Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

Plenary of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
Eighth session
Online, 14–24 June 2021
Item 5 of the provisional agenda*

Report of the Executive Secretary on progress in the implementation of the rolling work programme up to 2030

Information on advanced work on knowledge and data

Note by the secretariat

1.   In section II of its decision IPBES-2/5, the Plenary of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) established a task force on knowledge and data for the period of its first work programme (2014–2018). In section II of its decision IPBES-3/1, the Plenary approved the data and information management plan set out in annex II to that decision.

2.   At its seventh session, in its decision IPBES-7/1, the Plenary adopted the rolling work programme of the Platform for the period up to 2030, which included among its six objectives advanced work on knowledge and data (objective 3 (a)). The objective focuses on identifying, prioritizing, mobilizing and facilitating access to existing knowledge, information and data, including indicators and metrics to be used in assessments; further developing a web-based infrastructure in support of open data sharing and information management; identifying gaps in knowledge and data arising from the completed deliverables of IPBES work programmes; systematically cataloguing knowledge and data gaps identified in the work programme; and catalysing the generation of new knowledge by making those gaps known, including to research funding agencies, research programme developers, and institutions involved in prioritizing and funding data mobilization, and considering them for further prioritization of deliverables in the work programme.

3.   In section IV of its decision IPBES-7/1, the Plenary recalled the establishment of the task force and extended its mandate for the implementation of objective 3 (a) of the rolling work programme of the Platform up to 2030, in accordance with the revised terms of reference set out in annex II to that decision, and requested the Bureau and the Multidisciplinary Expert Panel, through the IPBES secretariat, to constitute the task force in accordance with the terms of reference.

4.   According to its terms of reference, the task force on knowledge and data oversees and takes part in the implementation of objective 3 (a) of the rolling work programme up to 2030, "Advanced work on knowledge and data", and acts in accordance with relevant decisions by the Plenary and its subsidiary bodies, including by building on lessons learned in the implementation of deliverable 1 (d) of the first work programme; supporting assessment experts in identifying, prioritizing and mobilizing existing knowledge and data needed for IPBES assessments; guiding the secretariat, including the dedicated technical support unit, in the management of the data, information and knowledge used in IPBES products, including the development of the web-based infrastructure, to ensure their long-term availability and data interoperability; and supporting the Bureau and the Multidisciplinary Expert Panel in reviewing the knowledge needs and gaps identified through IPBES assessments and other IPBES deliverables and in catalysing the generation of new knowledge and data. In section IV of decision IPBES-7/1, the Plenary also decided to review the mandate and terms of reference of the task force at its tenth session.

* IPBES/8/1.

5.   Further, the Plenary took note of the next steps for the task force for 2019 and 2020 and requested the task force to develop specific deliverables for each of the priority topics set out in paragraph 8 of the rolling work programme up to 2030[1] for consideration by the Plenary at its eighth session. The general terms of reference for the task forces for the rolling work programme up to 2030, set out in annex II to decision IPBES-7/1, stipulate that each task force will, among other activities, provide a regular progress report and, in consultation with the Multidisciplinary Expert Panel and the Bureau, develop and update a workplan that sets out clear milestones and deliverables with regard to the relevant topics and objectives of the rolling work programme up to 2030 for periodic consideration by the Plenary.

6.   Information on draft deliverables for objective 3 (a), an interim workplan for the task force for the intersessional period 2021–2022 and a draft workplan for the intersessional period 2022–2023 are set out in document IPBES/8/7. An overview of activities carried out by the task force since the seventh session of the Plenary is set out in the report of the Executive Secretary on progress in the implementation of the rolling work programme up to 2030 (IPBES/8/2).

7.   The annex to the present note sets out further information on activities carried out by the task force in addressing its mandate, activities planned for the next intersessional period, and an overview of possible activities related to the nexus and transformative change assessments. The annex is presented without formal editing.

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[1] The three priority topics are: (a) understanding the importance of biodiversity in achieving the 2030 Agenda for Sustainable Development; (b) understanding the underlying causes of biodiversity loss and determinants of transformative change and options for achieving the 2050 Vision for Biodiversity; and (c) measuring business impact and dependence on biodiversity and nature's contributions to people.

