

1 **Scoping report for the IPBES Global Assessments of Biodiversity and**
2 **Ecosystem Services (Deliverable 2c)**

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4 **I. Scope, Geographic Area, Rationale, Utility and Assumptions**

5 **A. Scope**

- 6 1. The overall scope of the global assessment is to assess the status, trends, drivers and
7 responses regarding biodiversity, ecosystem functions and ecosystem goods and
8 services and their interlinkages [in a rapidly changing and interconnected world] for
9 long term human wellbeing and good quality of life. The assessment will analyse the
10 contributions of biodiversity and ecosystem services to the implementation of the
11 Sustainable Development Goals, recognizing synergies and tradeoffs associated with
12 meeting multiple goals, and the need for balanced integration between the social,
13 economic, and environmental dimensions of sustainable development. This analysis
14 will be done through the lens of the Strategic Plan for Biodiversity 2011–2020, its 2050
15 Vision and Aichi Biodiversity Targets, and national biodiversity strategies and action
16 plans.¹The assessments will address terrestrial, freshwater, coastal and marine
17 biodiversity, ecosystem functions and ecosystem services.
- 18 2. The objective of the global assessment is to strengthen the science-policy interface on
19 biodiversity, ecosystem functions and ecosystem goods and services at all spatial scales
20 levels. The assessments will analyse the state of knowledge on past, present and future
21 interactions between people and nature, including by highlighting thresholds,
22 feedbacks, synergies, and trade-offs. The timeframe of analyses will cover current
23 status, trends (going back in time several decades) and future projections with a focus
24 on periods ranging from 2020 to 2050, which cover key target dates related to the
25 Strategic Plan for Biodiversity and the SDGs. The conceptual framework of the Platform
26 will guide these analyses of the social-ecological systems that operate at various scales
27 in time and space.

¹ As expressed in deliverable 2 (b) of the work programme of the Platform (decision IPBES-2/5, annex I).

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B. Geographic area of the assessment

3. For the purposes of the global assessment, the geographic area includes land, inland waters, and ocean.

C. Rationale

4. Biodiversity, ecosystem functions and ecosystem services provide the basis for the economies, livelihoods and good quality of life of people throughout the world. The global assessment will synthesize and integrate key findings from the IPBES regional and thematic assessments and address issues of a transregional and global nature, such as transregional drivers including international trade, demographic and cultural changes, global governance structures, climate change, and invasive alien species. It will also consider open ocean issues to complement the World Ocean Assessment, in particular linking them to the SDGs.
5. All these efforts require a strong knowledge base and strengthened interplay between scientists and policymakers and different knowledge systems, to which the global assessment is well placed to contribute.
6. The assessments will themselves be a vehicle for implementation of the Platform's functions as they relate to capacity-building, identification of knowledge gaps, knowledge generation and development of policy support tools. Furthermore, such assessments are critical to furthering the Platform's operational principle of ensuring the full use of national, subregional and regional knowledge, as appropriate, including a bottom-up approach.
7. This is the first comprehensive global biodiversity and ecosystem service assessment that incorporates multiple worldviews, different knowledge systems, and diverse values. It will also be the first global intergovernmental assessment of biodiversity and ecosystem services.

D. Utility

8. The global assessment will provide users with a credible, legitimate, authoritative, holistic and comprehensive analysis based on the current state of scientific and other knowledge systems. It will analyse and synthesize the effectiveness of response options as they relate to the SDGs through the sustainable management of biodiversity, ecosystem function and ecosystem services under plausible global scenarios and present success stories, best practices and lessons learned. It will also identify current gaps in capacity and knowledge and options for addressing them at relevant levels.
9. The global assessment will address a range of stakeholders in the public and private sectors and civil society. Outcomes of the global assessment will be presented to a broad audience as outlined in the platform's communications strategy. The outputs will also include a summary for policymakers, highlighting key policy-relevant, but not policy-prescriptive, findings. The information will be widely disseminated, including by making use of new information and communications technologies.

E. Assumptions

1. The global assessment will be based on existing data, scientific literature, and other information, including indigenous and local knowledge. The global assessment will draw on IPBES regional, thematic, and methodological assessments and guidelines, as well as other relevant global assessments [such as IPCC, GBO series], as an integral part of the overall analysis. In addition, knowledge will be assessed from the published

74 literature, including grey literature, according to guidelines of the Platform, and also
75 through bodies such as national academies of science, national research institutes,
76 scientific societies and other research communities, government environmental
77 agencies and statistical offices. The global assessment will also use existing data and
78 information held by global, regional, subregional and national institutions, such as the
79 relevant multilateral agreements. Experts involved in the global assessment will work
80 closely with the task force on indigenous and local knowledge systems to ensure that
81 the multiple sources of knowledge are drawn upon. Attention will be given, in
82 accordance with the Platform's data and information management plan, to ensure the
83 collection and archiving of the corresponding metadata, and whenever possible the
84 corresponding underlying data, through an interoperable process to ensure
85 comparability between assessments.

