**Review Comment Template for the document on indicators for the draft goals and targets of the post-2020 global biodiversity framework**

Parties and stakeholders are invited to make suggestions of indicators (currently available or under development) that may be used to measure progress towards the post-2020 framework. The draft components and elements of the monitoring framework for the post-2020 global biodiversity framework are based on updated draft goals and targets, as was requested by the second meeting of the OEWG, and presented in document <https://www.cbd.int/sbstta/sbstta-24/post2020-monitoring-en.pdf>.

Please note: there are two tables in this document, one for suggestions for indicators for the draft monitoring elements of goals, and another table for indicators for the draft monitoring elements of targets

**Instructions for providing input on indicators and completion of indicator tables (for goals and targets):**

* Please do not add columns to the tables below
* Please add rows for additional indicators related to monitoring elements for specific components from goals (table 1) and components from targets (table 2). The information of draft components and monitoring elements for goals and targets is available in document <https://www.cbd.int/sbstta/sbstta-24/post2020-monitoring-en.pdf>
* To add an indicator for specific monitoring elements, please provide the following information:
  + Column 1: copy/paste the component of the goal (enter information in table 1) or target (enter information in table 2) from <https://www.cbd.int/sbstta/sbstta-24/post2020-monitoring-en.pdf>, which the indicator can be used for. This MUST be provided
  + Column 2: copy/paste the specific monitoring element of the goal (enter information in table 1) or target (enter information in table 2), which the indicator can be used for from <https://www.cbd.int/sbstta/sbstta-24/post2020-monitoring-en.pdf>. This MUST be provided
  + Column 3: the published or accepted name of the indicator. This MUST be provided
  + Column 4: the name of the organisation(s) responsible for producing the indicator and keeping it up to date. This MUST be provided
  + Column 5: please state whether the indicator is ready for use today (with an X) or if is still under development (Y). This MUST be provided
  + Column 6: if you are adding a new indicator that is still under development, please indicate the year that you expect it to be available
  + Column 7: for any existing indicator, please add the year of the last update
  + Column 8: please provide the time series for the indicator and frequency of update (e.g. 1990-2020, available every 5 years).
  + Column 9: please state (Y or N) whether there is a published methodology for application of the indicator at the national level
  + Column 10: please state (Y or N) whether any new or existing indicator can be disaggregated at the national level for use by Parties
  + Column 11: please state (Y or N) whether the indicator is aggregated from data that is collected at the national level (e.g. with data from national institutions)
  + Column 12: please state (Y or N) whether any indicator has been used in the 4th Edition of the Global Biodiversity Outlook (GBO-4).
  + Column 13: please state (Y or N) whether the indicator is currently included in the SDG indicator framework and provide the SDG indicator number
  + Column 14: please state whether an indicator is used for any Multi-Lateral Environmental Agreements other than the CBD (e.g. Ramsar Convention, CMS) or is used as an indicator by IPBES, by writing the abbreviated name of the MEA or process
  + Column 15: please enter any further information or relevant links
* Example entries have been provided in the tables below for goals and targets, please follow the same format for each indicator entry
* Inputs should be sent by e-mail to[*secretariat@cbd.int*](mailto:secretariat@cbd.int)no later than 25 July 2020