Annex

Progress in the implementation of objective 3(a): Advanced work on knowledge and data

1.   This annex sets out progress in the implementation of objective 3(a), advanced work on knowledge and data. The task force implemented its activities working in two sub-groups, on knowledge generation catalysis and on data management, to implement these two work streams of the objective.

I.   Knowledge generation catalysis

2.   This section sets out activities undertaken by the task force on knowledge and data in 2019 and 2020 under objective 3(a), advanced work on knowledge and data, with regard to knowledge generation catalysis.

A.   Review and further development of the process to catalyse the generation of new knowledge, living guidelines and template to support assessment authors in the identification of knowledge gaps, based on lessons learnt from ongoing assessments

3.   Between November 2019 and March 2021, the knowledge working group held four meetings to advance activities under each knowledge generation deliverable, and participated in the second meeting of the entire task force (see section IV below). As part of these meetings, the task force developed:

(a)   A process to catalyse the generation of new knowledge, composed of three steps that underpin the activities under the deliverables described in sections B, C and D below;

(b)   Living guidelines to support IPBES experts in the identification of knowledge gaps within their respective assessments and;

(c)   A template for the collection of knowledge gaps.

4.   These materials were approved by the Multidisciplinary Expert Panel and the Bureau at their 15th meetings in September 2020 and will be made available on the IPBES website at: https://ipbes.net/modules-assessment-guide.

B.   Provision of support to assessment authors in the process of knowledge gaps identification

5.   Three online meetings were organized to introduce the guidelines on the identification of knowledge gaps to the experts of currently ongoing IPBES assessments. The main objectives of these meetings were to present the materials developed by the task force on knowledge and data listed in paragraph 3 above, to introduce members of the knowledge and data team to the assessments experts and to discuss their needs, questions and possible difficulties related to knowledge and data gaps. The meetings included:

(a)   An online meeting for the values assessment, held on 21 September 2020, which convened co-chairs and coordinating lead authors from each chapter of the assessment, one co-chair and one member of the task force on knowledge and data and the dedicated technical support units of the assessment and the task force;

(b)   A follow up meeting with the technical support unit for the values assessment in January 2021, which showed great progress in the identification of knowledge gaps within the second order draft chapters of the values assessment. The task force on knowledge and data, experts from chapter 6 of the values assessment and the technical support units continued to collaborate on knowledge gaps-related aspects towards the third author meeting of the assessment in April 2021 and the finalization of the assessment;

(c)   A live question-and-answer session, organized on 4 December 2020 as part of the second author meeting of the invasive alien species assessment. A presentation of the guidelines had also been recorded and shared with assessment experts ahead of the meeting;

(d)   An online meeting for the sustainable use of wild species assessment, held on 20 January 2021, which convened co-chairs and coordinating lead authors of the assessment, one co-chair and one member of the task force on knowledge and data and the technical support units of the assessment and the task force.

6.   The task force on knowledge and data will continue to support assessment experts in the knowledge gaps' identification process, (i) towards the development of the final draft chapters and summaries for policymakers of the values and sustainable use of wild species assessments and, (ii) towards the development of the second order draft of the chapters and first order draft of the summary for policymakers of the invasive alien species assessment.

C.   Promotion of the uptake of identified knowledge gaps by relevant external organizations and initiatives

7.   Under this deliverable, the task force on knowledge and data and its technical support unit on knowledge generation are facilitating dialogues between experts of IPBES assessments and research programmers and funders who have a focus on biodiversity. In 2020, the main objective in this regard has been to define the framework and key elements for the dialogues that will be organized throughout 2021.

8.   The task force on knowledge and data thus dedicated sessions to planning of the dialogues at two of its knowledge working group meetings and at its annual task force meeting. The task force developed a concept note to set the scene for the organization of five (online or physical) regional workshops (Africa, Asia-Pacific, Europe and Central Asia, Latin America and the Caribbean, North America) that will be held in 2021.

9.   The dialogues will involve assessment authors and representatives of relevant regional/national organizations, that are major programmers/funders of research, thus contributing to new knowledge generation. As far as possible, these organizations will be engaged in the dialogues through regional networks, where these exist. To ensure an appropriate geographical coverage, the task force will also seek to invite, in concertation with the respective network, participants from countries in the region that are not members of the network.