86 2. The author expert group for the global assessment will, in accordance with the
87 procedures, reflect the need for geographic, disciplinary, and expertise balance
88 (terrestrial and marine natural sciences and social and economic sciences). They will
89 interact with each other, and with similar groups undertaking global, thematic and
90 methodological assessments in order to ensure conceptual and methodological
91 coherence. They will also work closely with the task forces on knowledge and data,
92 indigenous and local knowledge systems and capacity-building taking into account the
93 rights of knowledge holders. The author groups will be supported by the guide to the
94 production and integration of assessments (see IPBES/3/INF/4).² [balance between
95 natural, social sciences]

96 II. Chapter outline

97 *Note: The overall chapter structure outlined here does not preclude dividing the "chapters" into*
98 *smaller components (as long as the high level titles are maintained in the overall structure) in*
99 *order to ensure clarity and manageable tasks for author groups.*

100 **I. Understanding global opportunities for sustainable development in human-nature** 101 **interactions**

- 102 1. This chapter will **set the stage** for the global assessment as a comprehensive global
103 assessment of the way human society and nature is coupled in a manner that incorporates
104 multiple worldviews, multiple knowledge systems, and diverse values (including those of
105 indigenous people and local communities). The chapter will present how the global
106 assessment will:
- 107 a) Investigate the **multi-scale human-nature interactions** underpinning human well-being
108 following the IPBES Conceptual Framework (CF).
 - 109 b) Synthesize and integrate key findings from **the IPBES regional and thematic assessments**
110 (pollination and land degradation and the potential assessments on invasive alien species
111 and sustainable use of biodiversity). Such findings would cover for example, status and
112 trends, distribution, implications for human wellbeing, and the effectiveness of response
113 options through institutional and governance structures.
 - 114 c) Analyze the interactions between human society and **the oceans** and its contribution to
115 human well-being.

² The guide includes guidance on dealing with scale, indicators, uncertainty terms, use of key methodologies (scenario analysis, consideration of value), how to address policy support tools and methodologies, and on the identification of capacity needs, gaps in knowledge and data and protocols with regard to the integration of diverse knowledge systems.

- 116 d) **Build on other assessments**, such as for example the World Ocean Assessment (WOA),
117 IPCC, GBO-4 and GEO-6.
- 118 e) Consider **issues of a global nature, including transregional indirect drivers** such as
119 economic, demographic, governance, technological, and cultural ones. Special attention
120 will be given to the role of institutions (both formal and informal) and the international
121 patterns of production, supply and consumption chains that underpin the impacts of
122 global economic growth, including trade, and finance on biodiversity and ecosystem
123 services and their implications for good quality of life (i.e., the footprint of activities in
124 one part of the world on other parts of the world). It also covers transregional direct
125 drivers such as climate change and transboundary pollution, as well as additional global
126 and sub-global scale issues such as migratory species, invasive species and globally
127 important biocultural refugia and hotspots.
- 128 f) **Inform future decision-making and behavior**, with the objective of identifying choices
129 and opportunities for building strong connections that will benefit the wellbeing of
130 societies and nature.
- 131 g) While recognizing that there is a range of worldviews, value systems and interests,
132 **provide knowledge to the public** (governments, multilateral organizations), private
133 sector and civil society (IPLCs, NGOs).
- 134 2. This chapter of the assessment will also **analyze and map the contributions of biodiversity**
135 **and ecosystem services to the implementation of the Sustainable Development Goals** in
136 the context of their rationale, recognizing synergies and trade-offs associated with meeting
137 multiple goals, and the need for balanced integration between the social (including cultural),
138 economic, and environmental dimensions of sustainable development. This analysis may
139 (will) be done through the lens of the Conceptual Framework of IPBES with special
140 consideration of the Strategic Plan for Biodiversity 2011–2020, its 2050 vision and the Aichi
141 Biodiversity Targets, as well as national biodiversity strategies and action plans, and their
142 relationships.

