Aichi Biodiversity Targets (UNEP/CBD/ID/AHTEG/2015/1/INF/2), a document reviewing the use of indicators by Parties in their fifth national reports (UNEP/CBD/ID/AHTEG/2015/1/INF/3) and a document to assess the feasibility of developing an indicator based on countries' self-assessment of progress towards their national targets (UNEP/CBD/ID/AHTEG/2015/1/INF/4 and UNEP/CBD/ID/AHTEG/2015/1/INF/6). Further this document drew on several information documents related to ongoing processes with implications for indicators. These include a proposal on a joint indicator for monitoring land degradation (UNEP/CBD/ID/AHTEG/2015/1/INF/5), biodiversity policy response indicators (UNEP/CBD/ID/AHTEG/2015/1/INF/7), using global biodiversity indicators and underlying data to support NBSAP development and national reporting (UNEP/CBD/ID/AHTEG/2015/1/INF/8), barriers to the use of global indicators and datasets to support NBSAP implementation and national reporting processes (UNEP/CBD/ID/AHTEG/2015/1/INF/9), a toolkit for indicators of resilience in socio-ecological production landscapes and seascapes (UNEP/CBD/ID/AHTEG/2015/1/INF/10), the indicators process for the Sustainable Development Goals (UNEP/CBD/ID/AHTEG/2015/1/INF/11), the Ramsar Strategic Plan 2016-2024 (Resolution XII.2) (UNEP/CBD/ID/AHTEG/2015/1/INF/12), global biodiversity change indicators (UNEP/CBD/ID/AHTEG/2015/1/INF/13) and integrating data from in-situ reporting and global data sets to measure impact and performance (UNEP/CBD/ID/AHTEG/2015/1/INF/14).

II. BACKGROUND

4. There are multiple approaches that can be used to monitor and assess progress in the implementation of the Strategic Plan for Biodiversity 2011-2020. In the context of the Strategic Plan for Biodiversity, indicators are information tools which summarize data on complex environmental and socioeconomic issues to indicate the overall status and trends of biodiversity and what drives these changes, as well as trends in the effectiveness or impacts of the actions taken to protect it. They can be used to assess national or global outcomes and to signal key issues to be addressed through policy interventions and other actions. Indicators, through extrapolations and modelling, can also be used to predict what the conditions of biodiversity and associated socioeconomic issues may be like in the future under different scenarios. Indicators are therefore important for monitoring the status and trends of biodiversity and related issues and, in turn, feeding this information back to policymakers. In this sense indicators provide a bridge between the fields of policymaking and science. Further, indicators are also an important communication tool in informing and engaging stakeholders and the general public with biodiversity and the Convention on Biological Diversity more generally.

5. Currently our ability to assess progress towards the Aichi Biodiversity Targets with indicators is variable. For some targets, such as those addressing protected areas, forest cover and threatened species, we have good – though not always complete – information. For other targets, for example those related to ecosystem services, resilience or the effects of anthropogenic pressures on ecosystem integrity and functioning, we have less comprehensive, comparable and systematic information and hence any assessments of progress have a high degree of uncertainty. While this limitation has been addressed in some cases through the use of proxies, challenges often exist in relation to finding proxies with appropriate time series or spatial coverage. The information contained in the national reports to the Convention on Biological Diversity suggests that similar issues exist at the national level. Few countries, if any, have robust indicator based monitoring systems enabling them to report on all aspects addressed in their national biodiversity targets or the Aichi Biodiversity Targets. However many countries do have site based or species specific monitoring systems.

6. Given the gaps that exist in the current suite of indicators for monitoring progress towards the Strategic Plan for Biodiversity and the challenges to fill these quickly, assessments of progress need to make use of additional sources of information. Drawing on multiple sources of information not only helps to address information gaps but also helps to situate indicator information in a broader context. For example the contribution of traditional knowledge to reporting and monitoring processes is increasingly being recognized. This type of information is complimentary to scientific information and being used in

several countries as part of community based monitoring and information systems (CBMIS).[2] Drawing on multiple lines of evidence also makes for a more robust assessment than one based on quantitative indicators alone. Further using one type of information does not preclude the use of another. In fact most Parties have used a combination of information sources to assess progress towards the Aichi Biodiversity Targets and their national biodiversity targets. The midterm assessment of progress towards the Aichi Biodiversity Targets, undertaken as part of the fourth edition of the *Global Biodiversity Outlook* (GBO-4), also made use of multiple lines of evidence. GBO-4 brought together evidence derived from a wide range of sources, including commitments and activities of countries as reported in national biodiversity strategies and action plans (NBSAPs) and national reports, as well as Parties' own assessments of progress towards the Aichi Biodiversity Targets. The GBO-4 assessment also took into account information on the status and trends of biodiversity reported by Parties and in the scientific literature, and made use of indicators, indicator based statistical extrapolations to 2020 as well as longer-term model-based scenarios. In total, more than 50 indicators were used in preparing GBO-4. These were chosen from among more than 170 identified indicators and selected by the experts involved in the preparation of the report based on their relevance, scientific credibility, and temporal and geographical coverage. The information provided by these different lines of evidence was reconciled by the group of experts involved in the preparation of GBO-4 and further substantiated in the report's underlying technical studies. Further, the assessment of progress towards each Aichi Biodiversity target was accompanied by an indication of the experts' degree of confidence with the finding. The GBO-4 report, its underlying technical study as well as an associated report published in Science were all peer-reviewed prior to being finalized.

III. REVIEW OF NATIONAL APPROACHES TO ASSESSING PROGRESS TOWARDS THE AICHI BIODIVERSITY TARGETS

A. General approaches to monitoring

7. Assessing national progress towards the Aichi Biodiversity Targets is key to monitoring the implementation of the Strategic Plan for Biodiversity 2011-2020. From the information contained in the fifth national reports to the Convention on Biological Diversity, the results of a survey distributed to Parties on this issue and follow up interviews, it is evident that a variety of approaches are used by countries to assess national progress towards the global Aichi Biodiversity Targets. These approaches can be divided into four general categories: quantitative indicators, expert opinion, stakeholder consultation, and case studies.

(a) Quantitative indicators - Measures or metrics based on verifiable data and provide a scientifically-robust and objective evidence base. These may be used or developed by government agencies, non-governmental organizations, research institutions or academia. They may also be institutionalized within a government to varying degrees.

(b) Expert opinion:

i. Expert advice - Convening relevant experts to offer their opinion and use their expert judgement to assess progress towards the Aichi Biodiversity Targets. The experts involved may be experts in very precise subject areas, such as individual species or habitats, or more generally in the country and its context. Expert opinion can be a valuable means of incorporating local, contextual knowledge, including from different sectors, and can also help clarify the often complex relationships between actions taken and biodiversity and the relationships between different the ecosystems (or parts therefore);

2 Issues associated with the role of traditional knowledge and collective action in monitoring the implementation of the Strategic Plan for Biodiversity 2011-2020 were discussed during a dialogue workshop on assessment of collective action in biodiversity conservation held in Panajachel, Guatemala from 11 to 13 June 2015.

ii. Author opinion - The author(s) of the national report gather primary evidence on the status and trends of biodiversity, synthesise knowledge and information, and draw overall conclusions on progress. Author opinion can be useful to bring together and synthesize complex information from various sources. In some cases the authors may be experts and authors can often enlist the help of experts.

