

Webinar on the report of the informal Co-Chairs' Advisory Group on Digital Sequence Information on genetic resources (DSI IAG)

Global Webinar

14th December 2021, 1:00-3:00 pm CET

The reviewed report is available at <u>https://www.cbd.int/doc/c/079d/1142/339a68fee2d22e95fb2b1c4c/wg2020-03-inf-08-en.pdf</u>

I. Background

Welcoming words and introduction by

Welcome:

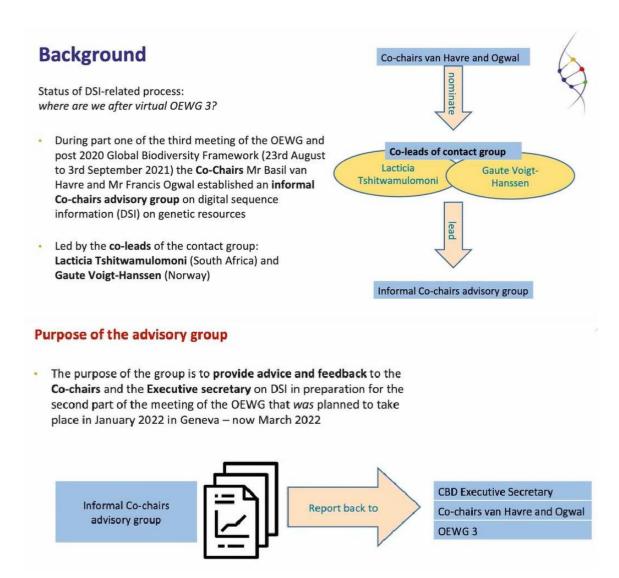
Lacticia Tshitwamulomoni, Department of Forestry. Fisheries and the Environment, South Africa

Gaute Voigt-Hanssen, Ministry of Climate and Environment, Norway

Andreas Gettkant, Manager ABS Capacity Development Initiative (GIZ), Germany

Introduction:

Suhel al-Janabi, Co-Manager, ABS Capacity Development Initiative, Germany



The **purpose of the group** is to provide advice and feedback to the co-chairs and the secretariat on DSI in preparation for the second part of the meeting of the OEWG that is planned to take place in March 2022 in Geneva. In the outcomes of COP 15 is a strong emphasis on DSI. It is important to resolve unsolved issues. The task of the informal advisory group is to provide advice and feedback to the co-chairs and the OEWG: the undertaking of an assessment or consequences, policy approaches, options and modalities for benefit-sharing arising from the utilization of DSI to areas of potential convergence and areas of divergence based on the summary made by the co-leads.

The advisory group should consider

- the undertaking of an assessment or consequences, policy approaches, options and modalities for benefit-sharing arising from the utilization of DSI
- areas of potential convergence and areas of divergence based on the summary made by the co-leads
- areas of additional work on DSI that may be required in the period between the third meeting of the OEWG and COP15
- existing and potential forthcoming inputs such as studies, dialogues, views, etc. from formal and informal activities related to DSI

- COP 14 acknowledged the divergence of views among Parties on benefit-sharing from the use . of DSI, and Parties committed to working towards resolving this divergence through a scienceand policy-based process and further consultations
- ABS Initiative to continue activities on DSI in the context of the Norwegian South African **Environmental Cooperation Program**
- So far: webinars, Global Dialogue on DSI brought together govt' experts / negotiations, stakeholders from various sectors, IPLC representatives.
- Objective: support for an informed exchange on DSI during OEWG 3 in the context of the future post-2020 Global Biodiversity Framework
- Formal intersessional process preparing for OEWG 3: informed by submissions on DSI; further • analyses of the policy approaches, options and modalities; Co-Chairs Informal Advisory Group on DI, report by Co-Leads
- As contribution to the informal intersessional process, the ABS Initiative will focus on • informing/ discussing key documents, topics and processes related to DSI discussion – guided by Co-Leads of the contact group on DSI of the OEWG 3.1.