10.   The dialogues will focus on knowledge gaps from the Global Assessment of Biodiversity and Ecosystem Services and where such gaps have been identified, the Regional Assessments of Biodiversity and Ecosystem Services. Using appropriate disclaimers, dialogues will also be an opportunity to present separately gaps identified in the report on the IPBES workshop on biodiversity and pandemics.

11.   The suggested approach and next steps for the organization of the dialogues were approved by the Multidisciplinary Expert Panel and Bureau at their 16th meetings in February 2021.

D.   Monitor the impact of knowledge generation catalysis efforts to effectively fill identified gaps

12.   During the second meeting of the task force on knowledge and data, task force members reflected on how to monitor the impact of knowledge generation catalysis efforts. These discussions resulted in a draft proposal for a monitoring plan, composed of three monitoring levels:

(a)   Level 1: Monitoring the efforts made to catalyse the generation of new knowledge;

(b)   Level 2: Monitoring the uptake of IPBES knowledge gaps by relevant programmers and funders;

(c)   Level 3: Monitoring the generation of new knowledge based on gaps identified in IPBES assessments.

13.   This proposal for a monitoring plan was approved by the Multidisciplinary Expert Panel and Bureau at their 15th meetings.

14.   In addition to the above-mentioned deliverables, at its second meeting the task force on knowledge and data also dedicated a group discussion to the development of detailed workplans for the intersessional periods between the eighth and ninth, and ninth and tenth sessions of the Plenary, with regard to the catalysis of new knowledge generation. The task force agreed on work plans including deliverables and activities with timelines for the catalysis of new knowledge generation. The
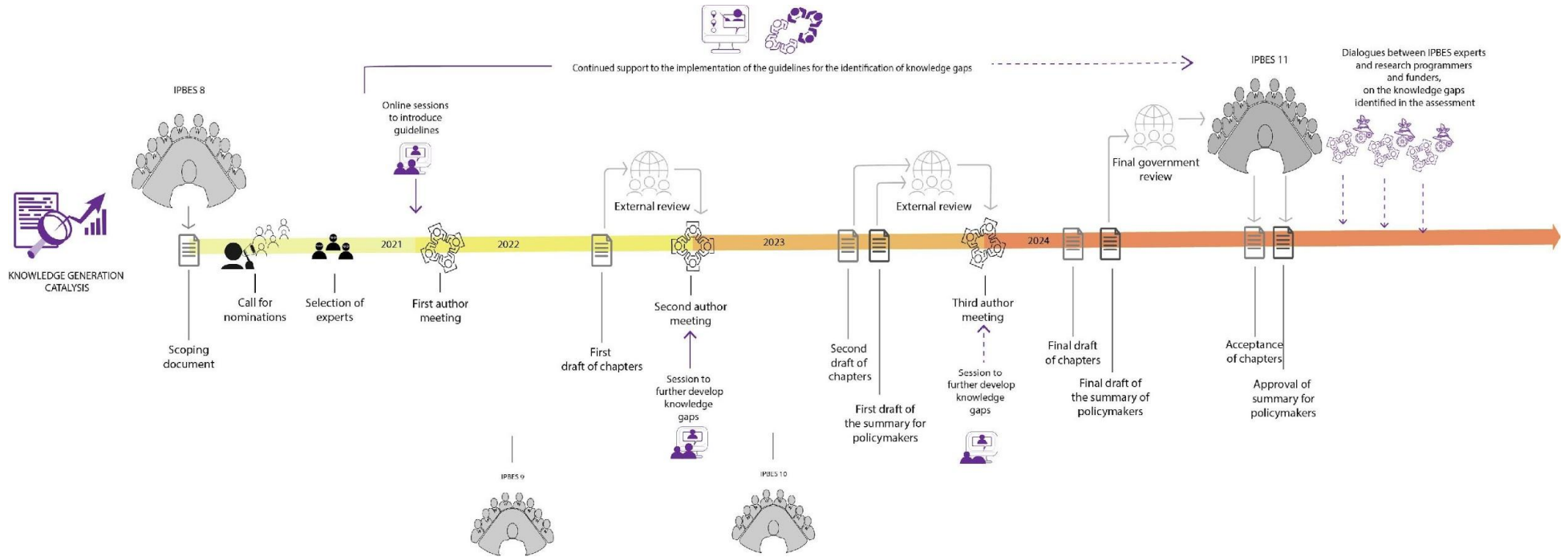
work plans were approved by the Multidisciplinary Expert Panel and Bureau at their 15th meetings and are set out in document IPBES/8/7.