(c) Stakeholder consultation:

i. Stakeholder input - Stakeholders with an interest in the national report and biodiversity more generally are directly solicited to provide relevant information and input. Stakeholder contributions and assessment of progress towards the Aichi Biodiversity Targets may be gathered through consultations, interviews, face-to-face or online workshops or stakeholder review of documents;

ii. Public and community consultations - Such consultations may take place through individual interviews, questionnaires, online reviews, workshops or awareness-raising events. The general public may be consulted as a whole, or specific communities may be identified for targeted consultation.

(d) Case studies - For some specific complex subjects, obtaining a clear picture of the status and trends of biodiversity, reasons for any change or the impact of any measures taken may be difficult due to various confounding factors. Case studies can therefore be used to provide a detailed analysis and demonstration of progress at a local level towards a national or global target. Case studies can draw on various types of information, including indicators, but ultimately require expert judgement to situate them within specific contexts.

8. These different approaches are not exclusive of one another. Using one approach does not preclude the use of another. In fact most Parties, in their fifth national reports, have used combinations of these different approaches to assess progress towards the Aichi Biodiversity Targets and their national biodiversity targets. Each approach has inherent strengths and limitations. These strengths and limitations depend on the national context and priorities, and the most appropriate approach or combination of approaches will vary between countries.

B. National indicator use

9. With regards to the use of indicators in the fifth national reports, while most Parties make use of at least a few indicators, how they are the used is highly variable. Some reports have referred to and made use of comprehensive sets of indicators, however most have used them in a less systematic way. Further, even those reports that have made extensive use of indicators often have gaps where certain targets or elements of targets do not have indicators.

10. Many of the indicators used in the fifth national reports are not necessarily specific to biodiversity or solely related to monitoring the implementation of the Strategic Plan for Biodiversity 2011-2020. For example many reports contain information related to changes in forest cover or fish stocks which are relevant to other sectors and have likely been developed for purposes other than biodiversity monitoring. Given this, it is clear that monitoring the implementation of the Strategic Plan for Biodiversity 2011-2020 or associated national targets does not need to solely make use of indicators specifically developed for biodiversity and that indicators developed for other purposes can provide valuable information. Further, given the breadth of issues addressed by the Strategic Plan, using indicators developed for other processes offers a cost effective means of making use of ongoing monitoring initiatives and can also help to mainstream biodiversity across different domains. The indicators used by Parties to assess progress towards the Aichi Biodiversity Targets are often similar. For example many Parties have indicators related to habitat loss, species extinction or protected areas. These indicators may have different names and methodologies but often measure similar things. However differences in methodologies, baselines and definitions make drawing comparisons between countries or directly aggregating national information difficult if not impossible. However there are some examples where this has been done by different

regional initiatives, such as those undertaken by the members of the European Union, regional processes on criteria and indicators for sustainable forest management, or regional programmes such as the ASEAN Centre for Biodiversity, the South Pacific Regional Environment Programme, or the work of the Conservation of Arctic Fauna and Flora working group of the Arctic Council to name a few. Further, international frameworks, such as the System of Environmental-Economic Accounting (SEEA) which contains the internationally agreed standard concepts, definitions, classifications, accounting rules and tables for producing internationally comparable statistics on the environment and its relationship with the economy, provide opportunities to develop more comparable information for monitoring progress for many of the Aichi Biodiversity Targets.[3]

11. 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 have used indicators to assess progress towards targets 2, 3, 13, 16, 17, 18 and 19. This is likely because the indicators that are used in the national reports have tended to be what would generally be considered as traditional biodiversity indicators. Further, the more socioeconomic related issues covered by the Strategic Plan for Biodiversity tend to be less well served by indicators.

12. The fifth national reports tend to contain both outcome/impact indicators (those that measure a change in the status of biodiversity) and process indicators (those that measure actions taken). The process based indicators used by Parties often had more up-to-date information, likely owing to the fact that such indicators are generally easier and less costly to prepare. The relationship between the information generated by the process based indicators and outcome/impact indicators was not generally explored in the national reports.

13. While some of the indicators used in the fifth national reports are noted in the annex to decision XI/3 (Indicative list of indicators for the strategic plan for biodiversity 2011-2020) many are not. In some cases the reports use indicators which are nationally specific. Further, many of the reports make use of indicators related to regional processes. This is particularly the case for members of the European Union.

14. In the national reports there are many instances where information is included that implies the existence of either a data series or an indicator (for example when a description of change is given for a certain time period) however the indicator or data series itself is not specified. Similarly there is information in the national reports that could be turned into an indicator, but is not presented as such.

15. The indicators used in the national reports tended to have time lags. Few reports contained indicators with information post 2013 and several reports noted that this was an issue. In addition, only in a few cases were any sources of uncertainty associated with the indicators acknowledged. Similarly, while most national reports have undergone some form of review process, few reports if any indicate how the indicators they have used in their report have been reviewed.

16. Many of the national reports refer to proposed indicators or processes to develop indicators in the future. This is most often raised in relation to the implementation and monitoring of updated national biodiversity strategies and action plans.

C. National assessments towards the attainment of the Aichi Biodiversity Targets

17. Approximately 40% of reporting Parties have included an explicit assessment of progress towards the Aichi Biodiversity Targets. These assessments generally use a scale or rating system which classifies progress towards each target into a category (for example, no progress, some progress, on track to reach target). The methodology used to undertake these assessments is usually not clear from the national reports. However it is apparent that most Parties have considered different sources of information, including indicators, the types of actions taken, expert opinion and published literature among other things. Further those national reports which do not contain an explicit assessment of progress towards the

[3] For further information see http://unstats.un.org/unsd/envaccounting/seea.asp

Aichi Biodiversity Targets often contain narrative descriptions of progress towards the Aichi Targets. These do not assign a specific metric to indicate progress towards the target but rather list the types of activities taken, planned actions or refer to changes in biodiversity trends.

18. The information from the national reports indicates that Parties use a variety of approaches in monitoring progress in the implementation of the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets. The approaches used vary not only between Parties but also within assessments carried by a Party for different Aichi Biodiversity Targets. The information from the national reports suggests that most Parties are making 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. The approaches used by Parties vary with national circumstances and priorities and therefore what is useful for one Party may not be effective for others. It is important to note, that even with the limited information that is available in some countries, most Parties have included information in their national reports which enables assessments of progress, at least towards some Aichi Biodiversity Targets, to be made, though sometimes with low levels of confidence.