Composition

26 govt' and 6 IPLC reps

Africa - Ms. Mphatso Kalemba, Malawi Africa - Mr. Pierre du Plessis, Namibia Africa - Mr. Samson Gwali, Uganda Africa - Mr. Benson Mburu Kinyagia, Kenya Africa - Mr. Ben Durham, South Africa Asia and the Pacific - Mr. Hitoshi Kozaki, Japan Asia and the Pacific - Mr. Fu Wei Zhao, China Asia and the Pacific - Mr. Won Seog Park, Republic of Korea CEE - Ms. Zlata, Grabovac Bosnia and Herzegovina CEE - Ms. Elzbieta Martyniuk, Poland CEE - Ms. Dasa Majcen, Slovenia CEE - Ms. Galina Mozgova, Belarus CEE - Ms. Eliška Rolfová, Czech Republic WEOG - Mr. Hugo-Maria Schally, European Union WEOG - Mr. Thomas Greiber, G ermany

WEOG - Mr. Guillaume Faure, France

WEOG - Ms. Katie Beckett United, Kingdom WEOG - Mr. Min Hahn, Switzerland

WEOG - Ms. Kathlyn Scholl, United States of America

GRULAC - Ms. Melania Muñoz, Costa Rica GRULAC - Mr. Esteban Neira, Colombia GRULAC - Mr. Diego Pacheco, Bolivia GRULAC - Ms. Aide Jimenez, Mexico GRULAC - Ms. Patricia Gadaleta, Argentina GRULAC - Mr. Carlos Rollemberg, Brazil

IPLC - Ms. Faith Natava, Africa

- IPLC Mr. John Locke, Pacific IPLC Ms. Polina Shulbaeva Central and Eastern, Europe
- IPLC Ms. Pointa of tubbaeva central and Lastern, Lotopo IPLC Ms. María Yolanda Terán Magua, Central, South America, Caribbean IPLC Mr. Preston Dana Hardison, North America

IPLC - Ms. Jennifer Corpuz, Asia

as per CBD notification of 29. Oct 2021

П. Overview of the IAG report

Timothy Hodges, Strategic Global Affairs, Institute for the Study of International Development, Mc Gill University, Montreal

- Section I: IAG has been briefed by two experts, but their presentations are not shared •
- Section II: the first part is about the assessment of policy options. IAG agreed that we should take a step-by-step approach.
- IAG is not delivering "break-throughs", but full convergence on the report itself •
- Rather no concrete ideas on how moving forward discussions •
- Absence of full discussion on policy objectives or vision of where we want to be in the future

• The methodology description is very clear. What is not explained is where this methodology is coming from.

Organization of the Report

Section I: Introduction

I A: Background

I B: Organizational Matters

Section II: Outcomes of the Informal Co-chairs Advisory Group

- II A: Framework for the assessment of policy options related to the access and benefit-sharing in respect of digital sequence information on genetic resources
- II B: Co-leads' summary of the discussion on potential convergence and apparent divergence of the IAG

Section III: Co-leads' Conclusions and Recommendations from the Discussions of the IAG

III A: Potential elements of recommendation

III B: Areas for further consideration towards convergence

III C: Mandate to advance work on the multi-criteria analysis and for continuing the IAG's work

- Policy options: performance matrix is the heart of the report. A useful snapshot of the current criteria
- Potential convergence and divergence are second heart. But it is difficult to see in the report where those lie
- Core topics: Benefits, access to DSI in terms of open access, IPLCs recognized, and capacity building seen as an integral part of the solution of DSI
- Convergence: the question of modalities. It is important to understand the concerns of each other
- The report is helping decision-makers on DSI

