The DSI Informal Dialogue Partnership

An Analytical Reflection of DSI in post-GBF NBSAPs

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Key findings

Operationalisation of DSI in 105 countries' post-GBF NBSAPs

- 63 countries (~60%) address DSI in the NBSAPs in a substantive manner, but that also means that 42 countries do NOT address DSI substantively.
- 56 countries (> 50%) address DSI as integral part of their ABS target and/or with specific actions under other national targets
- Of those countries that integrate DSI in their ABS target more than 60% are planning to develop or update legislative or regulatory measures for ABS and DSI (37 countries) and strengthen bilateral benefit-sharing from the use of genetic resources and DSI (35 countries).
- Only five of 56 countries identify the Cali Fund as a potential funding source.
- 32 of 56 of the countries (~60%) plan capacity building activities. However, 64% of the planned activities do not specify the relevant stakeholder groups.
- 39 developing countries have submitted NBSAPs and 7th National Reports (7NR):
    - NBSAPs identify far more gaps and challenges than reported in 7NRs. Only few countries identify in 7NRs new gaps and challenges, which haven't been included in their NBSAPs.
    - Most countries are already addressing or planning to address identified issues. An exemption is the *data & infrastructure gap*, which is identified by 24 developing countries in their NBSAPs and 7NRs, but addressed by only 10 countries with planned or reported actions.
- Eight developing countries include budget lines for DSI-specific actions ranging from USD 60,000 to almost USD 9,000,000.

DSI-use in non-ABS contexts

- Out of the 105 countries with post-GBF NBSAPs 45 countries mention or plan for DSI use in non-ABS contexts. Only six developing countries with DSI-use in non-ABS contexts have identified DSI-related gaps and proposed relevant capacity building activities.
- 23 developing countries, accounting for approximately 50% of DSI-use hits in their NBSAPs, are using DSI-adjacent language (see footnote 3) in conservation planning, but do not connect this usage to DSI use-specific capacity building or gap assessment. This implies that either related capacity is available (e.g. China and Indonesia) or gaps regarding DSI-specific technical capacity, legal frameworks, and institutional coordination relevant for gene bank management, eDNA-based monitoring, and biosafety regulation are not sufficiently addressed with.

NBSAPs as guiding documents for Cali Fund disbursements to IPLCs

- While most NBSAPs do NOT substantively link IPLC conservation roles to measurable biodiversity outcomes and therefore give no guidance on disbursement, the fact that some do and give very useful guidance is proof that NBSAPs can be a useful tool to guide Parties in disbursement for IPLCs.

NBSAPs as a compass for technology transfer and non-monetary benefit-sharing

- Non-monetary benefit-sharing is referred to at best at target level without specific substantive actions.
- NBSAPs can indicate the readiness of some countries to receive either Cali Fund disbursements in line with its purpose #2 (scientific research on biodiversity) or to engage with industry through a clearing-house under the CBD as match-making platform for NMBS.

1 Introduction

National Biodiversity Strategies and Action Plans (NBSAPs) are the principal instruments through which Parties to the Convention on Biological Diversity (CBD) translate international commitments into national biodiversity priorities, policies and actions. Following adoption of the Kunming–Montreal Global Biodiversity Framework (GBF), NBSAPs have become the main vehicle for national implementation of the GBF. They establish national targets and actions and can identify related institutional, capacity-building, technology-transfer and financing needs. They therefore provide an important indication of how Parties are translating emerging CBD issues into national priorities.

Digital Sequence Information on genetic resources (DSI) is one such issue. Advances in genomics and digital technologies have transformed the use of genetic resources: sequence data can be shared globally and repeatedly reused without physical access to the underlying genetic resource. DSI is increasingly important for biodiversity research and conservation, agriculture, biotechnology, pharmaceuticals and other fields. At the same time, its digital and global nature creates challenges for conventional access and benefit-sharing (ABS) approaches and raises questions about how benefits arising from the use of DSI can be shared fairly and equitably.

DSI has consequently become an important issue of international biodiversity governance. The GBF provides for a multilateral mechanism for benefit-sharing from DSI, including a global fund, operationalised through the establishment of the Cali Fund at COP16. The DSI agenda, however, extends beyond financial benefit-sharing to capacity-building, technology transfer, research infrastructure, skills and participation in the generation and use of genomic knowledge.

NBSAPs can potentially connect these international DSI commitments with national priorities and implementation. They can identify national needs relating to DSI, ABS, scientific capacity, infrastructure, technology transfer and benefit-sharing, and provide a basis for mobilising resources.

This analysis examines **post-GBF NBSAPs from 105 Parties to the CBD**[1] to assess

- how, and to what extent, DSI is reflected in NBSAPs and
- whether NBSAPs could potentially guide funding decisions of the Cali Fund in general and specifically to indigenous peoples and local communities (IPLCs).

