

Decision IPBES-8/1: Implementation of the rolling work programme of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services up to 2030

The Plenary,

Welcoming the report of the Executive Secretary on progress in the implementation of the rolling work programme up to 2030,¹

Acknowledging with appreciation the outstanding contribution made by all the experts involved to date in the implementation of the work programme and thanking them for their unwavering commitment thereto,

I

Implementation of the work programme of the Platform up to 2030

1. *Decides* to proceed with the implementation of the work programme in accordance with the decisions adopted at its previous sessions, the present decision, and the approved budget as set out in decision IPBES-8/4;
2. *Encourages* Governments and stakeholders to participate actively in the implementation of the work programme, in particular through the review of draft deliverables and the balanced nomination of experts, including experts with direct experience in policy development and implementation and experts involved in other relevant assessment processes, where appropriate;
3. *Requests* the Executive Secretary to provide a report on progress in the implementation of the work programme to the Plenary at its ninth session;

II

Assessing knowledge

1. *Approves* the undertaking of a thematic assessment of the interlinkages among biodiversity, water, food and health, in accordance with the procedures for the preparation of Platform deliverables² and as outlined in the scoping report for the assessment set out in annex I to the present decision, for consideration by the Plenary at its eleventh session;
2. *Invites* the management committee to consider reducing the number of chapters of the assessment referred to in section II, paragraph 1, of the present decision, without changing the underlying content of each individual chapter, in particular on the assessed policy options, in time for the final selection of authors, and ensuring that each sector is represented in overall assessment leadership, and to report thereon to the Plenary at its ninth session;
3. *Approves* the undertaking of a thematic assessment of the underlying causes of biodiversity loss and the determinants of transformative change and options for achieving the 2050 Vision for Biodiversity, in accordance with the procedures for the preparation of Platform deliverables³ and as outlined in the scoping report for the assessment set out in annex II to the present decision, for consideration by the Plenary at its eleventh session;
4. *Thanks* the organizers of and participants in the workshop of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services on biodiversity and pandemics,⁴ appreciates the significant effort that went into the report, and invites the experts who will prepare the thematic assessment of the interlinkages among biodiversity, water, food and health and the thematic assessment of the underlying causes of biodiversity loss and the determinants of transformative change and options for achieving the 2050 Vision for Biodiversity to consider the report, as appropriate, in the undertaking of those assessments, in line with the procedures for the preparation of Platform deliverables;⁵

¹ IPBES/8/2.

² See decision IPBES-3/3, annex I.

³ See decision IPBES-3/3, annex I.

⁴ IPBES/8/INF/5.

⁵ See decision IPBES-3/3, annex I.

5. *Thanks* the organizers of and participants in the workshop on biodiversity and climate change,⁶ co-sponsored by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services and the Intergovernmental Panel on Climate Change, appreciates the significant effort that went into the report, and invites the experts who will prepare the thematic assessment of the interlinkages among biodiversity, water, food and health and the thematic assessment of the underlying causes of biodiversity loss and the determinants of transformative change and options for achieving the 2050 Vision for Biodiversity to consider the report, as appropriate, in the undertaking of those assessments, in line with the procedures for the preparation of Platform deliverables;⁷

6. *Requests* the Bureau, in consultation with the Multidisciplinary Expert Panel, to review scoping processes in other bodies such as the Intergovernmental Panel on Climate Change, with a view to making proposals for streamlining future scoping processes under the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services;

7. *Decides*, in line with the need for ongoing adaptive management, as outlined in section II, paragraph 12, of decision IPBES-7/1, that, with the completion of the report on the workshop on biodiversity and climate change, a technical paper on biodiversity and climate change, the preparation of which was agreed on in section II, paragraph 6, of decision IPBES-7/1, is no longer required;

8. *Welcomes* the note by the secretariat on the work on biodiversity and climate change and collaboration with the Intergovernmental Panel on Climate Change;⁸

9. *Invites* the Bureau of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services and its Executive Secretary to continue to explore with the Intergovernmental Panel on Climate Change approaches for future joint activities between the Intergovernmental Panel on Climate Change and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, including those outlined in section II of the note by the secretariat on the work on biodiversity and climate change, taking into account the need for transparency of any joint activity, in conformity with the decisions of the Intergovernmental Panel on Climate Change and of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services and their respective policies and procedures, and requests the Executive Secretary to report to the Plenary at its ninth session on progress in that regard;

10. *Requests* the Executive Secretary to invite members to submit suggestions for thematic or methodological issues related to biodiversity and climate change which would benefit from collaboration between the Intergovernmental Panel on Climate Change and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services and requests the Executive Secretary to make a compilation of those submissions available to the Plenary at its ninth session;

11. *Decides*, notwithstanding section 3.1 and related provisions of the procedures for the preparation of Platform deliverables,⁹ to enable Governments to undertake:

(a) An additional review of the summary for policymakers of the assessment report on the methodological assessment regarding the diverse conceptualization of multiple values of nature and its benefits, including biodiversity and ecosystem functions and services, in October 2021;

(b) An additional review of the summary for policymakers of the assessment report on the sustainable use of wild species later in 2021, if considered necessary and feasible by the Multidisciplinary Expert Panel and the co-chairs of the assessment following a review of the comments received during the second external review of the assessment;

III

Building capacity

1. *Welcomes* the progress made by the task force on capacity-building in the implementation of objectives 2 (a), 2 (b) and 2 (c) of the work programme of the Platform up to 2030;

2. *Approves* the interim workplan of the task force on capacity-building for the intersessional period 2021–2022, as set out in annex III to the present decision;

⁶ IPBES/8/INF/20.

⁷ See decision IPBES-3/3, annex I.

⁸ IPBES/8/6.

⁹ See decision IPBES-3/3, annex I.

3. *Welcomes* the progress made in the development of deliverables supporting objectives 2 (a), 2 (b) and 2 (c) and the three initial priority topics of the work programme of the Platform up to 2030,¹⁰ and decides to consider the deliverables at its ninth session;

IV

Strengthening the knowledge foundations

1. *Welcomes* the progress made by the task force on knowledge and data in the implementation of objective 3 (a) of the work programme of the Platform up to 2030;
2. *Takes note of* the data management policy of the Platform;¹¹
3. *Approves* the interim workplan of the task force on knowledge and data for the intersessional period 2021–2022, as set out in annex IV to the present decision;
4. *Welcomes* the progress made by the task force on indigenous and local knowledge systems in the implementation of objective 3 (b) of the work programme of the Platform up to 2030;
5. *Approves* the interim workplan of the task force on indigenous and local knowledge systems for the intersessional period 2021–2022, as set out in annex V to the present decision;
6. *Welcomes* the progress made in the development of the deliverables supporting objectives 3 (a) and 3 (b) and the three initial priority topics of the work programme of the Platform up to 2030,¹² and decides to consider those deliverables at its ninth session;

V

Supporting policy

1. *Welcomes* the progress made by the task force on policy tools and methodologies in the implementation of objective 4 (a) of the work programme of the Platform up to 2030;
2. *Approves* the interim workplan of the task force on policy tools and methodologies for the intersessional period 2021–2022, as set out in annex VI to the present decision;
3. *Welcomes* the progress made by the task force on scenarios and models in the implementation of objective 4 (b) of the work programme of the Platform up to 2030;
4. *Approves* the interim workplan of the task force on scenarios and models for the intersessional period 2021–2022, as set out in annex VII to the present decision;
5. *Welcomes* the progress made in the development of the deliverables supporting objectives 4 (a) and 4 (b) and the three initial priority topics of the work programme of the Platform up to 2030,¹³ and decides to consider those deliverables at its ninth session;

VI

Reviewing effectiveness

1. *Welcomes* the report by the Bureau, the Multidisciplinary Expert Panel and the Executive Secretary on progress in addressing the recommendations set out in the report on the review of the Platform at the end of its first work programme;¹⁴
2. *Requests* the Bureau, the Multidisciplinary Expert Panel and the Executive Secretary, in accordance with their respective mandates, to continue to take the recommendations made by the review panel into account in the implementation of the rolling work programme of the Platform up to 2030 and report on progress to the Plenary at its ninth session, and future sessions of the Plenary, as appropriate, including on further solutions and issues;
3. *Requests* the Executive Secretary to consult the Multidisciplinary Expert Panel on aspects related to reviewing the effectiveness of the Platform in the context of the request to the Executive Secretary in paragraph 6 of decision IPBES-8/4 on financial and budgetary arrangements;

¹⁰ Set out in section II.A of document IPBES/8/7.

¹¹ IPBES/8/INF/12.

¹² Set out in sections III.A.1, III.B.1 and IV.B of document IPBES/8/7.

¹³ Set out in sections V.A and VI.A of document IPBES/8/7.

¹⁴ IPBES/8/8.

4. *Requests* the Bureau, the Multidisciplinary Expert Panel and the Executive Secretary, in accordance with their respective mandates, to critically review the process for the nomination and selection of experts, including the implementation of the approach to filling gaps in expertise and disciplinary, regional and gender balance, for scoping and preparing assessments and task forces, outlined in annex I to decision IPBES-4/3, including with a view to increasing the participation of practitioners in the assessment process, and to report to the Plenary at its ninth session on progress in that regard;

5. *Welcomes* the note by the Bureau and the Multidisciplinary Expert Panel on the implementation of their respective roles in practice;¹⁵

6. *Also welcomes* the progress made by the Bureau and the Multidisciplinary Expert Panel in developing a note on the use and impact of the conceptual framework of the Platform and invites members, observers and other stakeholders to provide their comments on the draft note to the secretariat by 30 September 2021;

VII

Technical support for the work programme

Requests the secretariat, in consultation with the Bureau and in accordance with the approved budget set out in the annex to decision IPBES-8/4, to establish the institutional arrangements necessary to implement the technical support required for the work programme.

¹⁵ IPBES/8/INF/22.

Annex I to decision IPBES-8/1

Scoping report for a thematic assessment of the interlinkages among biodiversity, water, food, and health

I. Scope, timeline and geographic coverage, policy context and methodological approach

A. Scope

1. This document was prepared in response to decision IPBES-7/1, in which the Plenary of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) approved a scoping process, for consideration at its eighth session, for a thematic assessment of the interlinkages among biodiversity, water, food and health. The assessment addresses the interlinkages among biodiversity, climate change, adaptation and mitigation including relevant aspects of the energy system, water, food, and health and will consider holistic approaches based on different knowledge systems.
2. The assessment will fully take into account the IPBES conceptual framework, as set out in the annex to decision IPBES-2/4, in particular by addressing all of the elements and interactions of the IPBES conceptual framework, and by fully recognizing and considering different world views and different knowledge systems, including science and indigenous and local knowledge systems.
3. The report will assess the state of knowledge, including indigenous and local knowledge, on past, present and possible future trends in these multi-scale interlinkages, with a focus on biodiversity and nature's contributions to people, to inform the development of policies and actions. Strong interlinkages and interdependencies exist among globally agreed goals with regard to the components of the nexus. The complementarity and trade-offs between these agreements and frameworks will be assessed in the context of the nexus approach.
4. The assessment will highlight thresholds, feedback and resilience in nexus linkages, as well as opportunities, synergies and trade-offs between different response options. The assessment will consider the synergies and trade-offs in terms of broadly defined social, economic, and environmental impacts. Emphasis will be placed on response options that consider these nexus elements and their diverse dimensions, including the limits and safeguards needed to implement those options.
5. The assessment, across all nexus elements, will evaluate the role of the most important indirect (i.e., societal values, production and consumption patterns, demography, technology, culture, and governance) and direct drivers of change (i.e., land- and sea-use change, direct exploitation of organisms, climate change, pollution, and invasive species),¹ the role of both formal and informal institutions, and the impacts of the patterns of production, supply and consumption (including telecoupling) on nature, nature's contributions to people and good quality of life.
6. The assessment process and its outputs will be supported by, and contribute to, the four functions of the Platform.²

B. Timeline and geographic coverage

7. The assessment will be global in scope but highlight and interpret regional and subregional similarities and differences, and will include terrestrial, freshwater and marine systems.
8. The time frame of analyses will cover the past (in the last 50 years, from the industrial revolution, from around 1500 or as far back as appropriate, where data or information is available, or as clearly relevant to future response options or to understand current status and trends) and plausible future projections up until 2050, with a focus on various periods up to 2050 that cover key target dates related to the post-2020 global biodiversity framework³ and the Sustainable Development Goals.