143 144 **II. Status and trends in human-nature interactions at global level**

- 145 1) This chapter focuses on global and transregional **status and trends in human nature interactions**
146 **as guided by the conceptual framework, including by exploring the interaction between "Good**
147 **Quality of Life"; direct and indirect drivers, Nature and Nature's benefits to people; and the**
148 **interactions between them** (i.e., boxes and arrows of the IPBES CF). These analyses will use
149 multiple evidence bases, including natural and social sciences and indigenous and local
150 knowledge. The assessments in this chapter will cover:
- 151 a) **An analysis and synthesis of IPBES regional assessments** and other regional scale
152 assessments, focusing on status and trends. Emerging issues and success stories from the
153 regions will be identified. It will highlight the commonalities and divergences across regional
154 and sub-regional scales. This will cover coastal areas, and will include analyses of the roles of
155 formal and informal institutions.
- 156 b) **An analysis and synthesis of prior global assessments, including IPBES thematic**
157 **assessments, as well as new global scale evidence**, focusing on status and trends with an
158 explicit consideration of transregional linkages. This includes evidence for the open oceans
159 from the World Ocean Assessment and new analyses.
- 160 c) An evaluation highlighting the **status and trends of global institutional drivers**, such as trans-
161 regional trade and investment initiatives (e.g., WTO) and MEAs, as well as their effects on
162 other components of the IPBES conceptual framework.
- 163 d) An analysis of **information and knowledge gaps**, as well as needs for **capacity building**.

164 165 **III. Understanding the progress towards meeting major international goals**

- 166 1) This chapter focuses on **evaluating progress towards the goals for 2020 (Aichi targets) and 2030**
167 **(SDGs) set out in global agreements** related to Nature and Nature's benefits. This builds on
168 analyses in the previous chapter, but explicitly focuses on progress towards internationally
169 agreed upon targets. Because existing regional and global assessments may not explicitly address
170 the full range of targets, this chapter is likely to require substantially supplementary analyses.
171 These analyses will use multiple evidence bases, including natural and social sciences and
172 indigenous and local knowledge. This chapter may also evaluate progress towards goals that
173 have been set at sub-global scales (e.g., in National Biodiversity Strategic Action Plans). The
174 analyses in this chapter will cover:
- 175 a) A **target-by-target evaluation of progress towards 2020 Aichi targets and 2030 SDGs** based
176 on a synthesis of status and trends in regional assessments, prior global assessments and
177 other new evidence.
 - 178 b) An evaluation of the **progress towards meeting the overall vision behind these goals**. This
179 includes an analysis of interactions and feedbacks between goals and components of the
180 IPBES conceptual framework; an evaluation by sectors; and uses multiple evidence bases
 - 181 c) An evaluation of the **underlying reasons why 2020 Aichi targets are likely to be achieved or**
182 **not**, with emphasis on changes in the diversity of values of Nature and Nature's benefits as
183 they are underpinned by institutional and governance structures. This will include analyses
184 of the contribution of past and ongoing policy and management actions to achieving these
185 goals (i.e., counterfactual analyses).
 - 186 d) An analysis of **information and knowledge gaps**, as well as needs for **capacity building**.

188 IV. Plausible futures of human-nature interactions

- 189 1) This chapter focuses on **scenarios that explore a wide range of plausible futures focusing on the**
190 **2030 and 2050 time frames**. It will evaluate how these scenarios impact the various components
191 of the IPBES Conceptual Framework using quantitative and qualitative models. Comparisons will
192 be made with internationally agreed goals such as the SDGs for 2030 and the CBD 2050 Vision to
193 better understand which types of socio-economic development pathways lead to outcomes that
194 are closest to or furthest from these goals. Analyses will include i) the positive and negative
195 feedback loops in the social-ecological systems and ii) the attribution of changes to direct drivers,
196 of changes in direct drivers to different stakeholders and iii) the costs and benefits of the
197 consequences of change among the various sectors of societies. The analyses will be based on
198 three broad classes of plausible futures: exploratory scenarios (e.g., based on storylines),
199 statistical extrapolations, inferences from patterns in case studies and analyses. The analyses in
200 this chapter will cover:
- 201 a) **Statistical extrapolations of current trends to 2030**. Statistical extrapolations —when
202 cautiously interpreted over short times into the future — can provide insights into plausible
203 futures under the assumption that drivers and impacts continue along current trends. These
204 could be carried out for key indicators using methods developed in previous assessments
205 (e.g., Global Biodiversity Outlook 4).
 - 206 b) **Exploratory scenarios** examine plausible futures, typically based on storylines of socio-
207 economic development (e.g., MA scenarios). This would be based on analysis and synthesis
208 of: i) existing regional scenarios, esp. those in IPBES regional assessments, ii) Existing global
209 scenarios, incl. oceans and IPBES thematic assessment and iii) available new scenarios
210 including for oceans developed by the scientific community in response to, or of relevance
211 to, IPBES needs.
 - 212 c) **Semi-quantitative and qualitative narratives based on inferences from patterns in case**
213 **studies and analyses**. This will make reference to a wide range of case studies, but will focus
214 on general lessons that can be learned at the global scale from these.