It considers not only explicit references to DSI, but also the broader ways in which NBSAPs address issues relevant to the emerging DSI governance and benefit-sharing agenda.

2 How is DSI addressed and operationalised in NBSAPs?

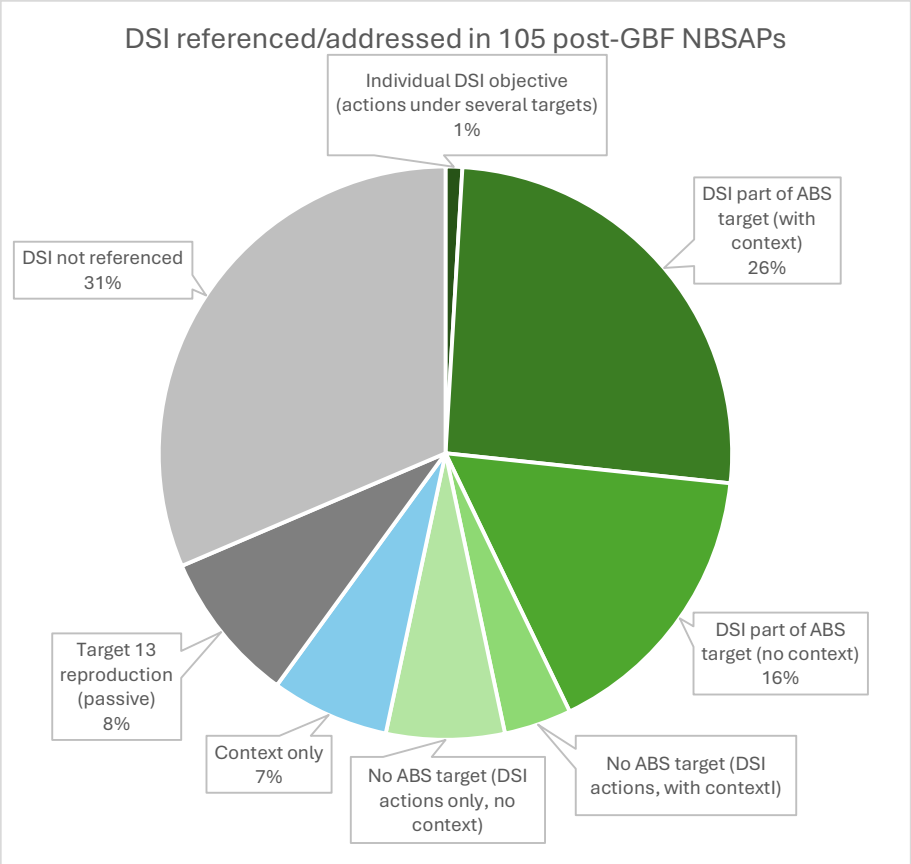
56 out of 105 countries reflect DSI in their NBSAPs by either:

- integrating it into their national ABS target (44 countries) with or without descriptive context, or;
- having DSI specific actions defined under other national targets (11 countries), mostly due to not having aligned their national objectives or targets to the GBF targets;
- **One country**, Iran, has established a specific DSI objective, with **~20 DSI-specific actions spread across five national targets** (NT-12, NT-13, NT-15, NT-20, NT-21).

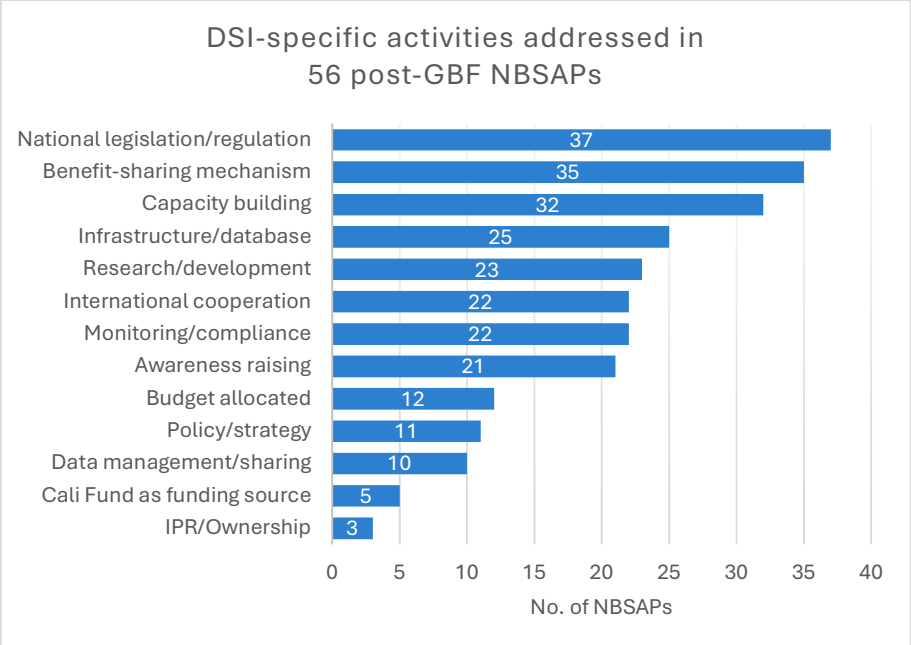
Seven countries address DSI in a "descriptive context" only, i.e. reporting experiences or progress of previous NBSAP implementation, gap analyses / SWOT analyses, general policy discussion, international DSI processes, narrative background, or challenges/barriers.

