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Item 9 of the provisional agenda*

Next work programme of the Platform

Next work programme of the Platform

Note by the secretariat

Introduction

1. In decision IPBES-6/2, the Plenary of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) requested the Multidisciplinary Expert Panel and the Bureau, supported by the secretariat, to finalize a draft strategic framework up to 2030 and elements of the rolling work programme of IPBES according to a series of steps outlined in the decision, for consideration and approval by the Plenary at its seventh session. The draft strategic framework and elements of the work programme were finalized accordingly and have been brought together in the draft work programme up to 2030 set out in the annex to the present note.

2. Through notification EM/2018/07 of 26 April 2018,[1] the Executive Secretary invited all Governments and stakeholders to provide written comments regarding the strategic framework, in particular on how to further strengthen and integrate the functions of IPBES and the institutional arrangements established to implement those functions. In response to the invitation, the IPBES secretariat received input from 17 Governments, the European Commission, 7 organizations, a group of early-career IPBES fellows and 3 individuals.

3. A workshop for national focal points was held in Bonn, Germany,[2] from 4 to 6 June 2018, with the objectives of facilitating greater engagement of Governments in the review of the global assessment for biodiversity and ecosystem services; allowing for further discussion on the use of the concept of "nature's contributions to people" in the global assessment; and holding consultations regarding the strategic framework of the rolling work programme. The comments received in response to the call of 26 April 2018 were provided as input to the discussions at the workshop.

4. The Multidisciplinary Expert Panel and the Bureau discussed the comments received and the views expressed during the workshop at a joint session of their eleventh meetings held in June 2018 and provided guidance on the further revision of the draft strategic framework.

5. On 11 July 2018, the Executive Secretary issued notification EM/2018/14 calling for requests, inputs and suggestions on short-term priorities and longer-term strategic needs. The responses received are available on the IPBES website.[3] The Multidisciplinary Expert Panel and the Bureau considered the responses at a joint session of their twelfth meetings, in October 2018. The final report on the prioritization of the requests, inputs and suggestions, prepared in line with decision IPBES-6/2, is set out in document IPBES/7/6/Add.1.

* IPBES/7/1/Rev.1.

[1] All notifications are available at www.ipbes.net/notifications.

[2] The invitation to the workshop is set out in notification EM/2018/05.

[3] Available at www.ipbes.net/requests-received-ipbes-work-programme.

6. The Multidisciplinary Expert Panel and the Bureau also considered a further revised version of the strategic framework at their twelfth meetings and provided guidance on bringing the draft strategic framework and the draft elements of the work programme arising from the prioritization of requests, inputs and suggestions together as a draft work programme up to 2030.

7. A first draft of the work programme was made available for comments on 28 November 2018 through notification EM/2018/26. Comments were received from 10 Governments and 6 organizations and were taken into account in the final draft of the work programme.

8. The Multidisciplinary Expert Panel and the Bureau have prioritized three topics and suggested corresponding deliverables in the draft work programme. The Plenary may wish to consider approving these as a first step and to consider additional topics during the course of the work programme, based on additional calls for requests, inputs and suggestions from Governments and stakeholders.

9. Appendix I to the draft work programme up to 2030 contains draft terms of reference for the proposed task forces, for adoption by the Plenary at its seventh session.

10. Appendix II contains initial scoping reports for the three assessments and the technical paper proposed as the initial deliverables of the work programme. They are presented to inform the decision of the Plenary on the work programme and could inform a full scoping process on these deliverables should the Plenary decide to undertake such a process, but are not intended for adoption by the Plenary at its seventh session.

11. Modalities for producing the proposed deliverables of the work programme, including information on the associated work done during the first work programme, are set out in document IPBES/7/6/Add.2, along with the proposed timing and milestones for the work programme. A draft decision on the work programme up to 2030 is set out in document IPBES/7/1/Add.2.

Annex

Draft work programme up to 2030 of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

I. Introduction

1. The work programme up to 2030 of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) aims to advance the achievement of the overall objective of IPBES,[1] which is to strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development.

2. In line with the overall objective and with decision IPBES-5/3, the policy framework for the work programme up to 2030 corresponds to the 2030 Agenda for Sustainable Development, including the Sustainable Development Goals, the biodiversity-related conventions and other biodiversity and ecosystem service processes.

3. The work programme up to 2030 is entirely demand-driven, based on requests received from multilateral environmental agreements and Governments and inputs and suggestions received from other stakeholders. It is expected to inform all stakeholders in the implementation of their activities to support the achievement of the post-2020 global biodiversity framework and the 2050 vision for biodiversity, as well as other work under multilateral environmental agreements related to biodiversity. The work programme may also inform the implementation of the Paris Agreement with respect to matters related to the links between biodiversity and climate change.

4. The goal of the work programme is the performance of the four functions of IPBES,[2] which are:

(a) To identify and prioritize key scientific information needed for policymakers at appropriate scales and to catalyse efforts to generate new knowledge by engaging in dialogue with key scientific organizations, policymakers and funding organizations, but not to directly undertake new research;

(b) To perform regular and timely assessments of knowledge on biodiversity and ecosystem services and their interlinkages, which should include comprehensive global, regional and, as necessary, subregional assessments and thematic issues at appropriate scales and new topics identified by science and as decided upon by the Plenary;

(c) To support policy formulation and implementation by identifying policy-relevant tools and methodologies, such as those arising from assessments, to enable decision makers to gain access to those tools and methodologies and, where necessary, to promote and catalyse their further development;

(d) To prioritize key capacity-building needs to improve the science-policy interface at appropriate levels and then provide and call for financial and other support for the highest-priority needs related directly to its activities, as decided by the Plenary, and to catalyse financing for such capacity-building activities by providing a forum with conventional and potential sources of funding.

5. The work programme up to 2030 places strong emphasis on promoting collaboration among science, policy and practice; scientific disciplines; different types of knowledge; and the four functions of IPBES.

6. The work programme up to 2030 is guided by the operating principles of IPBES,[3] which are to collaborate with existing initiatives on biodiversity and ecosystem services; to be scientifically independent and ensure credibility, relevance and legitimacy through peer review of its work and transparency in its decision-making process; to use clear, transparent and scientifically credible processes for the exchange, sharing and using of data, information and technologies; to recognize and respect the contribution of indigenous and local knowledge to the conservation and sustainable use of biodiversity and ecosystems; to provide policy-relevant information, but not policy-prescriptive advice; to integrate capacity-building into all relevant aspects of its work; to recognize the unique

[1] UNEP/IPBES.MI/2/9, annex I, appendix I, sect. I.

[2] Ibid.

[3] Ibid., sect. II.

biodiversity and scientific knowledge thereof within and among regions and the need for the full and effective participation of developing countries and balanced regional representation and participation in its structure and work; to take an interdisciplinary and multidisciplinary approach; to recognize the need for gender equity in all relevant aspects of its work; to address terrestrial, marine and inland water biodiversity and ecosystem services and their interactions; and to ensure the full use of national, subregional and regional knowledge, as appropriate, including by ensuring a bottom-up approach.

7. The work programme up to 2030 is a rolling work programme. The Plenary will launch additional calls for requests, inputs and suggestions during the course of the work programme,[4] in line with the process set out in decision IPBES-1/3.