19. As part of the preparation of GBO-4 the information in the national reports on progress towards the Aichi Biodiversity Targets was assessed to develop an overview of the progress that each Party is making towards the attainment of the Aichi Biodiversity Targets and to aggregate this into a global picture. The assessment classified progress into one of five categories (moving away from the target, no progress, progress but at an insufficient rate, on track to meet the target, and on track to exceed the target). This analysis (see figure 1) provided a complimentary source of information to the global indicators. This presentation provides a snapshot that is suitable for identifying those targets for which progress is furthest advanced or where progress lags behind. This assessment was undertaken as a compliment to the global indicators used in the report.

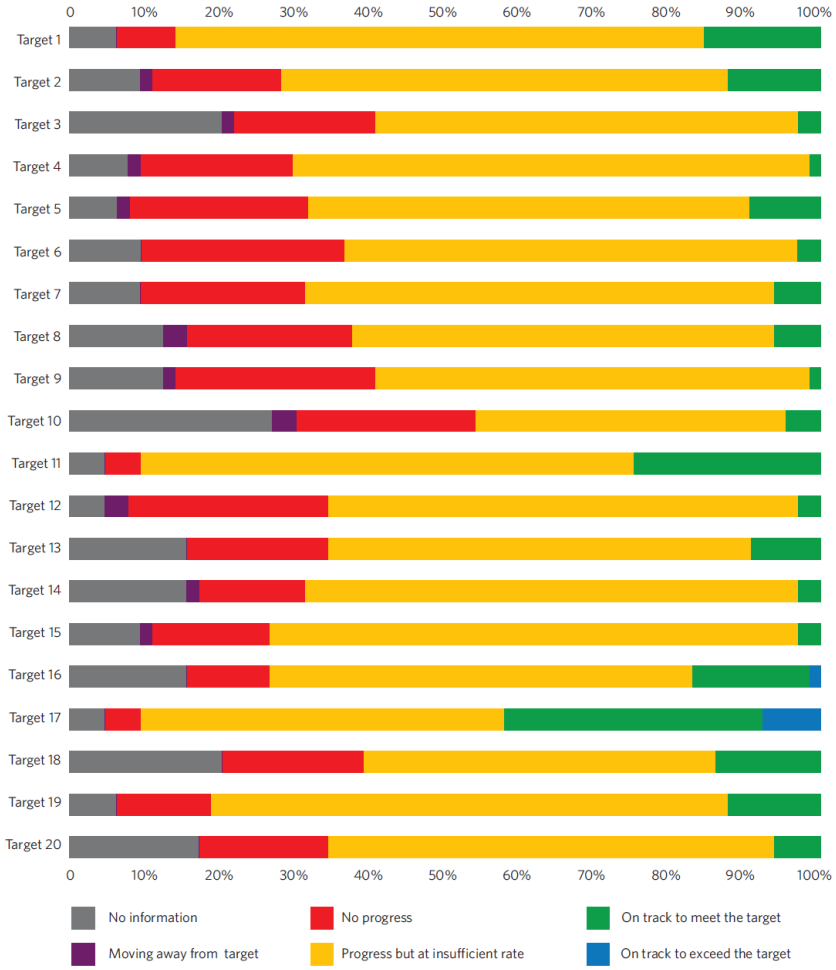

Figure 1 - Assessment of progress towards the attainment of the Aichi Biodiversity Targets based on the information contained in 64 fifth national reports. Almost 60 per cent of these reports explicitly assessed national progress towards the Aichi Biodiversity Targets. Where Parties explicitly assessed progress towards the Aichi Biodiversity Targets, these assessments were used and applied to the five scales used in the assessment (Moving away from the target, no progress, progress but at an insufficient rate, on track to meet the target, on track to exceed the target). In the other cases the assessment has been inferred by the Secretariat of the Convention on Biological Diversity based on the information contained in the report. The assessment considered information related to the status and trends of biodiversity as well as information on actions taken or planned. Based on this information progress towards each Aichi Biodiversity Target was categorized into one of the five ratings above. A number of these reports did not contain information that allowed for an assessment of progress. These cases are represented in the figure as "No Information".[4] Given the nature of the national reports this type of assessment inherently requires a degree of interpretation. This could be reduced and the level of certainty could be increased if Parties undertook such assessments themselves.

IV. INDICATORS TO MONITOR PROGRESS AT THE GLOBAL LEVEL TOWARDS THE ATTAINMENT OF THE AICHI BIODIVERSITY TARGETS

A. Existing global indicators

20. In decision XI/3 the Conference of the Parties took note of a set of 96 operational indicators, classified as being ready for use at the global level (22 indicators), as a priority for development for use at

[4] Since the publication of GBO-4, this figure has been continuously updated to take account of additional fifth national reports received by the Secretariat. The assessment that is presented is the version presented in the GBO-4 report.

the global level (36 indicators) or as for consideration at the subglobal level (39 indicators). However the indicators framework had a number of gaps.

21. Since the indicators framework was noted by the Conference of the Parties, it has been used at different scales and for different purposes. For example Parties have made use of it, to varying degrees, in their NBSAP development processes, the preparation of their fifth national reports and the development of biodiversity monitoring programmes. Further, the indicators framework has served as a foundation for the preparation of the fourth edition of the *Global Biodiversity Outlook* and the Biodiversity Indicators Partnership has a made use of the framework in the development of the Aichi Biodiversity Passport.

22. Through the preparation of GBO-4 and the work of the Biodiversity Indicators Partnership further indicators have been identified (see annex). These indicators have been used in either GBO-4 or its underlying technical studies, a related paper published in Science,[5] or the Aichi Passport.[6] These different indicators enable progress towards each Aichi Biodiversity Target to be monitored at the global level by at least one indicator. However there are still significant limitations. Some of the indicators identified have limited relevance to the Aichi Biodiversity Targets and therefore need to be viewed in relation to other types of information in order to be meaningful. Further, many of the indicators have temporal, geographic, ecosystem and/or species data limitations. Moreover, when the Aichi Biodiversity Targets are broken down into their individual components, as was done in GBO-4, many of these components cannot currently be assessed with a global indicator. Those targets where these different types of gaps are particularly prevalent are Aichi Biodiversity Targets 2, 4, 7, 10, 14, 15 and 18.

B. Use of the national reports to assess progress

23. In decision X/2, the Conference of the Parties, recalling that the role of the Conference of the Parties is to keep the implementation of the Convention under review, decided that future meetings of the Conference of the Parties should review progress in the implementation of the Strategic Plan for Biodiversity 2011-2020, share experiences relevant for implementation and provide guidance on means to address obstacles encountered. Further in decision XII/31, the Conference of the Parties reaffirmed that it should review progress in the implementation of the Strategic Plan for Biodiversity 2011-2020 at each of its meetings to 2020, and that the development of further guidance for policy development and to support implementation should be based on this review as well as on information available in national reports and on other information that may become available, including through scientific assessments.