**For general comments please use the template provided in page 2 below**

**Table 1. Indicators for monitoring elements of the draft goals (with example entries)**

| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Components of the draft Goals**  **(copy/paste text from** [**CBD/SBSTTA-24/post-2020-monitoring.en.pdf**](https://www.cbd.int/sbstta/sbstta-24/post2020-monitoring-en.pdf)**)** | **Goal Monitoring Elements**  **(copy/paste text from** [**CBD/SBSTTA-24/post-2020-monitoring.en.pdf**](https://www.cbd.int/sbstta/sbstta-24/post2020-monitoring-en.pdf)**)** | **Indicator name** | **Responsible Institution for the indicator** | **Available today (X) or under active development (Y)** | **Date of availability for indicator in development (Year)** | **Year of last update (e.g. 2019)** | **Time series and frequency of updates (e.g. 1985-2019, annually)** | **Methodology available for national use (Y/N)** | **Global indicator can be disaggregated for national use (Y/N)** | **National data aggregated to form global indicator (Y/N)** | **Used in GBO-4 (Y/N)** | **SDG indicator (Y/N)** | **Indicator used to measure other MEAs or processes (e.g. Ramsar Convention, IPBES, CMS)** | **Comments** |
| GA5. Maintain  Genetic  diversity | Trends in  the diversity  of cultivated  plants,  farmed and domesticate  d animals  resources for  food and  agriculture | Number of  Plant genetic resources for  food and  agriculture  secured in  medium- or  long-term  conservation  facilities | FAO | X |  | 2020 | 2000 – 2019 (since 2016 updated annually) | Y |  | Y | N | Y SDG indicator 2.5.1a |  |  |
| GA5. Maintain  Genetic  diversity | Trends in  the diversity  of cultivated  plants,  farmed and domesticate  d animals  resources for  food and  agriculture | Number of  Animal genetic resources for  food and  agriculture  secured in  medium- or  long-term  conservation  facilities | FAO | X |  | 2020 | 2000 - 2019 | Y |  | Y | N | Y SDG indicator 2.5.1b |  |  |
| GA5. Maintain  Genetic  diversity | Trends in the diversity of cultivated plans,  farmed and domesticated animals | Proportion of  local breeds  classified as  being at risk,  ~~not at risk or at~~  ~~an unknown~~  ~~level of risk~~ of  extinction. | FAO | X |  | 2020 | 2000 -2019 | Y |  | Y | Y | Y SDG indicator 2.5.2 |  | Indicator name to be amended to be **consistent with the corresponding SDG indicator.** |

**Table 2. Indicators for monitoring elements of the draft targets (with example entries)**

| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Components of the draft Targets**  **(copy/paste text from** [**CBD/SBSTTA-24/post-2020-monitoring.en.pdf**](https://www.cbd.int/sbstta/sbstta-24/post2020-monitoring-en.pdf)**)** | **Target Monitoring Elements**  **(copy/paste text from** [**CBD/SBSTTA-24/post-2020-monitoring.en.pdf**](https://www.cbd.int/sbstta/sbstta-24/post2020-monitoring-en.pdf)**)** | **Indicator name** | **Responsible Institution for the indicator** | **Available today (X) or under active development (Y)** | **Date of availability for indicator in development (Year)** | **Year of last update (e.g. 2019)** | **Time series and frequency of updates (e.g. 1985-2019, annually)** | **Methodology available for national use (Y/N)** | **Global indicator can be disaggregated for national use (Y/N)** | **National data aggregated to form global indicator (Y/N)** | **Used in GBO-4 (Y/N)** | **SDG indicator (Y/N)** | **Indicator used to measure other MEAs or processes (e.g. Ramsar Convention, IPBES, CMS)** | **Comments** |
| T1.1. Increase in area of terrestrial, freshwater and marine ecosystems under spatial planning | Trends in area under spatial land-use plans | Forest area with long-term forest management plans | FAO | X | 2000, 2010, 2020 | 2020 |  |  | Y | N |  | Y (sub-indicators to SDG 15.2.1) |  | For this monitoring element, FAO suggests “forest area with long-term forest management plans” as additional relevant indicator. |
| T1.2. Prevention of reduction  and fragmentation of natural  habitats due to land/sea use  change | Trends in extent and rate of change of other  terrestrial ecosystems | Mountain Green Cover Index | FAO | X | 2000, 2010, 2015, 2018 | 2020 | 2000-2018 | Y | Y | N | N | Y  SDG indicator 15.4.2 |  |  |
| T4.1. Harvest is legal, sustainable and safe for human health and biodiversity | Trends in proportion of biological resources harvested legally | Red List Index | IUCN & BirdLife International | X |  | 2020 | 1993-2020, updated annually | Y | Y | N | Y | Y  SDG indicator 15.5.1 | CMS, IPBES, Ramsar |  |
| T6.4. Reduction of pollution from other sources | Trends in levels of pollution from sediments | Index of Coastal Eutrophication | UNEP / IOC-UNESCO | Y | 2021 |  | Every 5 years |  |  |  |  | Y  SDG indicator 14.1.1a |  |  |