II. Elements of the work programme up to 2030

A. Prioritized topics

8. The work programme up to 2030 initially focuses on three topics arising from the prioritization of the responses to the first call for requests, inputs and suggestions. The three topics, which are all aligned with the overall objective of IPBES and its policy framework, are:

(a) *Promoting biodiversity to achieve the 2030 Agenda for Sustainable Development*: The Sustainable Development Goals related to biodiversity need to be achieved simultaneously with the other goals, especially those that are strongly linked to biodiversity through impact and/or dependence. The challenge is to achieve health for all, with food, water and energy security, including through the enhanced use of biodiversity, without adversely impacting biodiversity, water quality or climate and in the context of global change, including climate change. To address this challenge, the deliverables under this topic will look at the interlinkages among biodiversity, water, food and health and between biodiversity and climate change, with a view to informing the development of policies and actions;

(b) *Understanding the underlying causes of biodiversity loss and determinants of transformative change*[5] *to achieve the 2050 vision for biodiversity*: Achieving the 2050 vision in conjunction with key human development goals requires fundamental changes at many levels, from individuals through communities and businesses to society at large. The deliverables related to this topic are aimed at understanding and identifying factors in human society at both the individual and collective levels, including behavioural, social, cultural, economic, institutional, technical and technological dimensions, that can be leveraged to bring about transformative change in favour of biodiversity while taking into account broader social and economic imperatives in the context of sustainable development;

(c) *Measuring business impact and dependence on biodiversity and nature's contributions to people*: Appropriate tools for measuring dependence and impact are crucial to enabling businesses to assess and monitor their dependence and impact with a view to reducing adverse effects and related material and reputational risks, and to developing the business case for long-term sustainability. They are also important for promoting public accountability, informing regulatory agencies and guiding financial investments. Deliverables under this topic include categorization of the ways in which businesses depend on, and impact, biodiversity and nature's contributions to people, and work related to criteria and indicators for measuring this dependence and impact, taking into consideration how such metrics can be integrated into other aspects of sustainability.

B. Objectives and deliverables of the work programme up to 2030[6]

9. The work programme for the period up to 2030 includes six objectives, with one objective related to each of the four functions of IPBES, one to communications and engagement of Governments and stakeholders and one to the review of the effectiveness of IPBES. All deliverables build on lessons learned in the implementation of the first work programme. The objectives are supported by 15 deliverables addressing the three initial priority topics set out in section A, as well as the overall objective of IPBES (figure 1).

[4] See section II D below.

[5] Transformative change refers to a fundamental, system-wide change that includes consideration of technological, economic and social factors, including in terms of paradigms, goals and values.

[6] Draft terms of reference for proposed task forces are set out in appendix I to the work programme, and timelines and milestones for all deliverables in document IPBES/7/6/Add.2. An estimate of the cost of each deliverable is set out in document IPBES/7/4, together with a revised budget for 2019 and draft budget for 2020.

10. The work programme will be implemented in a manner whereby the objectives are mutually supportive. For example, the capacity-building activities will support the assessment process by enhancing the capacity of scientists and other knowledge holders to produce assessments (for example via the fellowship programme) and the capacity of Governments to review and use the assessment findings. Likewise, activities under objectives 2 to 5 related to capacity-building, knowledge foundation, policy support and communication and engagement will support each other.

Figure 1
Structure of the work programme up to 2030

Overall objective of IPBES

To strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development

Policy framework of the IPBES work programme up to 2030

The 2030 Agenda for Sustainable Development, including the Sustainable Development Goals, the biodiversity-related conventions and other biodiversity and ecosystem services processes

OBJECTIVES of the work programme	**TOPIC 1** Promoting biodiversity to achieve the 2030 Agenda for Sustainable Development	**TOPIC 2** Understanding the underlying causes of biodiversity loss and determinants of transformative change to achieve the 2050 vision for biodiversity	**TOPIC 3** Measuring business impact and dependence on biodiversity and nature's contributions to people	Supporting the achievement of the overall objective of IPBES
OBJECTIVE 1 Assessing knowledge	**Deliverable 1 (a):** Assessing interlinkages among biodiversity, water, food and health (thematic assessment) **Deliverable 1(b):** Assessing the interlinkages between biodiversity and climate change (technical paper)	**Deliverable 1 (c):** Assessing the underlying causes of biodiversity loss and the determinants of transformative change (thematic assessment)	**Deliverable 1 (d):** Assessing the impact and dependence of business on biodiversity and nature's contributions to people (fast-track methodological assessment)	
OBJECTIVE 2 Building capacity	**Deliverable 2 (a):** Enhanced learning and engagement **Deliverable 2 (b):** Facilitated access to expertise and information **Deliverable 2 (c):** Strengthened national and regional capacities			
OBJECTIVE 3 Strengthening the knowledge foundations	**Deliverable 3 (a):** Advanced work on knowledge and data **Deliverable 3 (b):** Enhanced recognition of and work with indigenous and local knowledge systems			
OBJECTIVE 4 Supporting policy	**Deliverable 4 (a):** Advanced work on policy tools and methodologies **Deliverable 4 (b):** Advanced work on scenarios and models of biodiversity and ecosystem services **Deliverable 4 (c):** Advanced work on multiple values			
OBJECTIVE 5 Communicating and engaging	**Deliverable 5 (a):** Strengthened communication **Deliverable 5 (b):** Strengthened engagement of Governments and stakeholders			
OBJECTIVE 6 Reviewing effectiveness	**Deliverable 6:** Reviewed effectiveness			

11. **Objective 1**: **assessing knowledge**: *To assess the state of knowledge on biodiversity and nature's contributions to people in support of sustainable development*.[7] This objective will be achieved through the following initial deliverables, corresponding to the three priority topics set out in section II A:

(a) *Deliverable 1 (a)*: *A thematic assessment of the interlinkages among biodiversity, water, food and health*. In support of topic 1, promoting biodiversity to achieve the 2030 Agenda for Sustainable Development, this assessment will use a nexus approach to examine interlinkages between biodiversity and issues such as: agricultural productivity, nutrition, pest control, water quality, infectious diseases, mental and physical health and climate mitigation and adaptation, with a view to informing the development of policies and actions;

(b) *Deliverable 1 (b)*: *A technical paper on the interlinkage between biodiversity and climate change*. The technical paper will address synergies and trade-offs between the need to protect

[7] Work under objective 1 will be carried out in accordance with the procedures for the preparation of thematic or methodological assessments and regional, subregional or global assessments and the clearance process for technical papers, as set out in annex I to decision IPBES-3/3.

biodiversity and to mitigate climate change. It will draw on the material contained in the IPBES global and regional assessments of biodiversity and ecosystem services and the assessment of land degradation and restoration, as well as the special reports on the impacts of global warming of 1.5°C[8] and on climate change and land[9] and the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC);

(c) *Deliverable 1 (c): A thematic assessment of the underlying causes of biodiversity loss and the determinants of transformative change*. This assessment is aimed at understanding and identifying factors in human society at both the individual and collective levels, including behavioural, social, cultural, economic, institutional, technical and technological dimensions, that can be leveraged to bring about transformative change in favour of biodiversity while taking into account broader social and economic imperatives in the context of sustainable development. It explores the drivers of and motives behind broad societal changes and transitions to inform the design of relevant policies, communication and engagement campaigns and other actions;

(d) *Deliverable 1 (d): A methodological assessment of the impact and dependence of business on biodiversity and nature's contributions to people*. This methodological assessment is aimed at categorizing how businesses depend on, and impact, biodiversity and nature's contributions to people and identifying criteria and indicators for measuring that dependence and impact, taking into consideration how such metrics can be integrated into other aspects of sustainability.

