



BÜNDNIS DER UNIVERSITÄREN UND AUßERUNIVERSITÄREN BIODIVERSITÄTSFORSCHUNG DEUTSCHLANDS

MUSEUM FÜR NATURKUNDE BERLIN · INVALIDENSTRASSE 43 · 10115 BERLIN

Mr. David Cooper
Acting Executive Secretary
Secretariat of the Convention on Biological Diversity
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Via e-Mail secretariat@cbd.int

c/o Museum für Naturkunde Berlin -
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Dear Mr David Cooper,

The alliance of university and non-university biodiversity research in Germany is pleased to accept the invitation of the CBD secretariat to submit views on issues for further consideration for digital sequence information on genetic resources.

We highly welcome the progress towards a multilateral mechanism for benefit sharing for 'DSI' and the results of CBD COP15 in decision 9 (CBD/COP/DEC/15/9).

You will find our views in detail as well as recommendations attached.

For any queries and further information, we are happy to provide additional input

Yours sincerely,

Nike Sommerwerk

Dr. Nike Sommerwerk, Scientific Coordinator

Leibniz-Forschungsnetzwerk Biodiversität –
18 Leibniz-Institute (Leibniz Biodiversität),
der Verband Biologie, Biowissenschaften
und Biomedizin in Deutschland –
25 Fachgesellschaften und
20.000 Verbandsmitglieder (VBIO e.V.),
das Konsortium Deutsche Naturwissenschaftliche
Forschungssammlungen – 50 Museen (DNFS),
vier Konsortien der Nationalen
Forschungsdateninfrastruktur –
mit rund 120 Partnerinstituten (NFDI).



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About our alliance

The alliance of university and non-university biodiversity research in Germany consists of

- Consortium of German Natural History Collections, DNFS (Deutsche Naturwissenschaftliche Forschungssammlungen),
- German Life Sciences Association (Verband Biowissenschaften, Biologie und Biomedizin in Deutschland, VBIO e. V.),
- the Leibniz Research Network Biodiversity (Leibniz-Forschungsnetzwerk Biodiversität, Leibniz Biodiversity) and
- four consortia of the National Research Data Infrastructure Germany (NFDI), the German science and research data infrastructure fostering FAIR and sustainable access to research data for the science system.

The research of the scientists represented by our alliance focuses on the broad organismic biodiversity, ecosystem functions and nature's contribution to people. Our non-commercial research provides the knowledge necessary for the protection and sustainable use of biodiversity which enables direct and indirect non-monetary benefit sharing.

This joint submission is based on earlier views submitted to the CBD Executive Secretary on Digital Sequence Information on genetic resources by VBIO¹ 2017, the Leibniz Association² and the submission from CETAF³. Since our last submission, our alliance has grown further. It broadly represents German life science organisations, universities and colleges, non-university research institutions, professional societies and associations in Germany.

General remark⁴

We welcome the decision of the CBD parties to reach consensus on benefit-sharing for 'DSI' and would like to stress that in our view all users of 'DSI' - whether commercial or non-commercial - should share benefits.

We are convinced that the ambitious goals for the post-2020 GBF Monitoring and the SDGs are futile without strengthening multilateral scientific collaboration across and between Low and middle-income (LMICs) and high-income countries (HICs).

Our submission primarily focusses on non-monetary benefit sharing from the use of 'DSI'. We think that the points raised below are relevant for further consideration and welcome the recognition and integration of the academic research perspective into the negotiations leading to COP 16.

¹ <https://www.cbd.int/abs/DSI-views/VBIO-DSI.pdf>

² <https://www.cbd.int/abs/DSI-peer/Leibniz.pdf>

³ <https://www.cbd.int/abs/DSI-views/CETAF-DSI.pdf>

⁴ Mainly referencing to (f) non-monetary benefit sharing

(b), Triggering points for benefit-sharing

The definition of possible trigger points for non-monetary benefit sharing is more complex than for monetary benefit sharing, and these would need to be harmonised across the CBD, NP, ITPGRFA and BBNJ/UNCLOS. In our view generally applicable measures of non-monetary benefits provided would be desirable to highlight their value and contribution.