E. Overview of possible activities under objective 3(a), advanced work on knowledge data, specifically advanced work on knowledge generation catalysis, related to the nexus and transformative change assessments

15.   As reflected in the work plan set out in document IPBES/8/7, introductory sessions are planned to be organized for assessment authors of the nexus and transformative change assessments on the guidelines for the identification of knowledge gaps and support provided to these authors regarding their implementation. If the task force was to continue its work following the review of its mandate at the tenth session of the Plenary, activities could include the organization of dialogue workshops with research programmers and research funding organizations on the knowledge gaps identified in the assessments once approved. An overview of possible activities is set out in Figure 1 below.

Figure 1: Overview of possible activities under objective 3(a), advanced work on knowledge data, specifically advanced work on knowledge generation catalysis, related to the nexus and transformative change assessments.

II. Data management

A. Data management policy, support to assessment authors on its implementation and the generation, management, handling and delivery of IPBES products and other activities

16.   This section sets out activities undertaken by the task force between November 2019 and March 2021 under objective 3(a), advanced work on knowledge and data, with regard to data management.

17.   As a major first achievement, the task force on knowledge and data drafted and, upon approval of the Multidisciplinary Expert Panel and Bureau at their 14th meetings in January 2020, published the first version of the IPBES data management policy. The task force later made a few minor changes to the IPBES data management policy based on comments received since January 2020. The latest version of the IPBES data management policy is available here at https://doi.org/10.5281/zenodo.3551078 and also in document IPBES/8/INF/12.

18.   In close collaboration with the technical support unit of values assessment, a series of more than 30 data management reports corresponding to the data intensive sections of the assessment have been prepared and included in the second order draft of the assessment which was made available for a second external review in January and February 2021. During the second author meeting of the invasive alien species assessment, two sessions were held on data management reports. Several ad hoc virtual meetings were organized with the experts and the technical support units of the ongoing assessments on matters related to the data management policy and preparation of data management reports.

19.   To further support upcoming assessments, the task force on knowledge and data in collaboration with the technical support unit for capacity building, prepared a series of tutorials consisting of 26 episodes in 6 sessions (~ 2 hours and 30 minutes multimedia content) on the data management policy (see https://doi.org/10.5281/zenodo.4020373). The IPBES data management tutorials are short videos to help experts implement the IPBES data management policy. They cover topics ranging from data management reports, active research data, tools, and examples. The series includes the following chapters:

(a)   Chapter 1, introduction to IPBES data management tutorials (https://doi.org/10.5281/zenodo.4014762), provides an overview on data management within IPBES, and the series of the tutorials prepared by the task force on knowledge and data which assists experts with the implementation of the IPBES data management policy;

(b)   Chapter 2, the IPBES data management policy (https://doi.org/10.5281/zenodo.4014790), provides an introduction of the IPBES data management policy. It discusses why IPBES has a data management policy and specifies roles and responsibilities in the implementation and further development of this policy;

(c)   Chapter 3, IPBES data management reports (https://doi.org/10.5281/zenodo.4014792), provides an overview and discussion of specific elements of IPBES data management reports;

(d)   Chapter 4, data management of active research data (https://doi.org/10.5281/zenodo.4014796), provides an introduction for IPBES experts on how to manage data while they are actively being used, analysed, and produced to fulfil the criteria of the IPBES data management policy;

(e)   Chapter 5, tools for data management (https://doi.org/10.5281/zenodo.4014798), provides IPBES authors with an overview of open source tools used frequently by the scientific community to help it implement data management for the entire data life cycle;

(f)   Chapter 6, examples of implementing the IPBES data management policy (https://doi.org/10.5281/zenodo.4014802), contains examples of how specific data management tasks and workflows were implemented within IPBES following the data management policy. Over time, diverse examples from different assessments and other IPBES projects will be added.