6. Performance matrix										
Criteria and sub-criteria	Scoring 10=high- performing; 0=non- performing; 1=low- performing; N/A=do not know/not applicable. OR pass/fail	Option 0	Option 1	Option 2		Option 3		Option 4	Option 5	Option 6
		Status Quo	DSI treated as GR	Countr y MAT	Global MAT	Payment for access to DSI	Other contributi ons	Enhanced TSC and CB	No benefit sharing from DSI	1% levy on retail sales of GR
A. Effective in achieving policy goals										
1. Potential to deliver predictable monetary benefits										
2. Potential to deliver predictable non-monetary benefits										
3. Access to public databases remains open										
4. Does not hinder research and innovation										
5. Potential to contribute to the conservation and sustainable use of biodiversity										
B. Efficient and feasible to implement										
6. Technically feasible										
7. Legally feasible										
8. Legally clear and certain to implement										
9. Administratively simple										
10. Implementable in an efficient and timely manner										
11. Enables distinction between commercial and non- commercial use of DSI										
12. Cost of set-up and implementation										
C. Enables good governance										
13. Easy to understand by providers and users										
14. Easily enforceable by providers										
15. Ease of compliance for users										
16. Does result in jurisdiction shopping										
17. Facilitates the sharing of benefits with IPLCs										
D. Coherent and adaptable										
18. Coherence with other forums considering DSI										
19. Agile and adaptable to future technological and scientific development										



CBD/WG2020/3/INF/8

Page 11

III. Panel Discussion

FIRST ROUND: FOCUS ON MULTICRTIERIA MATRIX

Timothy Hodges, Strategic Global Affairs, Institute for the Study of International Development, Mc Gill University, Montreal

- Some concerns about the methodology
- For example, it is not clear what the options are. Are they policy options? Or policy mechanisms? Or a mix of both?
- There are problems associated with employing archetypes -- they often aggregate different elements, yet the problem is often to be found (and resolved) in the detail
- Nevertheless, the exercise of filling the matrix will be quite useful
- I do wonder if the IAG alone should go through this exercise? The IAG members are experts in their own right (acting independently of their countries to some extent), but perhaps a broader discussion with a wider range of stakeholders would be more helpful.

Christopher Lyal, Department of Life Science, The Natural History Museum, London

- The Policy options should also be viewed as part of the blueprint of something that needs to be operational functional
- The Matrix is potentially a very helpful tool
- A very important part of completing the matrix is the requirement to state reasoning assumptions behind the scores given.
- Should IAG go alone through this? Absolutely not! Because the process helps all of us think. A wider range of stakeholders should be included, such as database managers, the private sector, researchers, etc., who are key stakeholders on this specific topic with their own views on these criteria
- **Key challenges about the matrix:** some IAG members may perhaps follow their country position. It is difficult to think neutrally in this, and national perceptions of how matrix elements can be interpreted may differ.
- The options in the matrix help us to imagine a potential model for their implementation
- However, there are also sub-options that are not represented in the matrix, which may have different properties and lead to a high range of scores for the options given.

Margo Bagley, Asa Griggs Candler Professor of Law, Emory University School of Law, Atlanta

- Agrees with Chris on the benefits of the matrix
- Any approach is going to have challenges
- To attempt to structure the discussion is a valuable effort
- involvement of a wider range of stakeholders and parties would be helpful in the discussion
- I do not understand how are you going to score some of the criteria without a fairly clear picture of the modalities of particular options
- It is very difficult to converge on a particular option without knowing how it is going to look after its implementation. This limits progress as parties may be hesitant to commit to an approach when modalities are unclear
- One of the objectives of the IAG was an assessment of possible consequences of the various policy approaches. It is not clear to me how the matrix facilitates an assessment of possible consequences.

Timothy Hodges

- The problem with modalities in the context of the CBD is that it is a loaded word with a considerable history and, of course, it means different things to different people.
- Some Parties and stakeholders may be reluctant to discuss modalities (not because they oppose an open discussion per se of modalities) given the pattern in the CBD and other international fora of discussions on modalities seemingly inevitably leading to legally binding treaty talks. However, fuller understanding of modalities is essential.
- The matrix is a means to informing on the results of discussions, but it is the discussions themselves that matter.