- 215 d) Analysis of **Non-linearities and thresholds** emerging from this and previous chapters and
216 their implications for characterizations of possible futures and trajectories to avoid
217 deleterious tipping points and move towards positive tipping points.
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219 V. Scenarios and pathways towards sustainable futures

- 220 1. This chapter focuses on **pathways and policy interventions that lead to sustainable futures,**
221 **focusing on the internationally agreed sustainable development goals (SDGs) for 2030 and**
222 **the CBD Vision for 2050** through the lens of biodiversity and ecosystem services. As such it
223 will focus on the sustainability issues that depend on Nature and cover only a subset of the
224 relevant SDGs. The chapter will focus on tradeoffs, synergies, feedbacks and opportunities. It
225 will do so by:
- 226 a. Laying out the roles and contexts of ‘decision-making’ in identifying opportunities for
227 future development by building amongst others on analyses from the IPBES Regional
228 and Thematic assessments and by exploring:
 - 229 i. How governance can be understood as being polycentric and consist of a
230 nested range of decision-making processes, recognizing power asymmetries;
 - 231 ii. How drivers are relative to decision makers and can be seen as being inside
232 their control (endogenous) or outside their control (exogenous) and
233 exploring what are the levers and who controls them;
 - 234 iii. The role of timescales and time-lags (inertia) in social, cultural, economic,
235 and natural systems including in human responses to endogenous and
236 exogenous drivers of change.
 - 237 b. Undertaking an analysis based on the following types of scenarios, by building on
238 existing work and available new scenarios undertaken by the scientific community in
239 response to, or of relevance to, IPBES needs:
 - 240 i. **Goal seeking scenarios** examine broad suites of actions needed to improve
241 sustainability. This is based on an analysis and synthesis of three elements: i)
242 existing regional scenarios, esp. those in IPBES regional assessments, ii)
243 existing global scenarios, incl. oceans and incl. IPBES thematic assessments
244 and iii) available new scenarios including for oceans.
 - 245 ii. **Policy and management screening scenarios** that explore the contributions
246 and effects of specific interventions. This is based on an analysis and
247 synthesis of three elements: i) existing regional scenarios, esp. those in IPBES
248 regional assessments, ii) existing global scenarios, incl. oceans and incl. IPBES
249 thematic assessments and iii) available new scenarios including for oceans.
 - 250 iii. **Inferences from patterns in case studies and analyses** focusing on
251 interventions that have led to positive synergies, while at the same time
252 indicating the tradeoffs, increases in tensions and changes in the distribution
253 of costs and benefits across stakeholders that occur in all scenarios.
 - 254 c. **Analyzing paths of dependency and adaptive (vs. locked-in) institutional and**
255 **governance structures as central indirect drivers** (re: IPBES Conceptual Framework)
256 that will determine dominant values and potential future impacts on biodiversity and
257 ecosystem services. The chapter will by taking into account information from
258 chapters 1-4 identify the state of knowledge in support of relevant processes in
259 support of the **2030 SDGs and 2050 vision**, such as the consideration of any new
260 goals following the Strategic Plan for Biodiversity 2011-2020.

261 262 VI. Opportunities for decision-makers

- 263 1) Based on the analysis of the roles and contexts of ‘decision-making’ in chapter V and recognizing
264 that there is a range of worldviews and value systems this chapter will analyze specific issues and
265 opportunities for the following range of decision makers:
266 a) Global and regional governance structures such as the United Nations and other multilateral
267 institutions;
268 b) National, sub-national and local governments and different public sectors (including
269 education, health, research, agriculture, fisheries, water, industry, treasury, and finance) in
270 areas such as policy formulation, legislation, funding.
271 c) Private sector (including industry, agriculture, fisheries forestry, water, infrastructure, health,
272 finance & insurance, trade, mining, energy, technologies, sports & tourism)
273 d) Civil society
274 i) Households, consumers, community groups
275 ii) Environmental and human development NGOs,
276 iii) Indigenous people and local communities
277 e) Foundations, philanthropic institutions and donor agencies
278 f) The media and communication- and marketing institutions
279 g) Science and educational institutions
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281 *Additional components of the scoping document will be included within a working document to be
282 presented at the next plenary (IPBES-4)