12. **Objective 2**: **building capacity**: *To build capacities of individuals and institutions for a strengthened science-policy interface for biodiversity and ecosystem services*. The achievement of this objective is supported by the three components of the capacity-building rolling plan:[10]

(a) *Deliverable 2 (a): Enhanced learning and engagement*. The deliverable includes the continuation of the fellowship programme and of the training and familiarization programme, including through webinars and other online resources, guides, learning materials, workshops, training and dialogues for actors in the science-policy interface facilitated by IPBES. The deliverable will be produced by IPBES, in collaboration with other actors where relevant;

(b) *Deliverable 2 (b): Facilitated access to expertise and information*. The deliverable will further promote the uptake of the work programme deliverables and develop communities of practice around them. Efforts will focus on approved assessments and deliverables related to policy support tools and methodologies, knowledge and data, and indigenous and local knowledge. This deliverable will largely be produced by strategic partners and collaborative supporters;

(c) *Deliverable 2 (c): Strengthened national and regional capacities.* The deliverable includes efforts to encourage the development of science-policy platforms, networks and assessments for biodiversity and ecosystem services at the national and (sub)regional levels, such as facilitation of the development of guidance for such initiatives. IPBES will draw strongly on the experience of strategic partners and collaborative supporters to produce this deliverable. Direct technical and financial support for the enhancement of national and regional capacities will be provided by actors other than IPBES.

13. **Objective 3**: **strengthening the knowledge foundations**: *To promote the generation of knowledge and management of data on biodiversity and ecosystem services as a foundation for the work of IPBES.* This objective will be achieved through the following deliverables:

(a) *Deliverable 3 (a): Advanced work on knowledge and data*. This deliverable focuses on: identifying, prioritizing, mobilizing and facilitating access to existing knowledge, information and data, including indicators and metrics to be used in assessments; further developing a web-based infrastructure in support of data and information management; identifying gaps in knowledge and data arising from the completed deliverables of IPBES work programmes, and in particular from the

[8] The full title of the report is: *Global Warming of 1.5°C: An IPCC special report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*.

[9] The full title of the report is: *Climate Change and Land: An IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems*.

[10] Activities under the objective will be implemented in accordance with the priority capacity-building needs approved by the Plenary in decision IPBES-3/1 and the capacity-building rolling plan welcomed by the Plenary in decision IPBES-5/1. The plan comprises three strategies: learning and engagement, facilitating access to expertise and information and strengthening national and regional capacities.

completed assessments; and catalysing the generation of new knowledge by making these gaps known, including to research funding institutions;

(b) *Deliverable 3 (b): Enhanced recognition of and work with indigenous and local knowledge systems*. This deliverable focuses on implementing the approach to recognizing and working with indigenous and local knowledge in IPBES,[11] including the implementation of the participatory mechanism established under the approach.

14. **Objective 4**: **supporting policy**: *To identify and promote the development and use of policy tools and methodologies in the field of biodiversity and ecosystem services.* This objective will be achieved through the following deliverables:

(a) *Deliverable 4 (a): Advanced work on policy tools and methodologies*. This deliverable focuses on assessing policy instruments, further developing the IPBES policy support web portal and promoting and catalysing the further development of policy instruments and support tools to fill gaps identified in assessments and related capacity-building activities;

(b) *Deliverable 4 (b): Advanced work on scenarios and models of biodiversity and ecosystem services*. This deliverable consists of providing expert advice to expert groups assessing the use of existing models and scenarios, and catalysing the development of new scenarios and associated models for the future work of IPBES;

(c) *Deliverable 4 (c): Advanced work on multiple values*. This deliverable consists of providing expert advice on the integration of multiple conceptualizations of values into the other deliverables of the work programme, in particular the assessments and policy tools, and further work building on the methodological assessment regarding the diverse conceptualization of multiple values of nature and its contributions, including biodiversity and ecosystem functions and services.

15. **Objective 5**: **communicating and engaging**: *To strengthen the involvement of the members and stakeholders of IPBES, the visibility of IPBES and the use of IPBES products*. This objective will be achieved through the following deliverables:

(a) *Deliverable 5 (a): Strengthened communication*. This deliverable builds on the work initiated and lessons learned during the first IPBES work programme and includes the continuation of the implementation of the IPBES communication and outreach strategy[12] with a view to increasing the visibility of IPBES and its products and the use of IPBES products by Governments and stakeholders;

(b) *Deliverable 5 (b): Strengthened engagement of Governments and stakeholders*. This deliverable builds on the work initiated and lessons learned during the first work programme and includes the continuation of the implementation of the IPBES stakeholder engagement strategy.[13] IPBES will continue to engage with:

(i) Governments, in particular by convening meetings of IPBES national focal points to reflect on particular aspects of the implementation of the work programme or on the review and uptake of IPBES assessment reports or other IPBES products;

(ii) The United Nations Environment Programme, the United Nations Development Programme, the United Nations Educational, Scientific and Cultural Organization and the Food and Agriculture Organization of the United Nations in the context of the collaborative partnership arrangement between the Plenary and those entities;[14]

(iii) The Convention on Biological Diversity, the Convention on the Conservation of Migratory Species of Wild Animals, the Convention on Wetlands of International Importance Especially as Waterfowl Habitat, the Convention on International Trade in Endangered Species of Wild Fauna and Flora and the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, in the context of the memoranda of understanding between the IPBES secretariat and the secretariats of those agreements and the IPBES secretariat and IPCC;

[11] Decision IPBES-5/1, annex II.

[12] Decision IPBES-3/4, annex I.

[13] Decision IPBES-3/4, annex II.

[14] Decision IPBES-2/8.

(iv) A limited number of strategic partners in the context of agreements to be prolonged or concluded under the guidance of the Bureau;

(v) A larger set of collaborative supporters, who through their own work will contribute to the overall objective of IPBES and the implementation of the work programme up to 2030, to be selected by the Bureau, and recognized on the IPBES website.

16. **Objective 6: Reviewing effectiveness***: To ensure the regular internal and external review of the effectiveness of IPBES.*

Deliverable 6: Reviewed effectiveness. This deliverable is aimed at ensuring that the outcome of the review of the first work programme informs the implementation of the work programme up to 2030 and that a procedure is developed for a midterm and a final review of the work programme up to 2030.

C. Deliverables continuing from the first work programme (2014–2018)

17. The reports on the thematic assessment of the sustainable use of wild species and the methodological assessment regarding the diverse conceptualization of multiple values of nature and its benefits, including biodiversity and ecosystem functions and services, initiated by the Plenary in decision IPBES-6/1 as part of the first work programme, will be prepared for consideration by the Plenary at its ninth session.

18. The report on the thematic assessment of invasive alien species, also initiated by the Plenary in decision IPBES-6/1 as part of the first work programme, will be prepared for consideration by the Plenary at its tenth session.