¹ As identified in: Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), *Summary for Policymakers of the Global Assessment Report on Biodiversity and Ecosystem Services* (Bonn, Germany, 2019).

² UNEP/IPBES.MI/2/9, annex I, appendix I, section I.

³ Decision 14/34 of the Conference of the Parties to the Convention on Biological Diversity. For more information see www.cbd.int/conferences/post2020.

Longer future time horizons up to 2100 will be considered where they add relevant knowledge on the long-term consequences of nexus interactions or the long-term resilience of response options.

9. The assessment will be conducted over three years from the initial start of the assessment.

C. Policy context

10. The assessment will contribute to the development of a strengthened knowledge base for policymakers for informed, science-based decision-making, in the context of the 2050 Vision for Biodiversity, the post-2020 global biodiversity framework and its targets, as well as national biodiversity strategies and action plans, and nationally determined contributions and long-term strategies of the Paris Agreement adopted under the United Nations Framework Convention on Climate Change (for matters related to the links between biodiversity and climate change) and the 2030 Agenda for Sustainable Development.

11. Intended users include Governments, relevant multilateral environmental agreements, other multilateral organizations, academic organizations, the private sector and civil society, including indigenous peoples and local communities, and non-governmental organizations. The assessment is also expected to inform other national, regional and global policies on the conservation and sustainable use of biodiversity and ecosystems and their contributions to people. The assessment will also provide guidance on building resilience to pandemics, highlighting the role of biodiversity and restoration of ecosystem functions in the prevention of pandemics.

D. Methodological approach

12. The assessment will be produced by a group of experts in accordance with the procedures for the preparation of Platform deliverables. It will include a summary for policymakers and a set of chapters, submitted to the Plenary for its approval and acceptance, respectively.

13. For the purpose of the assessment, biodiversity is: “The variability among living organisms from all sources, including terrestrial, marine and other aquatic ecosystems, and the ecological complexes of which they are a part. This includes variation in genetic, phenotypic, phylogenetic and functional attributes, as well as changes in abundance and distribution over time and space within and among species, biological communities and ecosystems.”⁴ Climate includes the global climate system and its interactions with human activities, comprising climate change, adaptation and mitigation, including relevant aspects of the energy system; water includes all forms of surface and ground water and the biophysical and human processes and systems that regulate its quality, quantity, distribution and use; food includes the full value chain for all cultivated and wild foods, fibre, feed, lumber and industrial feedstocks, from production to consumption and disposal; and health includes human physical and mental health and well-being, how infectious diseases emerge from the wild, including the role of human activity in their spread and the systems related to the prevention, treatment and management of diseases, and is addressed using frameworks such as the One Health and other holistic approaches.

14. The assessment will aim to be credible, legitimate, science-based and build from a multiple evidence base. The summary for policymakers will highlight key policy-relevant findings and non-prescriptive policy options for a wide range of end users, some of whom are mentioned above, and reflect the comprehensive analysis of the current state of scientific knowledge and other knowledge systems (including indigenous and local knowledge) performed in the chapters and summarize knowledge gaps and further research needs.

15. The assessment will be based on existing evidence: data (including, as appropriate, national data), scientific and grey literature and other forms of knowledge, in different languages (to the extent possible), including indigenous and local knowledge, in line with relevant procedures of the Platform.

16. The assessment will build on and complement previous and ongoing work by IPBES, including IPBES assessments (methodological, thematic, regional and global). The reports from the IPBES workshop on biodiversity and pandemics⁵ and the IPBES/Intergovernmental Panel on Climate Change co-sponsored workshop on biodiversity and climate change⁶ will be considered as supplementary material in the preparation of the assessment. The assessment will also use existing data and information held by global, regional, subregional and national institutions, including but not limited to relevant multilateral environmental agreements and intergovernmental organizations. The

⁴ IPBES, “Biodiversity”, Glossary. Available at <https://ipbes.net/glossary/biodiversity> (14/07/2021).

⁵ IPBES/8/INF/5.

⁶ IPBES/8/INF/20.

assessment will use existing scenarios and models as well as new scenarios and models whose production may be catalyzed as part of the follow-up to the IPBES Assessment of Scenarios and Models of Biodiversity and Ecosystem Services.⁷

17. The assessment will identify key knowledge gaps and areas of knowledge generation needs in capacity and policies, promote the use of policy support tools and provide options and solutions for addressing them at the appropriate scales.

18. The task force on indigenous and local knowledge will support the implementation of the approach to recognizing and working with indigenous and local knowledge in IPBES for the assessment. The task force on knowledge and data will support work related to data and knowledge, as detailed in section III below. The task force on scenarios and models will support the work of authors, in particular those preparing chapter 4. The task force on policy tools and methodologies will perform work to increase the policy relevance of the assessment and its use in decision-making, once approved. Finally, the task force on capacity-building will oversee the implementation of capacity-building activities, as outlined in section IV below.

19. Given the potentially strong interlinkages between the planned IPBES nexus assessment and transformative change assessment (thematic assessment of the underlying causes of biodiversity loss and the determinants of transformative change and options for achieving the 2050 Vision for Biodiversity), close coordination and facilitation between all relevant assessment processes during their development will be ensured to enable complementarity and synergies and to avoid duplication of scope and work. The two assessments will be complementary, with the transformative change assessment focused on determinants of transformative change, and the nexus assessment focused on options for overcoming trade-offs and for enabling synergies between biodiversity, water, food and health.

II. Chapter outline

20. The assessment will be divided into two parts, with part I focused on framing the nexus and holistic approaches, and part II on pathways to sustainable futures based on different knowledge systems. Part I will include four chapters and part II eight, each containing an executive summary.

Part I. Framing the nexus

21. **Chapter 1: Introducing the nexus.** Chapter 1 will outline the general framework for the assessment and the relationship to the transformative change assessment, define the elements of the nexus, including their social, economic and environmental aspects, and portray the interlinkages and interdependencies among the nexus elements across scales, geographic regions and ecosystems. Chapter 1 will explain the policy relevance of the assessment, provide a road map and overarching rationale for the sequence of chapters in the assessment and identify the policy-relevant key questions pertinent to the assessment. The chapter will frame the conceptual basis for the assessment, linked to the IPBES conceptual framework, including links to nature's contributions to people and good quality of life. The chapter will also discuss the importance of indicators in the context of the nexus, and the effectiveness of the monitoring frameworks of the post-2020 global biodiversity framework and of the 2030 Agenda at capturing the nexus interactions.

22. **Chapter 2: Status and past trends of basic interactions in the nexus.** Chapter 2 will assess the global and regional trends and current status of key aspects of the two-way interactions between biodiversity and each element of the nexus. The chapter will treat each two-way interaction with a separate section: (a) Biodiversity and climate change, mitigation and adaptation, including relevant aspects of the energy system; (b) biodiversity and water; (c) biodiversity and food; (d) biodiversity and health.

23. Within each section, interactions will be described and assessed, quantitatively when possible, in terms of their environmental, social and economic costs and benefits. Each section will summarize overarching insights that can improve decision-making and assign attribution of past trends in most impactful interactions to drivers (direct and indirect), identifying which past actions, decisions, policies or institutions have or have not advanced elements of the nexus relative to the Sustainable Development Goals at various scales. The analysis and synthesis in each section will describe the roles of formal and informal institutions (e.g., shared rules, values, customs and cultural practices)

⁷ IPBES, *The Methodological Assessment Report on Scenarios and Models of Biodiversity and Ecosystem Services* (Bonn, Germany, 2016).

associated with any of the systems in the nexus. In addition to an in-depth assessment of two-way interactions, each section will also give a brief indication of the most important past and current higher-order (three-way or higher) interactions involving each pair, which will be examined in more detail in chapter 3. Terrestrial, freshwater and marine ecosystems will be considered.

24. **Chapter 3: Status and past trends of complex interactions in the nexus.** Chapter 3 will assess the global and regional trends and current status in interactions and integrated perspectives of higher-order interactions in the nexus. Building on chapter 2, which approaches this nexus through system-specific two-way interactions, this chapter will emphasize the three-way and higher interactions (e.g., biodiversity – food – health, biodiversity – climate – water). Understanding the nexus is complex but essential to managing biodiversity and development issues effectively. The chapter will attribute past trends in important interactions to drivers (direct and indirect), identifying which past actions, decisions, policies, or institutions have affected elements of the nexus relative to the Sustainable Development Goals. The chapter will assess potential synergies and trade-offs among those multiple dimensions of the nexus and identify challenges, opportunities, and methodologies for approaching them holistically instead of through the lens of one system at a time. The chapter will outline how interactions were prioritized for analysis and will not attempt to assess every possible higher-order interaction. Instead, it will identify and focus on a subset of interactions that are likely to be most powerful in shaping the nexus and most relevant to response options. In doing so, it will establish a set of overarching relationships that can be explored in a consistent manner through the scenarios provided in chapter 4.

25. **Chapter 4: Future interactions across the nexus.** Chapter 4 will assess different types of scenarios (exploratory, policy-screening and target-seeking, defined according to the IPBES Assessment of Scenarios and Models), including qualitative scenarios and diverse views of future projections of good quality of life, representing plausible futures for the nexus issues addressed in this assessment. The chapter will focus on scenarios that address, in an integrated way, multiple interactions among these issues and their response to major drivers of change (e.g., population and economic growth), as identified in chapter 3 as being the most powerful and relevant to response options. While the chapter will cover a range of exploratory scenarios that are likely to show positive and negative future impacts on biodiversity, a greater focus of the chapter will be on the analysis and comparison of scenarios representing sustainable futures, which better integrate the elements of the nexus, paving the way for chapters 5 to 11. The timeframe of the analysis will focus on scenarios covering the period from current year to 2050 (linking to relevant policy targets such as the Sustainable Development Goals and the 2050 Vision for Biodiversity), although longer time horizons to 2100 will be considered where they add relevant knowledge on the long-term consequences of nexus interactions or the long-term resilience of response options. Global- to national-scale (and subnational-scale, where relevant) scenario studies that are quantitative and/or qualitative will be considered.

