TWN Briefing Note for COP 17 (October 2026)

Accountability and transparency of DSI databases "to all Parties" are critical for the success of the CBD's multilateral mechanism

Introduction

The seventeenth meeting of the Conference of the Parties to the Convention on Biological Diversity (COP17) will take place from 19 to 30 October 2026 in Yerevan, Armenia. COP17 is expected to consider, in the agenda item on digital sequence information on genetic resources (DSI), recommendations from the Seventh meeting of the Subsidiary Body on Implementation (SBI-7) concerning the exploration of:

> *"possible new tools and models, such as databases, for making digital sequence information on genetic resources publicly available and accessible in a transparent and accountable manner to all Parties"*

This mandate arises from decision 16/2, which adopted the modalities for operationalizing the CBD multilateral mechanism for the fair and equitable sharing of benefits from the use of DSI, including the Cali Fund.

SBI-7 was also tasked with considering a study that was commissioned on this issue, alongside views submitted by Parties, other Governments, Indigenous Peoples and local communities, and relevant organizations. Instead of adequately exploring new tools and database models, however, the study largely assessed and dismissed proposals submitted by Parties and stakeholders, questioning their feasibility, cost-effectiveness and likely uptake by existing database managers and DSI users.

The study, which has several methodological shortcomings, concludes that new database proposals could fragment data and that tracking technologies would face limited uptake. Its principal recommendation is to continue engaging with Indigenous Peoples and local communities and the scientific community to promote alignment of databases with the CARE Principles for Indigenous Data Governance (collective benefit, authority to control, responsibility and ethics). Yet it does not adequately address how the wider accountability and transparency concerns identified in the study itself could be resolved.

These concerns include five significant gaps in existing DSI-sharing practices:

1. **Lack of transparency:** Many databases provide limited information about who accesses and uses DSI.
2. **Lack of accountability for lawful publication:** Databases generally do not provide adequate compliance information, such as permit metadata establishing whether submitters had the right to make DSI publicly available.
3. **Limited awareness and understanding:** DSI users may be unaware of their access and benefit-sharing (ABS) obligations, while policymakers lack information about how DSI is accessed and used.

4. **Geographical inequity:** DSI databases are unevenly distributed across countries, concentrating influence over the policies governing data submission, storage, access and reuse.
5. **Insufficient recognition of the rights of Indigenous Peoples and local communities:** Databases have yet to devote adequate attention and resources to aligning their practices with the CARE Principles, the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), and CBD work on Article 8(j).

Despite these findings, neither the study nor SBI-7 adequately addressed how the identified gaps should be remedied. Many developing countries called for independent peer review of the study before its conclusions are relied upon. The African Group, other developing countries and civil society organizations had called for at least one DSI database that is accountable and transparent to all Parties prior to SBI-7. They remain dissatisfied with the dismissal of such proposals by the study on the basis of unverified costs and assumptions on feasibility, without sufficiently rigorous assessment.

The draft decision forwarded to COP17 contains five paragraphs on this issue (currently paragraphs 37–41). These focus primarily on:

1. Paragraph 37: Proposals inviting Parties, Governments, Indigenous Peoples and local communities, database managers and others to:
    a. self-develop education/awareness materials;
    b. progressively implement measures to improve provenance, metadata interoperability, and lawful use etc., or alternatively report such measures; and
    c. continue exploring practical measures to improve accountability and transparency.
2. Paragraph 38: Proposal to provide capacity-building, technical assistance, technology transfer to promote the activities mentioned in Paragraph 37.
3. Paragraph 39: Proposal inviting actors undertaking measures under Paragraph 37 to inform the Secretariat.
4. Paragraph 40: Proposal to conduct peer review and further consideration of the study undertaken on databases pursuant to decision 16/2.
5. Paragraph 41: Mandating the Executive Secretary to collate information on the activities informed under Paragraph 39 and to promote dissemination of such information via the CBD's ABS Clearing-House and invite platforms outside the Convention to further share such information.

Significantly, the Secretariat has placed these paragraphs under the heading "data availability and accessibility", rather than retaining the central objective of "accountability and transparency to all Parties". This shift risks narrowing the agenda from addressing governance failures to promoting further access to DSI.