D. Timeline of deliverables and future calls for requests, inputs and suggestions

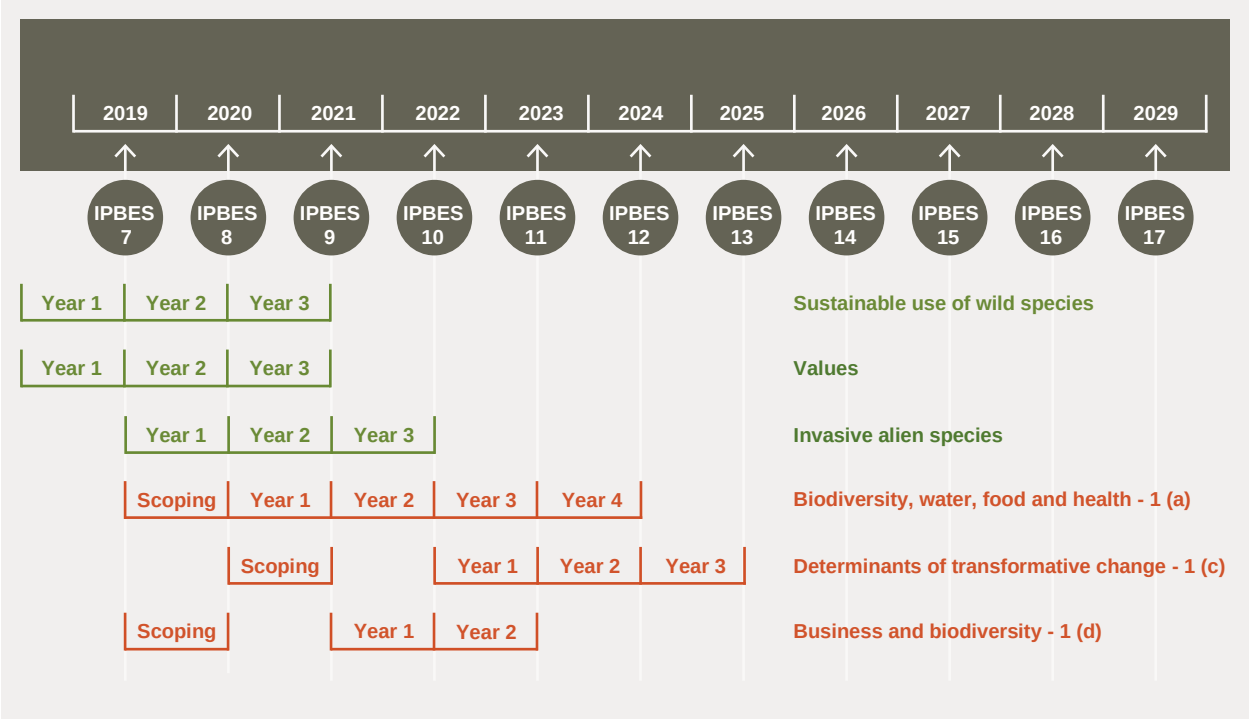
19. In addition to the deliverables continuing from the first work programme (section C above and figure 2), eight other assessments may be conducted under objective 1, distributed in time as follows:

(a) Three assessments themes approved for scoping by the Plenary at its seventh session and corresponding assessment reports finalized for consideration by the Plenary at its eleventh, twelfth and thirteenth session, respectively, taking into account the requests, inputs and suggestions received in response to the first call of the work programme up to 2030, issued after the sixth session of the Plenary (figure 2);

(b) Three assessment themes to be decided by the Plenary at its tenth session, taking into account the requests, inputs and suggestions received in response to a second call, to be issued following the ninth session of the Plenary;

(c) Two final assessment themes to be decided by the Plenary at its thirteenth session, taking into account the requests, inputs and suggestions received in response to a third call, to be issued in time for their consideration by the Plenary at the midterm of the work programme.

Figure 2
Timeline of initial assessments for the period up to 2030.[15] The timeline for the three assessments initiated under the first work programme is shown in green and the timeline for the three assessments corresponding to deliverables 1 (a), 1 (c) and 1 (d) of the work programme up to 2030 is shown in orange.



III. Institutional arrangements for the implementation of the work programme

A. Existing bodies

20. The Plenary, the Bureau, the Multidisciplinary Expert Panel and the secretariat play important roles in the implementation of the work programme up to 2030. Their respective roles are defined in the founding resolution of IPBES,[16] the rules of procedure for sessions of the Plenary[17] and the procedures for the preparation of IPBES deliverables.[18] Sessions of the Plenary will continue to be organized with a frequency varying between 12 and 18 months, depending on the agenda for a particular session (reflecting the needs of the work programme) and available funding.

B. Forum, expert groups, task forces and technical support units

21. Like the first work programme, the work programme up to 2030 will be implemented with the support of the IPBES forum on capacity-building, time-bound and task-specific expert groups, task forces, and technical support from the secretariat and technical support units.

22. The IPBES capacity-building forum is a vehicle for increasing engagement and facilitating cooperation among partners for the implementation and further development of the capacity-building rolling plan. Work under the forum is aimed at advancing the common agendas of partners and facilitating longer-term strategic alignment of relevant ongoing programmes and activities among partners.

[15] This timeline assumes Plenary sessions to be held on an annual basis. The Plenary may decide to increase the time between Plenary sessions in future, depending on its agenda and the availability of funding.

[16] UNEP/IPBES.MI/2/9, annex I, appendix I.

[17] As adopted in decision IPBES-1/1 and amended in decision IPBES-2/1.

[18] As set out in annex I to decision IPBES-3/3.

23. Time-bound, task-specific expert groups will be established for the preparation of assessments or technical papers, in line with the procedures for the preparation of deliverables as set out in annex I to decision IPBES-3/3, and will include:

(a) Expert groups to deliver a scoping report: These groups will include scientists from all relevant disciplines, indigenous and local knowledge experts and experts on indigenous and local knowledge,[19] policy practitioners to increase relevance and credibility and experts from all relevant stakeholder groups (e.g., the private sector and civil society). Electronic conferences may be used as part of the scoping process to increase the amount and type of input into the process. Governments and relevant stakeholders will continue to be encouraged to nominate experts with practical experience in policymaking, research programming and capacity-building to increase the policy relevance of the scoping report.

(b) Expert groups to deliver an assessment report: Governments and relevant stakeholders will continue to be encouraged to ensure that their nominees include sufficient numbers of experts from all regions, genders and relevant disciplines, in particular social scientists and scholars from the humanities, and of indigenous and local knowledge experts and experts on indigenous and local knowledge.

(c) Expert groups to deliver technical papers.

24. The Plenary will establish time-bound, task-specific task forces in support of the deliverables other than assessments, as appropriate, and will decide on their specific terms of reference.[20]

25. Technical support for the implementation of the work programme will be provided by the secretariat, which for some of the deliverables will be complemented by a technical support unit, as appropriate. The secretariat will issue open calls for expressions of interest in providing technical support, including in-kind support from Governments and other stakeholders, for the establishment of these units. The most suitable institutions will be selected by the Bureau and will work under the authority of the Executive Secretary.

IV. Work programme budget

26. The IPBES work programme up to 2030 will continue the implementation of the fund-raising strategy for IPBES, which relies on three types of resources:

(a) Cash contributions to the IPBES trust fund;

(b) In-kind contributions covering elements otherwise charged to the trust fund, as well as other activities in support of the work programme, including the time and expertise provided pro bono by selected experts;

(c) Catalysed activities that contribute to the objective of IPBES.

27. The budget will continue to be structured according to three main categories: (a) meetings of IPBES bodies; (b) the work programme; and (c) the secretariat. The average annual cost of IPBES over the first half of the work programme up to 2030 is estimated to be $8.7 million, similar to that for the period 2014–2018.

[19] As defined in the approach to recognizing and working with indigenous and local knowledge in IPBES set out in annex II to decision IPBES-5/1.

[20] Draft terms of reference are set out in appendix I.

Appendix I

Draft terms of reference for task forces

I. General terms for task forces for the work programme up to 2030

1. In carrying out its work, each task force will:

(a) Ensure that all its activities draw on, build on and complement existing experience;

(b) Perform activities that specifically address the relevant prioritized topics, objectives and deliverables set out in the work programme up to 2030, in support of the overall objective and four functions of IPBES;

(c) Advise the Bureau and the Multidisciplinary Expert Panel on issues pertaining to its mandate across the work programme up to 2030;

(d) Advise the Bureau on the identification of new strategic partners and collaborative supporters;[21]

(e) Encourage the direct involvement of its members, as appropriate, in activities of other IPBES task forces and expert groups to foster coherent implementation of the work programme up to 2030 through the four functions of IPBES.