20.   In close collaboration with the IPBES communication and stakeholder engagement team, the dataset underlying the IPBES stakeholder survey 2020 has been prepared following the IPBES data management policy and uploaded to Zenodo (See https://doi.org/10.5281/zenodo.4095065). This dataset is the outcome of a survey of IPBES stakeholders that was conducted in May and June 2020. The aim of this survey was to better understand stakeholder engagement with IPBES, to improve implementation of the IPBES stakeholder engagement strategy (decision IPBES-3/4), and to further increase the inclusivity and effectiveness of the IPBES work programme. Results will help, among others, to better align communication and outreach, and to strengthen collaborative processes within the IPBES work programme. The dataset remains under embargo until the eighth session of the Plenary.

21.   With respect to data technology, four pilot studies on the applications advanced data technology, namely natural language processing and text analysis, in topic identification over space and time have been successfully implemented for chapters 3, 4, and 5 of the values assessment and were included in the second order draft of the assessment which underwent external review in January and February 2021.

22.   Previous work on IPBES core indicators was reviewed and a harmonized dataset consisting of all core indicators, following the IPBES data management policy, was prepared and published on Zenodo for use by the ongoing and upcoming assessments' experts (see https://doi.org/10.5281/zenodo.4439411). The 30 IPBES core indicators were approved by the Multidisciplinary Expert Panel and Bureau during their seventh meeting held in June 2016 and presented in documents IPBES/5/5 and IPBES/5/INF/5, with the recommendation that the indicators be used within the global, regional, and thematic assessments being prepared at that time. The indicators were a product of the first IPBES work programme 2014 - 2019. In 2020, the technical support unit on knowledge and data harmonized the previous datasets collected and formed two datasets. The first described indicators available at the country scale, and the second indicators summarized or reported at the regional to global scale. The steps taken to standardize and clean the datasets were documented within the metadata available on Zenodo.

23.   A note on the use of the social-ecological indicator bundles approach has been prepared by the task force on knowledge and data. The note describes work undertaken on using social-ecological indicator bundles and will be made available to IPBES experts as a resource.

24.   With respect to the work on geoinformatics, the task force on knowledge and data prepared and published a series of geoinformatics technical guidelines (see https://ict.ipbes.net/geoinformation):

        (a)   *Part 1 - Conversion to the Robinson projection.* The guide demonstrates how to convert raster and vector data from any projection to the Robinson projection using R (see https://ict.ipbes.net/geoinformation/technical-guidelines/conversion-to-the-robinson-projection and https://doi.org/10.5281/zenodo.4559136);

        (b)   *Part 2 - Preparing and mapping data to IPBES regions and sub-regions.* The guide teaches how to aggregate and map data from the Food and Agriculture Organization of the United Nations according to the IPBES regions and sub-regions polygons using R (see https://ict.ipbes.net/geoinformation/technical-guidelines/preparing-and-mapping-data-to-ipbes-regions-and-sub-regions and https://doi.org/10.5281/zenodo.4559153)

        (c)   *Part 3 - Cartographic guidelines.* This technical guideline reviews the necessary and suggested cartographic elements for maps produced as part of IPBES assessments. The guide is split into three components, (i) cartographic elements, (ii) disclaimers, and (iii) general recommendations. There are examples of maps and the supporting code throughout the guide (see https://ict.ipbes.net/geoinformation/technical-guidelines/cartographic-guidelines and https://doi.org/10.5281/zenodo.4559188).