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| **General Comments** | |
| **Page** | **Comment** |
| **All Indicators** | **The Post 2020 Global Biodiversity Framework should strengthen bottom up national statistical systems**  As a fundamental aim, any framework proposed for measuring progress on delivery of Post 2020 Global Biodiversity Framework’s Goals and Targets should seek to support and strengthen national statistical systems and other relevant offices to promote country engagement in biodiversity monitoring for reasons of improving country ownership and bottom up engagement; we do not see sufficient evidence of this focus in the draft Post 2020 framework discussion or text. |
| **All Indicators** | **Having a standard indicator assessment process is preferable to defining detailed indicators at this stage, noting that they may be obsolete by the time a post-2020 agreement is reached, an undoubtedly will need to respond to changes in the decade(s) ahead, recognizing the shifting availability of information and availability of innovative technology.**  FAO does not support the idea of setting in place a core set of indicators for the Post 2020 Framework *prior* to the definition of the Frameworks Goals and Targets.  The process of encouraging engagement in monitoring across national, regional and international levels can instead be promoted by setting in place a standard methodology, linked to competent UN Agencies, for assessing and publishing an assessment of the suitability and utility of indicators proposed for measuring progress in delivery of Post 2020 Goals and Targets. The methodology for assessing the suitability and utility of indicators would deliver a tier’ing score for potential indicators, with the hope that there will be more harmonized adoption of Tier 1 indicators by countries within the first decade of the Frameworks delivery. |
| Table 1 | Indicator 2.5.1b for animals is still missing (GA5 – row 38), wording for indicator name 2.5.2 needs to be changed (GA5 – row 39) |
| Table 1 Row 38 | Indicator 2.5.1 could be split into 2.5.1a (plant) and 2.5.1b (animal). |
| Table 2 Row 5 (T4.1) | In relation to commercially exploited marine fish stocks the SDG indicator for SDG 14.4 calls for ‘’effective regulation of harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans in order to restore fish stocks in the shortest time feasible — at least to levels that can produce maximum sustainable yield as determined by their biological characteristics. FAO is the custodian for an indicator that shows the ‘’Proportion of fish stocks within biologically sustainable levels’’ ([14.4.1 Fish stocks sustainability](http://www.fao.org/sustainable-development-goals/indicators/1441/en/)).  IUCN has twice proposed to the arbiter of the SDG indicators (IAEG-SDGs, <https://unstats.un.org/sdgs/iaeg-sdgs/>) for acceptance of the Red List Index as a complementary indicator to the FAO fish stocks indicator (SDG 14.4.1.) and twice been refused. Reasons for this include i) the relevance of the Red List Index indicator and its lack of alignment with the Target: It is more directly liked to SDG 15.5.1 which looks at loss (extinction of species) rather than status measures. The assessment criteria of the Red List that delivers the data for any Red List Index data, most commonly characterises a species as threatened with extinction using it’s Criterion A, a rate-based approach independent of total population abundance. This differs from fisheries approaches that looks at changes in abundance relative to an unexploited, baseline/reference biomass and in relation to target abundances so as would ensure long-term productivity of the fish stock (MSY).  The differing approaches of FAO and IUCN present two particular challenges. The first challenge is in the early history of exploitation, when abundant stocks are under high fishing pressure aimed at maximizing the productivity of the stock (i.e. fishing down the population to achieve MSY). Although this can set up a differing assessment outcome, this situation is less a common occurrence now, as most accessible commercial fish stocks have already been exploited for some time. However, the United Nations Convention on the Law of the Sea (UNCLOS, 1982) notes: "…State(s) must set an allowable catch, based on scientific information, which is designed to maintain or restore species to levels supporting a maximum sustainable yield (MSY)." Therefore for some short lived fish stocks that periodically experience periods of high productivity (e.g. Peruvian anchoveta, *Engraulis ringens*), situations where fish are at great abundance and experience short ‘fishing down’ periods where large percentages of the population is removed might be more common. The second challenge occurs when a stock is overfished but remains stable at low total abundance. In this case the Red List assessments may categorize depleted, but very slowly declining or long stable species as not threatened (of ‘Least Concern’), even when they are well below fishery limit thresholds and still of high concern in fisheries management approaches. Real world examples here include the common ling, *Molva molva* that remains Least Concern on the European Red List. There are other clashes in the two assessment outcomes, mostly related to the relatively slower periodicity of Red List assessments that can become outdated to more regular fisheries assessments, but also causing mismatches in the advice given (e.g. Atlantic Bluefin tune assessments).  