26. The chapter will cover a wide range of direct and indirect drivers of biodiversity change (see paragraph 5) that are addressed within scenarios that affect or shape the nexus, including how these drivers evolve through time into the future. The chapter will also account for alternative worldviews and visions of the future, including those embedded within indigenous and local knowledge. The chapter will include analyses of which nexus interactions are most influential in determining how multiple internationally agreed goals can be achieved, while minimizing trade-offs. It will show which pathways lead to outcomes that are closest to and furthest from these policy goals. Finally, it will discuss uncertainties and limitations embedded in currently available scenarios and models, focusing on their treatment of nexus interactions.

Part II. Pathways to sustainable futures

27. Part II of the assessment will address the possible pathways to realizing a range of sustainable futures.⁸

28. Chapter 5 will assess policy and sociopolitical options to implement changes for sustainable futures. Drawing from the analyses in part I, chapters 6 to 11 will take a holistic multisectoral and multidimensional view to assess the potential for different sets of actors to create the changes identified in chapter 5. The chapters, in line with the nexus approach, will assess options for action which are in synergy with each other, by actors focused on water (chapter 6), food (chapter 8), health (chapter 9), finance (chapter 10), biodiversity (chapter 11), and focused on delivering sustainable

⁸ The assessment will acknowledge that there is a range of sustainable futures depending on one's world view and a number of other factors.

biodiversity-related approaches to climate change, adaptation and mitigation, including relevant aspects of the energy system (chapter 7).

29. Each chapter will consider:

(a) Response options that include individual and collective action (e.g., from local to national governments, international organizations, the private sector, youth, faith-based organizations, indigenous peoples and local communities, financial institutions, non-profit organizations, and research organizations) to modify or change policies and regulations, financial instruments, governance structures, technologies, business practices, and behaviours, and enabling conditions to advance the changes identified in chapter 5;

(b) Response options that require joint action by multiple sectors, emphasizing how each sector would contribute to those joint actions;

(c) The potential of nature-based solutions,⁹ ecosystem-based approaches and other response options;

(d) The environmental (e.g., biodiversity, climate, ecosystem services and nature's contributions to people in terrestrial, freshwater, and marine ecosystems), social (e.g., gender equity, cultural values, disease burden, food security, water security and disaster risk) and economic (e.g., employment, livelihood options, income and access to capital) costs and benefits (positive and negative impacts) of response options that can advance the changes highlighted in chapter 5. These assessments will be quantitative when possible, outline ways in which actions can be prioritized and include consideration of the environmental, social and economic impacts of inaction or delayed action considering multiple value systems;

(e) Which indicators are used to track progress toward goals and targets, including as part of the monitoring framework of the post-2020 global biodiversity framework and the 2030 Agenda, how efficient are they at capturing nexus interactions and holistic integration, what progress has been made against these indicators, and what options exist to improve or complement them?

(f) Knowledge gaps related to response options for the given sector, including limitations to using process-based and numerical simulation models for nexus explorations;

(g) As relevant, case studies of successes and failures at different scales.

30. **Chapter 5: Policy and sociopolitical options across the nexus that could facilitate and accelerate the transition to a range of sustainable futures.** Chapter 5 will define what change means in the context of the present nexus and will assess the utility of different theoretical and practical frameworks for implementing sustainable management approaches, either through transformative change based on different knowledge systems, or through identifying other approaches to management (policy and sociopolitical options). Changes that could facilitate sustainability within the context of the interacting nexus elements, and in the broader context of the 2050 Vision for Biodiversity, the post-2020 global biodiversity framework and its targets, as well as national biodiversity strategies and action plans, and nationally determined contributions and long-term strategies of the Paris Agreement adopted under the United Nations Framework Convention on Climate Change, will be explored. This chapter will assess the factors, including economic and financial, technical and technological, social, institutional, cultural and behavioural, that could facilitate or obstruct changes to achieve a sustainable future and avoid actions which could be maladaptive in the longer term. Specifically, chapter 5 will identify and assess cross-cutting and high-level issues, including integrative tools that are relevant for all nexus elements, e.g., social issues such as poverty, employment, gender, cohesion, education, food security, equity and justice, and demography; economic and financing issues such as inclusive wealth, subsidies, externalities, income, growth and cost-effectiveness; and political issues such as polycentric governance and inclusiveness. The chapter will assess how economic, financing and governance systems can evolve, as well as evaluate the potential of cross-sectoral planning and management in creating sustainable approaches to management of nexus elements. This chapter will also examine the roles of technology, and indigenous and local knowledge, and different perceptions of a good quality of life and the values and structural conditions that influence individual and collective behaviour in relationship to the nexus. The potential effectiveness of a variety of governance interventions and leverage points will be assessed. The chapter will discuss and assess the types of actions that represent transformative change

⁹ "Actions to protect, sustainably manage and restore natural and modified ecosystems in ways that address societal challenges effectively and adaptively, to provide both human well-being and biodiversity benefits". International Union for Conservation of Nature, *Global Standard for Nature-based Solutions* (Gland, Switzerland, 2020).

and other sustainable approaches to decision-making, e.g., what actions are not in themselves transformative but lead to transformation, and briefly identify the types of sector-specific actions that are incremental, but still very important, while understanding synergies and trade-offs with all nexus elements. Finally, chapter 5 will include a section on holistic perspectives of the nexus elements, including different world views, such as those held by indigenous peoples and local communities, and various conceptualizations of the world, as appropriate. The intrinsic values of nature and mechanisms to support holistic indigenous approaches should be considered.

31. **Chapter 6: Options for delivering sustainable approaches to water.** Chapter 6 will address the response options that can be implemented by actors in the freshwater and marine sectors to create the changes outlined in chapter 5. Response options such as water policies or demand management that provides safe, adequate and equitable supply for various users and uses will be identified and assessed at the watershed and at other appropriate scales. The chapter will also assess policy options available to public and private water managers such as participatory management, adaptive uses of water systems, water and land tenure and access, integrated watershed management, water reuse, mitigation measures for water infrastructure development and nature-based, ecosystem-based and other solutions that contribute to biodiversity and ecosystem protection and management. This chapter will take a holistic integrated approach, while also seeking to address challenges to implementation of policy response options, including at the transboundary level. It will consider interactions between freshwater, terrestrial and marine ecosystems. It will incorporate biodiversity and nature's contributions to people into considerations in current policy responses, commitments, incentives and finance channels along with water management for climate change, adaptation and mitigation, and prevention and management of invasive alien species. It will also explore the utility of relevant transdisciplinary concepts, which can be used to identify innovative policy interventions.

32. **Chapter 7: Options for delivering sustainable biodiversity-related approaches to climate change, adaptation and mitigation, including relevant aspects of the energy system.** Chapter 7 will address biodiversity-related response options for climate change, adaptation and mitigation, including relevant aspects of energy production, distribution and consumption, including those that can be implemented in terrestrial, freshwater, and marine ecosystems, to create the changes outlined in chapter 5. Options considered may focus on mainstreaming biodiversity considerations into the relevant aspects of the energy system. The chapter will examine biodiversity-related policies and procedures related to the governance of climate change, adaptation and mitigation strategies, including relevant aspects of the energy system. Further, the chapter will examine financing options and incentives to mitigate and adapt to climate change, while conserving, restoring and sustainably using biodiversity, and meeting relevant global objectives for food, water, and health.

33. **Chapter 8: Options for delivering sustainable food systems.** Chapter 8 will address the response options that can be implemented by actors in the food system to create the changes outlined in chapter 5. Response options considered may include policies and procedures at any scale related to food systems (e.g., entire value chains of wild harvested terrestrial, freshwater or marine resources, crops, feedstocks, fibre, livestock, aquaculture, agroforestry and forestry). Response options may include governance, finance, regulatory regimes, trade, and management systems and practices. The chapter will also examine the use of effective agricultural practices, including agroecological practices, organic farming, integrated pest management and biotechnology, that incorporate innovative solutions as possible pathways to sustainability, including trade-offs. Further, the chapter will examine how to achieve food and nutrition security and food safety, and how to reduce food loss and waste. Other components of the food system such as altering food processing, packaging, distribution, trade and marketing will be considered as part of the analysis. The chapter will consider indigenous and local knowledge relevant to food systems; examine how to alter food demand and consumption and how to increase diversity in food consumption to ensure equitable access to healthy diets. Response options could also include those that contribute to water security and thriving freshwater systems; reducing greenhouse gas emissions; increased efficiency (e.g., land requirements, water and chemical inputs, soil health) in existing production or harvest systems; and improved health (e.g., undernutrition and overnutrition, air quality, and pandemic prevention) in order to facilitate improvements across all elements of the nexus.

34. **Chapter 9: Options for delivering sustainable approaches to health.** Chapter 9 will address the response options that can be implemented by health actors to create the changes outlined in chapter 5. Response options considered may include policies and procedures related to valuing the human health-related contributions from biodiversity (including medicinal plants, contributions to nutrition and to mental health). The chapter will examine progress towards equity in accessibility to health-related benefits (including for indigenous peoples and local communities, community groups, women and girls), governance of intellectual property rights, management of environmental determinants of diseases, or health system impacts on biodiversity. Response options may include

health-oriented actions that benefit health and biodiversity, as well as other elements of the nexus, and may require cross-sector collaboration (e.g., sanitation and wastewater treatment; diet diversification that maintains crop genetic diversity and improves nutrition; reproductive health options that aid maternal and child health, lower demands for environmental resources and maximize cross-sectoral benefits and governance; addressing a One Health approach in an environment shared by people, animals and plants; coronavirus disease (COVID-19) pandemic recovery actions that reduce future pandemic risk and mitigate climate change and/or enhance food security).¹⁰ There may be considerations of policies and procedures that adopt frameworks that allow exploration of approaches to a healthy planet, maximizing cross-sectoral benefits and governance. Response options will include those that manage the linkages among biodiversity and disease prevention, including links to anthropogenic drivers of the emergence and spread of infectious diseases, including those with pandemic potential, such as COVID-19, SARS, Nipah virus infection, HIV/AIDS and Ebola virus disease, as well as land-use change, climate change, wildlife consumption and trade, and livestock intensification.¹¹

35. **Chapter 10: Options for delivering sustainable approaches to public and private finance for biodiversity-related elements of the nexus.** Chapter 10 will address the response options that can be implemented by actors in the financial sector to create the changes outlined in chapter 5. The chapter will examine the role of international and national public and private financiers in funding progress towards the options identified in previous chapters. The chapter will consider response options related to domestic budgets, philanthropic foundations, international cooperation, private investors and lenders, and multilateral organizations and development cooperation agencies. Further, the chapter will assess progress in the context of international conventions' commitments to providing the financing required to achieve the changes highlighted in chapter 5, including those that have the potential to achieve the Sustainable Development Goals. The chapter may consider different mechanisms, approaches, and market and non-market economic instruments to enhance nexus and holistic approaches within the context of the evolving economic paradigms explored in chapter 5.