This briefing explains why accountability and transparency to all Parties are indispensable to the success of the CBD multilateral mechanism, including the Cali Fund. It also explains what accountability and transparency to all Parties should mean in practice, why existing databases operating outside the Convention cannot provide equivalent guarantees, and what COP17 can do to address these shortcomings.

“Accountable and transparent to all Parties”: What does it mean, and why can’t databases sharing DSI outside the Convention provide the same guarantees?

Transparency means that relevant information about DSI, including its provenance, lawful publication, access and use, is available to competent authorities and relevant stakeholders. Accountability goes further: database operators must follow agreed standards, take responsibility for their practices and cooperate with competent authorities lawfully exercising their duties.

For the CBD, accountability and transparency to all Parties means more than making DSI openly available. It requires safeguards for every Party when database policies affect its national laws, regulatory responsibilities and interests, as well as the rights of its people, including Indigenous Peoples and local communities, scientists and industries. The fundamental problem is that CBD Parties have no assured means of holding databases operating outside their jurisdictions accountable for decisions affecting their interests.

Although DSI databases operate across borders, their policies are generally determined by the institutions and jurisdictions that fund, host or manage them. These determine how DSI is accessed, who may use it and under what conditions. If a database publishes DSI in violation of a Party’s national legislation, restricts access for its researchers, or facilitates use contrary to applicable ABS requirements, the affected Party may have to rely on the operator or its host government, without any general guarantee that its concerns will be addressed. Even the open access policy of these databases is subject to such determination by database managers.

This is not merely a question of benefit-sharing; it also concerns countries’ ability to exercise legitimate regulatory responsibilities. Countries may need to restrict access to DSI by particular individuals or institutions if there are dual-use concerns. They may seek specific safeguards against unauthorized access and use of DSI from genetic resources held sacred by Indigenous Peoples and local communities. Some other countries may wish to ensure that access to DSI is subject to legally-binding benefit-sharing agreements with relevant communities and national authorities.

Without appropriate access controls and cooperation of databases, implementing such decisions may be difficult. Accountability also requires databases to support competent authorities in lawfully performing their duties. In ABS disputes or investigations into potentially unauthorized dual-use research, authorities may need information identifying users and documenting their activities. Without appropriate records and lawful procedures for sharing them, database operators cannot reliably support such investigations. Article 5 of Regulation (EU) 2018/1807, for example, provides for making data available to competent authorities within the EU, even though the data may be stored and processed in another EU member state, to perform their official duties under EU or national law.

The CBD need not own or operate every DSI database. COP17 could promote accountability by establishing a CBD-governed flagship database or concluding agreements with existing databases to implement standards agreed by the Parties. A flagship database could also strengthen developing countries’ capacity to use DSI according to their national priorities. As proposed by Egypt on behalf of the African Group at COP16, it could support uses covered by both the CBD multilateral mechanism and national ABS systems, promoting research, collaboration and innovation.

The objective is neither to prevent other databases from operating nor to undermine open science. It is to ensure that the multilateral mechanism operates within its agreed scope and provides legal certainty to providers and users, including governments and communities. A multilateral mechanism intended to share benefits fairly cannot reliably achieve that purpose if the databases through which DSI is accessed cannot establish whether the information falls within its scope or provide meaningful accountability to all Parties.

Why database accountability to all Parties is essential to the success of the multilateral mechanism

Accountability and transparency to all Parties are not simply matters of good database governance. They are essential to ensuring that the multilateral mechanism, including the Cali Fund, successfully operates within its agreed scope and delivers fair and equitable sharing of benefits to Parties. Decisions 15/9 and 16/2 establish the relevant objectives and requirements. Yet relying on databases that cannot adequately verify provenance, lawful publication or use of DSI risks undermining those objectives in interconnected ways:

1. Without accountability, legal certainty for providers and users is compromised

Paragraph 9(d) of Decision 15/9 requires the solution for benefit-sharing from the use of DSI to provide legal certainty to both providers and users. Decision 16/2 establishes the scope and modalities of the multilateral mechanism, including rates for monetary contributions to the Cali Fund and the issuance of certificates to contributing users. Legal certainty therefore depends, in part, on knowing which uses of DSI fall within the mechanism and whether the applicable requirements have been met.