The Red List Index indicator is therefore of limited use in describing the status of exploited fish stocks [looking at legal and sustainable species harvested], and is yet to run full clades of fisheries species amongst their non-fished taxonomic relatives, relatives that could skew the result from the purpose of this Post 2020 Target. This also means the Red List Index cannot presently offer a comprehensive species or spatial (geographic) coverage.  In order to avoid redundancy at best and conflicting results at worst, the FAO [14.4.1 Fish stocks sustainability](http://www.fao.org/sustainable-development-goals/indicators/1441/en/) indicator should be used for Target 4.1. for marine fishes or fish otherwise impacted by fishing, and the Red List Index is not presently recommended as an indicator of the status of commercially exploited fish stocks. |
| Table 3 42-43 | While the SDG Indicator 15.4.2 is mentioned in the document ‘Draft monitoring framework for the post-2020 global biodiversity framework for review’ (p.8, Table 2) as one of the Indicators to be used for monitoring the element ‘Trends in extent and rate of change of other terrestrial ecosystems’, it has not been included in the document ‘Indicators for the post-2020 global biodiversity framework’ (pp. 42-43) |
| GA 1 tree cover loss | There is no existing global definition for tree cover and the estimate derived using different remote sensing data sources can be very different. Suggest dropping tree cover. |
| Continuous Global Mangrove Forest Cover | Mangrove cover – the suggested indicator refers to a product derived as part of a scientific paper [**https://doi.org/10.1111/geb.12449**](https://doi.org/10.1111/geb.12449) **.**  The name is not suitable for the indicator and the suitability of the product for long term monitoring is questionable as there seems to be no commitment for continuous updates. A better indicator could be e.g. Annual mangrove area change rate |
| Global Ecosystem Restoration Index | FRA is currently assessing the sensibility to include forest restoration pledges and implementation in the future reporting. On GERI, it could be advisable to link this part to the LDN indicators which includes similar components as compared to GERI.  It also remains unclear how well GERI can track restoration. Furthermore, its land cover component tracks specifically transition from and to forests. This raises questions how well other non-forest restoration efforts are accounted for |
| connectivity | For SOFO, FAO used Fo *forest area density index and average forest forest patch size:* <https://publications.jrc.ec.europa.eu/repository/bitstream/JRC118594/technicalreport_fao_frag.pdf>.  In principle, this sounds like an informative indicator, but assessing ecosystem connectivity sounds like a complicated task. Maybe better to divide that into sub-indicators and include one for forestry and select a baseline product to be used in the spatial pattern analysis. However, the challenges related to the discrepancy of different remote sensing products holds true for this indicator as well. |
| Number of certified forest areas under sustainable management with verified impacts on biodiversity conservation | **The proposed indicator should thus use the SDG 15.2.1 indicator** which also takes into account other aspects, such as forest area change rate, AGB, forest management plans and protection. |
| Protected Area Coverage of Key Biodiversity Areas. | Second target element: There are some challenges to using KBAs, such as 1) a perception that they too prescriptive and too much work to identify and record, and 2) the inventory is currently very incomplete. There is no common definition for “strict protection” and hence this is not easy to measure and monitor. Measuring strict protection based on the IUCN management categories in the WDPA would pose many problems |
| Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type | Proportion of forests managed for soil and water conservation as a key objective (FRA indicator)  Change in proportion of tree cover within (major global) watersheds over time |
| Living Planet Index (LPI) for utilized species | What does ‘used species’ mean and how is it different from genetic resources for food and agriculture? Living Planet Index only tracks vertebrates from terrestrial, freshwater and marine habitats, what about other species? Note: some of the indicators do not exist for the marine environment |