Whereas triggering points for monetary benefit sharing, which basically are likely to be centred around expected or realised revenues from commercial use or utilisation of 'DSI', universally applicable triggering points for non-monetary benefit sharing will be more difficult to define.

For instance, non-monetary benefits are generated through research and the publication of its results by the global scientific community and are frequently based on open and free access to 'DSI'. 'Triggers' might impede open access and thus the delivery of non-monetary benefits.

Any solution should be harmonized for use under different international agreements, i.e., CBD, NP, ITPGRFA and BBNJ.

(c), Contributions to the fund

Public funding of basic research is almost exclusively project-oriented and hence cannot be diverted to contribute monetarily to the fund. Any change of these principles would involve the funding bodies and agencies in the negotiations and decision making. Also, significant indirect financial contributions already exist but currently are neither considered nor adequately valued. In particular, the contributions of the underlying research infrastructures typically are marginalised, and their currently available funding in the LMICs, G20 and even G7 countries often is not adequate.

(d), Potential to voluntarily extend the multilateral mechanism to genetic resources or biological diversity

The provision of (monetary) services under the bilateral NP agreements, which often cover "DSI" when GR with potential for commercial use is accessed, has not met expectations. While our members are committed to compliance obligations under the NP, the established mechanisms had adverse effects on non-monetary research and benefit sharing⁵. We are unsure how these mechanisms could potentially be merged with a novel multilateral mechanism, especially in case there is no non-universally agreed definitions of 'DSI'^{6 7}.

⁵ Silvestri & Mason, 2023, <https://doi.org/10.1007/s10526-023-10183-9>

Neumann et al, 2018, <https://biodiversitygenomics.net/site/wp-content/uploads/2018/02/2017-Neumann-Biodiversity-research-and-ABS.pdf>

Prathapan et al., 2018: <https://www.science.org/doi/abs/10.1126/science.aat9844>

⁶ <https://www.cbd.int/doc/c/ba60/7272/3260b5e396821d42bc21035a/dsi-ahteg-2020-01-07-en.pdf>

⁷ <https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-09-en.pdf>

(f), Non-monetary benefit-sharing, including information on geographical origin as one of the criteria

Non-monetary benefits from publication of open and freely available 'DSI' by nature is multilateral and often generates further, decoupled benefits through publication of scientific results. This is in line with the Open Science recommendations of UNESCO, the EU approach to Open Access. The underlying multilateral and multinational scientific collaboration and their resulting scientific publications are increasingly published open-access, in FAIR Data Spaces and following the FAIR (Findable, Accessible, Interoperable, Reusable) and CARE Collective Benefit, Authority to Control, Responsibility, Ethics) principles. Examples include institutional websites and global datasets such as GBIF, BOLD and the INSDC, which are key resources for capacity building, training and for networking of researchers globally. Moreover, benefits from non-commercial research arise continuously and often outside or after the original research projects which are responsible for their initial generation. We therefore doubt that 'geographic origin' is a useful criterion in this context.

More important in our view are universally applicable monitoring elements and indicators for the recording of delivered non-monetary benefits. These need to be internationally comparable, if measured figures and achievements for the non-commercial research sector should be meaningful.

(g) Other policy options for the sharing of benefits from the use of digital sequence information on genetic resources, including as identified through further analysis as referred to in paragraphs 6 and 7 of decision 15/9;

Even though we understand the reason why these options should be explored further, this is a step that would at least complicate any multilateral modality and mechanism, or would even make it inoperable. We see considerable challenges how the requirement to track and trace should be implemented effectively negative consequences for the proper functioning of the entire system.

Notably, more investment in the development of additional options will compromise the capacity and time investment needed to more deeply explore fewer options. This was a bottleneck in understanding the previous policy options. We therefore strongly recommend a narrowing down, rather than an expansion of policy options to be efficient and time-bound.

(h) Capacity development and technology transfer;

'DSI' are used globally, but there are still capacity building needs to increase Parties' ability to realise the benefits and exploit these data in support of CBD goals and SDGs. Thus, capacity building is crucial for the revenue as well as the expenditure site of the fund.