Paragraph 1(a) of the annex to Decision 16/2 limits the mechanism's scope to DSI made publicly available in compliance with applicable national law. Users and providers must therefore be able to establish the provenance of DSI, identify the genetic resources from which it was generated, and verify whether those resources were accessed lawfully and whether the submitter had the right to make the resulting information publicly available.

Existing databases, including those of the International Nucleotide Sequence Database Collaboration (INSDC), do not generally provide the verification facilities needed to establish these matters systematically. Ideally, a database accountable to all Parties would require relevant compliance information before publication and, where the submitter cannot demonstrate the right to publish, withhold publication pending verification.

Without such safeguards, a user may be unable to determine whether DSI falls within the multilateral mechanism, while a provider may be unable to establish whether its national law or applicable ABS arrangements have been respected. If a certificate from the Cali Fund is treated as sufficient to settle benefit-sharing expectations without verifying whether the underlying DSI was lawfully published or whether other ABS arrangements apply, governments risk inadvertently legitimizing digital biopiracy. It must be noted that monetary benefits are not the sole aim of ABS.

The problem extends beyond national law. The modalities also exclude certain uses covered by national ABS legislation, other international ABS instruments and mutually agreed terms between providers and recipients of genetic resources. Paragraph 9(h) of decision 15/9 requires the solution to

be mutually supportive of other international ABS regimes. Without adequate provenance and compliance information, users cannot reliably distinguish between obligations under the multilateral mechanism and those arising under other applicable arrangements. Database accountability is therefore necessary to help provide legal certainty and prevent the mechanism from undermining existing ABS systems.

2. Open access as well as benefit-sharing cannot be guaranteed

Decision 15/9 requires a solution that is consistent with open access to DSI while remaining effective and efficient in sharing benefits. However, databases whose policies are controlled outside the CBD framework cannot guarantee that access will remain open, equitable and affordable for all Parties.

Experience with resources such as the Arabidopsis Information Resource (TAIR), SNP-Seek and research databases maintained by the United States National Institutes of Health (NIH) has raised concerns about access charges or restrictions affecting researchers in particular countries. Such examples illustrate that access arrangements may change according to institutional policies or geopolitical circumstances.

At the same time, a lack of accountability creates difficulties for benefit-sharing. Without appropriate user information and records of access and use, competent authorities have limited means to identify potential users, in the upstream research and facilitate collaboration. This weakens opportunities to generate non-monetary benefits, including research partnerships, training and technology transfer. It may also discourage users from contributing to the multilateral mechanism if they cannot determine whether their obligations have been met or how the mechanism relates to other applicable ABS requirements.

The result risks being a system that imposes the costs of maintaining open access without reliably delivering corresponding benefits. This would run counter to the effectiveness, efficiency and cost-benefit criteria in paragraphs 9(a)–(c) of decision 16/2. Open access and benefit-sharing should reinforce each other; neither should depend solely on the goodwill of database operators or users.

3. Databases should help provider countries and Indigenous Peoples and local communities maximize benefits

Decisions 15/9 and 16/2 recognize the importance of the rights and interests of provider countries and Indigenous Peoples and local communities, and the necessity to safeguard them. These interests are not limited to receiving payments after commercial value has been generated. They also include shaping access conditions, identifying research opportunities, building partnerships and developing the capacity to use DSI for public-interest and commercial purposes.

Databases could help national authorities and communities attract researchers and investors, identify potential applications of their genetic resources, and facilitate research and development (R&D) collaborations. Such functions could generate monetary and non-monetary benefits locally and contribute to wider public interests.

Yet existing database arrangements often provide limited practical support for these purposes. User registration, accessible interfaces and facilities for initiating collaboration or communicating with providers are not available.

This reflects a wider imbalance: those with advanced bioinformatics capacity can readily access and exploit DSI, while provider countries and Indigenous Peoples and local communities may lack the tools to identify opportunities or engage in subsequent R&D activities. Unless databases also serve the interests and capacities of providers, open access risks facilitating extraction without creating comparable opportunities for developing countries to participate in innovation and share its benefits.