24. The national reports are frequently used as a source of information in the preparation of documents related to the Convention on Biological Diversity. These reports contain information provided by Parties on, among other things, measures which have been taken for the implementation of the provisions of the Convention. However aggregating the information from the national reports into a global picture of progress is often challenging. This is because Parties use different approaches and methodologies, depending on their national circumstances and priorities, when preparing their national reports and rarely present information in a manner which allows for direct comparisons to be made. Similarly, though most Parties use indicators in their national reports, these are difficult to compare or use in systematic way given different methodologies or data used in creating them.

25. Using the type of information presented in figure 1 above it may be possible to generate an indicator based on self-assessments carried out by Parties. This indicator would enable a specific metric to be generated for each Aichi Biodiversity Target. Changes in this could then be monitored over time. An initial assessment of the feasibly of preparing such an indicator suggests that it is in fact possible to develop a statistically sound indicator based on Parties self-assessments. Such an indicator (or index) could complement the other indicators identified previously in decision XI/3. Moreover, because this

[5] Tittensor etal. 2014. A mid-term analysis of progress towards international biodiversity targets. Science 10 October 2014: 346 (6206), 241-244. Note that this study identified a number of indicators, which were not used in the analysis because the time series did not confirm to criteria required for statistical extrapolation. These indicators which where excluded for issues related to their time series have been included in the annex to this report.

[6] The Aichi Passport is accessible from http://www.bipindicators.net/resource/aichipassport

indicator would be based on a broad range of information from countries (including specific national indicators where available), it could be expected to be more relevant to the breadth of each Aichi Biodiversity Target than any given global indicator alone. In further developing this indicator, it should be noted that its main strength over the graphic presentation in Figure 1 is that the indicator enables a quantitative comparison of progress between targets as well as facilitates tracking change over time. However given the differences between countries, the indicator would not be suited to making comparisons between countries or even regions. Further this indicator would not replace any indicators currently being used under the Convention but rather serve as an additional line of evidence to complement the existing indicator suite. Like all indicators it would need to be reviewed in the light of other lines of evidence. With the ongoing development of the Convention on Biological Diversity's online reporting system it would also be possible to develop an update of this indicator at more regular intervals, for example in time for each meeting of the Conference of the Parties. This would however depend on Parties providing national updates.

C. Additional potential indicators

26. As part of the preparation for the second meeting of the Ad Hoc Technical Expert Group Meeting on Indicators for the Strategic Plan for Biodiversity 2011-2020 several additional indicators have been identified. These indicators are noted in the annex to this note. One promising area of work in this regard seeks to use modelling approaches and "big data" integration techniques to bring together historical, recent and ongoing in situ species observations with remote sensing to generate indicators of biodiversity change that can be used in tracking trends and in future scenarios. Examples of the types of indicators include those being developed by various partners under the auspices of the GEO BON Working Group on Biodiversity Indicators. In addition Bioversity International has ongoing work on an agrobiodiversity index. While these indicators have not yet been used in processes related to the Convention, they offer potential avenues for generating further information related to the implementation of the Strategic Plan for Biodiversity 2011-2020.

27. Further GEO BON has ongoing work related to the development of essential biodiversity variables (EBVs). The development of EBVs would help to make monitoring biodiversity more effective by identifying a small set of biodiversity variables, which if properly monitored, would provide a relatively comprehensive overview of biodiversity conditions globally. Similarly GEO-BON is developing a regionally customizable and continually updated online toolkit for facilitating the start-up or enhancement of national or regional biodiversity observation systems called "BON in a Box".

28. More generally, there have also been technological advances with regard to remote sensing. The advancement in satellite technologies has the potential to generate biodiversity information on a global scale rapidly and effectively. Similarly, improvements in species sampling techniques, particularly with regard to genetic diversity, also promise to improve our understanding of species diversity at the ecosystem level.

V. OTHER INDICATOR PROCESSES

29. In addition to the indicators identified there are a number of ongoing efforts which have the potential to develop additional indicators relevant to the monitoring of the Strategic Plan for Biodiversity and the Aichi Biodiversity Targets. These processes include:

(a) *Sustainable Development Goals* - During the United Nations Conference on Sustainable Development (Rio+20), held in Rio de Janeiro, Brazil, in June 2012, member States agreed to start a process to develop a set of sustainable development goals. In January 2013 an open working group of the United Nations General Assembly was established and tasked with developing a proposal for the set of sustainable development goals. The Open Working Group on Sustainable Development Goals released its proposal for a set of sustainable development goals and targets in July 2014. The proposal included 17 goals and 169 targets and potential targets. The sustainable development goals are to be adopted during a high-level plenary meeting of the General Assembly to be held from 25 to 27 September 2015.

The United Nations Statistical Commission has created an Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs) to develop proposals for a global indicators framework for the sustainable development goals. The framework and indicators are to be adopted by the Statistical Commission at its 47th session in 2016. In May 2015 the IAEG-SDGs, based on input and consultation from various stakeholders, compiled a proposed list of more than 300 priority indicators. This list was based on a much longer list developed through consultation with various stakeholders, including United Nations agencies. The proposed list of priority indicators was considered by the first meeting of the IAEG-SDGs held from 1-2 June 2015 and was subsequently revised. An open consultation was held from 11 August to 4 September to further refine the list of indicators so that it can be considered by the second meeting of the IAEG-SDGs from 26-28 October 2015. Given the high degree of complementary between the Aichi Biodiversity Targets and the proposed sustainable development goals there is the potential for indicators relevant to the Aichi Biodiversity Targets to emerge from these discussions. Similarly the indicators to monitor the Strategic Plan for Biodiversity could also be highly relevant to the SDG process. As such the two processes can be mutually supportive.

(b) *United Nations Convention to Combat Desertification (UNCCD)* – In 2013 UNCCD adopted a monitoring and evaluation approach for land degradation consisting of among other things, a set of six progress indicators. The indicators adopted were trends in population living below the relative poverty line and/or income inequality in affected areas, trends in access to safe drinking water in affected areas, trends in land cover, trends in land productivity or functioning of the land, trends in carbon stocks above and below ground, and trends in abundance and distribution of selected species. Following a review of the global datasets available of these indicators it was determined that the only indicators with appropriate datasets, and which should therefore be considered mandatory for reporting, were:

(i) Trends in land cover;

(ii) Trends in land productivity or function of the land;

(iii) Trends in carbon stocks above and below ground (to be measured in terms of soil organic carbon stocks.

