-ADVANCE UNEDITED VERSION-

Scoping report for a methodological assessment on monitoring biodiversity and nature's contributions to people

I. Scope, rationale, timeline and baseline, geographical coverage and methodological approach

A. Scope and rationale

1. The objective of the methodological assessment on monitoring biodiversity and nature's contributions to people is to support national and global efforts to (a) monitor biodiversity, nature's contributions to people and the direct and underlying causes of the observed changes; and (b) monitor progress towards the goals and targets of the Kunming-Montreal Global Biodiversity Framework[1] in support of a balanced and enhanced implementation of the Convention on Biological Diversity, including its three objectives, and contributing to monitoring of the Sustainable Development Goals of the 2030 Agenda for Sustainable Development and relevant multilateral environmental agreements, processes and efforts, in particular the biodiversity-related conventions, taking into account the specific circumstances of developing countries. The assessment will take into account other knowledge systems as included in the conceptual framework of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES),[2] and the different value systems as conceptualized in the Kunming-Montreal Global Biodiversity Framework.

2. The report will assess what data and systems are currently available and needed to calculate the indicators of the monitoring framework for the Kunming-Montreal Global Biodiversity Framework related to biodiversity, nature's contributions to people and the direct and underlying causes of the observed changes. It will prioritize the headline indicators and assess data availability for other indicators of the monitoring framework.

3. The report will also assess the current capacity, capability and resources to collect and analyse data at the national and global scales, as will be required to implement the monitoring framework for the Kunming-Montreal Global Biodiversity Framework. The report will assess gaps in data availability and access, and existing biases in taxonomic, geographic and temporal coverage of data for marine, inland water and terrestrial environments. It will assess challenges and barriers related to the capacities and means of implementation to generate, access and share data, employ robust statistical methods for trend detection and attribution, and support systematic biodiversity monitoring. The assessment will take into account the specific circumstances faced by developing countries in this regard.

4. The assessment will identify opportunities to further develop national and regional biodiversity monitoring capacities (with particular focus on the needs of developing countries, including least developed countries and small island developing States) and community, Indigenous and citizen-science biodiversity monitoring.

5. The assessment will look at options to enhance cooperation, to promote resource-sharing and reporting, to allow data from many sources to be combined and to improve understanding of biodiversity change, especially in underrepresented regions of the world. These options may include bringing together national and regional monitoring systems, networks and other efforts into global biodiversity monitoring networks and platforms. The assessment will explore the benefits of such an approach and will analyse options and enabling conditions for building global biodiversity monitoring networks and platforms. It will account for existing mechanisms

[1] Decision 15/4 of the Convention on Biological Diversity, annex.

[2] Decision IPBES 2/4, annex, and decision IPBES-5/1, sect. III, paras. 8 and 9.

and processes operating at the regional and global level, including the Group on Earth Observations.

B. Timeline and baseline

6. In line with the monitoring framework for the Kunming-Montreal Global Biodiversity Framework, the assessment will prioritize the period 2011−2020 as the reference period for reporting on and monitoring progress in the implementation of the framework.

7. Long-term historical data will also be used as an information source for possible baselines and contemporary reference states that could be considered for various national, regional or global indicator comparisons. The assessment will also identify baselines and available information on the natural state and historical trends in biodiversity loss.

8. The assessment will be carried out over a two-year period using the fast-track approach for thematic and methodological assessments.

C. Geographical coverage

9. This is a global-level assessment, which will provide information relevant to all biogeographic and oceanographic zones at all scales, from subnational to global.

D. Methodological approach

10. The assessment will consist of a summary for policymakers and four chapters, each with an executive summary of the key findings. It will identify key gaps in relevant knowledge and data.

11. The assessment will draw on peer-reviewed literature, official national data and reports, Indigenous and local knowledge, and a range of other sources in line with the procedures for the preparation of Platform deliverables set out in decision IPBES-3/3.

