

Third World Network Briefing Note for COP 17 (October 2026)

Why we must critically assess and regulate synthetic biology before experiments are unleashed on biodiversity

Summary of key recommendations for the draft decision on synthetic biology:

(1) Focus the thematic action plan on **independent and precautionary assessment and regulation** of synthetic biology, especially for developing countries:

- It should be responsive to broader cross-cutting issues, including **biosecurity and biosafety concerns, the need for robust regulatory frameworks, liability and redress for damage, equity considerations, environmental and social safeguards, the importance of strengthening public sector research for public good, technology transfer of environmentally sound and appropriate technologies, and data sovereignty.**
- **Research collaborations and capacity-building efforts should be independent and free of conflicts of interest**, so that such efforts are not driven by profit incentives.
- Implementation and any funding should focus on **strengthening national capacities, including for horizon scanning, monitoring and assessment, environmental risk assessment, risk management and regulatory oversight.**

(2) **Support the establishment of a new Ad Hoc Technical Expert Group (AHTEG) on Synthetic Biology** to continue the work on synthetic biology under the Convention. Failure to do so would mean that Parties, particularly from developing countries, would not benefit from international governance processes on synthetic biology that are responsive to new developments and challenges, and rooted in the principles of the Convention. The AHTEG could be tasked to:

- **Develop a robust methodology for critical assessment of synthetic biology, and apply the methodology** to a specific identified topic.
- **Implement, within the AHTEG assessment methodology, evidentiary standards for claims of benefits** and relevance to their potential contributions to the Kunming-Montreal Global Biodiversity Framework (KMGBF) and the three objectives of the Convention. This is because the current and potential benefits of synthetic biology have yet to be verified or proven.
- **Review the horizon-scanning methodology** previously developed, with a view to its continued application to emerging trends and issues in synthetic biology. Such anticipatory mechanisms allow for the timely identification of potential positive and potential negative impacts. Parties would benefit from identifying appropriate and realistic applications and emerging developments.
- **Ensure that assessment is on a multidisciplinary and inclusive basis to contribute to participatory decision-making**, in accordance with the precautionary approach and national priorities and circumstances, and in consultation with indigenous peoples and local communities, women and youth, with their free, prior and informed consent.

(3) **Leverage the stocktake report to prioritise forward-looking work** on synthetic biology under the Convention. Future consideration at SBSTTA should lay out how the gaps identified, including where previous outcomes were not sufficiently aligned to the principles, objectives and provisions of the Convention, can be addressed.

Introduction

The synthetic biology field, particularly in regard to applications relevant to the Convention on Biological Diversity (CBD), is overwhelmingly still confined to research and development. In the main, it is not ready for deployment.

However, this is a field with strong commercial interests and one recognised to be subject to significant hype and hubris, despite a lack of identified current benefits. Meanwhile, potential negative impacts are broad-ranging, including on biodiversity and human health, as well as socio-economic, ethical, cultural impacts.

In response to decision 16/21, submissions from Parties consistently highlighted the need for biosafety capacity-building. Almost all developing countries specified that biosafety and regulation of synthetic biology are the priority areas. The decisions at COP 17 ought to reflect such priorities by embedding precautionary approaches in the further work under the Convention, as well as in the thematic action plan for capacity building, technology transfer and knowledge-sharing in the context of synthetic biology.

From Nairobi to Yerevan: main points of contention

Earlier in the year, CBD Parties met in Nairobi for the Twenty-eighth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA-28) and the Seventh meeting of the Subsidiary Body on Implementation (SBI-7).

Synthetic biology was on the agenda of both Subsidiary Bodies, which addressed the scientific/technical and implementation aspects, respectively, particularly in relation to the thematic action plan. Parties had agreed in decision 16/21 of 2024, to develop the action plan.

At SBSTTA-28, Parties were unable to agree on all aspects of the action plan, including sections related to regulation, assessment, governance and benefit-sharing. As such, much of the thematic action plan, particularly on those issues, remains in square brackets (indicating disagreement).

The draft decision also includes, in brackets, a proposal for the establishment of a new Ad Hoc Technical Expert Group (AHTEG) on Synthetic Biology. Among the tasks of the AHTEG, which are not agreed yet, it would “develop and apply a transparent, structured and scientifically robust methodology for assessing the potential positive and potential negative impacts of synthetic biology...”.

Any text referring to “horizon scanning”, whether in the thematic action plan or in the draft decision, was consistently bracketed at both SBSTTA and SBI.

The Executive Secretary is also asked to prepare a draft stocktake report containing a consolidation, synthesis and review of the work and processes related to synthetic biology undertaken under the Convention and its Protocols since 2010. Two alternative paragraphs, both in brackets, provide guidance on how SBSTTA should take this forward as a draft recommendation for the consideration of COP-19: on options for future work on synthetic biology or on options for a “coherent, scientifically robust and effective approach to the work on synthetic biology... ensuring that any such approach adequately addresses unresolved and emerging issues relevant to the three objectives of the Convention”.