[1] This reflects the number of countries with post-GBF NBSAPs available in the Biodiversity Policy module of the Tierra Viva AI platform on the 31st of August 2026 used for this analysis. [This document was partly drafted with support from AI analysis tools and subject to human review and validation.]

42 countries make no substantive reference to DSI in their NBSAPs: **Nine countries reproduce GBF Target 13** without any further reference – neither in descriptive context nor with DSI specific measures or actions, while **33 countries do not reference DSI at all** in their NBSAPs.



Categories of DSI relevant actions or measures under national targets:



Legislation dominates: 37 countries plan to develop or strengthen legislative or regulatory measures for DSI. This reflects the widespread need that countries identify to translate Nagoya Protocol and GBF Target 13 commitments into national law. The most common planned measures are to draft or update existing ABS laws, regulatory frameworks for access and benefit-sharing, and implementation of the Nagoya Protocol.

Benefit-sharing is central: 35 countries plan to establish or participate in benefit-sharing mechanisms. Only 5 of 35 countries identify the multilateral mechanism or the Cali Fund as a potential funding source reflecting that DSI in NBSAPs is primarily framed through a bilateral ABS/benefit-sharing lens. If at all, **non-monetary benefit-sharing** is mentioned at national ABS target level without any specific actions, or as a passive reproduction of GBF Goal C/Target 13.

Capacity building is prominent but regionally uneven and not necessarily targeted: 32 countries plan capacity-building activities, but this is heavily concentrated in Africa (76%) and Asia (53%), while Europe lags far behind (14%). This reflects that developing countries identify capacity gaps as a primary barrier to DSI management, while European countries focus on policy and international cooperation instead.

Developed countries' capacity building is about contributing to international processes, not building domestic capacity, while 73% of developing countries' capacity building is training (45%) or generic (28%). Only 16% address technical infrastructure.

66% of developing-country capacity building actions target unspecified stakeholders. 22% target IPLCs, 17% government officials and only 7% the private sector.

Regional patterns:

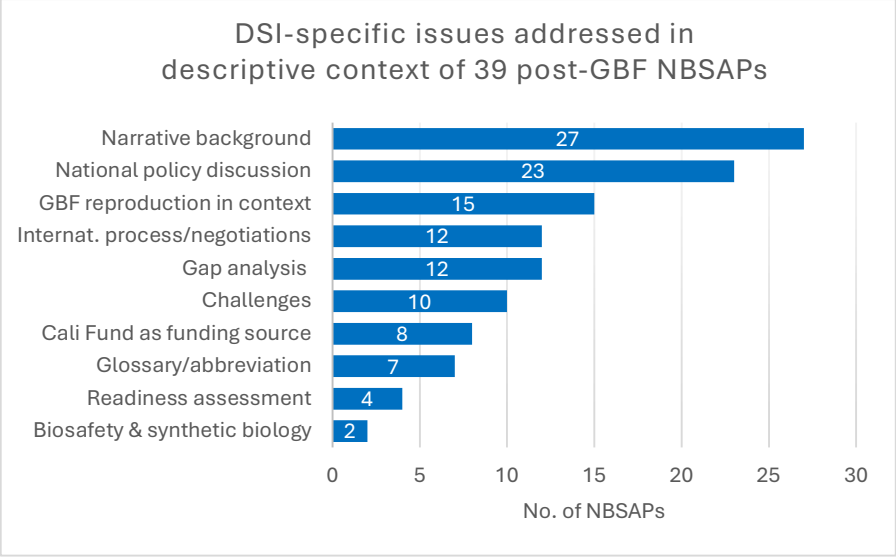
- **African NBSAPs** predominantly plan capacity building (76%) and legislative measures (80%) - the highest planned rates of any region for both topics.
- **The Americas** show the highest planned prevalence of monitoring/compliance (86% - 6 of 7 countries) and infrastructure/database (71%) of any region.
- **Asian NBSAPs** plan the most balanced topic coverage, with no single topic dominating. Asia leads in planned policy/strategy (40%) and awareness raising (53%), reflecting that several Asian countries (Iran, South Korea, UAE, Bhutan, Malaysia) plan to develop strategic policy frameworks for DSI. Asia is the only region where no country identifies DSI as a prospective funding source. Asian NBSAPs frame DSI as a domestic policy challenge, not as a revenue opportunity.
- **Europe** shows the highest planned prevalence of data management/sharing (43%) and international cooperation (57%, tied with the Americas). European countries (Germany, Netherlands) plan primarily to contribute to the multilateral mechanism rather than to receive benefits, and their planned DSI actions focus on policy coherence across forums (CBD, WIPO, BBNJ, ITPGRFA, WHO).
- With 2 countries (Marshall Islands, Vanuatu), **Oceania** shows 100% planned prevalence for research/development, infrastructure/database, and benefit-sharing. Both countries plan to frame DSI through research and benefit-sharing actions rather than legislative frameworks.