12. The assessment will review existing methodologies and experience in biodiversity monitoring, including in situ and remote sensing measurements, community-based monitoring and citizen science. It will assess processes initiated and undertaken under the Convention on Biological Diversity, as well as the work of the Biodiversity Indicators Partnership, the Group on Earth Observations Biodiversity Observation Network, the Global Biodiversity Information Facility, and the United Nations Statistics Division. It will also cover new technologies for estimating biodiversity, such as environmental DNA, ecological acoustics, camera traps, hyperspectral imagery and artificial intelligence, that can be mobilized locally to produce rapid assessments and surveys over large areas, including through collaboration with Indigenous Peoples and local communities on the ground. The assessment will identify monitoring challenges and define options for dealing with missing data and information and other constraints that could prevent monitoring at relevant scales.

13. The assessment will consider data and knowledge gaps identified by previous IPBES assessments.

14. The assessment will present relevant case studies at various scales, as appropriate.

15. The assessment will be consistent with the IPBES conceptual framework and will fully consider Indigenous and local knowledge and different knowledge systems, as well as multiple values.

16. The assessment will be conducted by a balanced, interdisciplinary team of experts with expertise in monitoring biodiversity and nature’s contributions to people in terrestrial, freshwater and marine systems. The expert team will encompass a diverse range of backgrounds (e.g., academia, government and civil society) and disciplines (e.g., ecology, evolution, social sciences, economics, statistics and biodiversity modelling). The interdisciplinary expert team will draw on knowledge from a diverse range of sources (e.g., knowledge and expertise in natural and social science, knowledge of relevant national and international monitoring institutions and programmes, Indigenous monitoring programmes, citizen science initiatives and global observing systems).

17. The following objectives of the rolling work programme of IPBES up to 2030[3] will be implemented in the context of this assessment through collaboration between the experts of this assessment and the relevant task forces and technical support units: objective 2 on building capacity; objective 3 on strengthening the knowledge foundations, including objective 3 (a) on advanced knowledge and data and objective 3 (b) on enhanced recognition of and work with Indigenous and local knowledge systems; and objective 4 on supporting policy, including objective 4 (a) on advanced work on policy instruments, policy support tools and methodologies and objective 4 (b) on advanced work on scenarios and models of biodiversity and ecosystem functions and services.

II. Chapter outline

18. **Chapter 1. Setting the scene** (*indicative length*: *10,000 words*). Chapter 1 will describe the purpose of the assessment and the intended audiences. It will outline which and whose needs the assessment is intended to fulfil and the plan for ensuring that it does so. It will introduce the issues to be assessed in the subsequent chapters.

19. Chapter 1 will introduce how the assessment links to the IPBES conceptual framework and, in particular, how the report will address monitoring requirements regarding nature, its contributions to people and the direct and underlying causes of observed changes. It will explain how the assessment will support the implementation of the monitoring framework for the Kunming-Montreal Global Biodiversity Framework, as adopted by the Convention on Biological Diversity in decision 15/5, in order to support the achievement of the Framework's goals and targets, the 2030 Agenda for Sustainable Development and the Sustainable Development Goals, and the goals of other relevant multilateral environmental agreement processes and efforts, in particular the goals of the biodiversity-related conventions.

20. **Chapter 2. Assessing the data needs** (*indicative length*: *15,000 words*). Chapter 2 will assess what is needed in terms of data, indicators and models to inform the implementation of the actions required by the goals and targets of the Kunming-Montreal Global Biodiversity Framework. Priority will be given to assessing the data needs for the headline indicators and, where possible, other indicators of the monitoring framework. Priority will also be given to addressing methodological challenges, including the aggregation of national data into global indicators, and the disaggregation of global indicators.

21. Chapter 2 will also consider other possible needs of biodiversity monitoring science, other scientific disciplines, and different systems of knowledge, such as those of Indigenous Peoples and local communities, to support the application of the indicators to inform, as appropriate, policymaking, decision-making and planning from the local to the national level.

22. **Chapter 3. Assessing the challenges in biodiversity monitoring to meet needs** (*indicative length: 15,000 words*). Chapter 3 will assess the data currently being generated and the systems that collect and mobilize those data. It will explore the findability, accessibility, interoperability and reusability of existing data and assess their geographic and taxonomic coverage, as well as their gaps and biases. Chapter 3 will also assess the capacity, capability and infrastructure available to monitor biodiversity, including available in situ and remote sensing capacity, institutional support, governance structures and funding sources. The chapter will assess the impact of the means of implementation in developing countries in support of the implementation of decision 15/4 of the Convention on Biological Diversity and related provisions. It will assess the implementation of community-based monitoring and information systems, including the role of the collective action of Indigenous Peoples and local communities, and how to scale them up to act at different levels.