II. Terms of reference for the task force on capacity-building

A. Responsibilities of the task force

2. The task force on capacity-building will oversee and take part in the implementation of the three deliverables under objective 2 of the work programme up to 2030 and act in accordance with relevant decisions by the Plenary and its subsidiary bodies, including by: building on lessons learned in the implementation of deliverables 1 (a) and 1 (b) of the first work programme; and guiding the secretariat including the dedicated technical support unit in implementing the capacity-building rolling plan,[22] which frames the work under objective 2, and in reporting to Plenary on progress made.

B. Membership of the task force

3. The task force will comprise up to 14 members covering the five United Nations regions, including: (a) up to 4 members of the Bureau and the Multidisciplinary Expert Panel;
(b) representatives of qualified national, regional and international scientific organizations, centres of excellence and institutions, including experts on indigenous and local knowledge, which are known for their work and expertise on issues related to the mandate of the task force and are existing or prospective partners or collaborative supporters in the capacity-building activities of IPBES; and
(c) recognized individual experts on matters related to the mandate of the task force.

4. Members other than those from the Bureau and the Multidisciplinary Expert Panel will be selected in accordance with the procedures for the preparation of IPBES deliverables.[23] The term of office of these members is three years, with the possibility of re-election. The selection of members should reflect the need for continuity in the work of the task force.

5. At the discretion of the co-chairs of the task force and following consultation with the Bureau, a limited number of additional experts on capacity-building may also be invited to participate in the task force as resource persons.

C. Modus operandi

6. The task force will be chaired by members of the Bureau and/or the Multidisciplinary Expert Panel. The task force will work through face-to-face meetings, web-based meetings and other

[21] At its twelfth meeting, the Bureau approved a general approach to recognizing the work of organizations that support the implementation of the IPBES work programme. At regular intervals, the Bureau reviews, for endorsement, recommendations by IPBES task forces for the recognition of organizations undertaking activities that significantly support the implementation of the IPBES work programme on the IPBES web site. Organizations endorsed by the Bureau are listed on the IPBES website as “collaborative supporters”, and the Bureau reviews the list at regular intervals, supported by the relevant task forces.

[22] Set out in annex I to decision IPBES-5/1.

[23] Set out in annex I to decision IPBES-3/3, section 7.

electronic interaction. Products of the task force will be reviewed by the Bureau and the Panel and forwarded to the Plenary for its information and consideration, as appropriate.

7. The task force will be supported by the secretariat including a dedicated technical support unit.

III. Terms of reference for the task force on knowledge and data

A. Responsibilities of the task force

8. The task force on knowledge and data will oversee and take part in the implementation of deliverable 3a of the work programme up to 2030, "Advanced work on knowledge and data", and act in accordance with relevant decisions by the Plenary and its subsidiary bodies, including by building on lessons learned in the implementation of deliverable 1 (d) of the first work programme and by:

(a) Supporting assessment experts in identifying, prioritizing and mobilizing existing knowledge and data needed for IPBES assessments;

(b) Guiding the secretariat, including the dedicated technical support unit, in overseeing the management of the data, information and knowledge used in IPBES products, including the development of the web-based infrastructure, to ensure their long-term availability;

(c) Supporting the Bureau and the Multidisciplinary Expert Panel in reviewing the knowledge needs and gaps identified through IPBES assessments and other IPBES deliverables and in catalysing the generation of new knowledge and data.

B. Membership of the task force

9. The task force will comprise up to 14 members covering the five United Nations regions, including: (a) up to 4 members of the Bureau and the Multidisciplinary Expert Panel; (b) members of expert groups for ongoing IPBES assessments and of other relevant task forces; (c) representatives of qualified national, regional and international scientific organizations, centres of excellence and institutions, including experts on indigenous and local knowledge, known for their work and expertise on issues related to the mandate of the task force; and (d) recognized individual experts on matters related to the mandate of the task force, including experts from the natural sciences, social sciences and humanities and experts on indigenous and local knowledge.

10. Members other than those from the Bureau and the Multidisciplinary Expert Panel will be selected according to the procedures for the preparation of IPBES deliverables.[23] The term of office of these members is three years, with the possibility of re-election. The selection of members should reflect the need for continuity in the work of the task force.

11. At the discretion of the co-chairs of the task force and following consultation with the Bureau, a limited number of individual experts on knowledge and data management may be invited to participate in the task force as resource persons.

C. Modus operandi

12. The task force will be chaired by members of the Bureau and/or the Multidisciplinary Expert Panel. The task force will work through face-to-face meetings, web-based meetings and other electronic interactions. Products of the task force will be reviewed by the Bureau and the Panel and forwarded to the Plenary for its information and consideration, as appropriate.

13. The task force will be supported by the secretariat including a dedicated technical support unit.

IV. Terms of reference for the task force on indigenous and local knowledge

A. Responsibilities of the task force

14. The task force on indigenous and local knowledge will oversee and take part in the implementation of deliverable 3b of the work programme up to 2030, "Enhanced recognition of and work with indigenous and local knowledge systems", and act in accordance with relevant decisions by the Plenary and its subsidiary bodies, including by: building on lessons learned in the implementation of deliverable 1 (c) of the first work programme; supporting the Multidisciplinary Expert Panel in implementing the approach to recognizing and working with indigenous and local knowledge in

IPBES;[24] and guiding the secretariat including the dedicated technical support unit in supporting the Panel in implementing the approach.

B. Membership of the task force

15. The task force will comprise up to 14 members covering the five United Nations regions, including: (a) up to 4 members of the Bureau and the Multidisciplinary Expert Panel; (b) members of expert groups of ongoing IPBES assessments and of other relevant task forces; (c) representatives of indigenous peoples and local communities; (d) representatives of qualified national, regional and international scientific organizations, centres of excellence and institutions, including experts on indigenous and local knowledge, known for their work and expertise on issues related to the mandate of the task force; and (e) recognized individual experts on matters related to the mandate of the task force.

16. Members other than those from the Bureau and the Panel will be selected according to the procedures for the preparation of IPBES deliverables.[23] The term of office of these members is three years, with the possibility of re-election. The selection of members should reflect the need for continuity in the work of the task force.

17. At the discretion of the co-chairs of the task force and following consultation with the Bureau, a limited number of additional experts on indigenous and local knowledge systems and representatives of indigenous and local organizations may be invited to participate in the task force as resource persons.

C. Modus operandi

18. The task force will be chaired by members of the Multidisciplinary Expert Panel and/or the Bureau. The task force will work through face-to-face meetings, web-based meetings and other electronic interactions. Products of the task force will be reviewed by the Panel and the Bureau and forwarded to the Plenary for its information and consideration, as appropriate.

19. The task force will be supported by the secretariat including a dedicated technical support unit.

V. Terms of reference for the task force on scenarios and models of biodiversity and ecosystem services

A. Responsibilities of the task force

20. The task force on scenarios and models of biodiversity and ecosystem services will oversee and take part in the implementation of deliverable 4b of the work programme up to 2030, “Advanced work on scenarios and models of biodiversity and ecosystem services”, and act in accordance with relevant decisions by the Plenary and its subsidiary bodies, including by building on lessons learned in the implementation of deliverable 3c of the first work programme. The task force will implement the work on scenarios and models based on the terms of reference for the further development of tools and methodologies regarding scenarios and models[25] to facilitate the provision of advice to all the expert teams, in particular those working on assessments on the use of scenarios, and to catalyse the further development of scenarios and models for future IPBES assessments, as well as to guide the secretariat including the dedicated technical support unit in the provision of support.

B. Membership of the task force

21. The task force will comprise up to 24 members covering the five United Nations regions, including up to 4 members from the Bureau and the Multidisciplinary Expert Panel and experts on scenarios and models from the natural sciences, social sciences, the humanities and indigenous and local knowledge systems.