The first two indicators used information derived from remote sensing while the third uses data from the Harmonized Soil Database. Further, there is ongoing work on combining these three indicators into a single indicator of land degradation. These indicators are to be considered for adoption by the twelfth session of the Conference of the Parties to UNCCD to be held from 12 to 23 October 2015. These indicators are relevant to the work of the Convention on Biological Diversity and as no biodiversity indicator related to land degradation has been identified there is a potential role for the Convention on Biological Diversity in the work of UNCCD.[7]

(c) *Convention on Wetlands of International Importance (Ramsar Convention)* - During its twelfth meeting, the Conference of the Parties to the Convention on Wetlands approved the Strategic Plan 2016-2024 as the basis for the implementation of the Convention during this period. As part of the Strategic Plan a set of indicators were identified. The Secretariat of the Ramsar Convention has been instructed to convene an expert group to develop options for additional indicators for the Strategic Plan.[8]

(d) *Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)* – During the third session of the Plenary of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services in Bonn, Germany, from 12 to 17 January 2015 a number of issues related to indicators were considered. Given the close relationship between IPBES and the Convention on Biological Diversity these developments have a potential bearing on the Convention's work on indicators.[9] As part of IPBES's data and information management plan (deliverables 1 (d) and 4 (b)) the

[7] For further information see information document UNEP/CBD/ID/AHTEG/2015/1/INF/5

[8] This expert group meeting is taking place on 18 September 2015 in Geneva, Switzerland, and is being convened back to back with the Ad Hoc Technical Expert Group Meeting on Indicators for the Strategic Plan for Biodiversity 2011-2020.

[9] For further information see UNEP/CBD/SBSTTA/19/9.

task force on knowledge and data will give advice during the scoping and delivery of the Platform assessments. This includes providing advice on data quality the identification and use, where appropriate, of common methodologies, measures and indicators. Among the task forces high priority activities is the establishment of standards and guidelines for managing information and data and identification of possible indicators and metrics to be used in the Platform's products. Further the regional and subregional assessments of biodiversity and ecosystems services that IPBES will be undertaking (deliverable 2 (b)) also have implications with regard to the development of indicators and the work of the Convention. The overall scope of the regional and subregional assessments is to assess the status and trends of biodiversity, ecosystem functions and ecosystem services and their interlinkages, the impact of biodiversity, ecosystem functions and ecosystem services and threats to them on good quality of life and the effectiveness of responses, including the Convention on Biological Diversity Strategic Plan for Biodiversity 2011–2020 and its Aichi Biodiversity Targets and the national biodiversity strategies and action plans developed under the Convention.

VI. CONCLUSION

30. In the time since the Conference of the Parties took note of the indicative list of indicators for monitoring progress in the implementation of the Strategic Plan important progress has been made in our ability to monitor progress towards the attainment of the Aichi Biodiversity Targets. New indicators have been identified and used, for example in the fourth edition of the *Global Biodiversity Outlook*. These have allowed many of original gaps in the indicators framework to be addressed to a certain degree. However despite the progress that has been made in relation to the development of indicators, there are still gaps. These gaps include the limited geographic or temporal coverage of some indicator data sets, limited relevance between some indicators and the Aichi Biodiversity Targets as well as our limited ability to assess some elements of the Aichi Biodiversity Targets.

31. Given the complexity of biodiversity and the breadth of issues addressed by the Strategic Plan for Biodiversity 2011-2020 it is almost certain that we will always have to deal with gaps in the indicators suite or other uncertainties, particularly as many of the issues addressed by the Strategic Plan do not easily lend themselves to be monitored with global indicators. For this reason monitoring progress towards the implementation of the Strategic Plan needs to make use of all available information and there is a need to be strategic in how we monitor changes in biodiversity. Similarly making strategic use of ongoing monitoring, reporting and assessment initiatives, such as those being undertaken by IPBES for example, offers an effective means of addressing existing information gaps. Moreover, experience gained by some countries can be shared with other countries through the clearing-house mechanism.

32. Advances in technologies, such as remote sensing, as well as ongoing initiatives and international processes, such as the discussions related to the sustainable development goals, suggest that our ability to monitor the status of biodiversity and the impacts of our actions will continue to increase over time. As such, monitoring progress towards the attainment of the Aichi Biodiversity Targets needs to be viewed as an ongoing process. Relatedly there is a need for monitoring and reporting processes to be streamlined in order to avoid publication of efforts between different processes and to ensure stronger links between the scientific processes generating information and indicators and their use in policy. As new indicators and sources of information become available the Convention needs to be prepared to draw upon these in its assessment.

Annex

This table illustrates the relationship between the Aichi Biodiversity Targets, the indicators previously identified in decision XI/3 and those identified as part of the preparation process for the second meeting of the Ad Hoc Technical Expert Group Meeting on Indicators for the Strategic Plan for Biodiversity 2011-2020. The second column of the table reproduces the indicators as in decision XI/3. Indicators which are ready for use at the global level are denoted by the letter (A). Indicators which could be used at the global level but which require further development to be ready for use are denoted by the letter (B). Additional indicators for consideration for use at the national or other sub-global level are denoted by the letter (C) and given in italics. The set of (A) and (B) indicators are those which could be used to assess progress at the global level, while the (C) indicators are illustrative of some of the additional indicators available to Parties to use at the national level, according to their national priorities and circumstances. The third column of the table notes the indicators which have been used in GBO-4 or its related technical studies, in work undertaken by the Biodiversity Indicators Partnership or WCMC as well as in a global review of biodiversity indicators published in Science. The indicators in italics are indicators which have been identified but which have not yet been used in any of the process or by the organizations noted above. In many cases the identified indicators are relevant to the several Aichi Biodiversity targets; however each indicator (or its disaggregation) has only been included in the table once in order to limit the size of the document. The indicators organized according to the Aichi Target they are most relevant to.

Aichi Biodiversity Target	Headline indicators (in bold) and most relevant operational indicators (Decision XI/3)	Indicators already in use or available/underdevelopment
Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society		
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, attitudes and public engagement in support of biological diversity and ecosystem services**	
	Trends in awareness and attitudes to biodiversity (C)	Biodiversity Barometer Online interest in biodiversity (Google Trends) *Global youth attitudes on biodiversity* *Worldwide public views on biodiversity* *Greendex - Consumer choice and the environment*
	Trends in public engagement with biodiversity (C)	Reporting on celebrations for the international Day for Biological Diversity
	Trends in communication programmes and actions promoting social corporate responsibility (C)	
		Investment in environmental education
Target 2 - By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into	**Trends in integration of biodiversity, ecosystem services and benefits sharing into planning, policy formulation and implementation and incentives**	
	Trends in number of countries incorporating natural resource, biodiversity, and ecosystem service values into national accounting systems (B)	Number of countries incorporating physical measures of stock and flow of natural capital into national accounting Number of countries with legislation and policy recognizing the role of ecosystem services and associated biodiversity