36. **Chapter 11: Options for delivering sustainable approaches to biodiversity conservation, restoration and sustainable use.** Chapter 11 will address the response options that can be implemented by environmental or conservation actors to create the changes outlined in chapter 5. Response options considered may include the potential of nature-based solutions, ecosystem-based approaches and other response options such as Mother Earth rights-based approaches, green and blue urban spaces, terrestrial, freshwater and marine spatial planning, the creation and effective and sustainable management of protected area networks and ecological corridors, other effective area-based conservation measures to maximize conservation and enhance ecological connectivity, environmental restoration of degraded ecosystems, and environmental rehabilitation. Response options may include environmental regulations (e.g., infrastructure development, water management, aquaculture and fisheries management, agricultural chemical use, and pollution), and voluntary norms or formal governance agreements related to natural resource access and management. Options will include consideration of necessary research, monitoring and environmental public awareness and education to support the changes identified in chapter 5.

37. **Chapter 12: Summary and synthesis of options, knowledge and technology gaps and capacity development.** Chapter 12 will summarize the opportunities for action for a range of policymakers, decision-makers and actors at all levels, including relevant parts of the United Nations system, the governing bodies of nexus-related biodiversity, climate (including relevant aspects of the energy system), food, water or health agreements and other relevant agreements, as appropriate, and, in accordance with their respective mandates, policymakers, legislators, private sector actors, financial planners, civil society, academic and research institutions, indigenous peoples and local communities, youth, women, and other stakeholders related to any systems within the nexus. Holistic perspectives of the nexus elements, including those held by indigenous peoples and local communities, would also be brought forward in this chapter. This summary will also include a synthesis of the costs of action and inaction identified in chapters 6 to 11, providing a conclusion on how they relate to each other. Emphasis will be given to summarizing which opportunities for transformation can be driven most efficiently by actors within a sector, and which opportunities will require collaborative action across multiple sectors and civil actors. Attention will also be given to which trade-offs within the nexus are likely to persist, and what can be done to mitigate these and support social groups most likely to be impacted.

¹⁰ For specific potential options see IPBES, Workshop Report on Biodiversity and Pandemics of the Intergovernmental Platform on Biodiversity and Ecosystem Services (Bonn, Germany, 2020).

¹¹ Ibid.

38. The chapter will summarize the findings on the strengths and weaknesses of the monitoring frameworks of the post 2020 global biodiversity framework and of the 2030 Agenda for Sustainable Development in the context of the nexus and suggest options to complement them. Finally, the chapter will synthesize knowledge gaps, including governance gaps and future research needs, as identified throughout the assessment. Attention will be given to opportunities for synergies in filling knowledge and capacity gaps across elements of the nexus.

III. Data and information

39. The nexus assessment will draw on data and information from diverse knowledge systems and languages, including scientific literature and indigenous and local knowledge, addressing all the components of the IPBES conceptual framework in order to explore the interrelationships between nature, nature's contributions to people, drivers, institutions and governance and good quality of life.

40. Attention will be given, in accordance with the Platform's data management policy, to ensuring access to metadata and, whenever possible, the corresponding underlying data, through a findable, accessible, interoperable and reusable (FAIR) process to ensure comparability between assessments. Furthermore, the task force on knowledge and data will work towards ensuring that the outcomes (i.e., knowledge and metadata products) of the nexus assessment are widely available for future Platform assessments and other uses.

41. The assessment will also identify and seek access to globally and regionally relevant data and information sources that may exist or emerge. Potential data sources include, but are not limited to, global, regional and national institutions and organizations, scientific literature, grey literature and indigenous and local knowledge. The needs of the assessment process will be communicated widely in order to identify and encourage the sharing of relevant data and information.

42. The task force on knowledge and data will support work on data and information quality, confidence, essential biodiversity variables and indicators, baselines and representativeness, as necessary. It will also support experts in their identification of knowledge gaps and, subsequently, promote knowledge generation to address the gaps identified.

43. Addressing and working with indigenous and local knowledge in the assessment will be in line with the IPBES approach adopted by the Plenary in decision IPBES-5/1 and relevant guidance regarding its implementation prepared by the task force on indigenous and local knowledge.

IV. Capacity-building and development

44. Capacity-building activities will help support the development and uptake of the assessment. The activities will be designed in accordance with objective 2 on building capacity of the IPBES work programme up to 2030 and the capacity-building rolling plan, under the guidance of the task force on capacity-building. Activities will, subject to the availability of resources, include: the IPBES fellowship programme; the training and familiarization programme; science-policy dialogues; and support to activities organized by other organizations in support of the uptake and use of the assessment findings across sectors and the strengthening of the science-policy interface at (sub)regional and national levels.

V. Communication and outreach

45. The nexus assessment report and its summary for policymakers will be published in electronic format, made available on the Platform website and promoted through social media channels of the Platform. The summary for policymakers will be available in all official languages of the United Nations and will be printed on demand, resources permitting. Outreach to a broad set of stakeholders, including the wider audience of decision makers, will be based on the Platform's communications and outreach strategy and budget.

46. Communication and outreach will be undertaken from the outset and during the development of the assessment in order to build engagement with the wider scientific community, other knowledge holders and the end users of the assessment. Engagement with users, across sectors, will help to define the type and range of communication products and policy support tools in multiple languages (as appropriate and subject to the availability of resources), that will be developed as part of the assessment.

VI. Technical support

47. Technical support for the nexus assessment will be provided by a technical support unit, composed of several full-time professional and administrative staff members. This unit will work in close collaboration with the groups of experts producing other IPBES assessments and with the IPBES task forces and their respective technical support units.

VII. Process and timetable

<i>Date</i>	<i>Actions and institutional arrangements</i>
2021	
Second quarter	The Plenary, at its eighth session, approved the undertaking of the nexus assessment and requested the secretariat to establish the institutional arrangements necessary to operationalize the technical support required for the assessment
	The Multidisciplinary Expert Panel, through the secretariat, requests nominations of experts from Governments and other stakeholders
Third 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 IPBES deliverables, including by implementing the procedure for filling gaps in expertise
Fourth quarter	Selection decision communicated to nominees
	Meeting of the management committee (co-chairs, members of the Bureau and Multidisciplinary Expert Panel assigned by these bodies to the assessment) to plan first author meeting
2022	
First quarter	First author meeting with 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 of the assessment
First to third quarter	Preparation of zero-order drafts and first-order drafts of chapters
Early fourth quarter	First external review (six weeks) – draft chapters made available for review by experts
Fourth quarter	Second author meeting with 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 of the assessment Back to back with the second author meeting: meeting to advance the preparation of the summary for policymakers with co-chairs, coordinating lead authors and members of the Bureau and Multidisciplinary Expert Panel that are part of the management committee of the assessment
2023	
First to third quarter	Preparation of the second-order drafts of chapters and first-order draft of summary for policymakers
Second quarter	Writing workshop to advance the preparation of the summary for policymakers with co-chairs, coordinating lead authors and members of the Bureau and Multidisciplinary Expert Panel that are part of the management committee of the assessment
Third quarter	Second external review (eight weeks) – draft chapters and draft of the summary for policymakers made available for review by Governments and experts
Fourth quarter	Third author meeting with 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 of the assessment Back-to-back with the third author meeting: Meeting to advance the preparation of the summary for policymakers with co-chairs, coordinating lead authors and members of the Bureau and Multidisciplinary Expert Panel that are part of the management committee of the assessment
2024	
First quarter	Online writing workshop to advance the preparation of the summary for policymakers with co-chairs, coordinating lead authors and members of the Bureau and Multidisciplinary Expert Panel that are part of the management committee of the assessment
Third quarter	Final review (six weeks) – final draft chapters and draft of the summary for policymakers made available for review by Governments
Early fourth quarter	Consideration by the Plenary, at its eleventh session, of the summary for policymakers for approval and of the chapters for acceptance
Fourth quarter	Communication activities in relation to the assessment

Annex II to decision IPBES-8/1

Scoping report for a thematic assessment of the underlying causes of biodiversity loss and the determinants of transformative change and options for achieving the 2050 Vision for Biodiversity (transformative change assessment)

I. Scope, timeline and geographic coverage, policy context, overarching questions and methodological approach

A. Scope

1. For the purposes of the assessment, and in line with previous work of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) approved by its Plenary, transformative change¹ is defined as a fundamental, system-wide reorganization across technological, economic and social factors, including paradigms, goals and values,² needed for the conservation and sustainable use of biodiversity, long-term human wellbeing and sustainable development. The need for, and possibility of, rapid transformative change have become apparent during the coronavirus disease (COVID-19) pandemic.
2. The IPBES Global Assessment of Biodiversity and Ecosystem Services concluded that there are pathways for achieving the 2050 Vision for Biodiversity in conjunction with key human development goals. These pathways, however, require fundamental changes in development paradigms and social-ecological dynamics, which in turn entail changes in society, considering inequality and governance, employing conservation, restoration and the sustainable use of land, water, energy and materials, and rethinking and appropriately modifying production and consumption habits, food systems, and global value chains. The assessment will inform decision-makers on options to implement transformative change in order to achieve the 2050 Vision for Biodiversity and the Sustainable Development Goals.
3. The assessment will fully take into account the IPBES conceptual framework, as set out in decision IPBES-2/4, in particular by addressing all of the elements and interactions of the IPBES conceptual framework, and by fully recognizing and considering different world views and different knowledge systems, including science and indigenous and local knowledge systems.
4. The assessment report will assess and compare different visions, scenarios, and pathways for a sustainable world, in line with the 2050 Vision for Biodiversity and considering the 2030 Agenda for Sustainable Development and its Sustainable Development Goals, including visions of indigenous peoples and local communities. Further, the report will assess the determinants of transformative change, how it occurs, and which obstacles it may face. Finally, and importantly, the report will assess which practical options for concrete action exist to foster, accelerate and maintain transformative change toward visions, scenarios and pathways of a sustainable world, which practical steps are required to achieve these visions, and how progress towards transformative change can be identified and tracked.
5. The assessment aims at identifying and providing understanding of factors at various scales in human society, at both the individual and collective levels, and from local to global, that can be leveraged to bring about transformative change to help achieve the 2050 Vision for Biodiversity and the Sustainable Development Goals. These factors span psychological, behavioural, social, cultural, economic, political, governance, institutional, demographic, scientific, technical and technological dimensions, corresponding to the indirect drivers of change in biodiversity, which sit at the centre of the IPBES conceptual framework.³ They include the role of formal and informal institutions, and the impacts of the patterns of production, supply and consumption on nature, nature's contributions to people and good quality of life. A better understanding of how these interacting drivers can be changed or shifted can inform the development of policies and actions to trigger transformative change towards maintaining and promoting biodiversity and nature's contributions to people, and towards

¹ Throughout the scoping document, transformative change is referred to in the singular but includes many types of changes.

² Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), *Summary for Policymakers of the Global Assessment Report on Biodiversity and Ecosystem Services* (Bonn, Germany, 2019).

³ Conceptual framework for IPBES, annex to decision IPBES-2/4.

sustainability and good quality of life, in line with the 2050 Vision for Biodiversity and in the context of the Sustainable Development Goals.