22. Members other than those from the Bureau and the Panel will be selected according to the procedures for the preparation of IPBES deliverables.[23] The term of office of these members is three years, with the possibility of re-election. The selection of members should reflect the need for continuity in the work of the task force.

[24] Decision IPBES-5/1, annex II.

[25] Decision IPBES-4/1, annex V.

23. At the discretion of the co-chairs of the task force and following consultation with the Bureau, a limited number of additional experts on scenarios and models and representatives of indigenous and local organizations may be invited to participate in the task force as resource persons.

C. Modus operandi

24. The task force will be co-chaired by a member of the Multidisciplinary Expert Panel or the Bureau and an expert member. The task force will work through face-to-face meetings, web-based meetings and other electronic interactions. Products of the task force will be reviewed by the Panel and the Bureau and forwarded to the Plenary for its information and consideration, as appropriate.

25. The task force will be supported by the secretariat including a dedicated technical support unit.

VI. Terms of reference for the task force on policy tools and methodologies

A. Responsibilities of the task force

26. The task force on policy tools and methodologies will oversee and take part in the implementation of deliverable 4a of the work programme up to 2030, "Advanced work on policy tools and methodologies", and act in accordance with relevant decisions by the Plenary and its subsidiary bodies, including by building on lessons learned in the implementation of deliverable 4c of the first work programme and by:

(a) Overseeing the development of content for the IPBES policy support web portal and support to the use of the portal by Governments and stakeholders and ensuring that policy instruments and support tools identified in IPBES assessments are featured on the portal and accessible to decision makers;

(b) Catalysing the further development of policy instruments, support tools and good practices to fill gaps identified in IPBES assessments.

B. Membership of the task force

27. The task force will comprise up to 14 members covering the five United Nations regions, including: (a) up to 4 members of the Bureau and the Multidisciplinary Expert Panel; (b) members of expert groups of ongoing IPBES assessments and of other relevant task forces; (c) representatives of qualified national, regional and international scientific organizations, centres of excellence and institutions, including experts on indigenous and local knowledge, known for their work and expertise on issues related to the mandate of the task force; (d) individual experts with practical experience in policy formulation and implementation; and (e) recognized individual experts on matters related to the mandate of the task force.

28. Members other than those from the Bureau and the Multidisciplinary Expert Panel will be selected according to the procedures for the preparation of IPBES deliverables.[23] The term of office of these members is three years, with the possibility of re-election. The selection of members should reflect the need for continuity in the work of the task force.

29. At the discretion of the co-chairs of the task force and following consultation with the Bureau, a limited number of additional experts on policy tools and methodologies and representatives of indigenous and local organizations may be invited to participate in the task force as resource persons.

C. Modus operandi

30. The task force will be chaired by members of the Multidisciplinary Expert Panel and/or the Bureau. The task force will work through face-to-face meetings, web-based meetings and other electronic interactions. Products of the task force will be reviewed by the Panel and the Bureau and forwarded to the Plenary for its information and consideration, as appropriate.

31. The task force will be supported by the secretariat including a dedicated technical support unit.

Appendix II

Initial scoping reports for the deliverables under objective 1

1. The seven assessment reports[26] approved by the Plenary under the first work programme were prepared in accordance with the procedures for the preparation of deliverables set out in annex I to decision IPBES-3/3, and it is expected that those procedures will continue to govern the undertaking of assessments under the work programme up to 2030. The Plenary may wish, however, when deciding on the undertaking of a specific assessment, as set out in this appendix, to use its discretion to provide further guidance, such as on the additional review period for the summary for policymakers suggested by Governments at the sixth session of the Plenary and during the meeting of IPBES national focal points in 2018.

2. This appendix should be read together with document IPBES/7/6/Add.1, which provides a rationale for the prioritization of the assessment themes, and document IPBES/7/INF/21, which provides a summary of all requests, inputs and suggestions received by the secretariat regarding short-time priorities and longer-term strategic needs.

I. Deliverable 1 (a): Assessing the interlinkages among biodiversity, water, food and health (thematic assessment)

3. There are strong interlinkages among the globally agreed goals of food and water security, health for all, protecting biodiversity on land and in the oceans and combating climate change, among others. In fact, the Sustainable Development Goals are regarded as "integrated and indivisible", balancing the economic, social and environmental dimensions of sustainable development. Similarly, the objectives of the Rio Conventions (Convention on Biological Diversity, United Nations Framework Convention on Climate Change and United Nations Convention to Combat Desertification) are seen as interlinked.

4. Interlinkages take various forms, including synergies, co-benefits and trade-offs. For example, while biodiversity and nature's contributions to people are fundamental to supporting food production, providing clean water and ensuring good health, the way we produce our food has an impact on biodiversity and water quality, as well as climate change. The food system is also a major determinant of health, as is the way we manage ecosystems more broadly. Moreover, biodiversity loss and climate change each affect our ability to produce nutritious food, supply clean water and ensure healthy lives for all. Thus, there is a web of dependence, impact and common drivers of change.

5. The challenge is to achieve good health for all with food and water security, including through the enhanced use of biodiversity, without adversely impacting biodiversity, water quality or climate and in the context of global change, including climate change.

6. The assessment will cover:

(a) The interlinkages among the health of people, crops, livestock, soil, wildlife and the environment in general (including through the One Health approach and related concepts);

(b) The interlinkages between food production and biodiversity (within and outside production systems), including with respect to the control of pests and diseases, pollination[27] and nutrient cycling;

(c) The interlinkages among fertilizers, crop nutrition and productivity, water quality, biodiversity (in terrestrial, freshwater and marine systems) and greenhouse gas emissions;

(d) The interlinkages among dietary diversity, health and the diversity of crops, livestock and other components of biodiversity in agricultural ecosystems;

(e) The significance of marine biodiversity for human health, including for food security, and the consequences of multiple stressors on marine ecosystems (including pathogens, chemicals, climate change and habitat degradation);

[26] The assessment report on pollinators, pollination and food production; the methodological assessment report on scenarios and models of biodiversity and ecosystem services; the regional assessment reports on biodiversity and ecosystem services in Africa, the Americas, Asia and the Pacific, and Europe and Central Asia; and the assessment report on land degradation and restoration.

[27] Drawing on the IPBES assessment of pollinators, pollination and food production.

(f) The linkages between the composition and diversity of the human microbiome and biodiversity in the environment, and implications for the planning, design, development and management of human settlements;

(g) The contribution of biodiversity and the natural environment in promoting mental and physical health, particularly in urban areas;

(h) The relationships among biodiversity, ecosystem degradation and infectious disease emergence, including the effects of ecological community structure and composition, habitat disturbance and human-wildlife contact, and the implications for land use and ecosystem management;

(i) The ways in which projected changes in climate will affect biodiversity and projected biodiversity losses will affect climate;[28]

(j) Interlinkages between climate mitigation and adaptation strategies, including ecosystem-based approaches (reduced ecosystem loss and degradation, ecosystem restoration and sustainable management of land, soils, livestock and crops), and how other proposed climate mitigation strategies (including land-based strategies such as large-scale afforestation and bio-energy) could affect biodiversity;[28]

(k) The ways in which projected changes in climate and biodiversity loss will affect agricultural production, water resources and human health.[28]

7. The issues listed above will be examined, inter alia, through a nexus approach (i.e., considering interactions among the issues, goals and sectors).

8. The assessment will require interdisciplinary and transdisciplinary work that draws on the natural and social sciences and indigenous and local knowledge, and will engage experts across multiple disciplines and holders of indigenous and local knowledge. It will examine relevant frameworks and approaches such as the ecosystem, One Health and landscape approaches.

