

Agenda item 24
Synthetic Biology

Compilation of submissions

Note: This document contains a verbatim compilation of the written submissions received by the Secretariat on agenda item 24, on synthetic biology, further to the introduction of this agenda item in Working Group II, on Monday 21 October and following the first session of the contact group on Tuesday, 22 October.

This list is reflective of submissions received by 4 pm on 22 October 2024.

Submissions received from Parties

Egypt

Egypt is pleased to address the critical issue of synthetic biology under the Convention on Biological Diversity. As we navigate the complexities of this emerging field, it is essential to underscore the importance of a systematic approach that incorporates horizon scanning, monitoring, and assessment of recent technological developments.

Recalling Decision 14/19, which emphasizes the need for broad and regular horizon scanning, we recognize that this process is fundamental to understanding the potential impacts of synthetic biology on the objectives of the Convention, as well as on the Cartagena and Nagoya Protocols. By proactively identifying trends and advancements, we can better anticipate the implications for biodiversity and ecosystems.

Furthermore, Decision 15/31 established a framework for ongoing assessment and monitoring, allowing us to stay informed and responsive to the dynamic nature of synthetic biology. This iterative process is vital for ensuring that our actions are based on the latest scientific evidence and that we remain vigilant in mitigating risks associated with living modified organisms.

We also acknowledge the interlinkages between synthetic biology and broader issues, particularly those outlined in the draft global action plan for biodiversity and health. A multidisciplinary approach is crucial in addressing the potential risks associated with synthetic biology, as it enables us to consider diverse perspectives and expertise. This inclusivity will enhance our capacity to formulate comprehensive biosafety measures that protect both human health and the environment.

In this context, we welcome the outcomes of the multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology, as detailed in Annex II of document CBD/SBSTTA/26/4. These outcomes will be instrumental in guiding Parties in their assessment of specific synthetic biology applications, ensuring that the knowledge generated is effectively utilized in decision-making processes.

Moreover, any thematic action plan developed in the context of synthetic biology must align with the parameters established through horizon scanning, monitoring, and assessment. By doing so, we can ensure that capacity-building, technology transfer, and knowledge-sharing efforts are relevant and responsive to the challenges posed by synthetic biology.

Finally, it is crucial to reference the relevant articles of the Convention—particularly Articles 7, 14, 16, and 19.4—which frame our understanding of identification, monitoring, impact assessment, and the access and transfer of technology. These articles serve as foundational pillars for our work, ensuring that we pursue our objectives without causing significant harm to the environment.

In conclusion, the Egypt reaffirms its commitment to engaging collaboratively with all Parties in the ongoing dialogue on synthetic biology. By prioritizing horizon scanning, monitoring, and assessment, we can navigate this complex landscape responsibly, safeguarding biodiversity while harnessing the benefits of innovation.

We will submit our concrete text proposal in writing

Thank you.

The Conference of the Parties,

Recalling the call made by the Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol on Biosafety¹ in its decision BS-VII/12 of 3 October 2014 for a coordinated approach on the issue of synthetic biology, taking into account the fact that the provisions of the Protocol may also apply to living organisms resulting from synthetic biology,

[Recalling also decisions XII/24 of 17 October 2014, XIII/17 of 17 December 2016, 14/19 of 29 November 2018 and 15/8 and 15/31 of 19 December 2022,

[Recalling further that, in its decision XIII/17, the Conference of the Parties took note of the conclusion of the Ad Hoc Technical Expert Group on Synthetic Biology that living organisms developed through current applications of synthetic biology, or that were currently in the early stages of research and development, were similar to living modified organisms as defined in the Cartagena Protocol, [and noted that it was not clear, given the current state of knowledge, whether or not some organisms of synthetic biology, which were currently in the early stages of research and development, would fall under the definition of living modified organisms under the Protocol,]]

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Recalling that, in its decision 14/19, the Conference of the Parties agreed that broad and regular horizon scanning, monitoring and assessing of the most recent technological developments were needed for reviewing new information regarding the potential positive or negative impacts of synthetic biology vis-à-vis the three objectives of the Convention on Biological Diversity² and those of the Cartagena Protocol and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization,³

Recalling also that, in its decision 15/31, the Conference of the Parties recognized that the results of the application of the criteria set out in decision IX/29 of 30 May 2008 to the issue of synthetic biology had been inconclusive in determining whether synthetic biology was a new and emerging issue or not, decided not to require further analysis on whether synthetic biology was a new and emerging issue and established a process for broad and regular horizon scanning, monitoring and assessment of the most recent technological developments in synthetic biology,

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Noting the potential positive contributions and negative impacts of synthetic biology applications in relation to the objectives of the Convention and the goals and targets of the Kunming-Montreal Global Biodiversity Framework,⁴

Noting also the potential interlinkages of several issues identified during the horizon scanning, monitoring and assessment process with those under consideration in the context of work on biodiversity and health, in particular the draft global action plan for biodiversity and health,

¹ United Nations, *Treaty Series*, vol. 2226, No. 30619.

² United Nations, *Treaty Series*, vol. 1760, No. 30619.

³ United Nations, *Treaty Series*, vol. 3008, No. 30619.

⁴ Decision 15/4, annex.

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 impacts,

Further recognizing that the negative impacts of synthetic biology are likely to be greater in developing country Parties, and the importance of horizon scanning, monitoring, assessment and regulation of synthetic biology, in this regard;

Welcomes ~~*Noting with appreciation*~~ the outcomes of the work of the multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology, including those contained in annex II to document CBD/SBSTTA/26/4,

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

1. *Emphasizes* the urgent need for capacity-building and development, access to and transfer of technology and knowledge-sharing for 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 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 and development related to synthetic biology, taking the needs of Parties, indigenous peoples and local communities, women and youth into account;

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 **horizon scanning, monitoring and assessment of [biotechnology, including]** 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 and development, technology transfer and knowledge-sharing needs and experiences related to synthetic biology to support the preparation of the action plan for synthetic biology;

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7. *Requests* the Executive Secretary, [subject to the availability of resources and] avoiding duplication with existing plans and strategies, 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 **horizon scanning, monitoring and assessment of** synthetic biology, **and in accordance with Articles 7, 14, 16 and 19.4 of the Convention**, taking the following into account:

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

(b) Strategies to ensure equitable participation of developing countries and indigenous peoples and local communities, women and youth in research, development, **horizon scanning, monitoring,** assessment and regulation of synthetic biology;

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

(d) Mechanisms for technology transfer of environmentally-sound technologies that are appropriate, affordable and adaptable to local conditions, knowledge-sharing and international cooperation;

(e) The specific needs of Parties, as identified in their submissions of information made further to the request in paragraph 6 above and the outcomes of the multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology;⁵

(e.bis) Modalities to operationalize the outcomes of broad and regular horizon scanning, monitoring and assessment of the most recent technological developments in synthetic biology, as reflected in Section B of this decision;

(f) A gap analysis, taking other processes and initiatives related to the fields of synthetic biology into account, in relation to horizon scanning, monitoring and assessment of synthetic biology;

8. *Also requests* the Executive Secretary to create a dedicated web page on the Biosafety Clearing-House to promote the action plan and facilitate knowledge-sharing in the context of synthetic biology, in particular in relation to horizon scanning, monitoring and assessment;

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

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

10. ~~[Welcomes]~~~~[Acknowledges]~~~~[Takes note of]~~ outcomes of the broad and regular horizon scanning, monitoring and assessment of the most recent technological developments in synthetic biology;

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11. *Decides* ~~[to extend]~~~~[not to continue]~~ 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]~~~~[Takes note of]~~ the refined methodology contained in annex IV to document CBD/SBSTTA/26/4, and decides to keep the methodology under review;

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

14. ~~[Establishes]~~~~[Extends the tenure of]~~~~[Re-establishes]~~ the ~~[multidisciplinary]~~ Ad Hoc Technical Expert Group on Synthetic Biology with ~~[additional members]~~~~[renewed membership]~~ ~~for one additional intersessional period~~, in accordance with the terms of reference contained in the annex to the present decision;

15. *Decides* to review existing relevant technical information regarding synthetic biology analysed under relevant processes and by relevant organizations and revise the terms of reference on the basis of the findings without duplicating other processes;

⁵ CBD/SBSTTA/26/4, annex II.

16. *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;

[17. *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] Ad Hoc Technical Expert Group;]

18. *Requests* the Executive Secretary, subject to the availability of resources:

(a) To update the literature review in order to inform the work of the [multidisciplinary] Ad Hoc Technical 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] Ad Hoc Technical Expert Group;

(c) To convene at least one in-person meeting of the [multidisciplinary] Ad Hoc Technical Expert Group;

(d) To support the full and effective participation of indigenous peoples and local communities in the work relevant to synthetic biology undertaken under the Convention, in accordance with decision X/40 of 29 October 2010;

(e) To support the participation of the research community, women and youth in the work relevant to synthetic biology undertaken under the Convention;

19. *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 to the Convention 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 to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization at its sixth meeting.