4. Unaccountable databases reduce opportunities for developing-country scientists

Paragraph 9(e) of Decision 15/9 requires that the solution for DSI benefit-sharing should not hinder research and innovation. Database arrangements that facilitate anonymous and unrestricted downstream use can reinforce inequalities in scientific enterprise and hinder growth of R&D in developing countries.

Researchers and institutions in developing countries may be recruited primarily to collect samples and generate sequences, while advanced research, product development and the resulting intellectual property are developed elsewhere. Such arrangements can leave local researchers with limited opportunities beyond the very little project funding they receive, acknowledgement or co-authorship, and leave them without meaningful participation in subsequent R&D or its benefits.

Some databases protect submitters' interests through attribution or provisions allowing them to publish their findings first. These safeguards have value, but they do not necessarily give submitters a role in, or a share of, downstream research and commercial development after DSI becomes publicly available. In practice, academic field incentives to publish more journal papers, and to secure international collaboration, may also place pressure on researchers to accept broad reuse arrangements without adequate oversight.

The African Academy of Sciences, in its policy paper *Recommendations for Data and Biospecimen Governance in Africa*, warns against pressure from stakeholders to extend broad, unlimited consent for reuse of data and biological samples. It argues that, although such arrangements may promote open science, they require participants to surrender control over future uses. It calls for a dynamic model balancing the requirement of open access with the need to better protect their autonomy.

Article 15(6) of the CBD provides that scientific research based on genetic resources supplied by a Party should be carried out with the full participation of that Party and, where possible, in its territory. Database-mediated research conducted by unidentified users in foreign countries can make such participation more difficult to realize. Accountability mechanisms that facilitate contact, collaboration and visibility of downstream research would help translate this principle into practice and expand opportunities for scientists and institutions in provider countries.

5. Local industries risk losing market opportunities and value

Access to genetic resources is one potential advantage for industries in provider countries, including community-based enterprises and businesses seeking to develop products based on local biological

resources and traditional knowledge. But when DSI can be accessed anonymously and used for R&D elsewhere, the connection between the resource, local scientific capacity and downstream commercial value can weaken.

India's Ayurvedic sector illustrates the broader risk of value associated with biological resources and traditional knowledge moving away from the country. Studies and reports on Ayurvedic exports indicate that overseas markets often use Indian medicinal plants and extracts as generic ingredients in supplements, cosmetics and other products, while overseas manufacturing of Ayurvedic supplements and formulations is also emerging.

These developments highlight the existing challenge of retaining value addition, branding and commercial opportunities in countries of origin. Biopiracy is considered a threat to such sectors, pointing to a further risk: overseas enterprises could use DSI and synthetic biology to develop products that compete with those made from physical biological resources, such as plant extracts sourced from provider countries. For example, a company could use DSI to identify valuable biological compounds or design alternative production pathways, then manufacture and market the resulting ingredients or products overseas. If these products substitute for conventionally sourced extracts, demand for those extracts could decline, while manufacturing, branding and profits shift abroad. Without accountability and transparency of DSI databases, such competing products could be developed and commercialized without partnerships with local businesses or communities, potentially undermining existing livelihoods in developing countries, while concentrating the benefits in foreign countries.

6. Provenance and user verification matter for biosafety, biosecurity and quality of science

The importance of accountability extends beyond ABS. Reliable provenance information helps researchers assess where a sequence originated, how it was generated and processed, and whether it may have been contaminated, mislabelled or altered. Such information can improve reproducibility and help researchers interpret results in their biological and environmental context.

These safeguards are increasingly important as synthetic biology and artificial intelligence (AI) enable the design, modification and analysis of sequences. DSI may be used in computational models and training datasets, and inaccurate, incomplete or poorly contextualized information can undermine analytical reliability. In relevant cases, information about provenance and users can also support the assessment of biosafety and biosecurity risks, including potentially unauthorized dual-use research.

For example, a particular sequence, as expressed in organisms, could be mediated by the environment where it is from, and if abstracted from this context, may not behave in the same way when modified and used in a different environment. Knowing where the sequence comes from and under what conditions it was generated supports reproducibility of experiments from one lab to another and thus ensures quality of scientific outputs. Not knowing the same could lead to inadvertent consequences, raising biosafety and biosecurity concerns. This also points towards the necessity for greater cooperation with scientists and stakeholders from the location of the biological resources.

