

Synthetic biology

Non-paper

The Subsidiary Body on Scientific, Technical and Technological Advice,

Recalling decision 15/31 on synthetic biology,

Having conducted a review of the outcomes and operation of the process in accordance with decision 15/31 and taking annex III to document CBD/SBSTTA/26/4 and document CBD/SBSTTA/26/INF/6 into account,

1. *Acknowledges* the outcomes of the multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology contained in annexes I, II, III, IV and V of document CBD/SBSTTA/26/4,
2. *Welcomes* the results of the peer review process contained in document CBD/SBSTTA/26/INF/6,
3. *Emphasizes* that capacity-building and development, access to and transfer of technology and knowledge-sharing are important in the context of synthetic biology,
4. *Concludes* that applications of synthetic biology could positively contribute to or negatively impact the objectives of the Convention and the goals and targets of the Kunming-Montreal Global Biodiversity Framework,
5. *Recommends* that the Conference of the Parties, at its sixteenth meeting, adopt a decision along the following lines:

The Conference of the Parties,

Recalling decision BS-VII/12 of the Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol on Biosafety, calling for a coordinated and non-duplicative approach on the issue of synthetic biology taking into account that the provisions of the Cartagena Protocol may also apply to living organisms resulting from synthetic biology,

Recalling also decision XII/24, which inter alia urged Parties to take a precautionary approach and establish, or have in place, effective risk assessment and management procedures and/or regulatory systems to regulate environmental release of any organisms, components or products resulting from synthetic biology techniques, consistent with Article 3 of the Convention,

Recalling further decision 14/19, in which the Conference of the Parties agreed that broad and regular horizon scanning, monitoring and assessing of the most recent technological developments is needed for reviewing new information regarding the potential positive and potential negative impacts of synthetic biology vis-à-vis the three objectives of the Convention and those of the Cartagena Protocol and Nagoya Protocol,

Recalling decision 15/31, which recognized that the results of the application of the criteria as set out in decision IX/29 to the issue of synthetic biology have been inconclusive in determining whether synthetic biology is a new and emerging issue or not and decides not to require further analysis on whether synthetic biology is a new and emerging issue and established the process for broad and regular horizon scanning, monitoring and assessment of the most recent technological developments in synthetic biology,

Noting the potential positive contributions and negative impacts of synthetic biology applications to the objectives of the Convention and the goals and targets of the Kunming-Montreal Global Biodiversity Framework,

Noting also the potential interlinkages of several issues of horizon scanning, monitoring and assessment with those under consideration under Biodiversity and health, particularly the draft global action plan for biodiversity and health,

Acknowledging that a multidisciplinary and Party-driven approach is essential for assessing the potential impacts of synthetic biology on the objectives of the Convention and its Protocols,

Recognizing the inequity in the participation of developing countries in the research, development, assessment and regulation of synthetic biology and the importance of addressing the impacts,

Noting with appreciation the outcomes of the multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology, including annex II to document CBD/SBSTTA/26/4,

A. Capacity-building and development, access to and transfer of technology and knowledge-sharing in the context of synthetic biology

1. *Recognizes* the urgent need for capacity-building and development, access to and transfer of technology and knowledge-sharing for the field of synthetic biology;

2. *Urges* Parties, and invites relevant organizations, to provide financial and technical support for capacity-building and development and technology transfer initiatives in developing countries, including for the research, development and assessment in the field of synthetic biology;

3. *Calls upon* Parties and other stakeholders to facilitate broad international cooperation, technology transfer, knowledge-sharing and capacity-building on synthetic biology, taking into account the needs of Parties and of indigenous peoples and local communities;

4. *Reaffirms* decision 15/8 on capacity-building and development and technical and scientific cooperation and the guiding principles contained in annex II to that decision;

5. *Decides* to develop a thematic action plan to support capacity-building and development, access to and transfer of technology and knowledge-sharing in the context of synthetic biology as well as the long-term strategic framework for capacity-building and development;

6. *Invites* Parties, other Governments and relevant organizations to submit information on their capacity-building, technology transfer and knowledge-sharing needs and experiences related to synthetic biology to inform the preparation of the action plan for synthetic biology;

7. *Requests* the Secretariat to prepare a thematic action plan to support capacity-building and development, access to and transfer of technology and knowledge-sharing in the context of synthetic biology taking the following into account:

(a) The identification of areas where capacity-building is needed for research, development, assessment and regulation of synthetic biology;

(b) Strategies to ensure equitable participation of developing countries and indigenous peoples and local communities research, development, assessment and regulation of synthetic biology;

(c) Proposals to promote the fair and equitable sharing of benefits arising from synthetic biology, in line with the objectives of the Kunming-Montreal Global Biodiversity Framework and Articles 16 and 19 of the Convention;

(d) Mechanisms for technology transfer, knowledge-sharing and international cooperation;