Budget allocation related to DSI

11 developing countries (20%) have activity-specific budget allocations for DSI-related actions. The degree of DSI specificity varies: some allocations are DSI-specific, while others are broader ABS budgets that include DSI as a component:

Country	Planned Budget	Action Summary
		DSI specific actions
Benin	1,000 million FCFA (~USD 1.6M)	Develop national capacities on DSI (Actions 1-3, 67-68)
Burundi	USD 375,000	6 Target 13 actions: legislation, monitoring, training, lab equipment, consultation framework
DR Congo	USD 850,000	Establish legal/institutional framework to integrate DSI into ABS laws
Ethiopia	USD 8,709,816	DSI database (Target 16.4); apply DSI in research (Target 17.6)
Sudan	USD 300,000	Capacity building for PGRFA + DSI regulation
Togo	50 million FCFA (~USD 83,000)	Training of national stakeholders on DSI
Iran	No specific amount	Fund DSI research, technology development, infrastructure
Lebanon	USD 950,000	Capacity building (15.2); benefit-sharing (15.3); national database (15.4); genetic research (15.5)
Vanuatu	7million VUV ~USD 60,000	Identify digitized genetic data (SM.51); IPLC benefit-sharing from DSI (SM.52); DSI research on endemic species (SM.53)
		ABS budgets incl. DSI specific actions
Liberia	USD 11,680,000	DSI policy measures (3.1.11); ABS policies/guidelines (3.1.1)
Uganda	USD 400,000	Benefit-sharing framework incl. DSI (3.3.1); ABS Regulations review (3.4.1)

Beside DSI references in national targets and/or planned actions, **DSI appears in 39 NBSAPs in 'descriptive context'**, such as reporting experiences or progress of previous NBSAP implementation, gap / challenges / barriers / SWOT analyses, general policy discussion, or international DSI process.



