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Agenda item 5

CO-LEADS' REPORT ON THE WORK OF THE INFORMAL CO-CHAIRS' ADVISORY GROUP ON DIGITAL SEQUENCE INFORMATION ON GENETIC RESOURCES

Note by the co-leads of the Informal Co-Chairs' Advisory Group on digital sequence information on genetic resources

I. INTRODUCTION

A. Background

1. At the first part of the third meeting of the Open-ended Working Group on the Post-2020 Global Biodiversity Framework, held virtually from 23 August to 3 September 2021, the Co-chairs, Mr. Basile van Havre (Canada) and Mr. Francis Ogwal (Uganda), reported that the Co-Chairs and the Executive Secretary, Ms. Elizabeth Maruma Mrema, would establish an informal Co-Chairs' advisory group on digital sequence information on genetic resources (advisory group). The advisory group would be led by the co-leads of the contact group that had considered this matter during the third meeting of the Working Group, namely Ms. Lactitia Tshitwamulomoni (South Africa) and Mr. Gaute Voigt-Hanssen (Norway) and would assist the Co-Chairs in conducting informal consultations on the matter during the intersessional period.

2. As stated in its terms of reference,¹ the advisory group was established to provide advice and feedback to the Co-Chairs and the Executive Secretary on the following elements in advance of the second part of the third meeting of the Working Group:

(a) The undertaking of an assessment of consequences of possible policy approaches, options or modalities for benefit-sharing arising from the utilization of digital sequence information on genetic resources (DSI), based on the report of the first part of the third meeting of the Working Group, including CBD/WG2020/3/CRP.1, annexes II and III of document CBD/WG2020/3/4, and submissions received by 30 September 2021;

(b) Areas of potential convergence and areas of divergence based on the summary prepared by the co-leads, annexed to the report on the first part of the third meeting of the Working Group;

(c) Areas of additional work on DSI that may be required in the period between the third meeting of the Working Group and the fifteenth meeting of the Conference of Parties.

¹ See the Appendix to annex V of the report of the meeting CBD/WG2020/3/5.

3. The Group was also to consider existing and potential forthcoming inputs such as studies, dialogues, views, etc. from formal and informal activities related to DSI.

4. The present note provides a report on work of the Advisory Group. It includes: a summary of organizational matters (section I. B), a report on the work of the Advisory Group with regards to the proposed framework for the assessment of policy options (section II. A), and the co-leads' summary of the discussion on potential convergence and apparent divergence (section II. B). The conclusions and recommendations of the co-leads are provided in section III.

B. Organizational matters

5. The Group held one virtual kick-off meeting to agree on the organization of work of the advisory group and on reporting/meeting processes. The co-leads originally organized three working meetings of three hours each, all virtual, to go through the agreed organization of work. An additional meeting was subsequently scheduled in order to complete the work. The organization of work is presented in the annex to the present document.

6. The composition of the Group was announced by the Executive Secretary in notification 2021-074.²

7. The co-leads were also mandated to invite experts from Parties or relevant stakeholders and organizations. Accordingly, Ms. Sabina Leonelli, Professor of philosophy and science history at the University of Essex (England), was invited to present on “open data”, and Mr. Maui Hudson, Professor of indigenous ethics, indigenous data sovereignty and indigenous knowledge at the University of Waikato (New Zealand), was invited to present on “traditional knowledge” during the second working meeting of the advisory group.

II. OUTCOMES OF THE INFORMAL CO-CHAIRS ADVISORY GROUP

A. Framework for the assessment of policy options related to the access and benefit-sharing in respect of digital sequence information on genetic resources

1. Background

8. As part of its tasks, the Advisory Group had been tasked with undertaking an assessment of the consequences of possible policy approaches, options or modalities for benefit-sharing arising from the utilization of DSI.

9. In preparation for the meetings of the Advisory Group, the co-leads had prepared a draft analytical framework for the group's consideration, comments, and inputs.

10. This framework section consists of a short explanation of the methodology, an update and description of the proposed policy options and criteria for their assessment along with a preliminary framework in the form of a performance matrix.

2. Co-leads reflection on the discussions in the Group

11. According to decision 14/20, the Working Group on the Post-2020 Global Biodiversity Framework was to consider the outcomes of the extended Ad Hoc Technical Expert Group and to make recommendations to the Conference of the Parties at its fifteenth meeting on how to address DSI in the context of the post-2020 global biodiversity framework. Without prejudice to the final recommendations of the Working Group in the context of the negotiations of the post-2020 global biodiversity framework, the discussions in the Working Group on the issues of DSI at the first part of the meeting so far focused on a mixture of proposed policies, approaches, modalities, and mechanisms. It is the advice from the Advisory Group to the Co-Chairs and the Secretariat that a step-by-step approach should be followed to help Parties to gradually narrow down the possible DSI options and identify the elements necessary to move the

² <https://www.cbd.int/doc/notifications/2021/ntf-2021-074-abs-en.pdf>

discussion forward. Equally important is that along the way, assumptions and limitations are made explicit, reflecting the different understandings of key concepts such as what constitutes an appropriate approach or a modality, for example.