| Trends in proportion of biological resources used legally | Progress by countries in adopting and implementing the CBD Voluntary guidance for sustainable wild meat sector (CBD Decision 14/7) Database WILDMEAT (under development) can populate the data for MBMI and OPI. This database holds data on wild meat consumption, hunting offtakes and market sales within one database and in one standardised format |
| Trends in development of control and management measures for pathways for introduction | The indicator on the number of IAS introduction events is not measurable. It could be revised to “Number of IAS introduction events associated with specific pathways The role of IPPC should be emphasized (e.g. implementation of ISPMs) as the instrument that helps preserve biodiversity by protecting plants from pests and diseases. While the CBD addresses biodiversity and the environment in general, the IPPC specifically concentrates on IAS that are pests of plants and provides guidance for protection against them. Specifically, IPPC concentrates on control, eradication and measures to manage pathways to prevent the introduction and establishment of invasive alien species (IAS |
|  | The role of IPPC should be emphasized (e.g. implementation of ISPMs) as the instrument that helps preserve biodiversity by protecting plants from pests and diseases. While the CBD addresses biodiversity and the environment in general, the IPPC specifically concentrates on IAS that are pests of plants and provides guidance for protection against them. Specifically, IPPC concentrates on control, eradication and measures to manage pathways to prevent the introduction and establishment of invasive alien species (IAS) ecosystems, habitats and other species. The importance of the efforts to harmonize approaches, build capacity and share  information regarding IAS to be highlighted.  IPCC on column C (suggested indicators):  More specific indicators can be provided:  - 50% of the invasive alien species causing significant impacts are regulated and effectively managed.  - 20% of the most significant pathways of introduction of invasive alien species are effectively managed  - Areas most severely affected by invasive alien species at national, regional and global level are identified, and 50% have adopted and enforced eradication or management programs that effectively mitigate the current impacts  The indicator on legislation and control of invasive alien species should emphasize “national legislation”. In most developed countries, the major IAS have been identified and risks assessed. However, developing countries lack expertise to conduct identification of IAS and the risk assessments |
| Trends in levels of pollution from excess pesticides | make explicit references to the Basel, Rotterdam and Stockholm (BRS) Conventions.  “Total number of pesticide products used  - Application rate per ha  - Number of applications per growing season  - Percentage of Highly Hazardous Pesticides (HHPs) in all pesticides used  - Total number of biopesticides used |
| Trends in integration of biodiversity consideration in design of mitigation, adaptation and disaster risk reduction projects | The protective function of forests could be considered. The FRA indicator on “Proportion of forests managed for soil and water conservation as a key objective” could be used.  Also, managing for soil and water conservation is not a complete overlap with managing for risk reduction in natural disasters. The number of human related impacts is appropriate given the Goal is in human terms |
| Trends in pollinators | Besides simple monitoring, use of indicator species to monitor trends might be helpful:  https://www.sciencedirect.com/science/article/pii/S0048969719352234 and https://www.researchgate.net/publication/308201468\_Design\_and\_Testing\_of\_a\_National\_Pollinator\_and\_Pollination\_Monitoring\_Framework |
| Trends in genetic diversity of cultivated plants and of wild relatives | Plants include trees |
| Trends in genetic diversity of domesticate d animals and of wild relatives | Animals include fish  SDG 2.5.2 |
| Ecosystem intactness index | Biodiversity Intactness Index estimates how the average abundance of native terrestrial species compares with their abundance before human impacts, or sort of “pristine” baselines which are difficult to establish. |
| P 19 | “Trends in population and extinction risk in bycatch species” should be extended to “ in both target, bycatch and indidentally caught species” |
| P 19 | “ trend in invertebrate stocks” seems not matching the indicator “proportion of fish stocks under sustainable management certification scheme”, fish or invertebrates? |
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