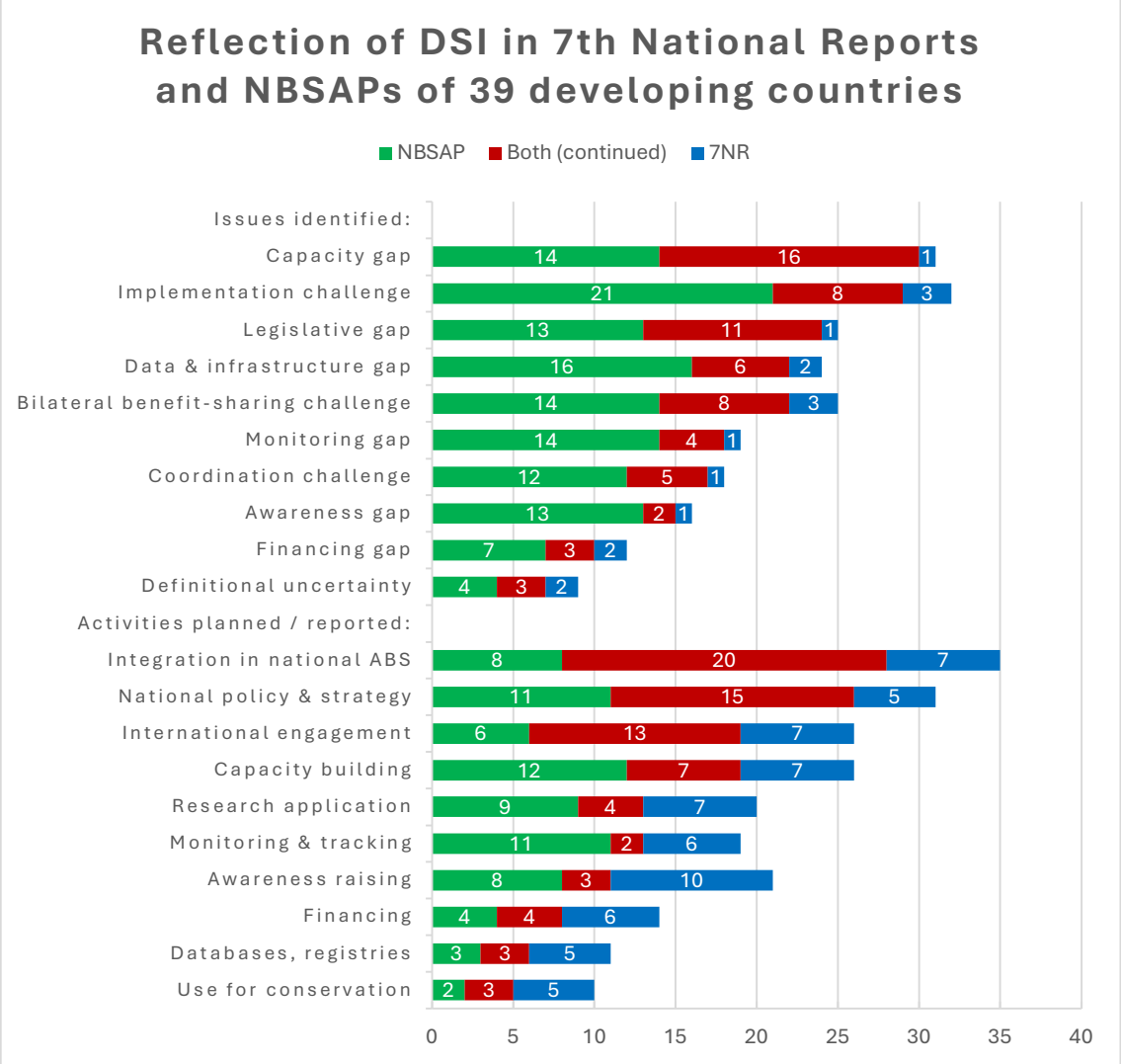
Narrative and policy discussion dominate: 27 countries set the stage for DSI through narrative background (69%) and 23 through policy discussion (59%). This reflects that most NBSAPs introduce DSI in context-setting sections - explaining what DSI is, why it matters, and how it fits

into the national biodiversity policy framework - before (or without) translating this into concrete targets or actions.

Gap analysis and international process are equally common but limited: Both gap analysis and international process discussion are present in 12 countries (31% each).

- Gap analysis is the most actionable policy context and the strongest signal that a country is preparing to act on DSI. Identified gaps in DSI management focus on limited awareness, absence of procedures, lack of laboratory infrastructure, and weak coordination. Gap analysis is concentrated in Africa (50%) and reflects developing-country needs assessments.
- International process discussion is concentrated in Europe (67%) and the Americas (57%) and reflects engagement in the CBD negotiations. Iran is unique in discussing both domestic funding needs and international cooperation.

NBSAPs identify far more gaps and challenges than reported in 7th National Reports (7NR). This is expected - 7NRs report achievements (gaps are implicit) of post-GBF NBSAP implementation, while NBSAPs explicitly diagnose challenges and gaps as part of forward planning. Only a few countries identify new gaps and challenges in 7NRs, which haven't been included in their NBSAPs.



A conclusive interpretation of the (non-)overlap of planned and reported activities is not possible at this point, as conclusive data about the finalisation dates of NBSAPs and 7NRs for the respective countries would be required. The question is whether the 7NR of a country is reporting about implementation of an approved post-GBF NBSAP or whether the NBSAP was approved after submission of the 7NR to the CBD.

Comparing the issues identified with the activities planned and reported, it seems that countries are already addressing or planning to address most issues. An exemption is the *data & infrastructure gap*, which is identified by 24 developing countries in their NBSAPs and 7NRs, but addressed by only 10 countries with planned or reported actions.

Comprehensive developing-country examples for domestic capacity building:

Country	Why it's a model
Iran	The only country with a standalone DSI national objective: 100% NBSAP gap-to-action coverage - 3/3 gaps addressed; broadest action portfolio (training, education, international collaboration, university programs, research funding)
Sudan	Most operationally specific NBSAP gap-to-action coverage - structured capacity need tables linking gaps to actions, target groups, implementing agencies, timelines, and budgets
Cameroon, Congo, Liberia, Malaysia, Namibia, Togo	100% 7NR gap-to-action coverage - implicitly responding in NBSAP to identified needs
Burundi	Every Target 13 action has indicator + budget (375K USD total, including 100K for lab equipment) - rare specification