Thematic action plan: assessment and regulatory capacity key to precaution and equity

Many important elements within the action plan remain bracketed and need to be resolved. These include sections on enhancing assessment capacity, establishing robust regulatory environments, and ensuring access and benefit-sharing safeguards.

The thematic action plan needs to be appropriately balanced if it is to support Parties in the implementation of the three objectives of the CBD and the KMGBF. This means that it must incorporate precautionary safeguards, including ensuring that capacity is built for independent and sovereign assessment and regulation of synthetic biology. It should not be tilted towards promoting technology research or an enabling environment for deployment of unproven and potentially risky applications lacking a robust evidence-base.

Critical to the efforts is the need to ensure that developing countries have the capacity to horizon-scan, monitor and assess novel and potentially risky synthetic biology technologies, so that they are not left bearing the burden of risk management, clean up, liability and costs associated with any damages or technology failures. Developing countries largely lack the capacities to do so, yet may bear the overwhelming brunt of any risks, a situation which is highly inequitable. Safeguards are also needed to protect from the practice of 'technology dumping', corporate capture, extractive practices and biopiracy, and the undermining of scientific and data sovereignty.

Moreover, equitable participation in research and development in the field should not automatically equate to an enabling environment for the deployment of synthetic biology applications, given the vast majority of applications relevant to the Convention have yet to be commercialised or widely deployed, remaining unproven. This issue is exemplified by many Parties with high levels of capacity for R&D, that nonetheless take a precautionary approach, particularly with regard to environmental release, given the potential risks and uncertainties.

While access to and transfer of technology are crucial means of implementation for developing countries, any technologies that are accessed and transferred should not negatively impact the environment or peoples, and must be locally appropriate and cost-effective. This means that synthetic biology applications should undergo robust technology assessment prior to any deployment.

In summary, the implementation of, and any funding for, the action plan should focus on strengthening national capacities, including for horizon scanning, monitoring and assessment, environmental risk assessment, risk management and regulatory oversight – which would allow them to evaluate synthetic biology applications in a precautionary manner, and make sovereign decisions as to whether to accept such applications. The process of capacity building should be independent, and avoid conflicts of interests. External actors cannot be left to determine technology development trajectories.

Developing a robust methodology for critical assessment of synthetic biology

The proposal to establish a new AHTEG on Synthetic Biology incorporates its terms of reference for work that would include developing and applying a robust methodology for assessing the potential positive and negative impacts of synthetic biology.

This is a crucial task, as without a robust methodology for assessment there is a risk that countries, particularly developing countries who are recipients of synthetic biology technologies, would be

subject to technology transfer agendas without access to information regarding risk, efficacy and suitability of applications.

The previous AHTEG report (CBD/SYNBIO/AHTEG/2026/1/3) clearly shows that demonstrable current benefits of synthetic biology to biodiversity are lacking, illustrating the speculative nature of synthetic biology. Further, the list of current benefits was disputed by some members of the AHTEG and highlights the need for a more robust and precautionary assessment process.

There has to be sufficient quality of evidence for determining which technologies may provide benefits or cause harm to biodiversity. This means that there must be holistic, evidence-based determination of the relevance of synthetic biology to the KMGBF, both in terms of contributions as well as challenges to the achievement of its targets. It is thus important that these elements proposed for the methodology are retained in the text: assessing quality, relevance and limitations of available information, as well as potential long-term or irreversible impacts.

An inclusive, multidisciplinary assessment process would broaden information and expertise to adequately assess the broad risks and considerations as set out in the draft decision. This requires interdisciplinary and intercultural expertise, including from indigenous peoples and local communities, women and youth. Their full and effective participation is necessary for robustly assessing the potential positive and negative impacts of synthetic biology.

Further, a proposed task for the AHTEG is to review the previously developed methodology on horizon-scanning with a view to its continued application to emerging trends and issues in synthetic biology. The precautionary approach is an underlying principle of the CBD, and in this regard, continuation of anticipatory and timely horizon-scanning and monitoring can assist Parties in staying abreast of novel developments within the field. This can support a robust methodology to assess safety, suitability and efficacy of novel technologies, including biosafety, socio-economic, cultural ethical, traditional and religious dimensions.

Forward-looking stocktake report to support effectiveness of future work

SBSTTA-28 requested the Executive Secretary to prepare a draft stocktake report containing a consolidation, synthesis and review of the work and processes related to synthetic biology undertaken under the Convention and its Protocols since 2010.

A forward-looking stocktake report can provide fuller direction for future work, and thus help ensure its usefulness for Parties. Continuation and strengthening of the synthetic biology work is needed to stay abreast of novel developments that may have biosafety, socio-economic, ethical and cultural considerations. In particular, the stocktake report should address the gaps identified, including where previous outcomes were not sufficiently aligned to the principles, objectives and provisions of the Convention. Future consideration at SBSTTA should lay out how the gaps can be addressed.

The draft stocktake report should not be used as a pretence to shut down or delay future work on synthetic biology under the Convention. The CBD is the most authoritative international organisation representing Party interests in relation to synthetic biology, and needs to maintain its relevance in this regard. Terminating work would leave significant governance gaps for any novel and emerging applications.