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5. *Recommends* that, at its eleventh meeting, the Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol adopt a decision along the following lines:

The Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol on Biosafety

[*Decides* that the process outlined in annex I to decision CP-9/13 of 28 November 2018 will be applied to 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.]

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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 will be convened in compliance with section H of the consolidated modus operandi of the Subsidiary Body

on Scientific, Technical and Technological Advice,⁶ including with regard to expertise ~~on the impacts that the specific trends might have on the objectives of the Convention on Biological Diversity⁷ on the specific trends prioritized by the Group~~ and, whenever possible, expertise from a broad range of scientific disciplines,⁸ as well as interdisciplinary and intercultural expertise, including from indigenous peoples and local communities, women and youth.

2. The procedure for avoiding or managing conflicts of interest in expert groups set out in the annex to decision 14/33 of 29 November 2018, **and as amended by decision 16/xx**, shall apply to the ~~multidisciplinary~~ Ad Hoc Technical Expert Group on Synthetic Biology.

3. The ~~multidisciplinary~~ Ad Hoc Technical Expert Group on Synthetic Biology, building on previous relevant work undertaken under the Convention and its Protocols, including the work of previous ad hoc technical expert groups and the outcomes of the peer review included in document CBD/SBSTTA/26/INF/6, shall:

(a) ~~Assist the Secretariat in updating conducting~~~~Consider~~ the literature review ~~taking ecological, socioeconomic, ethical and cultural considerations into account of the latest developments in synthetic biology, including scientific and conceptual socioeconomic, cultural, and ethical aspects~~ ~~and other relevant materials made available by Parties,~~ and the discussions of the Open-ended Online Forum on Synthetic biology, with a view to integrating the outcomes into the assessment step of the horizon scanning, monitoring and assessment process;

[(b) Consider important and outstanding issues, including:

~~(i) The operational definition of synthetic biology as it relates to the mandate and objectives of the Convention;~~

~~[(ii) A final assessment of synthetic biology against the criteria for identifying new and emerging issues related to the conservation and sustainable use of biodiversity adopted by the Conference of the Parties in its decision IX/29 of 30 May 2008;]~~

(iii) An assessment of whether the applications below should be covered by the Cartagena Protocol on Biosafety;⁸

(iv) The methodology to carry out impact assessments, including, economic, social and health impact assessments, **as well as assessments of efficacy;**

~~[(c) Continue the in-depth assessment, including on their potential positive and negative impacts in the light of] on the objectives of the Convention, ecological, socioeconomic, including potential threats to livelihoods, the sustainable use of biodiversity, and ethical and cultural considerations, and taking into special consideration indigenous peoples and local communities, women and youth, of:~~

~~[(i) The potential impacts of the integration of artificial intelligence and machine learning into synthetic biology;]~~

~~[(ii) The potential impacts of self-spreading vaccines for wildlife [and health in general and human health];]~~

~~[(iii) The 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;]~~

~~[(d) Identify benefits of synthetic biology for the implementation of the three objectives of the Convention and the Kunming-Montreal Global Biodiversity Framework;⁹]~~

⁶ Decision VIII/10, annex III.

⁷ United Nations, *Treaty Series*, vol. 2226, No. 30619.

⁸ United Nations, *Treaty Series*, vol. 2226, No. 30619.

⁹ Decision 15/4, annex.

[(e) Provide advice on the capacity-building and development needs of Parties regarding research, development, horizon scanning, monitoring and assessment of synthetic biology that could be included in the thematic plan of action;]

(f) Provide advice on potential modalities for improving the monitoring of the most recent technological developments in synthetic biology;

[(g) Review existing relevant technical information regarding synthetic biology analysed under relevant processes and by relevant organizations and revise the terms of reference on the basis of the findings, without duplicating work undertaken under other processes;]

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

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Norway

The discussions on synthetic biology at the last SBSTTA in Nairobi led to a draft decision with a lot of brackets. Norway is of the opinion that we should build on the decisions made at previous COPs, and in large, continue our activities related to synthetic biology along the lines that we have already adopted.

In decision 14/19, Parties «agreed that broad and regular horizon scanning, monitoring and assessing of the most recent technological developments were needed»

This fed into Decision 15/31, at the last COP, at which the parties established a process for broad and regular horizon scanning, monitoring and assessment. Norway appreciates the outcomes of this work, and of the multidisciplinary AHTEG, and we are of the opinion that this has given us valuable insights into the potential impacts of synthetic biology on the three objectives of the Convention.

Norway suggests that the process for broad and regular horizon scanning is extended. This process is important in order to build our knowledge base further in a field that is developing rapidly, keeping in mind that synthetic biology can have both positive and negative impacts on the three objectives of the Convention.

Lastly, Norway regards that horizon scanning and capacity building are strongly interlinked, as new insights in this field, based on the process of horizon scanning, are relevant and important for further capacity-building and technology transfer activities.

Kenya (on behalf of the African Group)

Africa GP acknowledges the work of the multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology, and takes note of the outcomes contained in annexes I to V of document CBD/SBSTTA/26/4; and welcomes the peer review process, and takes note of the results contained in document CBD/SBSTTA/26/INF/6;

Africa GP also Supports:

- Recognition of the inequity in the participation of developing countries in the research, development, assessment and regulation of synthetic biology and the importance of addressing impacts,
- Urgent need for Capacity-building and development, access to and transfer of technology and knowledge-sharing in the context of synthetic biology [and associated technologies and tools such as AI and Data Science] to bridge this gap.

- Need of Financial and technical support for capacity-building and development and technology transfer initiatives in developing countries, including for research, development and assessment in the field of synthetic biology;
- Facilitation of broad international cooperation, technology transfer, knowledge-sharing and capacity-building and development related to synthetic biology, taking the needs of Parties, indigenous peoples and local communities, women and youth into account;
- The *Decision* 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;
- Requests the Executive Secretary, [subject to the availability of resources and] avoiding duplication with existing plans and strategies, 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:

Thematic area of the action plan, but should include, but not limited to,

- areas where capacity-building is needed for research, development, assessment and regulation of synthetic biology.
- strategies to ensure equitable participation of developing countries and indigenous peoples and local communities, women and youth in research, development, assessment and regulation of synthetic biology.
- promote the fair and equitable sharing of benefits arising from synthetic biology, in line with Articles 16 and 19 of the Convention on Biological Diversity and the Kunming-Montreal Global Biodiversity Framework, including use of DSI.
- a mechanism for technology transfer, knowledge-sharing and international cooperation.

Africa GP further supports the proposed *decision* to continue the process of the broad and regular horizon scanning, monitoring and assessment process with a different approach that supports a Party-led process proposed decision.

And welcomes the proposal to extend the tenure of MAHTEG with [renewed membership] [subject to the availability of resources and].

Nigeria

Nigeria aligns with the statement made by Kenya representing the African Group.

Nigeria is actively involved in discussions on Synthetic biology in Africa and effectively participated in the launch of the African Society for Synthetic Biology during the 3rd International Conference on Synthetic Biology, Artificial Intelligence, and Biosecurity, which was held in July 2024.

We acknowledge the work done by the AHTEG and MAHTEG on synthetic biology and reiterate that capacity building on synthetic biology is paramount, especially for developing countries, including those in Africa.

Nigeria is committed to this process and is willing to submit information on their capacity-building and development, technology transfer, and knowledge-sharing needs and experiences related to synthetic biology to support the preparation of the action plan for synthetic biology.

Nigeria lends her voice in inviting relevant organizations, to provide financial and technical support for capacity-building and development and technology transfer initiatives in developing countries, including for research, development, and assessment in synthetic biology.

We would like to see a draft decision that prioritizes the development of thematic action plans for capacity building on synthetic biology, especially for developing countries.

Türkiye

First of all, Türkiye appreciates the diligent work and tremendous efforts of the Secretariat, the SBSTTA and Ad Hoc Technical Expert Group on Synthetic Biology. On behalf of Türkiye, I would like to provide a reflection regarding “Synthetic biology in agricultural biotechnology,” from the perspective of Türkiye.

Recalling the Decisions No: 14/19 and 15/31 of the Conference of Parties and need for assessing the potential impacts of synthetic biology on the objectives of the Convention and its Protocols, Türkiye is of the view that provisions of the Cartagena Protocol may also apply to living organisms resulting from synthetic biology and this issue should also be addressed under Cartagena Protocol.

Türkiye acknowledges the potential benefits of synthetic biology, particularly in agricultural biotechnology, offering improvements such as more resilient crops and sustainable agricultural practices. However, some challenges are faced in fully utilizing these technologies due to the need for capacity building, technology transfer, and regulatory frameworks.