6. The assessment will consider the importance of the indirect drivers mentioned above in their impact on the most important direct drivers of change (i.e., land- and sea-use change, direct exploitation of organisms, climate change, pollution, and invasion of alien species)⁴ across all biomes.

7. The assessment will take into account the diversity of values and behaviours which underpin and co-evolve with indirect drivers of change, that is, the motives behind broad societal changes and transitions, to inform the design of relevant policies, communication and engagement campaigns, and other actions. Accordingly, it will take into account, inter alia: (a) values (intrinsic, relational, instrumental, etc.), how they influence behaviour and how this differs between regions and subregions and between levels of development, building on and complementing the IPBES assessment on values (the methodological assessment regarding the diverse conceptualization of multiple values of nature and its benefits, including biodiversity and ecosystem services), once finalized; (b) notions of good quality of life, worldviews and cultures, models of interaction between nature and people, and social narratives; (c) the role of governance systems, of norms and regulations, of education and communication, of economic and non-economic incentives, and of financial and other institutions in leveraging behavioural change in individuals, businesses, communities and societies; (d) the role of technologies and of the assessment of technologies; (e) the role of individual and collective action; (f) the role of concepts and tools coming from studies of complex systems and of transformation and transitions theory; (g) obstacles to achieving transformative change; (h) equity and the need for “just transitions”, including gender aspects; (i) lessons from previous transitions, crises and transformations.⁵

8. The assessment process and its outputs will be supported by, and contribute to, the four functions of the Platform.⁶

B. Timeline and geographic coverage

9. This assessment will be global in scope. It will also highlight similarities and differences between regions and subregions, between countries at different stages of development, between terrestrial, freshwater, and marine issues, and it will include local examples, as well as cross-scale issues. It will cover past and future time ranges and time steps of transformative change, as appropriate.

10. The assessment will be conducted over three years from the initial start of the assessment, which positions it well to inform and facilitate a review of progress towards the implementation of the 2050 Vision for Biodiversity and considering the 2030 Agenda and its Sustainable Development Goals, including visions of indigenous peoples and local communities.

C. Policy context

11. Intended users of the assessment include, but are not limited to: Governments; regional organizations; governing bodies of multilateral environmental agreements; decision-makers in global policy frameworks, subnational governments and local authorities; scientists; education systems and media; the private sector and civil society, including indigenous peoples and local communities, youth, women, and non-governmental organizations.

12. This assessment will strengthen the knowledge base for informed, evidence-based decision-making, in the context of the 2050 Vision for Biodiversity and considering the 2030 Agenda and its Sustainable Development Goals, including visions of indigenous peoples and local communities. The assessment is also intended to inform other relevant processes under multilateral environmental agreements, other conventions, agreements and organizations focused on biodiversity and environmental issues, as well as relevant sectoral and regional multilateral environmental agreements and processes.

⁴ As identified in the Summary for Policymakers of the Global Assessment Report on Biodiversity and Ecosystem Services (IPBES, 2019).

⁵ As presented in IPBES/7/6, appendix II, section I.

⁶ UNEP/IPBES.MI/2/9, annex I, appendix I, section I.

13. The assessment is further expected to inform subnational, national, regional and global policies, which include all sectors and relevant stakeholders for the conservation, restoration, and sustainable use of biodiversity and ecosystems, of natural resources, and of nature's contributions to people.

D. Overarching questions

14. The assessment will address questions of relevance to decision-makers and other stakeholders dealing with transformative change issues in order to achieve the 2050 Vision for Biodiversity, the Sustainable Development Goals and other relevant biodiversity-related goals found within other multilateral agreements and processes (referred to below, to avoid repetition, as "global objectives"), such as:

- (a) What are transformative changes, and how do they relate to current approaches to managing biodiversity, ecosystem services, and nature's contributions to people?
- (b) What is the relationship between transformative change and transitional changes, and what is needed to make sure that transformative change ensures "just transitions"?
- (c) How do transformative changes link to the relationship between the underlying causes and the direct drivers responsible for causing biodiversity loss and degradation?
- (d) Which indicators allow the characterization and monitoring of transformative changes?
- (e) How can deliberate and emergent transformative change be used to achieve the global objectives mentioned above?
- (f) How do different groups envision a sustainable world in the context of the 2050 Vision for Biodiversity, the post-2020 global biodiversity framework and its targets, as well as national biodiversity strategies and action plans, and nationally determined contributions and long-term strategies of the Paris Agreement, adopted under the United Nations Framework Convention on Climate Change (for matters related to the links between biodiversity and climate change), and the 2030 Agenda for Sustainable Development?
- (g) What do these visions and the underlying values imply for transformative changes across sectors and systems?
- (h) What future scenarios and pathways could lead to the transformations needed to achieve the global objectives mentioned above? Which levers and policies in these scenarios and pathways are central to enabling these transformations?
- (i) What enables and accelerates transformative change toward sustainable futures and what can policymakers, decision-makers, managers, stakeholders, scientists, citizens, businesses and organizations do in practice to further transformative change to meet relevant local, national and international goals in an equitable, just and participatory manner, leaving no one behind?
- (j) Which obstacles and challenges impede transformative change toward a sustainable world, how might they change over time, scale and context, and how can they be overcome?
- (k) How do political, social, and economic inequalities among and within countries affect the achievement of transformative change?
- (l) Which options and roles do policymakers, decision-makers, managers, stakeholders, citizens, businesses and organizations have to foster change toward achieving the global objectives mentioned above, and how might these options and roles change over time and in different contexts?
- (m) How can options be combined in pathways to allow achievement of the interdependent global objectives mentioned above?
- (n) What are the most important knowledge gaps to address regarding the underlying causes of biodiversity loss in order to achieve transformative change and the global objectives mentioned above, and how can these knowledge gaps be addressed?
- (o) What communication, education and other strategies can be used to educate the intended users of this assessment about transformative change toward a sustainable world?

E. Methodological approach

15. The assessment will be produced by a diverse group of experts, including scientists, experts on indigenous and local knowledge, and practitioners, and efforts will be made to also engage practitioners in the review of the drafts of the assessment, in line with the procedures for the preparation of Platform deliverables. It will include a summary for policymakers and a set of chapters, submitted to the Plenary for its approval and acceptance, respectively, and summarize knowledge gaps and further research needs.

16. The assessment will aim to be credible, legitimate, and build from a multiple evidence base. The summary for policymakers will highlight key policy-relevant findings and non-prescriptive policy options for a wide range of end users, some of whom are mentioned above, and reflect the comprehensive analysis of the current state of scientific knowledge and other knowledge systems (including indigenous and local knowledge) performed in the chapters.

17. The assessment will be based on existing evidence, i.e., data (including, as appropriate, national data), scientific and grey literature and other forms of knowledge, in different languages (to the extent possible), in line with relevant procedures of the Platform.

18. The assessment will build on and complement previous and ongoing work by IPBES, including IPBES assessments (methodological, thematic, regional and global) and IPBES workshop reports, and by other relevant processes and assessments that use IPBES conceptual and methodological frameworks. The assessment will also use existing data and information held by global, regional, subregional and national institutions, including but not limited to relevant multilateral environmental agreements and intergovernmental organizations. The assessment will use existing scenarios and models as well as new scenarios and models whose production may be catalyzed as part of the follow-up to the IPBES Assessment of Scenarios and Models of Biodiversity and Ecosystem Services.⁷

19. The assessment will identify key information and knowledge gaps and areas where capacity-building and the development of policies and policy tools could facilitate the implementation of the policy options presented in the assessment. The assessment will provide options and solutions for addressing these gaps at the relevant levels.

20. The task force on indigenous and local knowledge will support the implementation of the IPBES approach to recognizing and working with indigenous and local knowledge⁸ for the assessment. The task force on knowledge and data will support work related to data and knowledge, as detailed in section III below. The task force on policy tools and methodologies will assist in identifying policy tools relevant for transformative change and perform work to increase the policy relevance of the assessment and its use in decision-making, once approved. The task force on scenarios and models will support work related to scenarios and models, as also detailed in section III below. Finally, the task force on capacity-building will oversee the implementation of capacity-building activities, as outlined in section IV below. All IPBES task forces will provide their support to the assessment in line with their respective mandates.

21. Given the potentially strong interlinkages between the planned IPBES transformative change assessment and nexus assessment (the thematic assessment of the interlinkages among biodiversity, water, food and health), close coordination and facilitation between both assessment processes will be ensured to enable synergies and complementarity and to avoid duplication of scope and work. The two assessments will be complementary, with the transformative change assessment focused on determinants of transformative change, and the nexus assessment focused on options for overcoming trade-offs and for enabling synergies between biodiversity, water, food and health.

II. Chapter outline

22. In its chapters, the assessment will reflect the very nature of transformative change and the multiple values, knowledge systems, institutions and choices involved. As the assessment is intended for a broad and diverse audience and recognizes the need to engage a wide range of actors and communities in transformative change, each chapter will include an assessment of multiple values, relevant disciplinary perspectives, knowledge systems, development pathways and roles of different actors. Transformative change also entails trade-offs, choices, synergies, equity impacts and tensions,

⁷ IPBES, *The Methodological Assessment Report on Scenarios and Models of Biodiversity and Ecosystem Services* (Bonn, Germany, 2016).

⁸ Set out in annex II to decision IPBES-5/1.

which the assessment will address. It will present actionable knowledge and policy options that open pathways to sustainable and equitable futures.

23. **Chapter 1: Transformative change and a sustainable world.** Chapter 1 will present evidence for the need for transformative change, explain what transformative change is, whether and how it differs from incremental change, which metrics characterize and measure transformative change, and which types of transformative change could foster the achievement of the relevant global objectives as outlined in section D above. The chapter will also examine the consequences of the absence of transformative change. It will present a refined problem statement, taking into account evidence and calls from completed assessments by IPBES and relevant assessments and reports by others, including those under multilateral environmental agreements. The chapter will explore how to address, in the context of transformative change, the direct and indirect drivers of biodiversity loss and nature deterioration, including climate change and development and environmental inequities, and how to reverse biodiversity loss and restore and safeguard nature and its contributions to people. The chapter will consider the impacts of production and consumption systems, resource use and extraction, trade and financial flows, pollution, legacies of colonialism, and of human population dynamics and social practices related to nature and the resultant distribution of material and non-material benefits, degradation of nature and vulnerabilities across global societies and scales. From this problem statement, the chapter will:

- (a) **Take stock** by documenting the various demands for, and conceptualizations and understandings of, transformative change from international policy fora and groups of countries, policymakers more generally, scientific communities, the private sector and civil society, including indigenous peoples and local communities, youth, women, and non-governmental organizations;
- (b) **Explain the assessment rationale** by presenting its methodological approach and how it addresses challenges such as the complex nature and intrinsic uncertainties of nature-people relations, relations between indirect drivers of change, plurality of values and knowledge systems, as well as knowledge gaps;
- (c) **Recognize the trade-offs and synergies associated with various demands for transformative change** and the ways in which the values of inclusiveness, justice and equity are considered, including aspects of gender, age and socio-economic status. The chapter will explore the importance of indigenous and local knowledge in managing and safeguarding nature from local to global levels, and in informing transformative change thinking. The chapter will also explore the importance of access to knowledge and technology that could enable innovative solutions for transformative change;
- (d) **Identify the ways in which spatial and temporal scales, historical conditions, and levels of human organization pose challenges and offer opportunities for transformative change** from local to global levels, and the ways in which short-term actions can have cumulative and emergent effects to either facilitate or impede transformative change;
- (e) **Reflect on the challenges and opportunities of transformative change** by assessing trade-offs and synergies, intrinsic relations to political representation and legitimacy, socio-economic dimensions of vulnerability and power, as well as deeply held values, worldviews, narratives and practices. The chapter will recognize possible implications of transformative change for different groups of countries and sectors of society, highlighting that it could require difficult choices and face resistance and barriers, but also hold the potential for opportunity, including for equity. The chapter will also identify opportunities and incentives that transformative change can open up at different levels;
- (f) Finally, the chapter will provide a **framework and roadmap** for the assessment.