Aichi Biodiversity Target	Headline indicators (in bold) and most relevant operational indicators (Decision XI/3)	Indicators already in use or available/underdevelopment
national accounting, as appropriate, and reporting systems.	Trends in number of countries that have assessed values of biodiversity, in accordance with the Convention (C)	Number of research studies involving economic valuation Cumulative total of ecosystem services valuation studies Number of countries implementing natural resource accounts within the System of Environmental-Economic Accounting (SEEA)
	Trends in guidelines and applications of economic appraisal tools (C)	
	Trends in integration of biodiversity and ecosystem service values into sectoral and development policies (C)	Integration of biodiversity in PRSPs Number of countries with biodiversity offset schemes
	Trends in policies considering biodiversity and ecosystem service in environmental impact assessment and strategic environmental assessment (C)	
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 harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.	**Trends in integration of biodiversity, ecosystem services and benefits sharing into planning, policy formulation and implementation and incentives**	
	Trends in the number and value of incentives, including subsidies, harmful to biodiversity, removed, reformed or phased out (B)	Funds towards institutional capacity-building in fishing Fisheries subsidies Government financial transfers to fisheries OECD support to agriculture (produced and consumer support estimates)
	Trends in identification, assessment and establishment and strengthening of incentives that reward positive contribution to biodiversity and ecosystem services and penalize adverse impacts (C)	WTO green box spending Number of countries with national REDD+ programmes Reported financing for REDD+
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 pressures from unsustainable agriculture, forestry, fisheries and aquaculture**	
	Trends in population and extinction risk of utilized species, including species in trade (A) (also used by CITES)	Red List Index for trends in status driven by utilization Percentage of Category 1 nations in CITES
	Trends in ecological footprint and/or related concepts (C) (decision VIII/15)	Ecological footprint Water footprint Human appropriation of net primary productivity Number of months of water scarcity in world's major river basins

Aichi Biodiversity Target	Headline indicators (in bold) and most relevant operational indicators (Decision XI/3)	Indicators already in use or available/underdevelopment
	Ecological limits assessed in terms of sustainable production and consumption (C)	The Global Green Economy Index
	Trends in pressures from habitat conversion, pollution, invasive species, climate change, overexploitation and underlying drivers	
	Trends in biodiversity of cities (C) (decision X/22)	
	Trends in integration of biodiversity, ecosystem services and benefits sharing into planning, policy formulation and implementation and incentives	
	Trends in extent to which biodiversity and ecosystem service values are incorporated into organizational accounting and reporting (B)	
Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use		
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, condition and vulnerability of ecosystems, biomes and habitats**	
	Extinction risk trends of habitat dependent species in each major habitat type (A)	*Red List Index for forest-specialist species*
	Trends in extent of selected biomes, ecosystems and habitats (A) (decision VII/30 and VIII/15)	The extent of deforestation and forest degradation Change in land cover types Wetland Extent Index Percentage of natural and semi-natural areas Natural habitat extent Urban extent State of deltas Forest cover *Global surface water extent* Extent of marine habitats
	Trends in proportion of degraded/threatened habitats (B)	
	Trends in fragmentation of natural habitats (B) (decision VII/30 and VIII/15)	Greenpeace intact forest landscapes River fragmentation and flow regulation
	Trends in condition and vulnerability of ecosystems (C)	Wild bird Index for habitat-specialist *Biodiversity Habitat Index*

Aichi Biodiversity Target	Headline indicators (in bold) and most relevant operational indicators (Decision XI/3)	Indicators already in use or available/underdevelopment
		Living Planet Index for habitat specialists
	Trends in the proportion of natural habitats converted (C)	
	Trends in pressures from unsustainable agriculture, forestry, fisheries and aquaculture	
	Trends in primary productivity (C)	
	Trends in proportion of land affected by desertification (C) (also used by UNCCD)	*Trends in land degradation*
	Trends in pressures from habitat conversion, pollution, invasive species, climate change, overexploitation and underlying drivers	
	Population trends of habitat dependent species in each major habitat type (A)	
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 pressures from unsustainable agriculture, forestry, fisheries and aquaculture**	
	Trends in extinction risk of target and bycatch aquatic species (A)	Red List Index for seabirds
	Trends in population of target and bycatch aquatic species (A)	Wild Bird Index for habitat specialists Living planet index - trends in target and bycatch species Wild commodities index
	Trends in proportion of utilized stocks outside safe biological limits (A) (MDG indicator 7.4)	Primary Production Required (PPR) to sustain global marine fisheries landings Ecosystem overfishing assessment for large marine ecosystems Global trends in the state of world marine stocks Fish stocks at safe biological limits
	Trends in catch per unit effort (C)	Estimated fisheries catch and fishing effort
	Trends in fishing effort capacity (C)	Temporal trend showing the annual quantity (million tonnes) of fisheries production destined for export
	Trends in area, frequency, and/or intensity of destructive fishing practices (C)	Global expansion of bottom trawling
	Trends in integration of biodiversity, ecosystem services and benefits sharing into planning, policy formulation and implementation and incentives	
	Trends in proportion of depleted target and bycatch species with recovery plans (B)	
		Trend in MSC certified fisheries, tonnage and improvements

Aichi Biodiversity Target	Headline indicators (in bold) and most relevant operational indicators (Decision XI/3)	Indicators already in use or available/underdevelopment
Target 7 - By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.	**Trends in pressures from unsustainable agriculture, forestry, fisheries and aquaculture**	
	Trends in population of forest and agriculture dependent species in production systems (B)	Wild Bird Index for farmland birds *Living Planet Index for forest- dependent species* *Living Planet Index for farmland specialists*
	Trends in production per input (B)	Agricultural water withdrawal as % of total actual renewable water resources Total fisheries and aquaculture production
	Trends in proportion of products derived from sustainable sources (C) (decision VII/30 and VIII/15)	
	Trends in integration of biodiversity, ecosystem services and benefits sharing into planning, policy formulation and implementation and incentives	
	Trends in area of forest, agricultural and aquaculture ecosystems under sustainable management (B) (decision VII/30 and VIII/15)	Areas of agricultural land under organic production Areas of agricultural land under conservation agriculture Area salinized by irrigation Trends in removal of forest products and forest management OECD Compendium of Agri-environmental Indicators Extent of forests and forest types Area of forest under certification Aquaculture certification Sustainable Agriculture Network statistics
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 pressures from habitat conversion, pollution, invasive species, climate change**, **overexploitation and underlying drivers**	
	Trends in incidence of hypoxic zones and algal blooms (A)	The global pattern of development of coastal eutrophication and hypoxia
	Trends in water quality in aquatic ecosystems (A) (decision VII/30 and VIII/15)	Global river nutrient export Water quality index for biodiversity
	Impact of pollution on extinction risk trends (B)	Red List Index showing trends driven by the impacts of pollution
	Trends in pollution deposition rate (B) (decision VII/30 and VIII/15)	Trends in emissions NOX, SOX, POPS Global surplus of nitrogen