Developing-country identified gap-to-action translation gap: 24 of 28 developing countries identify in their 7NR real capacity, infrastructure, coordination, and financial gaps - and the gaps are not addressed in the NBSAP. Extreme examples:

Country	Why it's a concern
Cambodia	Most comprehensive gap analysis (4 gap types, 8 policy context topics) but zero capacity building actions - gap-to-action translation entirely missing
Sierra Leone	Most explicitly structured readiness assessment but zero DSI related capacity building activities
Nigeria	Identifies specific laboratory and skills gaps but action covers only skills; 7NR identifies 5 gaps, NBSAP addresses 1, capacity building addresses 1

Key findings:

- 63 countries (~60%) address DSI in the NBSAPs in a substantive manner, but that also means that 42 countries do NOT address DSI substantively.
- 56 countries (> 50%) address DSI as integral part of their ABS target and/or with specific actions under other national targets
- Of those countries that integrate DSI in their ABS target more than 60% are planning to develop or update legislative or regulatory measures for ABS and DSI (37 countries) and strengthen bilateral benefit-sharing from the use of genetic resources and DSI (35 countries).
- Only five of 56 countries identify the Cali Fund as a potential funding source.
- 32 of 56 of the countries (~60%) plan capacity building activities. However, 64% of the planned activities do not specify the relevant stakeholder groups.
- NBSAPs identify far more gaps and challenges than reported in 7th National Reports (7NR) based on a comparison of 39 developing countries having submitted both documents to the CBD. Only a few countries identify new gaps and challenges in 7NRs, which haven't

been included in their NBSAPs. Most countries are already addressing or planning to address identified issues. An exemption is the *data & infrastructure gap*, which is identified by 24 developing countries in their NBSAPs and 7NRs, but addressed by only 10 countries with planned or reported actions.

- Eight developing countries include budget lines for DSI-specific actions ranging from USD 60,000 to almost USD 9,000,000.

3 How is the use of DSI relevant for implementation of other GBF Targets reflected?

In the GBF, DSI is mentioned only in one of the 23 targets (Target 13). However, DSI is relevant to all four GBF goals. A study of the DSI Scientific Network and the South African Biodiversity Institute identifies 21 targets for which DSI has a role in achieving the target listing key topics in the table below.[2]

Table 1 - The significance of DSI to the GBF is due to its role in:

• Identifying the different components of biodiversity (genes and genetic diversity species and biological community composition of ecosystems)
• Making spatial planning decisions
• Monitoring impacts of threats or of management interventions
• Restoring biodiversity
• Development of products including for improving agricultural practices or other nature-based solutions or for generating monetary benefits
• Verifying and certifying products
• Providing evidence for legal or illegal trade

A search of 105 post-GBF NBSAPs for DSI-related terms[3] identified **185 hits across 55 of 72 countries (76%)**:

Ex situ conservation (gene banks, seed banks) - 96 hits, 42 countries - The most common non-ABS use of DSI-adjacent terms is in ex situ conservation: gene banks, seed banks, and germplasm collections for preserving genetic diversity of crops, livestock, and wild species. These references appear primarily in Target 4 (genetic diversity) and Target 8 (agriculture) contexts.

Biodiversity monitoring - 21 hits, 11 countries - eDNA, environmental DNA, and metabarcoding appear in biodiversity monitoring contexts.

Biosafety regulation - 20 hits, 11 countries - Synthetic biology, gene editing, and CRISPR appear in biosafety/regulatory contexts, typically under GBF Target 17 or as emerging issues.

Research and genomics - 18 hits, 11 countries - The most significant example is Iran, which has a dedicated 'DSI Activities' section explicitly framing DSI as 'a critical component of biodiversity conservation.

Species identification - 10 hits, 7 countries - DNA barcoding appears in species identification and taxonomy contexts - using genetic markers to identify species, support taxonomic research, and inform conservation assessments.

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[2] DSI-Scientific-Network and SANBI (2024). "*Meeting the goals of the Global Biodiversity Framework: what is the role of digital sequence information?*". Meeting-the-goals-of-the-Global-Biodiversity-Framework-what-is-the-role-of-digital-sequence-information-2024.pdf

[3] DNA sequence, genomic sequence, genetic sequence, gene sequence, genomic data, genetic data, genetic information, bioinformatics, metabarcoding, metagenomics, DNA barcoding, eDNA, environmental DNA, synthetic biology, gene editing, CRISPR, INSDC, International Nucleotide, Cali Fund, multilateral mechanism, gene bank, sequencing technology, digitized genetic, whole genome

Data infrastructure - 8 hits, 6 countries - Bioinformatics, sequence databases, and data repositories appear in data infrastructure contexts. DR Congo explicitly mentions 'national databases on data and sequence information (DSI) and support scientific research' under its Objective 21.