9. While the assessment will be global in scope, regional differences and similarities will also be assessed.

10. The assessment will focus on producing the information needed to achieve the policy objectives of the Sustainable Development Goals, the Paris Agreement and the post-2020 biodiversity framework. It will be most directly relevant to Sustainable Development Goals 2 (zero hunger, i.e., issues of food security), 3 (good health and well-being), 6 (clean water, i.e., issues of water security), 13 (climate action), 14 (life below water) and 15 (life on land).

11. The assessment will also be relevant to Sustainable Development Goals 1 (poverty in its broadest definition), 4 (education, i.e., issues such as awareness-building), 5 (gender equality, i.e., issues such as the role of women in farming), 8 (decent work and economic growth, i.e., issues such as the implications for livelihoods), 10 (reduced inequalities, i.e., issues such as the distributional implications of climate change, loss of biodiversity, food and water security and access to health infrastructure), 11 (sustainable cities and communities, i.e., green spaces), 12 (sustainable consumption and production, i.e., issues such as sustainable agriculture and food waste), 16 (peace, justice and strong institutions, i.e., issues such as the implications of lack of access to food and clean water for local and regional peace) and 17 (partnerships for the goals, i.e., issues such as polycentric governance and cross-sectoral policies).

12. The assessment will build on and complement previous and ongoing work by IPBES (pollination assessment, land degradation and restoration assessment and the regional and global assessments of biodiversity and ecosystem services), IPCC (Fifth Assessment Report, special reports on the impacts of global warming of 1.5°C and on climate change and land) and other international bodies (e.g., The State of the World's Biodiversity for Food and Agriculture and related reports on genetic resources from the Food and Agriculture Organization of the United Nations, the International Assessment of Agricultural Knowledge, Science and Technology for Development, relevant reports of The Economics of Ecosystems and Biodiversity (TEEB), the Rockefeller Foundation–Lancet Commission on Planetary Health, the International Panel of Experts on Sustainable Food Systems). The detailed scoping process would determine what has been and is being assessed, to ensure that the proposed assessment will add value and to identify the issues on which the Plenary would want the assessment to focus.

[28] Drawing on the joint technical paper on biodiversity and climate change (deliverable 1 (b)).

13. The assessment, while challenging, is deemed feasible by the Multidisciplinary Expert Panel and the Bureau. New scenarios will be required, as they were for the IPCC special report on the impacts of global warming of 1.5ºC.

14. The assessment will extend over a four-year period.

II. Deliverable 1 (b): Assessing the interlinkage between biodiversity and climate change (technical paper)

15. In the light of the urgency of bringing biodiversity to the forefront of discussions regarding land-based climate mitigation and adaptation strategies, IPBES and IPCC will produce a joint technical paper on synergies and trade-offs between the need to protect biodiversity and to mitigate and adapt to climate change, as recommended by the Multidisciplinary Expert Panel and the Bureau. The technical paper, to be produced over one and a half years, will be based on the material contained in the IPBES regional and global assessments of biodiversity and ecosystem services and the assessment of land degradation and restoration, the IPCC special reports on the impacts of global warming of 1.5ºC and on climate change and land and the IPCC Fifth Assessment Report.

16. The technical paper will provide information relevant to the implementation of the Paris Agreement, the post-2020 biodiversity framework and the Sustainable Development Goals.

17. The technical paper will contribute to the scoping of, and feed into, deliverable 1 (a).

18. At a workshop on "biodiversity and climate change: integrating science for coherent policy" held in October 2018 under the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change, experts in the fields of biodiversity and climate change mitigation and adaptation, mainly from the IPCC and IPBES communities, discussed the issues to be addressed in the technical paper (CBD/COP/14/INF/22). The key messages from the workshop were as follows:

(a) Climate change and biodiversity loss are inseparable threats to humankind and must be addressed together.

(b) There are significantly greater risks to natural and human systems in a world warming to 2°C above pre-industrial temperatures compared to 1.5°C above pre-industrial temperatures.

(c) In order to limit global warming to well below 2°C and closer to 1.5°C above pre-industrial levels, strong actions are needed to reduce greenhouse gas emissions from fossil fuel use and cement production and to protect and enhance carbon sinks on land and in the ocean through ecosystem-based approaches.

(d) Protecting and conserving biodiversity and ecosystems is critical for maintaining and increasing the resilience, and reducing the vulnerability, of ecosystems and people in the face of the adverse effects of climate change, as well as for maintaining the capacity of ecosystems to store carbon.

(e) Ecosystem-based approaches to climate change mitigation and adaptation, including biodiversity conservation, reduction of ecosystem degradation and restoration of ecosystems, provide significant contributions to stabilizing warming to below 2°C and closer to 1.5°C above pre-industrial levels while delivering multiple co-benefits for biodiversity and sustainable development.

(f) Investing simultaneously in ecosystem restoration, the rehabilitation of degraded agricultural and pasture lands and ways to sustainably enhance agricultural productivity can contribute to combatting climate change and biodiversity loss and enhance food security at the same time.

(g) When considering bioenergy and biomass-based measures, attention should be given to the direct and indirect effects of related land-use changes, including net greenhouse gas emissions, water and nutrient constraints and changes in albedo.

(h) Many of the direct and most of the indirect drivers of biodiversity loss and climate change are common to both these challenges.

(i) An integrated approach regarding biodiversity and climate change is required at the local/national level in order to be able to address the systemic interactions and identify the synergies that could be strengthened by adequate policy packages.

(j) There are opportunities to use scientific knowledge about the links between climate change and biodiversity for policymaking.

19. The joint technical paper would focus on the future, addressing and amplifying the key conclusions listed above:

(a) The impact of plausible future changes in climate (e.g., warming levels of 1.5ºC, 2ºC, 3ºC and 4ºC) on terrestrial, freshwater and marine biodiversity, nature's contributions to people and quality of life, hence the biodiversity-sensitive Sustainable Development Goals (addresses conclusions a and b);

(b) The impact of plausible changes in biodiversity on climate change (addresses conclusion (a));

(c) The opportunities, challenges and impacts of climate change mitigation and adaptation options (e.g., bioenergy and carbon capture and storage and large-scale afforestation, reforestation and ecosystem restoration) on biodiversity, nature's contributions to people and quality of life (i.e., the biodiversity-sensitive Sustainable Development Goals) (addresses conclusions c and g);

(d) The impact of biodiversity conservation and sustainable-use practices on greenhouse gas emissions (i.e., climate mitigation) (addresses conclusions (d), (e) and (f));

(e) An evaluation of the indirect and direct drivers of future changes in climate and biodiversity (addresses conclusion (h));

(f) An evaluation of the synergies, trade-offs and effectiveness of policies and governance structures that simultaneously address climate change and biodiversity loss (addresses conclusions (h) and (i));

(g) Key scientific uncertainties.

III. Deliverable 1 (c): Assessing the underlying causes of biodiversity loss and the determinants of transformative change (thematic assessment)

20. Previous assessments have concluded that plausible pathways exist for achieving the 2050 vision for biodiversity[29] in conjunction with key human development goals. These pathways are coherent with known constraints on economics, resource use and human development goals. However, they require fundamental changes in development paradigms, entailing changes in society, including much more efficient use of land, water, energy and materials, rethinking of consumption habits and major transformations of food systems. The need for transformative change[30] for the achievement of the Sustainable Development Goals is recognized in the 2030 Agenda for Sustainable Development.