As many developing countries progress in agricultural biotechnology, we recognize the difficulties faced in terms of technical expertise, infrastructure, and financial resources. Without sufficient support for technology transfer and capacity development, we believe that many developing countries may find it very demanding to keep pace with global advancements.

In line with many voices heard in this platform, Türkiye is of the opinion that **precautionary approach** is needed for the regulation and management of synthetic agricultural and food products along with the observance of scientific and socio-economic risk assessment procedures.

Türkiye also recognizes that the **monitoring and evaluating** in synthetic biology are equally important and believes that they should be addressed in a structured and systematic manner. As these technologies hold potential, careful monitoring with a focus on biosafety and ethical concerns is vital. Establishment of regulatory frameworks and monitoring systems is crucial for synthetic biology advancements in line with national and global needs.

To this end, **international cooperation** is key to addressing the challenges associated with synthetic biology. Türkiye supports collaboration in governance and believes that aligning national policies with international biosafety protocols, such as the Cartagena Protocol, will foster innovation while maintaining necessary safeguards.

Türkiye also supports the conduct of gap analysis and formation of a dedicated webpage under biosafety clearing house, horizon scanning and observance of SBSTTA recommendations.

European Union

The Conference of the Parties,

Recalling the call made by the Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol on Biosafety¹⁰ in its decision BS-VII/12 of 3 October 2014 for a coordinated approach on the issue of synthetic biology, taking into account the fact that the provisions of the Protocol may also apply to living organisms resulting from synthetic biology,

{Recalling also decisions XII/24 of 17 October 2014, XIII/17 of 17 December 2016, 14/19 of 29 November 2018 and 15/8 and 15/31 of 19 December 2022,}

¹⁰ United Nations, *Treaty Series*, vol. 2226, No. 30619.

As an alternative, see 15/31: “Recalling paragraphs 9 to 11 of decision 14/19, and calling upon Parties and other Governments, taking into account the current uncertainties regarding engineered gene drives, to apply a precautionary approach, in accordance with the objectives of the Convention.

†*Recalling further* that, in its decision XIII/17, the Conference of the Parties took note of the conclusion of the Ad Hoc Technical Expert Group on Synthetic Biology that living organisms developed through current applications of synthetic biology, or that were currently in the early stages of research and development, were similar to living modified organisms as defined in the Cartagena Protocol, †and noted that it was not clear, given the current state of knowledge, whether or not some organisms of synthetic biology, which were currently in the early stages of research and development, would fall under the definition of living modified organisms under the Protocol,††

This is coming from § 5 and § 7 of XIII/17. §7 at least is not complete in this reference. We would either ask for referencing the whole §5 and §7 or recall only decision XIII/17.

†

Recalling that, in its decision 14/19, the Conference of the Parties agreed that broad and regular horizon scanning, monitoring and assessing of the most recent technological developments were needed for reviewing new information regarding the potential positive or negative impacts of synthetic biology vis-à-vis the three objectives of the Convention on Biological Diversity¹¹ and those of the Cartagena Protocol and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization,¹²

Recalling also that, in its decision 15/31, the Conference of the Parties recognized that the results of the application of the criteria set out in decision IX/29 of 30 May 2008 to the issue of synthetic biology had been inconclusive in determining whether synthetic biology was a new and emerging issue or not, decided not to require further analysis on whether synthetic biology was a new and emerging issue and established a process for broad and regular horizon scanning, monitoring and assessment of the most recent technological developments in synthetic biology,

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Noting the potential positive contributions and **potential** negative impacts of synthetic biology applications in relation to the objectives of the Convention and the goals and targets of the Kunming-Montreal Global Biodiversity Framework,¹³

Noting also the potential interlinkages of several issues identified during the horizon scanning, monitoring and assessment process with those under consideration in the context of work on biodiversity and health, in particular 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 impacts,

¹¹ United Nations, *Treaty Series*, vol. 2226, No. 30619.

¹² United Nations, *Treaty Series*, vol. 3008, No. 30619.

¹³ Decision 15/4, annex.

Noting with appreciation the outcomes of the work of the multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology, including those contained in the annexes to document CBD/SBSTTA/26/4,

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

1. *Emphasizes* the urgent need for capacity-building and development, access to and transfer of technology and knowledge-sharing on mutually agreed terms for 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 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 and development related to synthetic biology, taking the needs of Parties, indigenous peoples and local communities, women and youth into account;

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 ~~biotechnology, including~~ 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 and development, technology transfer and knowledge-sharing needs and experiences related to synthetic biology to support the preparation of the action plan for synthetic biology, while avoiding duplication of efforts with activities under the Cartagena Protocol on Biosafety;

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7. *Requests* the Executive Secretary, ~~subject to the availability of resources and~~ avoiding duplication with existing plans and strategies, 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 and development is needed for research, development, assessment and regulation of synthetic biology, including capacities to assess potential impacts of synthetic biology;

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

(c) Proposals to provide and/or facilitate ~~promote the~~ under fair and most favourable terms, and on mutually agreed terms among contracting Parties, access to and transfer of technology concerning fair and equitable sharing of benefits arising from synthetic biology, in line with Articles 16 ~~and 19~~ of the Convention on Biological Diversity and the Kunming-Montreal Global Biodiversity Framework;

(d) The contributions of regional and/or subregional technical and scientific cooperation support centres and the global coordination entity ~~Mechanisms~~ for technology transfer under mutually agreed terms, knowledge-sharing and international cooperation;

(e) The specific needs of Parties, as identified in their submissions of information made further to the request in paragraph 6 above and the outcomes of the multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology;¹⁴

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

8. *Also requests* the Executive Secretary to create a dedicated **section within the clearing-house mechanism web page 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 held before the seventeenth meeting of the Conference of the Parties and make recommendations to the Conference of the Parties at its seventeenth meeting;

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

10. ~~{Welcomes}~~~~{Acknowledges}~~~~{Takes note of}~~ **the** outcomes of the broad and regular horizon scanning, monitoring and assessment of the most recent technological developments in synthetic biology;

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~~{11. *Decides* {to extend}{not to continue} 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}~~~~{Takes note of}~~ the refined methodology contained in annex IV to document CBD/SBSTTA/26/4, and decides to keep the methodology under review;}~~

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

14. ~~{Establishes}~~~~{Extends the tenure of}~~~~{Re-establishes}~~ the ~~{multidisciplinary}~~ Ad Hoc Technical Expert Group on Synthetic Biology with [additional members][renewed membership] **for one additional intersessional period**, in accordance with the terms of reference contained in the annex to the present decision;

~~**{15. *Decides* to review existing relevant technical information regarding synthetic biology analysed under relevant processes and by relevant organizations and revise the terms of reference on the basis of the findings without duplicating other processes;}**~~

16. *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;

~~{17. *Also invites* Parties, other Governments, relevant organizations, indigenous peoples and local communities, and women and youth organizations to strengthen the multidisciplinary approach **while** considering nominations for the {multidisciplinary} Ad Hoc Technical Expert Group, **including through considering multiple knowledge systems and types of values in order to ensure the ability to evaluate ecological, socioeconomic, cultural, conceptual, ethical and health aspects of synthetic biology on the objectives of the Convention;**}~~

18. *Requests* the Executive Secretary, subject to the availability of resources:

¹⁴ CBD/SBSTTA/26/4, annex II.

(a) To update the literature review in order to inform the work of the ~~{multidisciplinary}~~ Ad Hoc Technical Expert Group, taking ecological, socioeconomic, ethical, ~~and~~ cultural, **and health** 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}~~ Ad Hoc Technical Expert Group;

(c) To convene **two meetings**, at least one **of which should be held** in-person ~~meeting~~ of the ~~{multidisciplinary}~~ Ad Hoc Technical Expert Group;

(d) To support the full and effective participation of indigenous peoples and local communities in the work relevant to synthetic biology undertaken under the Convention, in accordance with decision X/40 of 29 October 2010;

(e) To support the participation of the research community, women and youth in the work relevant to synthetic biology undertaken under the Convention;

19. *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 to the Convention 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 to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization at its sixth meeting.

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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 will be convened in compliance with section H of the consolidated modus operandi of the Subsidiary Body on Scientific, Technical and Technological Advice,¹⁵ including with regard to expertise ~~on the impacts that the specific trends might have on the objectives of the Convention on Biological Diversity¹⁶~~ **on the specific trends prioritized by the Group** ~~{and, whenever possible, expertise from a broad range of scientific disciplines,}~~ as well as interdisciplinary and intercultural expertise, including from indigenous peoples and local communities, women and youth.

2. The procedure for avoiding or managing conflicts of interest in expert groups set out in the annex to decision 14/33 of 29 November 2018 shall apply to the ~~{multidisciplinary}~~ Ad Hoc Technical Expert Group on Synthetic Biology.