Key findings regarding DSI-use in non-ABS contexts:

- Only six developing countries with DSI-use in non-ABS contexts have identified DSI-related gaps and proposed relevant capacity building activities.
- 23 developing countries accounting for approximately 50% of DSI-use hits in their NBSAPs are using DSI-adjacent language in conservation planning without recognising that gene bank management, eDNA-based monitoring, and biosafety regulation require DSI-specific technical capacity, legal frameworks, and institutional coordination.

4 Can NBSAPs serve as guiding documents for Cali Fund disbursements to IPLCs

This section examines whether and how post-GBF NBSAPs document the "vital role" of indigenous peoples and local communities (IPLC) in the conservation and sustainable use of genetic resources - as recognised in the preamble to CBD Decision 16/2 - in ways that could guide Cali Fund disbursement decisions under Allocation Criterion (c) toward positive biodiversity outcomes.

The Cali Fund has four co-equal purposes under paragraph 18 of Decision 16/2: (1) conservation and sustainable use of biodiversity through NBSAP-described activities; (2) scientific research on biodiversity; (3) benefits to IPLCs including women and youth; (4) DSI capacity-building. The analysis finds that NBSAPs are strongest precisely where the Fund's broadest purpose lies: **at least 17 post-GBF NBSAPs substantively link IPLC conservation roles to measurable biodiversity outcomes** - wildlife recovery, deforestation reduction, species population growth, area-based conservation - directly relevant to purpose #1. **A smaller set of NBSAPs (approximately 9) contain DSI-specific IPLC actions relevant to purpose #4**.

NBSAPs can signal which countries have the policy environment (FPIC provisions, indigenous monitoring systems, community conservation institutions) for effective IPLC-targeted disbursement. However, NBSAPs cannot substitute for the paragraph 21 "self-identified needs" process, which requires direct IPLC consultation. No NBSAP addresses indigenous data governance (CARE principles) or identifies IPLC institutions to receive funds.

Assessment: Can NBSAPs guide IPLC-responsive disbursement leading to positive biodiversity outcomes?

Question	Answer	Evidence strength
Do NBSAPs document IPLC roles in conservation of genetic resources (preamble language)?	Yes - 93 NBSAPs mention IPLC + GR + conservation; ~17 with substantive national actions and quantified outcomes	Medium-High
Do NBSAPs link IPLC conservation to measurable biodiversity outcomes?	Yes - at least 7 NBSAPs with quantified outcomes (Namibia, Peru, Canada, Brazil, Tanzania, New Zealand, Rwanda); 5 more with structural evidence (Colombia, Indonesia, Cambodia, DR Congo, Australia)	Medium-High
Are these outcomes relevant to Cali Fund purpose #1 (conservation and sustainable use)?	Yes - directly relevant; this is the broadest Fund purpose and explicitly names NBSAP activities	High
Are these outcomes relevant to Fund purpose #2 (scientific research)?	Partially - community-based monitoring systems (Colombia ONIC SMT, Peru Community Forest Vigilance, Canada	Medium

Question	Answer	Evidence strength
	Guardians, Namibia NACSO) produce research-relevant data	
Are these outcomes relevant to Fund purpose #3 (benefits to IPLC)?	Yes - livelihood benefits documented in Namibia (employment, income), Rwanda (gorilla permit revenue sharing), Indonesia (fisheries conflict resolution)	Medium-High
Do NBSAPs address IPLC capacity needs for DSI (Fund purpose #4, criterion c)?	Partially - 57 NBSAPs mention DSI+IPLC+capacity; ~9 substantive (one pre-GBF)	Low-Medium
Do NBSAPs operationalise FPIC in DSI/GR context?	Yes - 25 NBSAPs mention FPIC; ~6 link it to DSI/GR specifically	Medium
Do NBSAPs identify "self-identified needs" of IPLC (para 21)?	No - 1 country; structural mismatch; NBSAPs are state-authored	Low
Do NBSAPs address indigenous data governance (CARE principles, para 10(d))?	No - 0 NBSAPs	Low
Do NBSAPs designate IPLC entities to receive funds (para 20-21)?	No - 0 NBSAPs identify specific IPLC entities	Low
Does the SBI-7 review framework rely on NBSAPs for IPLC evaluation (P5)?	Partially - P5 "coherence with NBSAPs" is partially evaluable; EC4 relies on "consultation of IPLC" and MPTFO data, not NBSAPs	Medium
Can NBSAPs signal which countries have the policy environment for effective IPLC disbursement?	Yes - countries with FPIC laws, indigenous monitoring systems, and quantified IPLC conservation outcomes demonstrate policy readiness	Medium-High

