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 change[1] 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

---

[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).

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 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.

---

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

[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.

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.

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 knowledge[8] 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

---

[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.

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, 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;

(a) 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

Date	Actions and institutional arrangements
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
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

Date	Actions and institutional arrangements
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