3. The ~~{multidisciplinary}~~ Ad Hoc Technical Expert Group on Synthetic Biology, building on previous relevant work undertaken under the Convention and its Protocols, including the work of previous ad hoc technical expert groups and the outcomes of the peer review included in document CBD/SBSTTA/26/INF/6, shall:

(a) ~~{Assist the Secretariat in conducting}~~ **Consider** the literature review of the **latest most recent** developments in synthetic biology~~{, including scientific and conceptual socioeconomic, cultural, and ethical aspects}~~ ~~{and other relevant materials made available by Parties,}~~ and the discussions of the Open-ended Online Forum on Synthetic biology, with a view to integrating the outcomes into the assessment step of the horizon scanning, monitoring and assessment process;

~~{(b)}~~ Consider important and outstanding issues, including:

¹⁵ Decision VIII/10, annex III.

¹⁶ United Nations, *Treaty Series*, vol. 2226, No. 30619.

- ~~(i) The operational definition of synthetic biology as it relates to the mandate and objectives of the Convention;~~
 - ~~{(ii) A final assessment of synthetic biology against the criteria for identifying new and emerging issues related to the conservation and sustainable use of biodiversity adopted by the Conference of the Parties in its decision IX/29 of 30 May 2008;}~~
 - ~~(iii) An assessment of whether the applications below should be covered by the Cartagena Protocol on Biosafety;¹⁷~~
 - (ibis) Identify newly developed applications resulting from synthetic biology with possible impacts on the three objectives of the Convention;**
 - (iv) The methodology to carry out impact assessments, including, economic, social and health impact assessments;}
- {(c) Continue the in-depth assessment, including on {their} potential {positive and negative} impacts ~~{in the light of}~~ on the objectives of the Convention {, ecological, **health** socioeconomic, ~~{including potential threats to livelihoods, the sustainable use of biodiversity,}}~~ and ethical and cultural considerations, and taking into special consideration indigenous peoples and local communities, women and youth, of{:
- {(i) The potential impacts of the integration of artificial intelligence and machine learning into synthetic biology;}
 - {(ii) The potential impacts of self-spreading vaccines for wildlife ~~{and health in general and human health};}~~
 - ~~{(iii) The 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;}~~
- {(d) Identify **possible** benefits **and negative impacts** of synthetic biology for the implementation of the three objectives of the Convention and the Kunming-Montreal Global Biodiversity Framework;¹⁸}
- ~~{(e) Provide advice on the capacity building and development needs of Parties regarding research, development and assessment of synthetic biology that could be included in the thematic plan of action;}~~
- (f) Provide advice on potential modalities for improving the monitoring of the most recent technological developments in synthetic biology;
- {(g) Review existing relevant technical information regarding synthetic biology analysed under relevant processes and by relevant organizations **and revise the terms of reference on the basis of the findings, without duplicating work undertaken under other processes;}**
- (gbis) Consider measures to enhance the dissemination of information on scientific and technology assessments, including through the clearing-house mechanisms;**
- (h) Prepare a ~~{summary}~~ report of the outcome of its work ~~{and make recommendations}~~ to the Subsidiary Body on Scientific, Technical and Technological Advice.
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¹⁷ United Nations, *Treaty Series*, vol. 2226, No. 30619.

¹⁸ Decision 15/4, annex.

Brazil

The Conference of the Parties,

Recalling the call made by the Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol on Biosafety¹⁹ in its decision BS-VII/12 of 3 October 2014 for a coordinated approach on the issue of synthetic biology, taking into account the fact that the provisions of the Protocol may also apply to living organisms resulting from synthetic biology,

[*Recalling also* decisions XII/24 of 17 October 2014, XIII/17 of 17 December 2016, 14/19 of 29 November 2018 and 15/8 and 15/31 of 19 December 2022,]

~~[*Recalling further that, in its decision XIII/17, the Conference of the Parties took note of the conclusion of the Ad Hoc Technical Expert Group on Synthetic Biology that living organisms developed through current applications of synthetic biology, or that were currently in the early stages of research and development, were similar to living modified organisms as defined in the Cartagena Protocol, [and noted that it was not clear, given the current state of knowledge, whether or not some organisms of synthetic biology, which were currently in the early stages of research and development, would fall under the definition of living modified organisms under the Protocol,]]*~~

{

~~*Recalling that, in its decision 14/19, the Conference of the Parties agreed that broad and regular horizon scanning, monitoring and assessing of the most recent technological developments were needed for reviewing new information regarding the potential positive or negative impacts of synthetic biology vis à vis the three objectives of the Convention on Biological Diversity²⁰ and those of the Cartagena Protocol and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization,²¹*~~

~~*Recalling also that, in its decision 15/31, the Conference of the Parties recognized that the results of the application of the criteria set out in decision IX/29 of 30 May 2008 to the issue of synthetic biology had been inconclusive in determining whether synthetic biology was a new and emerging issue or not, decided not to require further analysis on whether synthetic biology was a new and emerging issue and established a process for broad and regular horizon scanning, monitoring and assessment of the most recent technological developments in synthetic biology,]*~~

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Noting the potential positive ~~contributions~~ and negative impacts of synthetic biology applications in relation to the objectives of the Convention and the goals and targets of the Kunming-Montreal Global Biodiversity Framework,²²

~~*Noting also the potential interlinkages of several issues identified during the horizon scanning, monitoring and assessment process with those under consideration in the context of work on biodiversity and health, in particular the draft global action plan for biodiversity and health,*~~

Acknowledging that a multidisciplinary and Party-driven ~~and Party-led approach~~ **PROCESS** is essential for assessing the potential impacts of synthetic biology on the objectives of the Convention and its Protocols, **FURTHERMORE, RECALL THE NEED FOR THE ESTABLISHMENT OF RULES OF PROCEDURES, BEYOND THE TERMS OF REFERENCE, FOR THE WORKING OF THE mAHTEG**

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

¹⁹ United Nations, *Treaty Series*, vol. 2226, No. 30619.

²⁰ United Nations, *Treaty Series*, vol. 2226, No. 30619.

²¹ United Nations, *Treaty Series*, vol. 3008, No. 30619.

²² Decision 15/4, annex.

Noting ~~with appreciation~~ the outcomes of the work of the multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology, ~~including those contained in 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. *Emphasizes* the urgent need for capacity-building and development, access to and transfer of technology and knowledge-sharing for 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 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 and development related to synthetic biology, taking the needs of Parties, indigenous peoples and local communities, women and youth into account;

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 [biotechnology, including] 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 and development, technology transfer and knowledge-sharing needs and experiences related to synthetic biology to support the preparation of the **CAPACITY BUILDING AND DEVELOPMENT, ACCESS TO AND TRANSFER OF TECHNOLOGY AND KNOWLEDGE-SHARING** action plan for synthetic biology;

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7. *Requests* the Executive Secretary, [subject to the availability of resources and] avoiding duplication with existing plans and strategies, to prepare a thematic action plan **BASED ON THE PARTIES SUBMISSION OF INFORMATION AND THE ON-LINE FORUM** to support capacity-building and development, access to and transfer of technology and knowledge-sharing in the context of synthetic biology, **AND WITH A VIEW TO SUPPORTING THE IMPLEMENTATION OF THE KMGBF** taking the following into account:

(a) The identification of areas where capacity-building is needed for research, development, assessment and regulation of synthetic biology **WITHOUT DUPLICATING THE EFFORTS** ;

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

(c) Proposals to promote **EFFECTIVE DEVELOPMENT AND DIFFUSION OF TECHNOLOGIES AND** the fair and equitable sharing of benefits arising from synthetic biology, in line with Articles 16 and 19 of the Convention on Biological Diversity and the Kunming-Montreal Global Biodiversity Framework;

(d) Mechanisms for technology transfer, knowledge-sharing and international cooperation **FOR THE DEVELOPMENT, TRANSFER AND SCALING-UP OF INNOVATIVE SOLUTIONS;**

(e) The specific needs of Parties, as identified in their submissions of information made further to the request in paragraph 6 above ~~and the outcomes of the multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology;~~²³

(f) A gap analysis **BASED ON THE IDENTIFIED AREAS IN ITEM 7.A**, taking other processes and initiatives related to the fields of synthetic biology into account **TO PROMOTE AND FACILITATE THE DEVELOPMENT OF TECHNOLOGIES RELEVANT TO THE OBJECTIVES OF THE CONVENTION AND THE KM-GBF;**

(g) A PEER-REVIEW PROCESS FOR THE THEMATIC ACTION PLAN TO BE SUBMITTED TO SBSTTA-27.