Aichi Biodiversity Target	Headline indicators (in bold) and most relevant operational indicators (Decision XI/3)	Indicators already in use or available/underdevelopment
		Nitrogen deposition Average loss of reactive nitrogen
	Trends in sediment transfer rates (B)	
	Trend in emission to the environment of pollutants relevant for biodiversity (C)	Pesticide use Insecticide use CFC emissions (Consumption of chlorofluorocarbons (CFCs) in ODP tonnes)
	Trend in levels of contaminants in wildlife (C)	
	Trends in nitrogen footprint of consumption activities (C)	
	Trends in ozone levels in natural ecosystems (C)	
	Trends in proportion of wastewater discharged after treatment (C)	
	Trends in UV-radiation levels (C)	
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 pressures from habitat conversion, pollution, invasive species, climate change, overexploitation and underlying drivers**	
	Trends in the economic impacts of selected invasive alien species (B)	
	Trends in number of invasive alien species (B) (decision VII/30 and VIII/15)	Cumulative number of species introductions
	Trends in incidence of wildlife diseases caused by invasive alien species (C)	
		Red List Index showing trends driven by invasive alien species
	Trends in integration of biodiversity, ecosystem services and benefits sharing into planning, policy formulation and implementation and incentives	
	Trends in policy responses, legislation and management plans to control and prevent spread of invasive alien species (B)	invasive alien species policy adoption by countries Trends in invasive alien species vertebrate eradications Ballast water treatment
	Trends in invasive alien species pathways management (C)	Frequency of introduction pathways of past invasion events
Target 10 - By 2015, the multiple anthropogenic pressures on coral reefs, and	**Trends in pressures from habitat conversion, pollution, invasive species, climate change, overexploitation and underlying drivers**	
	Extinction risk trends of coral and reef fish (A)	Coral reef cover

Aichi Biodiversity Target	Headline indicators (in bold) and most relevant operational indicators (Decision XI/3)	Indicators already in use or available/underdevelopment
other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.		Trend in the trade of wild corals 2002-2011 Red List Index for corals *Global coral reef health indicators* *Living Planet Index (reef-dependent species*
	Trends in climate change impacts on extinction risk (B)	Thermal stress on coral reefs *Red List Index (impacts of climate change)* *Climate Change Impacts on Biodiversity (CCIB)*
	Trends in coral reef condition (B)	*Number of countries reporting coral bleaching*
	Trends in extent, and rate of shifts of boundaries, of vulnerable ecosystems (B)	Glacial mass balance Mean polar sea ice extent Biome range changes *Living Planet Index (vulnerable ecosystems*
	Trends in climatic impacts on community composition (C)	Climatic impacts on European bird populations
	Trends in climatic impacts on population trends (C)	
		Cumulative human impact on marine ecosystems
		Phenology
Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity		
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 conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based	**Trends in coverage, condition, representativeness and effectiveness of protected areas and other area-based approaches**	
	Trends in coverage of protected areas (A) (decision VII/30 and VIII/15)	Terrestrial protected area coverage
	Trends in extent of marine protected areas, coverage of key biodiversity areas and management effectiveness (A)	Marine protected area coverage
	Trends in protected area condition and/or management effectiveness including more equitable management (A) (decision X/31)	Protected area management effectiveness assessments *Equitable management of protected areas*
	Trends in representative coverage of protected areas and other area based approaches, including sites of particular importance for biodiversity, and of terrestrial, marine and inland water systems (A)	Protected area coverage of terrestrial, marine and freshwater ecoregions Protected area overlays with biodiversity (Important Bird and Biodiversity Areas, Alliance for Zero Extinction sites, bird, mammal

Aichi Biodiversity Target	Headline indicators (in bold) and most relevant operational indicators (Decision XI/3)	Indicators already in use or available/underdevelopment
conservation measures, and integrated into the wider landscapes and seascapes.		and amphibian species) *Species protection index* *Living Planet Index (conserved areas)*
	Trends in the connectivity of protected areas and other area based approaches integrated into landscapes and seascapes (B) (decision VII/30 and VIII/15)	Connectivity of protected areas for different mammal groups in each continent *Protected Area Representativeness and Connectedness Index* *Land-Sea-scape Connectivity Policy Index*
	Trends in the delivery of ecosystem services and equitable benefits from protected areas (C)	Capture of marine and coastal ecosystem services within Global MPA network
		Funds towards nature reserves
Target 12 - By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.	**Trends in abundance, distribution and extinction risk of species**	
	Trends in abundance of selected species (A) (decision VII/30 and VIII/15) (UNCCD indicator)	Living Planet index Wildlife Picture Index *Species Habitat Change Index*
	Trends in extinction risk of species (A) (decision VII/30 and VIII/15) (MDG indicator 7.7) (also used by CMS)	Red List Index
	Trends in distribution of selected species (B) (decision VII/30 and VIII/15) (also used by UNCCD)	Observed extinctions
		Funds towards species protection
		Extinctions prevented by conservation action
Target 13 - By 2020, the genetic diversity of cultivated plants and farmed and 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 species**	
	Trends in genetic diversity of cultivated plants, and farmed and domesticated animals and their wild relatives (B) (decision VII/30 and VIII/15)	Risk status of animal breeds Genetic diversity of terrestrial domesticated animals Trends in crop diversity *Crop wild relative occurrence* *Red List Index showing trends for wild relatives* *Trends in plant genetic diversity* *Threatened species cultivation*
	Trends in genetic diversity of selected species (C)	

Aichi Biodiversity Target	Headline indicators (in bold) and most relevant operational indicators (Decision XI/3)	Indicators already in use or available/underdevelopment
	Trends in integration of biodiversity, ecosystem services and benefits sharing into planning, policy formulation and implementation and incentives	
	Trends in number of effective policy mechanisms implemented to reduce genetic erosion and safeguard genetic diversity related to plant and animal genetic resources (B)	Ex-situ crop collections CONGRESS indicator of genetic diversity
Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services		
Target 14 - By 2020, ecosystems that provide essential services, including 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.	**Trends in distribution, condition and sustainability of ecosystem services for equitable human well-being**	
	Trends in proportion of total freshwater resources used (A) (MDG indicator 7.5)	*Proportion of total water resources used*
	Trends in proportion of the population using improved water services (A) (MDG indicator 7.8 and 7.9)	Water yield trends Harvested irrigated temporary/permanent crop area
	Trends in benefits that humans derive from selected ecosystem services (A)	Trends in utilized Species
	Population trends and extinction risk trends of species that provide ecosystem services (A)	Red List Indices for utilized species Red List Index for pollinators Change over time in the proportion of crop area and production that is pollinator dependent Trends in Arctic Utilized Species
	Trends in delivery of multiple ecosystem services (B)	Ocean Health index Harvest Index of Arctic species
	Trends in economic and non-economic values of selected ecosystem services (B)	
	Trends in health and wellbeing of communities who depend directly on local ecosystem goods and services (B) (decision VII/30 and VIII/15)	*Health and well-being of communities directly dependant on ecosystem goods and services* *Population at risk – UNHCR populations of concern* *Population at risk – "droughts, floods, extreme temperatures"* *Production of selected forest products*
	Trends in human and economic losses due to water or natural resource related disasters (B)	
	Trends in nutritional contribution of biodiversity: Food composition (B) (decision VII/30 and VIII/15)	Biodiversity for food and medicine Timber, wild meat and fisheries trends