SECOND ROUND: AREAS OF CONVERGENCE AND DIVERGENCE OF THE REPORT

Margo Bagley

- Not a lot of surprises in discussion of different views
- Agreement: fair and equitable benefits should be shared but there are very different views on what that means and how to accomplish it
- Some of the divergences noted in the report and that are recurring: Is DSI a genetic resource? Is DSI within the scope of the CBD? Terminology is not clear
- Strong convergence around the idea of non-monetary benefit-sharing but not agreement to have it simply subsumed in the other options, perhaps because some parties believe that non-monetary benefit-sharing should be the only kind of benefit-sharing
- Contrasting focus on Open Data on one hand and TK on the other hand. These are the two ends of the rope in the DSI tug of war
- FAIR and CARE principles which highlight the tension between the desire for unfettered access to DSI and the desire for attribution, acknowledgment, connection to traditional knowledge
- Three elements that appear to be missing:
 - who will bear the costs in any particular option?
 - consideration of the quantum of users evading a benefit-sharing obligation relative to those who are identifiable and must share benefits or to pay the costs
 - what are the responses of those most directly affected by the choice of a particular option likely to be?
- Possible consequences of policy options are not sufficiently addressed

Christopher Lyal

- It is really important to understand the areas of convergence and divergence
- *Fair and equitable benefit sharing*: What does it mean in practice? For example: Does it mean benefits must be shared only with the provider of the genetic resource from which the DSI was derived? If it does some other options are not applicable anymore. If it does not, then track and trace may are be required for the model.
- associated traditional knowledge and the role of IPLCs: How does it impact track and trace? TK may be associated with individual species from a given area. The stewardship element identified in the text suggests a more landscape-level approach. What do these mean for data management? If the data should be incorporated in some way, there is a lot of consideration of what metadata are necessary to enable them to be addressed in any final solution.

Questions were made by the audience in the chat. Due to the number of questions thematical clusters were identified and then forwarded to the panel.

Policy objectives and the overarching vision. What do we need first? Do we need the modalities and the options and then look for the policy objectives and the vision or would we need the objective and the vision first?

How important is defining the objective or seeking a vision? How might this be added in to the ongoing process?

Timothy Hodges

- We need both!
- However, as a former policymaker I suggest: first the vision then the modalities.
- There are examples in previous CBD negotiations at the CBD where there was a lack of broad agreement about both of those things during years of talks. With no consensus on modalities and no consensus on vision, negotiations nevertheless proceeded and ultimately successfully concluded.

Margo Bagley

- usually, I would agree: the vision comes first
- however, when you look at the report in the areas of further work, there are a lot of discussions that are proposed to happen. I think some of these discussions could happen in parallel. It is important to generate more data to work with to be able to properly assess options.

Christopher Lyal

- I agree with Margo
- We can see that some parties have changed their minds to some extent due to the discussions, as ideas have been opened up and explored
- The discussions can help the parties think about where their preferred outcomes

Unclarified question of scope: DSI is not defined yet. Is it about public or private data bases or both? When should a multicriteria analysis be undertaken if all these scope questions are not clear?

Christopher Lyal

- Work being done by the ABS Capacity Development Initiative in trying to assess where DSI came from in commercial products shows how challenging this can be
- There have to be concerns about how any system is going to work in practice
- the easiest way of managing the issue is to consider any DSI to be within scope, wherever it comes from (no limits to temporal scope or geographical scope, in scope whether the GR came from parties or not, whether it is human or not, ...). however, this undefined scope can cause problems at a later point that we cannot calculate right now
- having a clear, defined scope is very important

Timothy Hodges

- The question of scope is inextricably linked to the chosen modality
- For example, if the ultimate decision is reached to investigate the possibility of a legally binding instrument or requirements, then the breadth and depth of the scope will be directly affected.
- The scope is extremely important.
- However, it does not yet have to be decided, because one thing does depend on another

Traceability: Is it necessary to access the possibility of traceability first before it is possible to define the mechanisms and options that would be possible and adequate?

Christopher Lyal

- Some policy options need traceability, some do not
- Key thing: Are we starting from a position where we think that traceability is absolutely necessary? Or is it important to have a functional system, agreed and adopted, irrespective of whether it requires traceability or not?
- Can we ditch traceability?
- Just because something is possible, it does not mean that it is expedient. It might be just too difficult and expensive
- We should first think about whether we really need it and how it might work or even if it works

Margo Bagley

- Traceability of some DSI may be possible but likely expensive
- Traceability is just one option, but finding a way to accomplish it should not be the condition for moving forward

Timothy Hodges

- The need for traceability is more about trust than about costs and feasibility
- Mistrust is in the CBD is a big problem in the discussion

Margo Bagley

• Mistrust not only in the CBD. It is a problem in other multilateral fora

Role of industry: where is industry in the discussion? What is their position? We need an option which outlines clearly a simple global payment mechanism! Is it enough to just concentrate on the public data banks?