8. *Also requests* the Executive Secretary to create a dedicated web page 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 held before the seventeenth meeting of the Conference of the Parties and make recommendations to the Conference of the Parties at its seventeenth meeting;

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

10. ~~[Welcomes][Acknowledges]~~**[Takes note of]** outcomes of the broad and regular horizon scanning, monitoring and assessment of the most recent technological developments in synthetic biology;

[11. *Decides* ~~[to extend]~~**[not to continue]** 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][Takes note of]* the refined methodology contained in annex IV to document CBD/SBSTTA/26/4, and decides to keep the methodology under review;]~~

13. *Decides* that the broad and regular horizon scanning, monitoring and assessment process should be a Party-led process **FOLLOWING THE RULES OF PROCEDURE FOR THE mAHTEG**

14. ~~[Establishes][Extends the tenure of]~~**[Re-establishes]** the [multidisciplinary] Ad Hoc Technical Expert Group on Synthetic Biology with ~~[additional members]~~**[renewed membership]** for one additional intersessional period, in accordance with the terms of reference contained in the annex to the present decision;

~~[15. *Decides to review existing relevant technical information regarding synthetic biology analysed under relevant processes and by relevant organizations and revise the terms of reference on the basis of the findings without duplicating other processes;*]~~

16. *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;

~~[17. *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] Ad Hoc Technical Expert Group;*]~~

²³ CBD/SBSTTA/26/4, annex II.

18. *Requests* the Executive Secretary, subject to the availability of resources:

(a) TO ASSESS THE CURRICULUM VITAE OF THOSE APPOINTEES AND ASSURE THE NEEDED QUALIFICATION OF THE MEMBERS IN RELATION TO THE mAHTEG MANDATE;

~~To update the literature review in order to inform the work of the [multidisciplinary] Ad Hoc Technical 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] Ad Hoc Technical Expert Group;

(c) To convene at least one in-person meeting of the [multidisciplinary] Ad Hoc Technical Expert Group;

(d) To support the full and effective participation of indigenous peoples and local communities in the work relevant to synthetic biology undertaken under the Convention, in accordance with decision X/40 of 29 October 2010;

(e) To support the participation of the research community, women and youth in the work relevant to synthetic biology undertaken under the Convention;

19. *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 to the Convention 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 to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization at its sixth meeting.

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~~5. — *Recommends that, at its eleventh meeting, the Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol adopt a decision along the following lines:*~~

~~*The Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol on Biosafety*~~

~~*[Decides that the process outlined in annex I to decision CP-9/13 of 28 November 2018 will be applied to 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.]*~~

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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 will be convened in compliance with section H of the consolidated modus operandi of the Subsidiary Body on Scientific, Technical and Technological Advice,²⁴ including with regard to expertise [on the impacts that the specific trends might have on the objectives of the Convention on Biological

²⁴ Decision VIII/10, annex III.

Diversity²⁵][~~on the specific trends prioritized by the Group~~][~~and, whenever possible, expertise from a broad range of scientific disciplines,~~] as well as REPRESENTATIVES FROM ACADEMIA AND interdisciplinary and intercultural expertise, including from indigenous peoples and local communities, women and youth.

2. The procedure for avoiding or managing conflicts of interest in expert groups set out in the annex to decision 14/33 of 29 November 2018 shall apply to the [multidisciplinary] Ad Hoc Technical Expert Group on Synthetic Biology.

3. The [multidisciplinary] Ad Hoc Technical Expert Group on Synthetic Biology, building on previous relevant work undertaken under the Convention and its Protocols, including the work of previous ad hoc technical expert groups and the outcomes of the peer review included in document CBD/SBSTTA/26/INF/6, shall:

(a) [~~Assist the Secretariat in conducting~~][Consider] the literature review of the latest developments in synthetic biology[, ~~including scientific and conceptual socioeconomic, cultural, and ethical aspects~~] [~~and other relevant materials made available by Parties,~~] and the discussions of the Open-ended Online Forum on Synthetic biology, with a view to GATHERING INFORMATION IN THE HORIZON SCANNING PROCESS

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 will be convened in compliance with section H of the consolidated modus operandi of the Subsidiary Body on Scientific, Technical and Technological Advice,⁶ including with regard to expertise [~~on the~~ POSITIVE AND NEGATIVE impacts that the specific trends might have on the objectives of the Convention on Biological Diversity][~~on the specific trends prioritized by the Group~~][~~and, whenever possible, expertise from a broad range of scientific disciplines,~~] as well as REPRESENTATIVES FROM ACADEMIA AND interdisciplinary and intercultural expertise, including from indigenous peoples and local communities, women and youth.

2. The procedure for avoiding or managing conflicts of interest in expert groups set out in the annex to decision 14/33 of 29 November 2018 shall apply to the [multidisciplinary] Ad Hoc Technical Expert Group on Synthetic Biology.

3. The [multidisciplinary] Ad Hoc Technical Expert Group on Synthetic Biology, building on previous relevant work undertaken under the Convention and its Protocols, including the work of previous ad hoc technical expert groups and the outcomes of the peer review included in document CBD/SBSTTA/26/INF/6, shall:

(a) [~~Assist the Secretariat in conducting~~][Consider] the literature review of the latest developments in synthetic biology[, ~~including scientific and conceptual socioeconomic, cultural, and ethical aspects~~] [~~and other relevant materials made available by Parties,~~] and the discussions of the Open-ended Online Forum on Synthetic biology, with a view TO GATHERING INFORMATION IN THE HORIZON SCANNING PROCESS ~~to integrating the outcomes into the assessment step of the horizon scanning, monitoring and assessment process;~~

~~[(b) Consider important and outstanding issues, including:~~

~~(i) — The operational definition of synthetic biology as it relates to the mandate and objectives of the Convention;~~

²⁵ United Nations, *Treaty Series*, vol. 2226, No. 30619.

- ~~[(ii) A final assessment of synthetic biology against the criteria for identifying new and emerging issues related to the conservation and sustainable use of biodiversity adopted by the Conference of the Parties in its decision IX/29 of 30 May 2008;]~~
- ~~(iii) An assessment of whether the applications below should be covered by the Cartagena Protocol on Biosafety;²⁶~~
- ~~(iv) The methodology to carry out impact assessments, including, economic, social and health impact assessments;]~~
- ~~[(e) Continue the in-depth assessment, including on [their] potential [positive and negative] impacts [in the light of][on] the objectives of the Convention [, ecological, socioeconomic, [including potential threats to livelihoods, the sustainable use of biodiversity,]] and ethical and cultural considerations, and taking into special consideration indigenous peoples and local communities, women and youth, of];~~
- ~~[(i) The potential impacts of the integration of artificial intelligence and machine learning into synthetic biology;]~~
- ~~[(ii) The potential impacts of self-spreading vaccines for wildlife [and health in general and human health];]~~
- ~~[(iii) The 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;]~~
- [(d) Identify benefits of synthetic biology for the implementation of the three objectives of the Convention and the Kunming-Montreal Global Biodiversity Framework;²⁷]
- [(e) Provide advice on the capacity-building and development needs of Parties regarding research, development and assessment of synthetic biology that could be included in the thematic plan of action;]
- ~~(f) Provide advice on potential modalities for improving the monitoring of the most recent technological developments in synthetic biology;~~
- [(g) Review existing relevant technical information regarding synthetic biology analysed under relevant processes and by relevant organizations and ~~revise the terms of reference on the basis of the findings, without duplicating work undertaken under other processes;~~]
- (h) Prepare a [summary] report of the outcome of its work [and make recommendations] to the Subsidiary Body on Scientific, Technical and Technological Advice.
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Japan

The Conference of the Parties,

Recalling the call made by the Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol on Biosafety²⁸ in its decision BS-VII/12 of 3 October 2014 for a coordinated approach on the issue of synthetic biology, taking into account the fact that the provisions of the Protocol may also apply to living organisms resulting from synthetic biology,

[Recalling also decisions XII/24 of 17 October 2014, XIII/17 of 17 December 2016, 14/19 of 29 November 2018 and 15/8 and 15/31 of 19 December 2022,]

²⁶ United Nations, *Treaty Series*, vol. 2226, No. 30619.

²⁷ Decision 15/4, annex.

²⁸ United Nations, *Treaty Series*, vol. 2226, No. 30619.