23. Chapter 3 will highlight key challenges in terms of coherence among existing systems, such as incompatibilities in data structure, that prevent the aggregation of local and national indicators into global indicators. It will also examine gaps in taxonomy and in geographic and temporal coverage, taking into account the specific challenges faced by developing countries.

[3] Decision IPBES-7/1, annex I.

24. **Chapter 4. Options for strengthening the capacity to monitor biodiversity worldwide** (*indicative length: 20,000 words*). Chapter 4 will assess the options for action to enable and develop long-term monitoring capacity.

25. Chapter 4 will assess financial, institutional, human and capacity needs, and options to meet these needs, to establish and reinforce sustained, long-term national and subnational monitoring projects and programmes, including those led by Indigenous Peoples and local communities, taking into consideration the specific circumstances of developing countries. It will explore the opportunities offered by existing and new technologies. It will identify pathways to enhance scientific and technical cooperation, capacity-building, and voluntary technology transfer on mutually agreed terms, in order to overcome capacity and technological constraints.

26. The chapter will also assess options for enhancing existing regional and national monitoring initiatives in the collection, management, analysis and reporting of data and trends on biodiversity and nature's contribution to people, including scientifically robust options to enhance cooperation at the regional or international levels, in support of the implementation of the Kunming-Montreal Global Biodiversity Framework at the national level and through national biodiversity strategies and action plans.

27. The chapter will involve assessing enabling conditions for improved methods for sharing and standardizing, for enhanced capacity for data capture and digitization, and for enhanced capacity for analysing national and global trends, predictive modelling and tailored information products.

28. It will also involve assessing the potential of the various options, their economic costs and benefits, and the methodological, technological, institutional and financial requirements to realize these options.

III. Timetable

Date	*Actions and institutional arrangements*
2023	
Fourth quarter	The Multidisciplinary Expert Panel, through the secretariat, requests nominations of experts by Governments and other stakeholders
2024	
First quarter	The Multidisciplinary Expert Panel selects the assessment co-chairs, coordinating lead authors, lead authors and review editors, in line with the procedures for the preparation of Platform deliverables, including by implementing the procedure for filling gaps in expertise
Second quarter	First author meeting with the co-chairs, coordinating lead authors, lead authors, review editors and members of the Bureau and Multidisciplinary Expert Panel that are part of the management committee for the assessment
2025	
First quarter	Meeting to advance the preparation of the summary for policymakers with the co-chairs, coordinating lead authors and members of the Bureau and Multidisciplinary Expert Panel that are part of the management committee for the assessment
Second quarter	First external review (eight weeks) – draft chapters and draft summary for policymakers are made available for review by Governments and experts
Third quarter	Second author meeting with the co-chairs, coordinating lead authors, lead authors, review editors and members of the Bureau and Multidisciplinary Expert Panel that are part of the management committee for the assessment Back to back with the second author meeting: meeting to advance the preparation of the summary for policymakers with the co-chairs, coordinating lead authors and members of the Bureau and Multidisciplinary Expert Panel that are part of the management committee for the assessment
Fourth quarter	Additional external review of the summary for policymakers (eight weeks) – draft of the summary for policymakers is made available for review by Governments and experts
2026	

Date	*Actions and institutional arrangements*
First quarter	Online writing workshop to advance the preparation of the summary for policymakers with the co-chairs, coordinating lead authors and members of the Bureau and the Multidisciplinary Expert Panel who are part of the management committee for the assessment
Third quarter	Final review (aiming at eight weeks) – final draft of the chapters and summary for policymakers is made available for review by Governments
Fourth quarter	Consideration by the Plenary, at its thirteenth session, of the summary for policymakers for approval and of the chapters for acceptance
	Communication activities in relation to the assessment (including fact sheets)