24. **Chapter 2: Visions of a sustainable world – for nature and people.** Chapter 2 will assess how transformative change for nature and people presents specific challenges as it involves the consideration of science-based and indigenous and local knowledge-based understandings of biodiversity and nature's contributions to people, together with normative ethics, different worldviews and collective values about visions of a sustainable future. The chapter will assess mechanisms for inclusion, deliberation and collaboration to consider these aspects simultaneously. It will include examples of good practices, applicable and accessible knowledge and technologies, and invoke narratives, stories, media, scenarios and visualizations at various scales that illustrate visions of a sustainable world which might provide potential scenarios and pathways for transformative change based on different worldviews.

25. The chapter will assess different tractable values, visions and scenarios for a sustainable world, consistent with the relevant global objectives as outlined in section D above, including their links to existing scenarios (e.g., existing climate scenarios). The chapter will then consider the implications of different visions for sectors, subsystems (including market/economic, financial, political, legal/judicial, educational, indigenous and local systems, and ecosystems) and interactions between these, at and between a variety of spatial scales. The chapter will also assess pathways to realize those visions, such as recognizing and changing cross-sectoral flows within an economy, taking into account the ways in which diverse actors integrate actions for transformative change in accordance with their perceived priorities, interests, power relations, cultural values, wellbeing and politics, including on a gendered basis. The chapter will assess the state of knowledge on collective visions and scenarios for the future (taking into account relevant work under the nexus assessment), and on the kinds of policy institutions, governance mechanisms, and deliberative processes (including visioning and scenario analyses) which can facilitate transformative change within different settings and in the face of diverse values, building on and complementing the IPBES assessment on values, once finalized. The chapter will draw upon scenario and pathway analyses and literature reviews to assess the feasibility and common constituents of envisioned sustainable pathways. These steps can allow a process of back casting to understand conditions necessary to be in place at stages before 2030, as well as potentially consider the transformative potential of events such as the COVID-19 pandemic or recent civil society movements. The IPBES Global Assessment’s “levers and leverage” model provides a starting point for expanding and connecting to analyses of the ways in which changes occur dynamically, but also for the identification of additional work.

26. **Chapter 3: How transformative change occurs.** Chapter 3 will address how transformative change occurs, focusing on those changes that can be intentionally promoted, accelerated, and scaled to realize a sustainable world where biodiversity can thrive. The chapter will assess theories and frameworks for understanding deliberate, or emergent transformative change and will highlight the conditions and processes for generating and navigating such change. The relationship between paradigms, policies, and practices will be assessed, with an emphasis on how they contribute to strategies that improve, maintain or restore healthy relationships with nature. This may include an assessment of the technical dimensions of dialogue among transdisciplinary perspectives, and the role of research and development in finding innovative solutions for transformative change towards a more sustainable world. The chapter will also consider approaches to enable transformative change at various scales, to inform how transformative change can have a positive impact on global biodiversity, and assess relevant normative, ethical and political dimensions. Historical cases and examples of transformations that have occurred in various places and times, including those that have influenced biodiversity positively or negatively, will be assessed. The chapter will provide examples drawn from academic, policy and practice literature, including references to indigenous and local knowledge systems and the importance of local action. The chapter will emphasize integrated and holistic perspectives on the topics described above by including:

(a) A comparison, synthesis and assessment of theories and frameworks of transformative change and how they relate to different models, strategies, policies and practices. This will highlight the multiple theoretical perspectives on how intentional transformative change occurs within complex systems;

(b) An assessment of the ways in which social and cultural norms, values, worldviews, beliefs, and paradigms influence strategies and approaches to transformative change, with an emphasis on how they relate to differing views of human-nature relationships; diverse understandings of the roles and types of power and agency (e.g., individual agency, collective agency, political agency and non-human agency); of different governance arrangements; and of the role of environmental ethics and values, such as equity and justice, in transformative change. The chapter will emphasize how subjectivities influence different approaches to transformative change, as well as resistance to structural change;

(c) An assessment of the possibilities for integrating processes of transformative change within the IPBES conceptual framework. This will include an assessment of how equity-, rights and responsibilities-, gender-, capabilities- and values-based approaches can contribute to sustainable relationships between people and nature;

(d) An assessment of a selection of representative historical examples and case studies of transformative change that emphasize both the possibilities and challenges for realizing a sustainable world, including the role of and interactions among multiple stressors (e.g., climate change, extreme inequality, economic crises, human population dynamics and pandemics). Key points from the discussion of theories, frameworks, beliefs, norms, values, worldviews and paradigms in previous sections will be highlighted in the examples. The examples will illustrate actors, conditions, capacities

and policies that contribute to transformative change, including but not limited to learning and education, health, equity and justice, creativity and innovation, agency, empowerment, leadership, economic incentives and power relations. This will set the stage for chapter 4's focus on overcoming the challenges and resistances to transformative change.

27. **Chapter 4: Overcoming the challenges of achieving transformative change towards a sustainable world.** Acknowledging that efforts to address the underlying causes of biodiversity loss have mostly been unsuccessful, chapter 4 will assess a wide range of challenges and obstacles that impede transformative change toward a sustainable world for nature and people, with a focus on strategies to overcome them in order to advance global, regional and local visions for a sustainable world for nature and people.

28. Considering the knowledge systems, systems of values, actions, habits, underlying values and interests of diverse relevant actors and institutions, this chapter will address a range of constraints and challenges that arise within and between political, legal, technological, physical (e.g., infrastructure), economic/financial and other social systems and the functioning of ecosystems, and how these challenges could be overcome. Challenges that the assessment will address include:

- (a) Those associated with policy development, implementation and coherence, including representation and consideration of conflicting worldviews and visions, coupling of policy processes, lock-in effects and path dependencies, unintended policy consequences and inequality;
- (b) Opposition arising from vested public and private interests, facilitated by weak institutions lacking in enforcement due to insufficient rule of law, transparency and accountability;
- (c) Human demographic changes;
- (d) Inertia, including personal (e.g., habits and mind sets), sociocultural (e.g., norms) and systemic (e.g., market failures, rules, institutions, global monitoring and enforcement);
- (e) A lack of policy improvement due to insufficient information or insufficient responsiveness to information;
- (f) Trade-offs between short- and long-term costs and benefits, and associated distributional inequalities;
- (g) A lack of adequate communication;
- (h) Capacity and financing, at every scale (including poverty and education failures);
- (i) Political, social and economic inequalities, among and within countries;
- (j) Influence of paradigms of economic growth.

29. The chapter will draw upon a wide range of literature, including, among other things, on scenarios, models and case studies illustrating the degree to which different challenges to transformative change have been overcome. Cases will span a diversity of scales and contexts across social groups, sectors, regions, development status, geography, cultural context and more. Case analysis will also consider how transformative change – even that which yields outcomes broadly beneficial to many – may generate losses for some groups, including women, youth, elders, indigenous peoples and local communities and the vulnerable, and for some countries and regions. Cases considered will include intentional efforts to address a range of indirect drivers of biodiversity loss and ecosystem services degradation, including designing policies regarding economic development and human population, internalizing environmental externalities, reforming harmful subsidies, modifying indicators or measures of economic, social and environmental development, and modifying environmental legal and sectoral frameworks.

30. **Chapter 5: Realizing a sustainable world for nature and people: means for transformative strategies, actions and roles for all.** In the light of the need for transformative change to enable diverse visions for a sustainable world, this chapter will assess options for institutions, instruments, evaluation and pathways to achieve those visions:

- (a) **Institutions.** An assessment of institutional design, emergence, evolution and operation for attending to the ongoing, dynamic and unpredictable nature of transformative change, including via knowledge generation, scientific research, social experimentation and learning, coordination, and management and governance practices (e.g., co-design, participatory and dialogue approaches). All strategies and actions (including those below) will be assessed in the context of systems, institutions, and the values they articulate, globally, regionally, nationally and/or locally. The roles of all key actors will be identified;

(b) **Instruments.** A synthesis and assessment of sets of policies, tools, methods, campaigns, frameworks, finance instruments, options and actions enabling and encouraging transformative change at all scales for a sustainable world. They will include a wide range of historically applied and emerging practices for transformation, including policy approaches and mixes, business approaches, legal and regulatory instruments, standards, governance frameworks, education and knowledge systems, conservation and restoration approaches, coordination, and civic, political and community actions. Analysis will address interactions among instruments needed for transformative outcomes and present suitable instruments for all key actors;

(c) **Evaluation.** An assessment of means of adaptively monitoring and evaluating progress towards transformative change and towards a sustainable world, recognizing the unpredictability of rolling targets and that existing evaluation frameworks may omit crucial process-based and inclusive, participatory measures of system-wide changes necessary for coherent achievement of all the relevant goals;

(d) **Scenarios and synthetic pathways** (integrating the elements set out in paragraphs (a) to (c) above). An identification and assessment of scenarios and transitional pathways of options and actions over short (up to ten years), medium (10-20 years) and long-time horizons (20-50 years) from the initial start of the assessment at various spatial scales, and how they compare with business-as-usual scenarios. Pathways will include cascades of actions taken by different actors, as well as various top-down and bottom-up approaches and their scaling. This assessment would include an evaluation of characteristics of pathways most key for success, including actions, resources and capabilities, the achievement of particular criteria, means of scaling, and combinations and sequencing of actions.

31. These elements should be situated in reference to the conceptual framework of IPBES as mentioned in chapter 3 and to the challenges identified in chapter 4. Each potential intervention and pathway will also be assessed for effectiveness, efficiency, legitimacy, co-benefits, gaps, shortcomings and remaining challenges, while attending to justice, equity, legality and power, social capital, international law and internationally agreed principles. All the above would include examples spanning variation across time frames, scales, groups, sectors, regions, development status, geographical and cultural contexts, and highlight the roles of such variation within and between cases.

III. Data and information

32. The assessment will draw on data and information from diverse knowledge systems and languages, including scientific literature and indigenous and local knowledge, addressing all the components of the IPBES conceptual framework to explore the interrelationships between nature, nature's contributions to people, drivers, institutions, governance and a good quality of life.

33. Attention will be given, in accordance with the Platform's data management policy, to ensuring access to metadata and, whenever possible, the corresponding underlying data, through a findable, accessible, interoperable and reusable (FAIR) process to ensure comparability between assessments. Furthermore, the task force on knowledge and data will work towards ensuring that the outcomes (i.e., knowledge and metadata products) of the transformative change assessment are widely available for future Platform assessments and other uses.