Aichi Biodiversity Target	Headline indicators (in bold) and most relevant operational indicators (Decision XI/3)	Indicators already in use or available/underdevelopment
		Inadequate access to food
	Trends in incidence of emerging zoonotic diseases (C)	
	Trends in inclusive wealth (C)	
	Trends in prevalence of underweight children under-five years of age (C) (MDG indicator 1.8)	
	Trends in natural resource conflicts (C)	
	Trends in the condition of selected ecosystem services (C)	
	Trends in biocapacity (C)	
	Trends in coverage, condition, representativeness and effectiveness of protected areas and other area-based approaches	
	Trends in area of degraded ecosystems restored or being restored (B)	
Target 15 - By 2020, ecosystem resilience and the contribution of biodiversity to carbon 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 distribution, condition and sustainability of ecosystem services for equitable human well-being**	
	Status and trends in extent and condition of habitats that provide carbon storage (A)	Active restoration projects by area *Net primary productivity* *Normalized Difference Vegetation Index*
	Trends in coverage, condition, representativeness and effectiveness of protected areas and other area-based approaches	
	Population trends of forest-dependent species in forests under restoration (C)	
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 access and equity of benefit-sharing of genetic resources**	
	ABS indicator to be specified through the ABS process (B)	Number of countries ratified the Nagoya Protocol
Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity-building		
Target 17 - By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an	**Trends in integration of biodiversity, ecosystem services and benefit-sharing into planning, policy formulation and implementation and incentives**	
	Trends in implementation of national biodiversity strategies and	Countries with developed or revised NBSAPs

Aichi Biodiversity Target	Headline indicators (in bold) and most relevant operational indicators (Decision XI/3)	Indicators already in use or available/underdevelopment
effective, participatory and updated national biodiversity strategy and action plan.	action plans, including development, comprehensiveness, adoption and implementation (B)	Status of NBSAPS
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 integration of biodiversity, ecosystem services and benefit-sharing into planning, policy formulation and implementation and incentives**	
	Trends in land-use change and land tenure in the traditional territories of indigenous and local communities (B) (decision X/43)	
	Trends in the practice of traditional occupations (B) (decision X/43)	
	Trends in accessibility of scientific/technical/traditional knowledge and its application	
	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 (B)	The global pace of land acquisitions
	Trends in accessibility of scientific/technical/traditional knowledge and its application	
	Trends of linguistic diversity and numbers of speakers of indigenous languages (B) (decision VII/30 and VIII/15)	Global Index of Linguistic Diversity Language threat level
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.	**Trends in accessibility of scientific/technical/traditional knowledge and its application**	
	Trends in coverage of comprehensive policy-relevant sub-global assessments including related capacity-building and knowledge transfer, plus trends in uptake into policy (B)	
	Number of maintained species inventories being used to implement the Convention (C)	
		Growth in number of species occurrence records accessible through the Global Biodiversity Information Facility Species covered by Catalogue of Life annual checklists Cumulative number of Landsat scenes distributed Growth of the number of DNA Barcode records in the Barcode of Life Data System global reference library. Number of biodiversity papers published over time Funds committed to environmental education and research Funds for marine and freshwater research

Aichi Biodiversity Target	Headline indicators (in bold) and most relevant operational indicators (Decision XI/3)	Indicators already in use or available/underdevelopment
		Animal species represented in the barcode of life data system *Species Distribution Information Index*
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 from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.	**Trends in mobilization of financial resources**	
	[10]Aggregated financial flows, in the amount and where relevant percentage, of biodiversity-related funding, per annum, for achieving the Convention's three objectives, in a manner that avoids double counting, both in total and in, inter alia, the following categories: (a) Official Development Assistance (ODA); (b) Domestic budgets at all levels; (c) Private sector; (d) Non-governmental organizations, foundations, and academia; (e) International financial institutions; (f) United Nations organizations, funds and programmes; (g) Non-ODA public funding; (h) South-South cooperation initiatives; (i) Technical cooperation; Number of countries that have: (a) Assessed values of biodiversity, in accordance with the Convention; (b) Identified and reported funding needs, gaps and priorities; (c) Developed national financial plans for biodiversity; (d) Been provided with the necessary funding and capacity-building to undertake the above activities; Amount of domestic financial support, per annum, in respect of those domestic activities which are intended to achieve the objectives of this Convention; Amount of funding provided through the Global Environment Facility	Biodiversity marked official development assistance Funding provided by the Global Environment Facility Global funds committed towards environmental policy, laws, regulations and economic instruments Funds for environmental impact assessment Funding for biodiversity conservation and environmental pollution control

10 In the list of indicators noted by COP in decision XI/3, for target 20 the identified indicator was referred to as "the Indicators agreed in decision X/3 (B)". For ease of reference the list of indicators from decision X/3 has been included in the table.

Aichi Biodiversity Target	Headline indicators (in bold) and most relevant operational indicators (Decision XI/3)	Indicators already in use or available/underdevelopment
	and allocated to biodiversity focal area; Level of CBD and Parties' support to other financial institutions that promote replication and scaling-up of relevant successful financial mechanisms and instruments; Number of international financing institutions, United Nations organizations, funds and programmes, and the development agencies that report to the Development Assistance Committee of Organisation for Economic Co-operation and Development (OECD/DAC), with biodiversity and associated ecosystem services as a cross-cutting policy; Number of Parties that integrate considerations on biological diversity and its associated ecosystem services in development plans, strategies and budgets; Number of South-South cooperation initiatives conducted by developing country Parties and those that may be supported by other Parties and relevant partners, as a complement to necessary North-South cooperation; Amount and number of South-South and North-South technical cooperation and capacity-building initiatives that support biodiversity; Number of global initiatives that heighten awareness on the need for resource mobilization for biodiversity; Amount of financial resources from all sources from developed countries to developing countries to contribute to achieving the Convention's objectives; Amount of financial resources from all sources from developed countries to developing countries towards the implementation of the Strategic Plan for Biodiversity 2011-2020; Resources mobilized from the removal, reform or phase-out of incentives, including subsidies, harmful to biodiversity, which could be used for the promotion of positive incentives, including but not limited to innovative financial mechanisms, that are consistent and in harmony with the Convention and other international obligations, taking into account national social and economic conditions; Number of initiatives, and respective amounts, supplementary to the financial mechanism established under Article 21, that engage Parties and relevant organizations in new and innovative financial mechanisms, which consider intrinsic values and all other values of	

Aichi Biodiversity Target	Headline indicators (in bold) and most relevant operational indicators (Decision XI/3)	Indicators already in use or available/underdevelopment
	biodiversity, in accordance with the objectives of the Convention and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of the Benefits Arising out of Their Utilization; Number of access and benefit-sharing initiatives and mechanisms, consistent with the Convention and, when in effect, with the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of the Benefits Arising out of Their Utilization, including awareness-raising, that enhance resource mobilization;	