Margo Bagley

- Role of industry is important
- Who is going to pay the costs is an important question? As industry is an important user, they should be part of the discussion as well
- In general, all of the different voices are important to find a feasible solution

Timothy Hodges

- They should be invited to the discussion, of course!
- Industry will say different things to different people. They might say certain things to their governments but we could all benefit from hearing directly from industry in an integrated discussion.

Christopher Lyal

- We need to consider not just industry from the global north, but industry for all over the world
- Most of the discussion is about public databases; private databases should be included. They also contain DSI

Capacity building: on what? Dealing with DSI, in terms of setting up policy options and regulations or in terms of application and use of DSI? Do we have good examples on how workable capacity building approach could look like?

Christopher Lyal

- Capacity building is already taking place in a number of different ways
- Some of them are very much in the context of benefit sharing, for example training of individuals in technical and scientific methodologies: biochemistry, data management, etc.
- However, if the trained individuals do not have a job to go to or a laboratory to work in, then capacity building is failing
- Capacity building must happen in a much larger level, for example at institutional level, and with private or public finding and policy support

Margo Bagley

• Capacity building should be envisioned more broadly in terms of the kinds of activities that could qualify and are needed

 Also critical to have sustained capacity building activities and commitments, not just one-off events

Timothy Hodges

- Capacity development might conceptually be a better term than capacity building
- Capacity building/development has been one of the least discussed and actioned aspect of the CBD.
- DSI can be an entry point to actually generating more actions towards capacity development.
- It might be useful to document some of the existing capacity building activities to help inform our discussions.
- Pilot projects should be established as well.

.....

IV. FURTHER COMMENTS AND QUESTIONS FROM THE CHAT

INVITING INDUSTRY

- even though the private sector uses publicly available data, the regulatory elements currently discussed (except for options 3.2 and 4) will hardly allow to regulate 'DSI' held in private databases; if monetary contributions from the private sector should be enhanced, proposed policy options must be able to regulate 'DSI' held outside INSDC databases and similar openly accessible databases. Currently, the discussion is largely focused on regulating INSDC, which in my personal view will create more drawbacks for the public research sector word wide, instead of help to materialize envisaged monetary contributions.
- The panellists just expressed this well. The industry stakeholders need to be consulted on their view of the options using the performance matrix. Since it is industry which is the user creating benefits, so any solution must be implementable by industry. Ask them.
- any regulatory elements should be suited to accommodate the needs of industry, and the most obvious is that any solution has to provide legal clarity and security. Different stakeholders are following the discussion closely, but so far there has been little suggestions from their side on how they could imagine to participate in the delivery of (monetary) benefit sharing. Which is sad, while, at the same time, the vast amount of non-monetary benefits that are already shared are deemed "nice-to-have", even though most contributions in the areas of capacity building, training, research collaboration, etc. comes from scientific collaboration in the basic research sector.
- For the private sector the red line is that any solution needs to be implementable; to understand this you need to ask the industry stakeholders for feedback; they are the users who create benefits; without innovation there are no benefits to share; if a solution hinders innovation there will be less benefit; if a solution supports and encourages agile innovation this will result in more benefits. Implement ability is therefore the key criteria on any solution. You need to consult industry to ask them what a workable solution looks like, in order to reach a win-win.

• Much industry in multi-national. Just look at the WIPO Patent scope database and it is readily apparent. Therefore, their involvement is a veritable non-brainer.