[*Recalling further* that, in its decision XIII/17, the Conference of the Parties took note of the conclusion of the Ad Hoc Technical Expert Group on Synthetic Biology that living organisms developed through current applications of synthetic biology, or that were currently in the early stages of research and development, were similar to living modified organisms as defined in the Cartagena Protocol, [and noted that it was not clear, given the current state of knowledge, whether or not some organisms of synthetic biology, which were currently in the early stages of research and development, would fall under the definition of living modified organisms under the Protocol,]]

[

Recalling that, in its decision 14/19, the Conference of the Parties agreed that broad and regular horizon scanning, monitoring and assessing of the most recent technological developments were needed for reviewing new information regarding the potential positive or negative impacts of synthetic biology vis-à-vis the three objectives of the Convention on Biological Diversity²⁹ and those of the Cartagena Protocol and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization,³⁰

Recalling also that, in its decision 15/31, the Conference of the Parties recognized that the results of the application of the criteria set out in decision IX/29 of 30 May 2008 to the issue of synthetic biology had been inconclusive in determining whether synthetic biology was a new and emerging issue or not, decided not to require further analysis on whether synthetic biology was a new and emerging issue and established a process for broad and regular horizon scanning, monitoring and assessment of the most recent technological developments in synthetic biology,

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[

Noting the potential positive contributions and negative impacts of synthetic biology applications in relation to the objectives of the Convention and the goals and targets of the Kunming-Montreal Global Biodiversity Framework,³¹

Noting also the potential interlinkages of several issues identified during the horizon scanning, monitoring and assessment process with those under consideration in the context of work on biodiversity and health, in particular 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 impacts,

Noting with appreciation the outcomes of the work of the multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology, including those contained in 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. *Emphasizes* the urgent need for capacity-building and development, access to and transfer of technology and knowledge-sharing for 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 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 and development related to synthetic

²⁹ United Nations, *Treaty Series*, vol. 2226, No. 30619.

³⁰ United Nations, *Treaty Series*, vol. 3008, No. 30619.

³¹ Decision 15/4, annex.

biology, taking the needs of Parties, indigenous peoples and local communities, women and youth into account;

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 ~~[biotechnology, including]~~ 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 and development, technology transfer and knowledge-sharing needs and experiences related to synthetic biology to support the preparation of the action plan for synthetic biology;

[

7. *Requests* the Executive Secretary, [subject to the availability of resources and] avoiding duplication with existing plans and strategies, 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, women and youth in 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 Articles 16 and 19 of the Convention on Biological Diversity and the Kunming-Montreal Global Biodiversity Framework;~~

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

(e) The specific needs of Parties, as identified in their submissions of information made further to the request in paragraph 6 above and the outcomes of the multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology;³²

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

8. *Also requests* the Executive Secretary to create a dedicated web page 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 held before 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]~~~~[Acknowledges]~~*[Takes note of]* outcomes of the broad and regular horizon scanning, monitoring and assessment of the most recent technological developments in synthetic biology;

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³² CBD/SBSTTA/26/4, annex II.

[11. *Decides* [to extend][not to continue] 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][Takes note of]* the refined methodology contained in annex IV to document CBD/SBSTTA/26/4, and decides to keep the methodology under review;]

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

14. *[Establishes][Extends the tenure of][Re-establishes]* the [multidisciplinary] Ad Hoc Technical Expert Group on Synthetic Biology with [additional members][renewed membership] for one additional intersessional period, in accordance with the terms of reference contained in the annex to the present decision;

[15. *Decides* to review existing relevant technical information regarding synthetic biology analysed under relevant processes and by relevant organizations and revise the terms of reference on the basis of the findings without duplicating other processes;]

16. *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;

[17. *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] Ad Hoc Technical Expert Group;]

18. *Requests* the Executive Secretary, subject to the availability of resources:

(a) To update the literature review in order to inform the work of the [multidisciplinary] Ad Hoc Technical 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] Ad Hoc Technical Expert Group;

(c) To convene at least one in-person meeting of the [multidisciplinary] Ad Hoc Technical Expert Group;

(d) To support the full and effective participation of indigenous peoples and local communities in the work relevant to synthetic biology undertaken under the Convention, in accordance with decision X/40 of 29 October 2010;

(e) To support the participation of the research community, women and youth in the work relevant to synthetic biology undertaken under the Convention;

19. *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 to the Convention 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 to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization at its sixth meeting.

]

5. *Recommends* that, at its eleventh meeting, the Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol adopt a decision along the following lines:

The Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol on Biosafety

[Decides that the process outlined in annex I to decision CP-9/13 of 28 November 2018 will be applied to 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.]

[

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 will be convened in compliance with section H of the consolidated modus operandi of the Subsidiary Body on Scientific, Technical and Technological Advice,³³ including with regard to expertise [on the impacts that the specific trends might have on the objectives of the Convention on Biological Diversity³⁴][on the specific trends prioritized by the Group] [and, whenever possible, expertise from a broad range of scientific disciplines,] as well as interdisciplinary and intercultural expertise, including from indigenous peoples and local communities, women and youth.

2. The procedure for avoiding or managing conflicts of interest in expert groups set out in the annex to decision 14/33 of 29 November 2018 shall apply to the [multidisciplinary] Ad Hoc Technical Expert Group on Synthetic Biology.

3. The [multidisciplinary] Ad Hoc Technical Expert Group on Synthetic Biology, building on previous relevant work undertaken under the Convention and its Protocols, including the work of previous ad hoc technical expert groups and the outcomes of the peer review included in document CBD/SBSTTA/26/INF/6, shall:

(a) [Assist the Secretariat in conducting][Consider] the literature review of the latest developments in synthetic biology[, including scientific and conceptual socioeconomic, cultural, and ethical aspects] [and other relevant materials made available by Parties,] and the discussions of the Open-ended Online Forum on Synthetic biology, with a view to integrating the outcomes into the assessment step of the horizon scanning, monitoring and assessment process;

[(b) Consider important and outstanding issues, including:

(i) The operational definition of synthetic biology as it relates to the mandate and objectives of the Convention;

[(ii) A final assessment of synthetic biology against the criteria for identifying new and emerging issues related to the conservation and sustainable use of biodiversity adopted by the Conference of the Parties in its decision IX/29 of 30 May 2008;]

(iii) An assessment of whether the applications below should be covered by the Cartagena Protocol on Biosafety;³⁵

(iv) The methodology to carry out impact assessments, including, economic, social and health impact assessments;]

[(c) Continue the in-depth assessment, including on [their] potential [positive and negative] impacts [in the light of][on] the objectives of the Convention [, ecological, socioeconomic, [including potential threats to livelihoods, the sustainable use of biodiversity,]] and ethical and cultural considerations, and taking into special consideration indigenous peoples and local communities, women and youth, of]:

[(i) The potential impacts of the integration of artificial intelligence and machine learning into synthetic biology;]

[(ii) The potential impacts of self-spreading vaccines for wildlife [and health in general and human health];]

³³ Decision VIII/10, annex III.

³⁴ United Nations, *Treaty Series*, vol. 2226, No. 30619.

³⁵ United Nations, *Treaty Series*, vol. 2226, No. 30619.

- [(iii) The 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;]
- [(d) Identify benefits of synthetic biology for the implementation of the three objectives of the Convention and the Kunming-Montreal Global Biodiversity Framework;³⁶]
- [(e) Provide advice on the capacity-building and development needs of Parties regarding research, development and assessment of synthetic biology that could be included in the thematic plan of action;]
- [(f) Provide advice on potential modalities for improving the monitoring of the most recent technological developments in synthetic biology;
- [(g) Review existing relevant technical information regarding synthetic biology analysed under relevant processes and by relevant organizations and revise the terms of reference on the basis of the findings, without duplicating work undertaken under other processes;]
- [(h) Prepare a [summary] report of the outcome of its work [and make recommendations] to the Subsidiary Body on Scientific, Technical and Technological Advice.]

India

1. India acknowledges the initiatives under the CBD for broad and regular horizon scanning and monitoring and of the most recent technological developments in synthetic biology which is essential for navigating the complexities of this rapidly emerging technology and its impact on three objectives of CBD.
2. India' recognises potential of synthetic biology to drive innovation across various sectors, including agriculture, healthcare, and environmental management including biodiversity conservation.
3. There is a need to have an in-depth understanding of the science and technological application of the synthetic biology and to evolve an institutional framework to facilitate access to technology, capacity building, and financing.
4. It is essential to align synthetic biology with the three key principles of the Convention viz., Conservation, Sustainable use, Fair and Equitable sharing of benefits.
5. Further activities on synthetic biology require considerations within the context of national circumstances and priorities and hence focus should be on building national capacities so that issues related to synthetic biology can be addressed at national level to maximize the benefits of synthetic biology while safeguarding biodiversity and public health.

United Kingdom of Great Britain and Northern Ireland

The UK notes the outcomes of the broad and regular horizon scanning, monitoring and assessment of synthetic biology including the synthesis of peer review comments and the refined methodology contained in annex IV to document CBD/SBSTTA/26/4.

Decision CBD-15/31 mandated the work of the mAHTeG on synthetic biology for one intersessional period. Based on the information provided in the resulting reports (synbio-ahteg-2024-01-02-en, SBSTTA-INF-04, SBSTTA-INF-05 and SBSTTA-INF-06) the UK believes that an extension of this work, in accordance with similar terms of reference, would be an inappropriate use of resources.

³⁶ Decision 15/4, annex.

The UK is supportive of efforts to increase capacity building that is directed at enabling the safe utilisation of ‘synthetic biology’ towards supporting the objectives of the Convention in particular.