(e) The specific needs of Parties identified through the submissions of information in paragraph 6 above and the outcomes of the multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology;¹

(f) A gap analysis, taking into account other process and initiatives related to the fields of synthetic biology;

8. *Also requests* the Secretariat to create a dedicated webpage on the Biosafety Clearing-House to promote the action plan and facilitate knowledge-sharing in the context of synthetic biology;

9. *Requests* the Subsidiary Body on Scientific, Technical and Technological Advice to consider the action plan at a meeting prior to the seventeenth meeting of the Conference of the Parties and make recommendations to the Conference of the Parties at its seventeenth meeting;

B. Broad and regular horizon scanning, monitoring and assessment of the most recent technological developments in synthetic biology

10. *Welcomes* the outcomes of the broad and regular horizon scanning, monitoring and assessment of the most recent technological developments in synthetic biology;

11. *Decides* to extend the process for broad and regular horizon scanning, monitoring and assessment of the most recent technological developments in synthetic biology for an additional intersessional period;

12. *Adopts* the refined methodology contained in annex IV to document CBD/SBSTTA/26/4, and decides to keep the methodology under review by the Conference of the Parties;

13. *Decides* that the broad and regular horizon scanning, monitoring and assessment process should be a Party-led process;

14. *Re-establishes* the multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology with renewed membership for one additional intersessional period in accordance with the terms of reference contained in the annex;

15. *Invites* Parties, other Governments, relevant organizations, indigenous peoples and local communities and women and youth organizations to submit nominations to the multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology;

16. *Also invites* Parties, other Governments, relevant organizations, indigenous peoples and local communities and women and youth organizations, to strengthen the multidisciplinary approach when considering nominations for the multidisciplinary Expert Group;

17. *Requests* the Secretariat, subject to the availability of resources:

(a) To update the literature review in order to inform the work of the multidisciplinary Expert Group, taking ecological, socioeconomic, ethical and cultural considerations into account;

(b) To convene online discussions of the Open-ended Online Forum on Synthetic Biology in order to support the work of the multidisciplinary Expert Group;

(c) To convene at least one in-person meeting of the multidisciplinary Expert Group;

¹ Contained in annex II to document CBD/SBSTTA/26/4.

(d) To support the full and effective participation of indigenous peoples and local communities in the work relevant to synthetic biology under the Convention in accordance with decision X/40;

(e) To support the participation of the research community, women and youth in the work relevant to synthetic biology under the Convention on Biological Diversity.

18. *Requests* the Subsidiary Body on Scientific, Technical and Technological Advice to consider the outcomes of the multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology and make recommendations to the Conference of the Parties at its seventeenth meeting, and as appropriate, to the Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol on Biosafety at its twelfth meeting and the Conference of the Parties serving as the meeting of the Parties to the Nagoya Protocol on Access and Benefits Sharing at its sixth meeting.

6. *Also recommends* that the Conference of the Parties serving as a meeting for the Parties to the Cartagena Protocol on Biosafety, at its eleventh meeting, adopt a decision along the following lines:

The Conference of the Parties

Decides that any trends or issues identified through the process of broad and regular horizon scanning, monitoring and assessment of the most recent technological developments in synthetic biology that are considered to be living modified organisms and may require further guidance on risk assessment will need to follow the process outlined in annex I to decision CP-9/13.

Annex

Terms of reference for the multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology

1. The multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology, building previous relevant work of the Convention and its Protocols, including the work of previous Ad Hoc Technical Expert Groups and the outcomes of the peer review included in CBD/SBSTTA/26/INF/6, shall:

(a) Consider the literature review and the discussions of the Open-ended Online Forum on Synthetic biology with the view to integrate the outcomes into the assessment;

(b) Continue the in-depth assessment, including potential impacts on the Objectives of the Convention, ecological, socioeconomic, ethical and cultural considerations, and taking special consideration for indigenous peoples and local communities, women and youth, on the:

(i) Potential impacts of the integration of artificial intelligence and machine learning in synthetic biology;

(ii) Potential impacts of self-spreading vaccines for wildlife;

(iii) Potential impacts of engineered gene drives to control vector-borne diseases and invasive species, while avoiding duplication of work performed by the Ad Hoc Technical Expert Group on Risk Assessment and Risk Management;

(c) Provide advice in potential modalities to improve monitoring for the most recent technological development in synthetic biology;

(d) Prepare a report of the outcome of its work and make recommendations to the Subsidiary Body on Scientific, Technical and Technological Advice.

2. The multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology will be convened in compliance with section H of the consolidated modus operandi of the Subsidiary Body on Scientific, Technical and Technological Advice, including, whenever possible, expertise from a

broad range of scientific disciplines, as well as interdisciplinary and intercultural expertise, indigenous peoples and local communities, women and youth.