NON-MONETARY BENEFIT SHARING SYSTEM

- "Nice-to-have" indeed, but only so long as said "benefits" exist. Therefore, is a system needed wherein legal clarity and certainty is a foundation to incentivize utilization and conservation? Otherwise, the commons, i.e., heritage of humankind, is nice ... until it is gone?
- from my personal perspective, I think they exist, but are not really visible and maybe rated differently on different political levels. And yes, if the post-2020 GBF and all the monitoring intended there should work out, we definitely will need both, more capacity building and research collaborations AND monetary contributions to support the development and infrastructures in countries that need support to develop them. It was mentioned that, it would be good to involve key-stakeholders more closely. My impression is that the current discussion is largely decoupled from the practical implementation. Which isn't useful in my mind.
- I worked for years on the WIPO Development Agenda, and sustainable, practical, strategic capacity building just is not happening. Divergence, convergence, modalities, etc., seems like it's time to move beyond these discussions and start working in a much more practical manner. Something, e.g., the "pink elephant", or perhaps "pink mammoth" is getting in the way.
- Question to the panel: current policy options focus to regulate use, which raises all sorts of downstream issues when it comes to implementation. Would it be an alternative to identify users instead and ask them to identify which kinds of BS they will share? This introduces some flexibility for different stakeholder groups as well, and would avoid trac and trace.
- Capacity building is often alluded to. However, capacity building to do what? Technical capacity building, like the WIPO Development Agenda, without strategic focus?
- Has anyone considered that there needs for an eco-geographical inventory of natural information as a foundation for management of an implementable system? This would provide data on regional habitats and therefore facilitate the goals of the CBD? Of course, this would render traceability as mute, but also involve significant investment and focused capacity building.
- Benefit sharing also must be accompanied by harm avoidance (societal, IPLCs and specific cultural harms, etc.). There are general questions about society wide harms / risks and opportunities that should be considered for any new technology, particularly considering future-proofing. There are specific cultural issues associated with IPLCs. My interpretation of the panellists' points is the minority issues of harms / risks and opportunities need to be addressed.

FAIR AND EQUITABLE BENEFIT SHARING

• On the question of "fair and equitable": The adjectives "Fair and Equitable" are used some 20+ times in the Nagoya Protocol, beginning with its full title. They can mean equal treatment of artificial information and natural information. The former enjoys economic rents through limited-in-time monopoly intellectual property while the latter almost perfect competition due to the geographic range of species. Royalties in Brazil can be as low as 0.1% and the WiLDSI Project contemplates percentages as low as 0.01%.

• Could we get the panellists' thoughts on the new option 6 (1% levy on retail sales on genetic resources)? And does this option cover DSI or just physical genetic resources?

MULTICRITERIA DECISION AND CONFLICTING CRITERIA

- The word "analysis" in Multi-Criteria Decision Analysis assumes that logic will be respected. Conflicting criteria do not include logic itself. "Digital sequence information" (DSI) includes prima facie that which should be excluded (artificial information) and excludes that which should be included (natural information transmitted through media that are not digital). See "Bounded openness: A robust modality of access to genetic resources and the sharing of benefits". Plants, People, Planet (2021), 4(1), 13–22. <u>https://doi.org/10.1002/ppp3.10239</u>
- As the panellists note today, consensus is very rare. Yet the 2018 AHTEG on DSI reached consensus that DSI was "not the appropriate term". One would think that that would have killed it. Insistence on its continued use is despite that consensus. See "Re-boot: the crash of DSI-the-neologism and where to go on ABS" Response to request for "Submission of views" SCBD/NPU/TS/CGA/AC/89861, 28 September 2021. https://www.cbd.int/api/v2013/documents/1064A1BB-40EE-9AAD-9D61-