21. This assessment is aimed at understanding and identifying factors in human society, at both the individual and collective levels, that can be leveraged to bring about such transformative change in favour of biodiversity while taking into account broader social and economic imperatives in the context of sustainable development. This includes behavioural, social, cultural, economic, institutional, technical and technological dimensions, corresponding to the indirect drivers of change in biodiversity, which sit at the centre of the IPBES conceptual framework. Gaining a better understanding of how these drivers can be transformed would inform the development of policies and actions to trigger a shift towards sustainability and good quality of life at many levels, from individuals through communities and businesses to society at large.

22. The assessment will explore the drivers of and motives behind broad societal changes and transitions to inform the design of relevant policies, communication and engagement campaigns and other actions. It will examine, inter alia:

(a) Values (relational, utilitarian, etc.) and how they influence behaviour;

(b) Notions of good quality of life, worldviews and cultures, models of interaction between people and nature and social narratives;

(c) The role of social norms and regulations, and of economic incentives and other institutions in leveraging behavioural change in individuals, businesses, communities and societies;

[29] Decision X/2 of the Conference of the Parties to the Convention on Biological Diversity, annex, section II, Strategic Plan for Biodiversity 2010–2020.

[30] Transformative change (or transformational change; the terms are used interchangeably) refers to a fundamental, system-wide change that includes consideration of technological, economic and social factors, including in terms of paradigms, goals or values.

(d) The role of technologies and technology assessment;

(e) The role of collective action;

(f) Complex systems and transitions theory (the role of niche innovations, established regimes, path dependence and lock-in, non-linear interactions and feedbacks and emergent properties);

(g) Obstacles to achieving transformative change, including unequal power relations, lack of transparency, vested interests, unequal distribution of the costs and benefits of actions, tendencies for short-term decision-making, the psychology of losses and gains, the logic of market-driven processes, the lack of policy coherence and inertia;

(h) Equity and the need for "just transitions";

(i) Lessons from previous transitions (e.g., attitudes to smoking, energy transition, urban development).

23. The assessment will require interdisciplinary and transdisciplinary work drawing on the natural and social sciences, the humanities and indigenous and local knowledge. It will require experts in institutions, behavioural economics, political economy, psychology, systems thinking and technology assessment, among other disciplines, as well as indigenous and local knowledge experts and experts on indigenous and local knowledge.[31]

24. While the assessment will be global in scope, regional differences and similarities will also be assessed.

25. In addition to supporting the 2050 vision for biodiversity, the assessment will address multiple Sustainable Development Goals, in particular Sustainable Development Goals 8 (decent work and economic growth, i.e., issues related to decoupling economic growth from environmental degradation), 11 (sustainable cities and communities), 12 (sustainable consumption and production patterns, i.e., issues of consumption and waste), 14 (life below water), 15 (life on land) and 17 (partnerships for the goals, especially aspects concerning technology, finance and trade).

26. The assessment will build on the findings of previous and ongoing IPBES regional and thematic assessments. It will especially gain from results and thinking developed in IPBES work related to policy support, diverse conceptualization of values, indigenous and local knowledge and scenarios and models.

27. The assessment will be carried out over a three-year period.

IV. Deliverable 1 (d): Assessing the impact and dependence of business on biodiversity and nature's contributions to people (methodological assessment)

28. Key economic sectors, such a forestry, agriculture and fisheries, tourism, energy and mining, infrastructure and manufacturing and processing, depend on biodiversity and nature's contributions to people in various ways and to varying extents. These sectors also have a range of positive and negative impacts on biodiversity and nature's contributions to people. Appropriate tools for measuring dependence and impact are crucial to enabling businesses to assess and monitor their dependence and impact with a view to reducing adverse impacts and related material and reputational risks, and to developing the business case for long-term sustainability. They are also important for promoting public accountability, informing regulatory agencies and guiding financial investments.

29. Engagement of businesses in efforts to conserve and sustainably use biodiversity and related nature's contributions to people is essential to achieving the Sustainable Development Goals and realizing the 2050 vision for biodiversity and the targets of the post-2020 global biodiversity framework. Many companies (private and public), industry associations and investors wish to reduce the adverse impacts on biodiversity and nature's contributions to people associated with their activities, but require reliable and relevant definitions, criteria, indicators and other tools to do so. Initiatives have emerged to support reporting on environmental performance and much progress has been made in certain areas related to greenhouse gas emissions, water use, other material flows and land use (including avoidance of direct impacts in certain protected areas and other areas of high conservation value). There are numerous gaps, however, including with respect to assessing the broader impact on biodiversity, the cumulative impact and the indirect impact that occurs through

[31] As defined in the approach to recognizing and working with indigenous and local knowledge in IPBES set out in annex II to decision IPBES-5/1.

supply chains, trade or substitution effects (telecoupling), as well as dependence on biodiversity and nature's contributions to people more generally.[32]

30. Consistency in reporting impact is a prerequisite for comparisons over time, as well as for comparisons among various actors and activities. Validated, standardized criteria, metrics and indicators also facilitate efficient, transparent and just environmental governance, through, for instance, target-setting and regulations that stimulate ecologically friendly innovations and the decoupling of environmental pressures from growth in output. Consistency might also be useful for detecting leverage points in production and extraction, as well as for detecting where the greatest environmental gains can be achieved in a system perspective.

31. The assessment will focus on identifying:

(a) Categories of business dependence on biodiversity and nature's contributions to people, the materiality of that dependence and implications for risk management;

(b) Categories of business impact on biodiversity and nature's contributions to people, both direct (land-use change and other habitat changes, including through fragmentation, water degradation and extraction, overexploitation, pollution, greenhouse gas emissions and increased risk of invasive alien species) and indirect (e.g., through trade, indirect land-use change or other substitution effects and other aspects of telecoupling, including those mediated through supply chains), the materiality of the impact and implications for risk management;

(c) Criteria and indicators for measuring business dependence on biodiversity and nature's contributions to people;

(d) Criteria and indicators for measuring the impact of business activities on biodiversity and nature's contributions to people;

(e) Ways to integrate criteria and indicators for measuring business dependence and impact into other aspects of sustainability;

(f) Approaches to monitoring and reporting by individual entities and reporting initiatives.

32. The assessment will examine the challenges related to levels of aggregation of various types of businesses and scalability and comparability between regions and across sectors.

33. The assessment will include a review of academic literature and of relevant reports prepared by existing reporting initiatives and public and private entities, including selected companies and industry associations.

34. The assessment will be global in scope and will address issues related to the world's major productive sectors. Regional adaptions and applications will also be considered.

35. The assessment is directly relevant to the work of the Convention on Biological Diversity and to a number of initiatives and organizations dealing with productive sectors, including United Nations initiatives such as the United Nations Global Compact, the One Planet Network, the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns, various initiatives undertaken by the Food and Agriculture Organization of the United Nations, the United Nations Forum on Forests, the World Tourism Organization, as well as networks and initiatives of civil society and the private sector, such as Proteus (a collaboration between leading extractives companies and the World Conservation Monitoring Centre) and the Globally Responsible Leadership Initiative.

36. The assessment will provide scientific evidence directly relevant to multiple Sustainable Development Goals but is specifically closely related to Sustainable Development Goals 9 (build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation), 12 (ensure sustainable consumption and production patterns, i.e., issues of production and efficient use of natural resources), 14 (life below water) and 15 (life on land).

37. The proposed assessment demands a highly interdisciplinary team of experts, as both biophysical aspects related to various sectors with different impacts and ways of managing and accounting will be considered. Key expertise is needed in accounting, ecology, soil science, agriculture, forestry, tourism, mining, engineering, business management and organization.

38. The assessment will be carried out as a fast-track assessment over a two-year period.

[32] A recent review is provided in document CBD/SBI/2/4/Add.2.