25.   The technical guidelines will continue to be published based on the frequently asked questions or requests received from past and ongoing assessments.
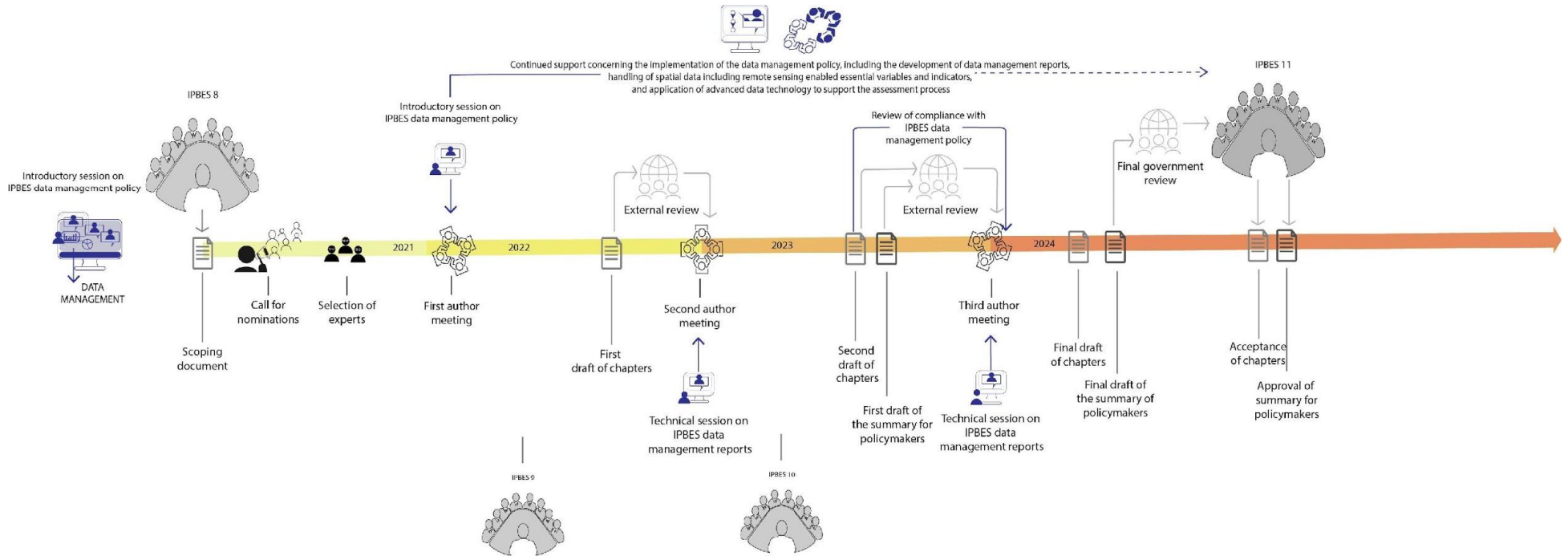
B. Overview of possible activities under objective 3(a), advanced work on knowledge data, specifically advanced work on data management, related to the nexus and transformative change assessments

26.   As reflected in the work plan set out in document IPBES/8/7, it is planned that support will be provided to authors of the nexus and transformative change assessments concerning the implementation of the IPBES data management policy. If the task force was to continue its work following the review of its mandate at the tenth session of the Plenary, these activities would be extended until the completion of the assessments. An overview of possible activities is set out in Figure 2 below.

Figure 2: Overview of possible activities under objective 3(a), advanced work on knowledge data, specifically advanced work on data management, related to the nexus and transformative change assessments.

III.   Constitution of the task force

27.   On 17 May 2019, a notification (EM/2019/09) was issued in which Governments and relevant stakeholders were invited to nominate candidates for the five IPBES task forces. 52 nominations were received for the task force on knowledge and data. Of the nominations received, 22 candidates were female and 30 were male, 6 were from Africa, 8 from Asia-Pacific, 5 from Eastern Europe, 9 from Latin America and the Caribbean, and 24 were from Western Europe and other States.

28.   The Multidisciplinary Expert Panel and Bureau, at their 13th meetings selected the members of the task force in line with its terms of reference set out in annex II to decision IPBES-7/1.

29.   The final composition of the task force comprises:

Name	Country	Function
Youngbae Suh	Republic of Korea	Task force co-chair, Member of the Bureau
Isabel Sousa Pinto	Portugal	Task force co-chair, Member of the Multidisciplinary Expert Panel
Mohammed Sghir Taleb	Morocco	Member of the Multidisciplinary Expert Panel (alternate)
Katalin Török	Hungary	Member of the Multidisciplinary Expert Panel (alternate)
András Báldi	Hungary	Expert
Kalpana Chaudhari	India	Expert
Debora Drucker	Brazil/Italy	Expert
Gregoire Dubois	Belgium	Expert
Rainer Krug	Germany	Expert
Melisa Ljusa	Bosnia and Herzegovina	Expert
Howard Nelson	Trinidad and Tobago	Expert
Xubin Pan	China	Expert
Fatima Parker-Allie	South Africa	Expert
Dave Thau	United States of America	Expert
Bi Tra Aimé Vroh	Côte d'Ivoire	Expert
Rebecca Chaplin Kramer	United States of America	Liaison expert (values assessment)
Hanno Seebens	Germany	Liaison expert (invasive alien species assessment; alternate)