The UK welcomes discussion on how best to direct activity in this area including the use of established alternative processes for gathering relevant information concerning the potential impacts of synthetic biology on the objectives of the Convention.

Given that work so far has tended to focus on the potential negative impacts (many of which are mitigated and prevented by existing biosafety legislation), future work could be focussed on identifying and enabling potential positive impacts.

South Africa

South Africa supports the statement made by Kenya on behalf of the Africa group.

South Africa welcomes the draft decision from recommendation 26/4 of the Subsidiary Body on Scientific, Technical and Technological Advice on Synthetic Biology. South Africa appreciates the outcomes of the work of the multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology, and other activities conducted during the intersessional period. We also note that the document, draft decision, is still heavily bracketed and this will require a great deal of work among parties to resolve several key issues. We are however, hopeful, that our work here will be of positive outcomes.

South Africa welcomes the broad and regular horizon scanning, monitoring and assessment process conducted for Synthetic biology. We view this as an important process and support its continuation provided that it does not consider Living Modified Organisms (LMOs) as defined under the Cartagena Protocol on Biosafety, but rather such as organisms produced de novo, as these do not have natural comparators or counterparts and thus would present a challenge when undertaking risk assessments. It is critical that we recognize the need to fill the gap on risk assessment for Synthetic Biology given the limited experience, capacity, skills and knowledge in this area of work.

Several areas are also highlighted in this draft decision, relating to the inequity in the participation of developing countries, which cuts across the need for broader-inclusive representation, relevant skills, knowledge and expertise. It is for this reason that South Africa supports Party-led process proposed decision. Therefore the mAHTEG cannot continue its current composition for work on Synthetic Biology, and calls for the need to also re-visit the current bracketed Annex contained in the draft decision.

In closing, South Africa would like to reiterate and in support of the Africa Group statement, the need 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. We view this as a critical instrument, to facilitate , access to and transfer of technology and knowledge-sharing. It is also equally important that the call for the Executive Secretary to make resources for this process be prioritized.

The Conference of the Parties,

Recalling the call made by the Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol on Biosafety³⁷ in its decision BS-VII/12 of 3 October 2014 for a coordinated approach on the issue of synthetic biology, taking into account the fact that the provisions of the Protocol may also apply to living organisms resulting from synthetic biology,

[Recalling also decisions XII/24 of 17 October 2014, XIII/17 of 17 December 2016, 14/19 of 29 November 2018 and 15/8 and 15/31 of 19 December 2022,]

³⁷ United Nations, *Treaty Series*, vol. 2226, No. 30619.

[*Recalling further* that, in its decision XIII/17, the Conference of the Parties took note of the conclusion of the Ad Hoc Technical Expert Group on Synthetic Biology that living organisms developed through current applications of synthetic biology, or that were currently in the early stages of research and development, were similar to living modified organisms as defined in the Cartagena Protocol, [and noted that it was not clear, given the current state of knowledge, whether or not some organisms of synthetic biology, which were currently in the early stages of research and development, would fall under the definition of living modified organisms under the Protocol,]]

[

Recalling that, in its decision 14/19, the Conference of the Parties agreed that broad and regular horizon scanning, monitoring and assessing of the most recent technological developments were needed for reviewing new information regarding the potential positive or negative impacts of synthetic biology vis-à-vis the three objectives of the Convention on Biological Diversity³⁸ and those of the Cartagena Protocol and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization,³⁹

Recalling also that, in its decision 15/31, the Conference of the Parties recognized that the results of the application of the criteria set out in decision IX/29 of 30 May 2008 to the issue of synthetic biology had been inconclusive in determining whether synthetic biology was a new and emerging issue or not, decided not to require further analysis on whether synthetic biology was a new and emerging issue and established a process for broad and regular horizon scanning, monitoring and assessment of the most recent technological developments in synthetic biology,

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Noting the potential positive contributions and negative impacts of synthetic biology applications in relation to the objectives of the Convention and the goals and targets of the Kunming-Montreal Global Biodiversity Framework,⁴⁰

Noting also the potential interlinkages of several issues identified during the horizon scanning, monitoring and assessment process with those under consideration in the context of work on biodiversity and health, in particular 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 impacts,

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

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

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

³⁸ United Nations, *Treaty Series*, vol. 1760, No. 30619.

³⁹ United Nations, *Treaty Series*, vol. 3008, No. 30619.

⁴⁰ Decision 15/4, annex.

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 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 and development related to synthetic biology, taking the needs of Parties, indigenous peoples and local communities, women and youth into account;
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 **biotechnology, including** synthetic biology, as well as the long-term strategic framework for capacity-building and development **[for ongoing work on horizon scanning, monitoring and assessment of Synthetic Biology]**;
6. *Invites* Parties, other Governments and relevant organizations to submit information on their capacity-building and development, technology transfer and knowledge-sharing needs and experiences related to synthetic biology to support the preparation of the action plan for synthetic biology;
[
 7. *Requests* the Executive Secretary, **[subject to the availability of resources and]** avoiding duplication with existing plans and strategies, 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 horizon scanning, monitoring and assessment]** of synthetic biology **[in accordance with article 7, 16 and 19]**, 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, women and youth in research, development, **[impact]** assessment and regulation of synthetic biology;
 - (c) Proposals to promote the fair and equitable sharing of benefits arising from synthetic biology, in line with Articles 16 and 19 of the Convention on Biological Diversity and the Kunming-Montreal Global Biodiversity Framework;
 - (d) Mechanisms for technology transfer **[of environmentally sound technologies that are affordable and transferable [adaptable] to local communities]**, knowledge-sharing and international cooperation;
 - (e) The specific needs of Parties, as identified in their submissions of information made further to the request in paragraph 6 above and the outcomes of the multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology;⁴¹
 - (f) A gap analysis, taking other processes and initiatives related to the fields of synthetic biology into account;
8. *Also requests* the Executive Secretary to create a dedicated web page on the Biosafety Clearing-House to promote the action plan and facilitate knowledge-sharing in the context of synthetic biology;

⁴¹ CBD/SBSTTA/26/4, annex II.

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

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

10. **[Welcomes]**~~[Acknowledges]~~~~[Takes note of]~~ outcomes of the broad and regular horizon scanning, monitoring and assessment of the most recent technological developments in synthetic biology;

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[11. *Decides* [to extend][not to continue] 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]~~**[Takes note of]** the refined methodology contained in annex IV to document CBD/SBSTTA/26/4, and decides to keep the methodology under review;]

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

14. **[Establishes]**~~[Extends the tenure of]~~~~[Re-establishes]~~ the [multidisciplinary] Ad Hoc Technical Expert Group on Synthetic Biology with ~~[additional members]~~**[renewed membership]**, **[though a party led process]** for one additional intersessional period, in accordance with the terms of reference contained in the annex to the present decision;

[15. *Decides* to review existing relevant technical information regarding synthetic biology analysed under relevant processes and by relevant organizations and revise the terms of reference on the basis of the findings without duplicating other processes;]

16. *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;

[17. *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] Ad Hoc Technical Expert Group;]

18. *Requests* the Executive Secretary, subject to the availability of resources:

(a) To update the literature review in order to inform the work of the [multidisciplinary] Ad Hoc Technical 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] Ad Hoc Technical Expert Group;

(c) To convene at least one in-person meeting of the [multidisciplinary] Ad Hoc Technical Expert Group;

(d) To support the full and effective participation of indigenous peoples and local communities in the work relevant to synthetic biology undertaken under the Convention, in accordance with decision X/40 of 29 October 2010;

(e) To support the participation of the research community, women and youth in the work relevant to synthetic biology undertaken under the Convention;

19. *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 to the Convention 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 to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization at its sixth meeting.

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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 will be convened in compliance with section H of the consolidated modus operandi of the Subsidiary Body on Scientific, Technical and Technological Advice,⁴² including with regard to expertise [on the impacts that the specific trends might have on the objectives of the Convention on Biological Diversity⁴³][on the specific trends prioritized by the Group] [and, whenever possible, expertise from a broad range of scientific disciplines,] as well as interdisciplinary and intercultural expertise, including from indigenous peoples and local communities, women and youth.
2. The procedure for avoiding or managing conflicts of interest in expert groups set out in the annex to decision 14/33 of 29 November 2018 shall apply to the [multidisciplinary] Ad Hoc Technical Expert Group on Synthetic Biology.
3. The [multidisciplinary] Ad Hoc Technical Expert Group on Synthetic Biology, building on previous relevant work undertaken under the Convention and its Protocols, including the work of previous ad hoc technical expert groups and the outcomes of the peer review included in document CBD/SBSTTA/26/INF/6, shall:
 - (a) [Assist the Secretariat in conducting][Consider] the literature review of the latest developments in synthetic biology[, including scientific and conceptual socioeconomic, cultural, and ethical aspects] [and other relevant materials made available by Parties,] and the discussions of the Open-ended Online Forum on Synthetic biology, with a view to integrating the outcomes into the assessment step of the horizon scanning, monitoring and assessment process;
 - [(b) Consider important and outstanding issues, including:
 - (i) The operational definition of synthetic biology as it relates to the mandate and objectives of the Convention;
 - [(ii) A final assessment of synthetic biology against the criteria for identifying new and emerging issues related to the conservation and sustainable use of biodiversity adopted by the Conference of the Parties in its decision IX/29 of 30 May 2008;]
 - (iii) An assessment of whether the applications below should be covered by the Cartagena Protocol on Biosafety;⁴⁴
 - (iv) The methodology to carry out impact assessments, including, economic, social and health impact assessments;]
 - [(c) Continue the in-depth assessment, including on [their] potential [positive and negative] impacts [in the light of][on] the objectives of the Convention [, ecological, socioeconomic, [including potential threats to livelihoods, the sustainable use of biodiversity,]] and ethical and cultural

⁴² Decision VIII/10, annex III.