34. The assessment will also identify and seek access to globally and regionally relevant data and information sources that may exist or emerge. Potential data sources include global, regional and national institutions and organizations, scientific literature, and indigenous and local knowledge. The needs of the assessment process will be communicated widely in order to identify and encourage the sharing of relevant data and information.

35. The task force on knowledge and data will support work on data and information quality, confidence, essential biodiversity variables and indicators, baselines and representativeness, as necessary. The assessment will, where appropriate, use and assess existing indicators relevant for the implementation of the post-2020 global biodiversity framework and of the 2030 Agenda for Sustainable Development.

36. The task force on scenarios and models will support work related to scenarios and models by providing advice to the assessment and mobilizing input on scenarios and models. The assessment will, where useful and appropriate, be informed by the scenario development framework and methodologies formulated by the task force on scenarios and models to assess the visions, pathways and scenarios relevant to its chapters. The products of the task force on scenarios and models are of particular relevance to the assessment as they seek to facilitate the process of creating a shared understanding and commitment to bringing about transformative change to achieve the 2050 Vision

for Biodiversity. To support the assessment in understanding and identifying the impact of such scenarios on biodiversity and nature's contributions to people, the task force will provide relevant resources and share the latest developments of its work with the assessment.

37. The assessment will recognize and work with indigenous and local knowledge in line with the IPBES approach adopted by the Plenary in decision IPBES-5/1 and relevant guidance regarding its implementation prepared by the task force on indigenous and local knowledge.

IV. Capacity-building

38. Capacity-building activities, informed and assisted by the task force on capacity-building, will help to support the development and uptake of the assessment. The activities will be designed in accordance with objective 2 on building capacity of the IPBES work programme up to 2030 and the capacity-building rolling plan, under the guidance of the task force on capacity-building. Activities will, subject to the availability of resources, include: the IPBES fellowship programme; the training and familiarization programme; science-policy dialogues; and support to activities organized by other organizations in support of the uptake and use of the assessment findings across sectors and the strengthening of the science-policy interface at (sub)regional and national levels.

V. Communication and outreach

39. The transformative change assessment report and its summary for policymakers will be published in electronic format, made available on the Platform website and promoted through the social media channels of the Platform. The summary for policymakers will be available in all official languages of the United Nations and will be printed on demand, resources permitting. Outreach to a broad set of stakeholders, including the wider audience of decision makers, will be based on the Platform's communications and outreach strategy and budget.

40. Communication and outreach will be undertaken from the outset of the assessment in order to build engagement with the wider scientific community, other knowledge holders and the end users of the assessment. Engagement with users, across sectors, will help to define the type and range of communication products and policy support tools in multiple languages (as appropriate and subject to the availability of resources), that will be developed as part of the assessment.

VI. Technical support

41. Technical support for the transformative change assessment will be provided by a technical support unit, composed of several full-time professional and administrative staff members. This unit will work in close collaboration with the groups of experts producing the IPBES assessments and with the IPBES task forces and their respective technical support units.

VII. Process and timetable

<i>Date</i>	<i>Actions and institutional arrangements</i>
2021	
Second quarter	The Plenary, at its eighth session, approved the undertaking of the transformative change assessment, and requested the secretariat to establish the institutional arrangements necessary to operationalize the technical support required for the assessment The Multidisciplinary Expert Panel, through the secretariat, requests nominations of experts from Governments and other stakeholders
Third 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 IPBES deliverables, including by implementing the procedure for filling gaps in expertise
Fourth quarter	Selection decision communicated to nominees Meeting of the management committee (co-chairs, members of the Bureau and Multidisciplinary Expert Panel assigned by these bodies to the assessment) to plan first author meeting
2022	
First quarter	First author meeting with 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 of the assessment

<i>Date</i>	<i>Actions and institutional arrangements</i>
First to third quarter	Preparation of zero-order drafts and first-order drafts of chapters
Fourth quarter	First external review (six weeks) – draft chapters made available for review by experts
2023	
Early first quarter	Second author meeting with 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 of the assessment Back to back with the second author meeting: meeting to advance the preparation of the summary for policymakers with co-chairs, coordinating lead authors, and members of the Bureau and Multidisciplinary Expert Panel that are part of the management committee of the assessment
First to third quarter	Preparation of the second-order drafts of chapters and first-order draft of summary for policymakers
Second quarter	Writing workshop to advance the preparation of the summary for policymakers with co-chairs, coordinating lead authors and members of the Bureau and Multidisciplinary Expert Panel that are part of the management committee of the assessment
Late third quarter	Second external review (eight weeks) – draft chapters and draft of the summary for policymakers made available for review by Governments and experts
Fourth quarter	Third author meeting with 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 of the assessment Back to back with the third author meeting: meeting to advance the preparation of the summary for policymakers with co-chairs, coordinating lead authors and members of the Bureau and Multidisciplinary Expert Panel that are part of the management committee of the assessment
2024	
First quarter	Online writing workshop to advance the preparation of the summary for policymakers with co-chairs, coordinating lead authors and members of the Bureau and Multidisciplinary Expert Panel that are part of the management committee of the assessment
Third quarter	Final review (six weeks) – final draft chapters and draft of the summary for policymakers made available for review by Governments
Early fourth quarter	Consideration by the Plenary, at its eleventh session, of the summary for policymakers for approval and of the chapters for acceptance
Fourth quarter	Communication activities in relation to the assessment

Annex III to decision IPBES-8/1

Building capacity (work programme objective 2): Interim workplan for the task force on capacity-building for the intersessional period 2021–2022

I. Objective 2 (a): Enhanced learning and engagement

1. Activities for the implementation of the fellowship programme will include:
 - (a) For the nexus and transformative change assessments:
 - (i) Issuance of a call for the nomination of early-career individuals by Governments and organizations and selection of up to 12 fellows for each of the assessments by the respective management committees;¹
 - (ii) Organization of an “induction day” for fellows of the nexus and transformative change assessments;
 - (iii) Participation of fellows in the first author meetings of the nexus and transformative change assessments;
 - (b) For the values, sustainable use and invasive alien species assessments: participation of fellows in the third author meetings of the assessments;
 - (c) Organization of an annual fellows training workshop;
 - (d) Provision of support to the IPBES fellows and alumni network.
2. Dedicated training and familiarization activities for IPBES experts and others involved in the science-policy interface and development and promotion of webinars and other online approaches will include:
 - (a) Development and promotion of webinars, online tools and videos,² for example to introduce guidance on the preparation of IPBES assessments for new IPBES experts and others involved in the science-policy interface;
 - (b) Provision of support to relevant training activities catalysed by IPBES and developed by other organizations and institutions (e.g., printed or electronic materials, feedback on draft agendas or contact details for relevant IPBES experts).
3. The following science-policy dialogue meetings with national focal points to develop capacities and increase Government participation in the production and uptake of IPBES deliverables and processes will be held:
 - (a) During the review period for the scoping report of the business and biodiversity assessment (planned as an online meeting);
 - (b) During the review period for the nature futures framework being developed by the task force on scenarios and models (planned as an online meeting);
 - (c) During the second external review of the invasive alien species assessment (planned as an in-person meeting).
4. A youth workshop to strengthen the engagement of young people in the work of IPBES and to support the uptake of assessments among young people, other individuals and organizations will be organized.³

¹ Candidates are to be selected based on their merit and academic qualifications and in their individual capacity as experts, with a view to achieving disciplinary, gender and geographic balance. The selection criteria will be made available through the open call and are available from: www.ipbes.net/sites/default/files/ipbes_fellowship_programme_selection_process_and_criteria.pdf.

² Efforts will be made to make such materials available with subtitles in the six official languages of the United Nations, within available resources.

³ The workshop will target individuals representing youth organizations (working on the issues of biodiversity and ecosystem services) that have an active voice in their community. An open call, including selection criteria, will be issued.

II. Objective 2 (b): Facilitated access to expertise and information

5. Activities in support of the nomination processes and the uptake of approved assessments and other deliverables will include:

(a) Distribution of the call for nominations of experts and fellows for the nexus and transformative change assessments through relevant networks to encourage applications from as wide a range of experts as possible. Provision of assistance to the Multidisciplinary Expert Panel in the implementation of the process for filling gaps in expertise for these assessment expert groups, where required;

(b) Issuance of a call for contributions to support the uptake of approved IPBES assessments and other products;

(c) Provision of support to uptake activities for IPBES deliverables organized by other organizations (e.g., printed or electronic materials, feedback on draft agendas or contact details for relevant IPBES experts).

6. Activities to promote communities of practice will include:

(a) Developing a guide on how communities of practice⁴ can engage with IPBES;

(b) Encouraging existing communities of practice to facilitate access to the expertise and information relevant to IPBES.

7. A fifth meeting of the capacity-building forum will be convened to facilitate engagement with and build and further enhance collaboration among organizations and institutions for the implementation of the IPBES capacity-building rolling plan. The specific theme of the forum meeting will be identified by the task force and agreed by the Bureau.

III. Objective 2 (c): Strengthened national and regional capacities

8. The task force will encourage the establishment of science-policy platforms, networks and assessments for biodiversity and ecosystem services at the national, subregional and regional levels, in particular by facilitating the sharing of knowledge and expertise between key actors from existing science-policy platforms and those interested in establishing a new platform, on how to support the work of IPBES, and disseminate and promote examples of best practices. As part of that work, an online dialogue workshop will be organized.

⁴ In this context, communities of practice are groups of experts, policymakers and/or practitioners who work to increase access to expertise and information on a specific topic or focus area, both for supporting the implementation of the IPBES work programme and for increasing the reach and impact of work programme deliverables. These communities of practice are self-organizing groups and may have different modalities and working arrangements.

Annex IV to decision IPBES-8/1

Advanced work on knowledge and data (work programme objective 3 (a)): Interim workplan for the task force on knowledge and data for the intersessional period 2021–2022

1. The present workplan sets out activities under objective 3 (a), advanced work on knowledge and data. The activities will be implemented by the task force on knowledge and data, working in two subgroups, on knowledge generation catalysis and on data management, to implement the two work streams of objective 3 (a).

I. Advanced work on knowledge generation catalysis

2. The task force will review and further develop the process to catalyse the generation of new knowledge, the living guidelines and the template to support assessment authors in the identification of knowledge gaps, based on lessons learned from ongoing assessments.

3. Activities to provide support to assessment authors in the process of identifying knowledge gaps, including in producing a list of knowledge gaps as part of the assessments, using the guidelines and template, will include:

(a) Online or in-person sessions for the values, sustainable use and invasive alien species assessments;

(b) Online or in-person sessions for the first author meetings of the nexus and transformative change assessments.

4. Activities to promote the uptake of identified knowledge gaps by relevant external organizations and initiatives will include:

(a) Regional online or in-person dialogues with programmers and funders on the generation of new knowledge, focused mainly on the gaps identified in the IPBES Global Assessment of Biodiversity and Ecosystem Services and, where such gaps have been identified, focused on the Regional Assessments. The dialogues will also be an opportunity to present separately the gaps identified in the outcomes of the IPBES workshop on biodiversity and pandemics (IPBES/8/INF/5) and the IPBES/Intergovernmental Panel on Climate Change co-sponsored workshop on biodiversity and climate change (IPBES/8/INF/20), using appropriate disclaimers;

(b) Exchange of information with programmers and funders on projects initiated based on gaps identified in completed assessments.