The structural insight: The four co-equal purposes in para 18 of Decision 16/2 mean that NBSAPs do not need to demonstrate DSI-specific conservation outcomes to be relevant to the Cali Fund. NBSAPs that link IPLC conservation roles to measurable biodiversity outcomes are directly relevant to purpose #1 - the broadest purpose, explicitly tied to NBSAP activities. The DSI capacity element (purpose #4) is one of four, not the sole purpose. Countries with strong IPLC conservation evidence (Namibia, Peru, Canada, Brazil, Tanzania, Colombia, Indonesia, Cambodia) could be strong candidates for early Cali Fund disbursement under criterion (c) because they demonstrate both policy readiness (IPLC conservation institutions, FPIC provisions, monitoring systems) and outcome evidence (quantified biodiversity results from IPLC conservation).

In essence, while most NBSAPs do NOT include mentions of IPLCs and therefore give no guidance on disbursement, the fact that some do and give very useful guidance is proof that NBSAPs can be a useful tool to guide Parties in disbursement for IPLCs.

5 Can NBSAPs serve as a compass for technology transfer and NMBS?

COP Decision 16/2 expects all users of DSI to contribute to non-monetary benefit-sharing (NMBS). The range of possible NMBS is broad and includes capacity building in the context of research cooperations. GBF Target 20 explicitly frames capacity building as including "access to and transfer of technology" and "technical and scientific cooperation, including through South-South, North-South, and triangular cooperations."

24 countries identify a *data & infrastructure* gap across their 7NRs and/or NBSAPs. Of these, 10 explicitly reference technology transfer and/or international research collaboration in connection with the gap, 6 reference international cooperation or technology transfer in their DSI actions but

do not explicitly link it to the identified gap, 5 identify the gap but propose no technology transfer or international cooperation at all, and 3 are developed countries that position themselves as providers of technology transfer and scientific cooperation rather than recipients:

Pattern	Countries	Assessment
Gap explicitly linked to technology transfer / international research collaboration as solution	Iran, Tunisia, Ethiopia, Cameroon, Cambodia, Namibia, Sudan, DR Congo, Indonesia, Uganda (*10 countries*)	Strongest linkage. Iran frames the gap as solvable through international partnerships; Tunisia combines equipment + international collaboration; Ethiopia budgets for technology transfer via South-South/North-South cooperation; Cameroon formalises it through COMIFAC; Cambodia references South-South partnerships and joint research for laboratories; Namibia links to multilateral cooperation; Sudan and DRC reference international instruments; Indonesia and Uganda carry international engagement into NBSAP. Strength varies - only Iran, Tunisia, Ethiopia, and Cambodia are explicit; the others have implicit or partial linkages
Technology transfer / international cooperation referenced but not linked to a specific gap	Gabon, Lebanon, Senegal, UAE, Lesotho, Saudi Arabia, Thailand, Togo (*8 countries*)	Technology transfer is present in the DSI action/strategy text, but either no gap is identified (Gabon, Lebanon, Senegal) or the link is implicit rather than operationalised (UAE, Lesotho, Saudi Arabia, Thailand, Togo).
Gap identified, no technology transfer or international collaboration proposed	Nigeria, Malawi, Sierra Leone, Burundi, Madagascar, Jordan (*6 countries*)	These countries identify infrastructure/technical gaps but propose only training (Nigeria, Malawi), nothing at all (Sierra Leone, Madagascar), domestic equipment procurement only (Burundi), or policy/regulatory frameworks only (Jordan). International collaboration is absent from their gap response.
Provider of technology transfer / scientific cooperation	EU, Spain, South Korea, Germany, Norway, Switzerland, China (*7 countries*)	These countries/blocs position themselves as funders or partners, not as recipients. EU Horizon Europe (900M EUR/year) and Biodiversa+ are the largest mechanisms. Spain reports triangular projects. South Korea focuses on policy alignment. Germany and Norway identify systemic database gaps but position themselves as providers. Switzerland focuses on the multilateral mechanism. China is both provider (South-South cooperation) and gap-identifying, but does not connect the two roles.

Among those countries that identify the Cali Fund as a funding source in their NBSAPs only Madagascar identifies a DSI *data/infrastructure* gap - and even there the two are not linked. No gap-identifying country has an explicit action to access the Cali Fund to address its infrastructure deficit.

Without the DSI MLM including its Cali Fund being operational countries rely for DSI related capacity building including technology transfer on the bilateral ABS approach as established under the Nagoya Protocol. However, NBSAPs can indicate the readiness of some countries to receive either Cali Fund disbursements in line with its purpose #2 (scientific research on biodiversity) or to engage with industry through a clearing-house under the CBD to be developed as match-making platform for NMBS.