7BAC37F6596F/attachments/213834/Prof.%20Vogel%2028%20September.pdf

TRACEABILITY

- The issue of traceability is an important aspect that has appeared as a point of divergence and whose problem could be resolved through a multilateral mechanism, therefore two groups of political options or approaches appear, one that does require traceability, such as a bilateral mechanism. of BS and second, a multilateral mechanism that would not require it. What is the opinion of the panellists to first over explore the real possibilities of traceability of the DSI, and then to be able to define what type of mechanism could be adequate?
- Is there enough insight on when use of DSI is truly linked to benefits? I can imagine that often there is no link to a commercial product. What happens when a multitude of for instance sequence data is used to do a BLAST. How do you link a single GR to the result?
- The issue of traceability is an important aspect that has appeared as a point of divergence and whose problem could be resolved through a multilateral mechanism, therefore two groups of political options or approaches appear, one that does require traceability, such as a bilateral mechanism. of BS and second, a multilateral mechanism that would not require it. What is the opinion of the panellists to first over explore the real possibilities of traceability of the DSI, and then to be able to define what type of mechanism could be adequate?
- Traceability is a great aspiration. However, is it even feasible, both from a practical and economic perspective? If not, then what might be another approach, i.e., alternate way to assign value and potential royalties?
- On implement ability, any royalty mechanism is not workable and not innovation friendly. Since it requires tracking of DSI/GR in processes and products. Tracking is either extremely complex and requires disproportionate effort (and cost) or in some cases is simply not practicable at all. And for products with multiple DSI/GR components it potentially makes those products non-viable. Royalty solutions do not encourage or support agile innovation or increase certainty and therefore are a no go.

OBJECTIVES OR VISION FIRST

- I would love to hear the panel circle back to policy objectives or an overarching vision. It was suggested, that one could select a policy option first and then define a policy objective but this would risk that the policy option would potentially limit or exclude some objectives. Can the panellist's comment on that? How important is defining the objective or seeking a vision? How might this be added in to the on-going process?
- Agree the options are not granular enough to enable meaningful assessment. The response would too often be "it depends on what that looks like". (Or as you seem to call it "modalities".) We need an option which outlines clearly a simple global payment mechanism into a global fund in return for global access and global FTO on DSI and physical GR materials. That is future proof, simple, provides legal certainty and certain tangible benefits.
- I think it is right that the devil is in the details, thus it seems imperative that the next level of work involves teasing out the details of each option since, if we are this level of generality (the way the current options are written), then we will just be going round and round in the discussions; we need more specificity in the options so that we will have a clearer discussion of the way forward

CONCEPT OF DSI

- How can one meaningfully fill out/make use of the matrix, without a clear understanding of what DSI is covering (e.g., only Nucleotide Sequence Data, or much more)? Also, are the options sufficiently elaborated to apply a multicriteria analysis?
- Until we know what is included in DSI, how can we decide/ agree what to do with it, what to pay for it, how to treat it? What is included in the definition of DSI and what is not included?
- Some modalities are fundamentally incompatible with certain DSI definitions. For example, if you want to include chemical/metabolomic data derived from GR, it is literally impossible to do tracking and tracing since all biological organisms have glucose, for example, in their metabolism. So, if you define DSI to include biological data at the small molecule level then options 1 and 2.1 (maybe also 2.2) are simply incompatible.

ECONOMICS

- Panellists are not addressing the relevant economics. Earmarking is not favoured by economists as public funds will not necessarily go to where there is the highest social return. Moreover, a fungibility problem arises whereby benefits from ABS may simply displace those which would have been allocated. See Sociedad Peruana de Derecho Ambiental / Fairness, Equity and Efficiency for the Convention on Biological Diversity and the Nagoya Protocol: Analysis of a Rodent, a Snail, a Sponge and a Virus. Report. 2021. Eschborn, Germany: The ABS Capacity Development Initiative. 127 pp. https://www.abs-biotrade.info/fileadmin/Downloads/Resources/Fairness-Equity-Efficiency-for-the-CBD-and-the-NP-2021.pdf
- "Jurisdiction shopping" refers not just to where genetic resources are accessed but also as to site location for R&D. As this ABS-cum-DSI discussion churns on for years or decades, users will understandably choose access and site location in the non-Party until other non-Parties

emerge. See Submission for new and emerging issue in 2017 "Lawful Avoidance of ABS: Jurisdiction Shopping and Selection of non-Genetic-Material Media for Transmission" English: <u>https://www.cbd.int/doc/emerging-issues/SPDA-submission2017-05-en.pdf</u> Spanish: <u>https://www.cbd.int/doc/emerging-issues/SPDA-submission2017-05-es.pdf</u>

Note: Report was reedited by the panellists