The same is true with respect to user registration and identity verification. These improve collaboration between scientists and people working in the lab with people on the ground, as well as

make the users and R&D visible to regulators. Not having user registration and identity verification makes the use – and misuse and abuse – of DSI undetectable, raising biosecurity challenges.

The argument that scientists and database managers would themselves self-regulate and can rectify the situation cannot be relied on. This is because the scale of the provenance problem is substantial. Recent research on DSI governance has reported that only 51.9 million, of approximately 307 million INSDC records, included geographical collection information – around 17 per cent. This illustrates a significant limitation in the information available for assessing geographic origin.

Scientists and database managers have an important role in improving data quality, but voluntary efforts alone cannot ensure consistent standards across the global database landscape. Agreed requirements for provenance, verification and appropriate user and database accountability would strengthen scientific reliability while supporting safe and responsible research and fair and equitable benefit-sharing.

7. Unverified provenance risks inequitable allocation of Cali Fund benefits

Decision 16/2 provides for the development of a methodology to allocate resources from the Cali Fund among recipient countries. The source of the genetic resources from which DSI was generated is one relevant criterion, while the decision itself acknowledges that geographic-origin data are often incomplete or unrepresentative.

The Ad Hoc Technical Expert Group (AHTEG) on Allocation Methodology, set up to determine the methodology for the disbursement of funds from the Cali Fund, highlighted the difficulty of finding reliable data to apply this criterion. If geographic origins cannot be established consistently, the methodology may fail to reflect the contribution of provider countries and communities. Waiting for better data to voluntarily emerge without addressing the database practices that contribute to the problem risks perpetuating that gap.

The AHTEG's recommendations for further work clearly recognize this issue of lack of data with respect to this criterion. It recommends closing capacity gaps in developing countries, addressing database governance and accountability problems, harmonizing meta-data standards, improving data formats, including geospatial data including country of origin, and respecting the free, prior and informed consent of Indigenous Peoples and local communities.

The issue is therefore not only how much money the Cali Fund collects, but whether the information needed to distribute its benefits fairly can be established**.** Database accountability is essential to making that allocation more transparent, evidence-based and equitable.

Conclusion

DSI databases play a central role in facilitating the publication and reuse of DSI derived from genetic resources originating in countries and communities. However, currently they do so often without the active and informed consent from the countries and communities providing genetic materials and without effective means of tracking and tracing subsequent use. Unlike data-sharing arrangements in many other domains, where access controls, user records and accountability mechanisms are integral to governance, DSI databases have largely treated the implications of publication and reuse for access

and benefit-sharing as someone else's responsibility. The burden is shifted to data submitters, provider countries, Indigenous Peoples and local communities, and users, while database operators continue to shape the conditions under which DSI is accessed and reused. In effect, current database practices facilitate a process that can undermine national ABS laws while avoiding responsibility for addressing that risk.

The concerns mentioned in the previous section also show that accountability and transparency to all Parties is not an additional burden unrelated to the multilateral mechanism. It is the part of the infrastructure needed to make the mechanism legally certain, effective and equitable. Without it, the CBD risks establishing a benefit-sharing mechanism at the end of a value chain whose access and use of DSI as well as distribution of benefits remain largely beyond the effective self-determination of the provider countries and communities. The end-of-value chain payment of monetary benefits through the Cali Fund, cannot, by itself, remedy the upstream inequitable extraction and use of DSI, particularly when it excludes the meaningful participation of provider countries, communities, scientists and industries.

This is not merely a technical concern. COP17 must move beyond merely encouraging voluntary improvements and establish a clear institutional pathway towards improving database accountability and transparency to all Parties. This should include COP-agreed standards for provenance and lawful publication, appropriate user identification and access records, and cooperation with competent authorities and provider communities, subject to applicable safeguards. These standards could be implemented through a CBD-governed flagship database, agreements with existing databases, or a combination of both. COP17 should also explore a federated workbench data access facility, drawing on the African Group's proposal in the WHO context, through which national databases retain custody of DSI while enabling non-discriminatory access to DSI, under agreed conditions, through a Convention-level access facility.