5. Monitoring of the impact of knowledge generation catalysis efforts to effectively fill the identified gaps will include:

(a) Implementation of the monitoring plan on the catalysis of new knowledge generation based on the gaps identified in IPBES assessments, developed by the task force;

(b) Update of the monitoring plan as necessary based on lessons learned.

II. Advanced work on data management

6. Activities related to the data management policy and long-term vision on data management will include:

(a) Review and further development of the IPBES data management policy;

(b) Support and monitoring of its implementation in all the objectives of the Platform;

(c) Development of a long-term vision on data management.

7. Activities to provide support to the values, sustainable use, invasive alien species, nexus and transformative change assessments on aspects relating to the data management policy and the generation, management, handling and delivery of IPBES products will include:

(a) Continued support concerning the implementation of the data management policy, including the development of data management reports;

- (b) Continued support¹ concerning the access and handling of a wide range of external datasets;²
- (c) Continued support concerning the application of data technology to support the assessment process.

¹ Upon the request of the assessment experts.

² The wide range of external datasets includes but is not limited to geospatial datasets, socioeconomic datasets from relevant partners, as well as remote sensing-enabled variables and indicators.

Annex V to decision IPBES-8/1

Enhanced recognition of and work with indigenous and local knowledge systems (work programme objective 3 (b)): Interim workplan for the task force on indigenous and local knowledge systems for the intersessional period 2021–2022

1. Activities for the implementation of the approach to recognizing and working with indigenous and local knowledge in IPBES will include:
 - (a) Establishment of expert groups for assessments:

Distribution of the call for nominations of experts and fellows for the nexus and transformative change assessments through relevant networks to encourage applications from indigenous and local knowledge experts and experts on indigenous and local knowledge. Provision of assistance to the Multidisciplinary Expert Panel in the implementation of the process for filling gaps in expertise for these assessment expert groups, where required;
 - (b) Support to indigenous and local knowledge liaison groups for assessments:
 - (i) Establishment of indigenous and local knowledge liaison groups for the nexus and transformative change assessments;
 - (ii) Provision of support to the indigenous and local knowledge liaison groups for the values, sustainable use, invasive alien species, nexus and transformative change assessments, including by providing interpretation into other official United Nations languages during sessions of work, as appropriate and subject to the availability of resources;
 - (iii) Assisting ongoing assessments in using multiple types of evidence on indigenous and local knowledge;
 - (c) Calls for contributions of indigenous and local knowledge for the nexus and transformative change assessments, to further enhance the IPBES indigenous and local knowledge library and roster of experts;
 - (d) Dialogue workshops with experts on indigenous and local knowledge and members of indigenous peoples and local communities:
 - (i) Online dialogue workshop for the scoping process of the assessment on business and biodiversity, with attention to addressing, where possible, limitations on participation due to language barriers and connectivity issues with rural indigenous peoples and local communities;
 - (ii) In-person dialogue workshops for framing key indigenous and local knowledge questions for the nexus and transformative change assessments;
 - (iii) In-person dialogue workshop for the review of the second order draft of the chapters and first order draft of the summary for policymakers of the invasive alien species assessment;
 - (e) Peer review of assessments:
 - (i) Peer review by the task force of the draft scoping report of the business and biodiversity assessment and dissemination of the invitation to review through relevant networks;
 - (ii) Peer review by the task force of the second order draft of the chapters and first order draft of the summary for policymakers of the invasive alien species assessment and dissemination of the invitation to review through relevant networks;
 - (f) Participatory mechanism:
 - (i) Engagement with indigenous peoples and local communities through side-events at relevant meetings;

- (ii) Keeping abreast of national and local processes around the findings of assessments, which include policymakers and indigenous peoples and local communities, and preparing a note highlighting the impacts of IPBES work on indigenous and local knowledge at the national and local levels;
 - (iii) Further development of the indigenous and local knowledge section of the IPBES website, translated into other official United Nations languages, as appropriate and subject to the availability of resources, for improved usability and display of information;
 - (iv) Further development of a communications and engagement strategy for strategic partners and collaborative supporters (e.g., International Indigenous Forum on Biodiversity and Ecosystem Services);
 - (v) Monitoring of participation by experts on indigenous and local knowledge, and indigenous and local knowledge experts in IPBES processes;
 - (vi) Reviewing, with the task force on knowledge and data, options for making the IPBES library of materials on indigenous and local knowledge publicly available;
 - (vii) Supporting the balanced participation of indigenous peoples and local communities from all regions in the review of the use and impact of the conceptual framework, as appropriate and subject to the availability of resources;
 - (viii) Provision of technical assistance for the review of draft IPBES assessments on a chapter-by-chapter basis to provide recommendations based on indigenous and local knowledge systems, as appropriate and subject to the availability of resources;
 - (ix) Development and strengthening of regional and national networks of indigenous peoples and local communities' participation in IPBES deliverables, as appropriate and subject to the availability of resources;
 - (x) Promotion of inter-scientific dialogue between academic science and traditional and local knowledge, as appropriate and subject to the availability of resources;
 - (xi) Provision of support for the functioning and strengthening of the participatory mechanism, as appropriate and subject to the availability of resources.
- (g) Provision of support to the work of other task forces regarding aspects related to indigenous and local knowledge, including organization of a consultation workshop on the nature futures framework from the perspective of indigenous and local knowledge.

2. The task force will further develop the methodological guidance on the implementation of the approach to recognizing and working with indigenous and local knowledge in IPBES, as required by the nexus and transformative assessments.

Annex VI to decision IPBES-8/1

Advanced work on policy instruments, policy support tools and methodologies (work programme objective 4 (a)): Interim workplan for the task force on policy tools and methodologies for the intersessional period 2021–2022

1. Activities for the promotion of and support to the use of findings of IPBES assessments in decision-making will include:
 - (a) Convening of up to four dialogue workshops with actors at the science-policy interface to promote the use of the findings of completed thematic, regional and global IPBES assessments in decision-making, including engagement with existing platforms and networks. Dialogue workshops will be held online or in-person, to the extent possible, as part of or back to back with an existing regional or subregional meeting;
 - (b) Contribution of inputs related to policy support to capacity-building activities, including those related to national, subregional or regional science-policy platforms or networks or national ecosystem assessments;
 - (c) Provision of support to strengthen the IPBES impact tracking database (TRACK, available at: <https://ipbes.net/impact-tracking-view>), including by considering the development of case studies illustrating the use of completed IPBES assessments in decision-making;
 - (d) Exploration of opportunities and potential modalities for increasing the use of IPBES products by intergovernmental processes at global, regional and subregional levels;
 - (e) Identification of options for potential activities to strengthen the use of IPBES assessments in decision-making, building on the results of the analysis of responses to the survey on the use of IPBES assessments in policymaking at the subnational or national levels (see IPBES/8/INF/13);
 - (f) Provision of support to policymakers by the task force, with concrete services resulting from the activities set out in paragraph 1 (a) to (e) of this workplan as well as the earlier work of this task force.
2. Activities for increasing the policy relevance of IPBES assessments will include:
 - (a) Development of a strategy to further increase the involvement of practitioners in the assessment process;
 - (b) Distribution of the call for nominations of authors and fellows for the nexus and transformative change assessments through relevant networks to encourage applications by experts and practitioners on policy;
 - (c) Peer review by task force members of the draft scoping report for a business and biodiversity assessment;
 - (d) Peer review by task force members of the second order draft of the chapters and first order draft of the summary for policymakers of the invasive alien species assessment.
3. Activities to provide support to authors of policy chapters in IPBES assessments will include:
 - (a) Convening of webinars for authors of the nexus and transformative change assessments based on the methodological guidance for assessing policy instruments and facilitating the use of policy support tools and methodologies through IPBES assessments;
 - (b) Provision of support for the identification of policy-related knowledge gaps in IPBES assessments through the process led by the task force on knowledge and data.
4. The task force will maintain the policy support gateway as a repository for IPBES products.

Annex VII to decision IPBES-8/1

Advanced work on scenarios and models of biodiversity and ecosystem functions and services (work programme objective 4 (b)): Interim workplan for the task force on scenarios and models for the intersessional period 2021–2022

1. As part of its mandate to provide support on scenarios and models to IPBES assessments, the task force on scenarios and models will aim to mobilize experts for upcoming assessments and provide input to assessments on scenarios and models. Activities will include:

(a) Distribution of the call for nominations of authors and fellows for the nexus and transformative change assessments through relevant networks to encourage the application of experts on scenarios and models. Provision of assistance to the Multidisciplinary Expert Panel in the implementation of the process for filling gaps in expertise for these assessment expert groups, where required;

(b) Organization of webinars for authors of the nexus and transformative change assessments to support the development of scenario chapters for these assessments based on the *Methodological Assessment of Scenarios and Models*;

(c) Peer review by the task force of the draft scoping document of the business and biodiversity assessment and dissemination of the invitation to review through relevant networks;

(d) Peer review by the task force of the second order draft of the chapters and first order draft of the summary for policymakers of the invasive alien species assessment and dissemination of the invitation to review through relevant networks;

(e) Publication of articles in peer-reviewed journals to stimulate the development of scenarios and models tailored to IPBES assessments, and to test the application of the draft nature futures framework and narrative scenario development methods, where appropriate;

(f) Provision of support to all ongoing IPBES assessments on the use of currently available scenarios, including those developed by previous global-scale assessments and the shared socioeconomic pathways (SSP) framework assessed by the Intergovernmental Panel on Climate Change.

2. As part of its mandate to catalyse the further development of scenarios and models for future IPBES assessments, the task force on scenarios and models will aim to present the foundation of the nature futures framework to the Plenary at its ninth session and will continue to conduct broad consultations on this tool, including with scientific, policy and practitioner communities beyond IPBES. Activities will include:

(a) Further development of the nature futures framework for catalysing the development of the next generation of scenarios for biodiversity and ecosystem functions and services with a view to submitting to the Plenary, for its further guidance at its ninth session, the foundation of the nature futures framework and, submitting to the Plenary at its tenth session, a report on further work as well as, for its information, related methodological guidance;

(b) The process of further development will include an external review directed at Governments and experts, as well as consultations regarding the draft nature futures framework and methodological guidance, in particular:

- (i) Organization of an online science-policy dialogue workshop with national focal points;
- (ii) Organization of an online dialogue workshop with the wider scientific community, including experts on narrative approaches from the humanities and social sciences;
- (iii) Organization of an online dialogue workshop with experts on indigenous and local knowledge and representatives of indigenous peoples and local communities;

(c) Ongoing provision of support to case study exercises by modelling groups to test the application of the draft nature futures framework to follow up on the first part of the modelling workshop held in January 2021 and in preparation for its second part scheduled for 2022;

(d) Further refinement of illustrative examples of nature futures (referred to as “narratives”) to provide the wider scientific community with examples of how the nature futures framework could be used to imagine new desirable futures for nature.