⁴³ United Nations, *Treaty Series*, vol. 2226, No. 30619.

⁴⁴ United Nations, *Treaty Series*, vol. 2226, No. 30619.

considerations, and taking into special consideration indigenous peoples and local communities, women and youth, of]:

- [(i) The potential impacts of the integration of artificial intelligence and machine learning into synthetic biology;]
- [(ii) The potential impacts of self-spreading vaccines for wildlife [and health in general and human health];]
- [(iii) The 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;]
- [(d) Identify benefits of synthetic biology for the implementation of the three objectives of the Convention and the Kunming-Montreal Global Biodiversity Framework;⁴⁵]
- [(e) Provide advice on the capacity-building and development needs of Parties regarding research, development and assessment of synthetic biology that could be included in the thematic plan of action;]
- [(f) Provide advice on potential modalities for improving the monitoring of the most recent technological developments in synthetic biology;
- [(g) Review existing relevant technical information regarding synthetic biology analysed under relevant processes and by relevant organizations and revise the terms of reference on the basis of the findings, without duplicating work undertaken under other processes;]
- [(h) Prepare a [summary] report of the outcome of its work [and make recommendations] to the Subsidiary Body on Scientific, Technical and Technological Advice.

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Zambia

Zambia acknowledges the work of the Multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology and the position of the Africa group presented by Kenya

Zambia also Supports the:

- Participation of developing countries in the research, development, assessment and regulation of synthetic biology and the importance of addressing impacts to biodiversity
- There is urgent need for Capacity-building and development, access to and transfer of technology and knowledge-sharing in the context of synthetic biology to bridge the gap,

Therefore, we support the need for financial and technical support for capacity-building, development and technology transfer initiatives in developing countries, including for research, development, identification and assessment in the field of synthetic biology; and

- *Development of a thematic action plan to support capacity-building and development, access to and transfer of technology and knowledge-sharing on synthetic biology.*

Zimbabwe

Zimbabwe supports the statement made by Kenya on behalf of the Africa group.

Zimbabwe notes with appreciation the work done by the multidisciplinary Ad Hoc Technical Expert Group on Synthetic Biology.

⁴⁵ Decision 15/4, annex.

Zimbabwe notes with concern the inequality in participation of African researchers in the field of synthetic biology.

We call upon the urgent provision of technical and financial support for capacity-building and development and technology transfer initiatives including for research, development and assessment in the field of synthetic biology in developing countries.

We call upon the development of a thematic action plan to support capacity-building and development, access to and transfer of technology and knowledge-sharing as well as the long-term strategic framework for capacity-building and development for synthetic biology. It is our view it is best to direct the limited resources to capacity building and development efforts.

Uganda

Uganda supports the Africa position presented by Kenya in regard to synthetic biology. We call for financial and technical support for capacity building, development and technology transfer initiatives to effectively harness synthetic Biology and equitable participation of developing countries in research, development, assessment and regulation of synthetic Biology.

We also support the proposal to extend the tenure of MAHTEG with renewed membership and subject to the availability of resources to ensure business continuity for the broader positive benefits and impact of synthetic biology on the objectives of the Convention

Uganda proposed intervention for the non-paper.

1. On para f, request the Executive Secretary to conduct a capacity building gap assessment to explore the benefits of synthetic biology through research, development, technology transfer and knowledge sharing in the context of those technologies including reviewing the existing capacity building plans under the Cartagena protocol.
2. For further work under synthetic biology that directly contribute to the implementation of the KMGBF framework, we propose that the secretariate commissions an external information gathering, review and synthesize synthetic biology approaches that can contribute to the achievement of targets 4, 6, 7, 8, 10, 13, 17 of the KMGBF. This would align with the position of Argentina and New Zealand to focus on how to achieve the objectives of the KMGBF and exploring the benefits of synthetic Biology.

Submissions received from observers

Ifakara Health Institute

I am [Dickson Wilson](#) from the Ifakara Health Institute in Tanzania.

We support the interventions from the Africa Group, Chile, Australia, Argentina and New Zealand amongst others stressing the importance of capacity building to achieve a more equitable access to these technologies, while ensuring that we avoid duplication with efforts carried under the Cartagena Protocol.

As a researcher from an LMIC country, we can testify that capacity building is critical for countries' empowerment to make their own assessment about which technologies might be of benefit to address their development, climate and biodiversity challenges. As Zimbabwe pointed, we need to build more capacity on the continent.

I am an example of this capacity building, having benefited from detailed training to acquire knowledge on advanced biotechnology. As a result of this, we were able to develop the first genetically modified mosquito in an African laboratory in Tanzania, with the aim of contributing to the elimination of

malaria, a disease that still kills a child every minute. This training further allows us to train the next generation of scientists to develop new solutions to our country's priority issues.

As a researcher, I can testify that research progress and scientific breakthroughs can take several years. Conducting a horizon scanning process every two years may not lead to insightful outcomes. It is not an efficient use of limited CBD resources, given the extensive work plan under the GBF. At this interval, increased cooperation and information sharing between CBD and many other organizations working on synthetic biology or carrying out horizon scanning exercises (such as OECD, AUDA-NEPAD to name only few) would be more helpful to ensure Parties have access to relevant information in the field.

CBD Women's Caucus

In the context of synthetic biology, the precautionary approach (Principle 15 of the Rio Declaration), articulated in preambular paragraph 9 of the CBD, should guide our actions. This principle gives priority to the protection of vulnerable groups, including the poor, women, children and youth. It is crucial to protect those who do not benefit from the shareholder-driven benefits of synthetic biology and lack the financial resources to protect themselves from potential harm.

It is imperative that the Conference of the Parties task the mAHTEG to further explore crucial topics such as artificial intelligence, synthetic biology, self-propagating vaccines and gene drives, emphasizing its multidisciplinary approach, and laying a foundation for effective monitoring of their impacts on biodiversity and those who depend on biodiversity. However, this task must be carried out with the full and effective participation of women in horizon scanning, monitoring and technology assessment, which will require specific capacity building to ensure that biodiversity and human health are preserved for all, especially those most vulnerable.

Decisions about technologies that affect the lives of millions should not be made without including those who will be most impacted. By addressing the gender gap in science and technology, we not only promote equity, but also strengthen our collective capacities to meet the challenges of the future.

In this regard, we suggest the modifications to the text *CBD/COP/16/2/Rev.1 item 24*

- Retain preambular paragraph 2 that recalls the decisions XII/24, XIII/17, 14/19 and 15/31, and in the line 2, after “December 2022,...” add “especially the apply the precautionary principle to synthetic biology”.
- Lift the brackets around paragraph 11-19 of section B and the annex.
- In op18, subparagraph (e) add after “participation” “effective2.
- **In the Annex:**
 - lift the brackets to retain “multidisciplinary” in the title and paragraph 3, for the AHTEG, and
 - Lift the brackets around paragraph 3.c.i and 3.c.iii.

Chair,

I would like to remind Parties of preambular paragraph 13 of the Convention on Biological Diversity, which highlights the crucial role of women in the conservation and sustainable use of biodiversity. Their full and effective participation in policy creation and implementation is essential. The expansion of the multidisciplinary AHTEG and the horizon scanning, monitoring and evaluation processes established at COP15 are vital tools to prevent women from being omitted, which is exacerbated by the lack of adequate technical and technological capacities.

We would like to ask Parties for support.

Supported by Haiti

The Women caucus intervention on the process and with respect to the Annex and the future work. .

Women see a tremendous opportunity for capacity building presented by the horizon scanning process all the way from information gathering to the utilisation of its outcomes. The CBD is the overall framework and the GBF is the mechanism for its implementation. The Protocols are also part of the implementation of the CBD. Thus, Monitoring is key to help ius know what belongs to either the Cartagena Protocol or other Protocol.

Supported by Egypt and Haiti