30.   Representatives of the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Environment Programme - World Conservation Monitoring Centre (UNEP-WCMC) and the Global Biodiversity Information Facility, as well as two individual experts (Wouter Addink, Naturalis Biodiversity Center and Cornelia Krug, University of Zuerich) participated in the work of the task force as resource persons.

31.   BiodivERsA (France) and Senckenberg Society for Nature Research (Germany) were selected by the Bureau at its 13th meeting to provide technical support to the task force on knowledge and data, respectively, under the 2030 rolling work programme until the tenth session of the Plenary.

IV.   Meetings and activities of the task force

32.   The first meeting of the task force on knowledge and data under the IPBES 2030 rolling work programme took place on 11 - 14 November 2019 in Bonn, Germany. This joint meeting of the five task forces had two related objectives:

(a)   For each task force, to develop an overall work plan, including:

(i)   Specific deliverables for each one of the three priority topics of the 2030 rolling work programme of IPBES; and

(ii)   Specific activities and timelines for these deliverables for the period until the eighth session of the IPBES Plenary, with less detailed plans beyond that session;

(b)   For each task force to understand the work of other task forces and have the opportunity to discuss collaboration, in order to promote coherence in the implementation of the work programme.

33.   The task force spent a session reviewing its work performed during the 2014-2018 work programme, mainly focusing on achievements, challenges and lessons learned. The task force then worked in two groups, one on knowledge and one on data, in which agreement was reached on all aspects including overall deliverables, specific priority activities, allocation of tasks and plans for the next meeting of the task force. Particularly, the task force developed a work plan in support of objective 3(a), advanced work on knowledge and data, of the IPBES rolling work programme up to 2030, identifying eight deliverables grouped under knowledge generation and data management aspects. The workplan considered the initial priority topics of the IPBES work programme as set out in decision IPBES-7/1, as well as the ongoing assessments.

34.   The second meeting of the task force on knowledge and data under the IPBES 2030 rolling work programme was organized as an online meeting from 13 to 16 July 2020. Objectives of the second meeting of the task force were:

(a)   To discuss progress towards the prioritised activities up to the eighth session of the Plenary, including specific deliverables for each one of the three priority topics;

(b)   To develop an overall implementation plan for the period beyond the eighth session of the Plenary, including specific deliverables for each of the three priority topics of the IPBES work programme up to 2030, and an implementation section with proposed activities and outputs;

(c)   To further discuss the work of the task force and collaboration between task forces in order to promote coherence in the implementation of the work programme.

35.   During this second online meeting, three group discussions focused on the catalysis of new knowledge generation. More specifically the sessions covered a proposal for a knowledge generation detailed workplan for the intersessional period between the eighth and tenth sessions of the IPBES Plenary; the knowledge generation monitoring plan and dialogues planning. The task force approved the proposed workplan - composed of four deliverables, the general principles forming the proposal for a monitoring plan and the general principles for dialogues planning.

36.   During this second online meeting, three group discussions were also held on data management policy, geoinformatics, indicators and data technology. The deliverables regarding data management were modified to reflect the current and future work of the task force. The task force prioritized the activities and outputs for the period up to the eighth session of the Plenary and agreed on activities and outputs for the period beyond that session.

37.   To accomplish the activities and outputs specified in the implementation plan before the eighth session of the Plenary on matters related to knowledge generation catalysis, a specific working group was established. The knowledge working group met virtually four times between January 2020 and March 2021, to move forward with the activities planned under each deliverable, discuss progress and plan specific next steps.

38.   To accomplish the activities and outputs specified in the implementation plan on matters related to the data management, three working groups were established around three topics: data management, geoinformatics and indicators, and data technology. These working groups met three times each, for a total of nine meetings held virtually between January 2020 and March 2021 to discuss the current progress on activities and outputs and plan specific next steps to develop the deliverables.