- **Capacity building already taking place must be valued as non-monetary benefit sharing**
Academic science contributes a lot in capacity building This may take the form of training as a part of research, for example training students while working in labs in providing countries, joint research involving generation and analysis of 'DSI', in-house training at bachelor's, master's and PhD levels, and informally through professional contact.
Furthermore, national science funding programmes as well as exchange programmes are supporting capacity building.
These efforts should be included any measurement or reporting scheme.

- **Provider Countries should determine their demand**

Provider Countries in a first step should assess and determine their own non-monetary benefit sharing needs (e.g. using UNDP-BIOFIN or OECD approach to evaluate existing key research infrastructures). The needs could be reported to the ABS CH in order to implement and measure their achievement in a second step (e.g. through extended BIOFIN metrics or GoFundMe approaches but for research opportunities).

- **The Fund must support Capacity Building**

The SCBD has already supported training in DNA barcoding, which includes making use of the 'DSI' in the BOLD (Barcode of Life Data) System. MOOCs (massively open online courses) could be coordinated with the INSDC databases and/or new sequencing centres could, and the existing training of INSDC members and a range of training materials could be expanded.

(i), Monitoring and evaluation and review of effectiveness

We appreciate the efforts to establish monitoring with specific indicators for the sharing of monetary and non-monetary BS under the post-2020 GBF.

- **Setting of a baseline**

While there surely are solid figures for the determination of a baseline for monetary benefits, we are less sure about an appropriate baseline for the delivery of non-monetary BS. Arguably, it should be and is closely correlated with advances in sequencing, however, such a baseline should be universally applicable for 'DSI' related monitoring of benefit sharing under the CBD, under the NP and BBNJ/UNCLOS, and should be based on the same principles of recording.

- **Recording and submission of the data**

For the reporting of delivered, it is currently unclear who is responsible, the user of 'DSI', or the receiver of the benefits. Also unclear are standard terms and metrics for generated and delivered benefits. Standardized and universally applicable indicators for non-monetary BS need to be developed and we would appreciate to contribute to this development.

(k), Interface between national systems and the multilateral mechanism on benefit-sharing

Currently, agreed benefits (monetary as well as non-monetary) are shared on an ad hoc basis and neither recorded by Providers nor users. Thus, hardly any data exists on the amount of benefits shared. It is in the interest of all parties involved to raise figures about benefit sharing directed to or shared between countries. The survey has to be conducted on a national level based on international agreed standards, so that they are interoperable and comparable at global scale.

(p), Principles of data governance

With regard to data governance for scientific data and in this context specifically to 'DSI', it is worth noting that this still is an undefined placeholder term. For addressing 'principles of data governance', the question what constitutes 'DSI' and what not is essential. In this respect, we want to emphasise that we fully agree with and support the recommendation of the AHTEG on DSI on what constitutes 'DSI, i.e. potentially all sorts of genomic and proteomic data in groups 1-3, and what not (group 4), and that any conclusion on 'DSI' should be closely aligned with this finding of the AHTEG.



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Genomic data that is currently published and in public databases is freely available as an open resource globally and a Digital Public Good. Governance of this data corpus has evolved mainly around the issues of good scientific practice, namely accountability and reproducibility of research. It is expected that researchers deposit their original data as an act of transparency to allow reconstruction of their work. As the data can be used by anyone as reference to compare and analyse newly generated sequences, it has become part of research ethics to contribute own data in return and enable future research of others. Preserving this principle is crucial for scientific knowledge generation worldwide.

Scientific Communities have established technical standards and Data Governance Models, for example those of the International Nucleotide Sequence Data Collaboration (INSDC), the Global Biodiversity Information Facility (GBIF) and the Barcode of Life Database (BOLD). All these addresses both technical and legal issues. The data governed under these principles are not only relevant for the CBD, but also for WHO and FAO. Instead of developing and implementing new systems to restrict and regulate 'DSI' with unknown outcomes and high risk of failure, we believe that building on established principles should be preferred. "

The state-of-the-art currently changes, driven by the "FAIR Guiding Principles for scientific data management and stewardship". The implications of these principles are manifold and also include measures to ensure that information about the provenance of data can be tracked, as this is often key for scientific reuse.