3. The methodology

12. Given the fact that DSI is a highly complex issue with both qualitative and quantitative costs and benefits that cannot easily be estimated nor monetized, the co-leads propose that multi-criteria analysis techniques be used to guide the development of an analytical framework for an initial assessment of different DSI options. Multi-criteria analysis (MCA)³ is an assessment method that ranks or scores options against multiple criteria. It provides a systematic way for decision makers to assess the trade-offs of different policy options. It is considered an effectiveness analysis tool that does not require quantification and monetization of all consequences like traditional cost benefit analysis. A key strength is that it can help tackle complex issues by breaking them into smaller components and enabling the assessment of both qualitative and quantitative information.

13. A key feature of multi-criteria analysis is a performance matrix, also known as a consequence table, where options or alternatives are presented in columns and rows describe the performance of each option against each criterion.

14. The development and application of this analytical framework is part of what the co-leads consider the step-by-step approach where an initial set of criteria will be applied to narrow down the number of proposed policy options that can be further analyzed at a later stage. At this step of the process, there is not enough time to do an in-depth assessment of modalities (for example, what a multilateral system could look like in detail).

The steps to carrying out a multi-criteria analysis are illustrated in Table 1 (Adapted from Department for Communities and Local Government (DCLG, UK), 2009)

Table.1 Steps to carry out an MCA
1. Establish the decision context and the aims of the assessment
2. Identify policy options or alternatives
3. Identify the criteria against which each option will be assessed
4. Describe how each option will be assessed (scores)
5. Assign weights to each of the criteria to reflect their relative importance
6. Combine weights and scores to derive values
7. Assess results
8. Conduct a sensitivity analysis using different scores or weights

15. When carrying out an MCA, the number of criteria should be kept to a reasonable number to facilitate well-founded decisions. Typically, the range of criteria varies from six to twenty. Similarly, a manageable number of clearly discrete options or alternatives should be evaluated. When deciding on what criteria to use it is useful to consider the following question: “what would distinguish between a good and a bad choice in this decision problem?”

16. MCA techniques can be used to rank and prioritize options, identify the most preferred option, or simply distinguish what would be acceptable and what would not be. More in-depth assessments of preferred options could subsequently be undertaken.

³ Department for Communities and Local Government (UK): http://eprints.lse.ac.uk/12761/1/Multi-criteria_Analysis.pdf

17. The proposed performance matrix has been developed based on elements from the first part of the third meeting of the Working Group, annexes II and III of [CBD/WG2020/3/4](#), and submissions received by 30 September 2021.

18. *Limitations:* As with all decision-making approaches, there are limitations to the MCA:

(a) The performance matrix will not be able to include hybrid approaches, it can only compare each independent option individually. Nevertheless, this assessment may offer a useful basis for the next steps which could include the consideration of hybrid approaches;

(b) Some criteria might not have enough data or evidence to be evaluated fully. This will require data collection or further detail of the policy option itself in later stages of the assessment process. However, a rough comparative assessment might still be possible, or the criterion in question will have to be the subject of further work.

4. Policy options

19. The policy options in this section consist of those presented during the third webinar of the series on DSI, led by the Co-Chairs of the Working Group, and additional options submitted by Parties, indigenous peoples and local communities, observers and stakeholders received by the Secretariat during and after the third meeting of the Working Group.

20. *Limitation:* The policy options are presented here as archetypes, for the purpose of the first step of the assessment process. The goal of this first step is to flesh out criteria that are most important to the stakeholders, and most significant to the assessment, given the data available and the nature of the policy options as presented here. At later steps of the assessment, more details will be necessary for each policy option retained, and further work will be necessary on both policy options and criteria. This process will be an iterative refinement of the assessment framework.

Access regulated	PIC	MAT	0	Status quo – Parties have not agreed on how to address ABS for DSI of GR	BS linked to DSI data	Requires tracing of country of origin	Bilateral mechanism
			1	DSI Fully integrated into approach of CBD & NP PIC and MAT (DSI= GR)			
Access not regulated	NO PIC	NO MAT	2.1	No PIC. Each country has Standard MAT (benefit-sharing is triggered by use of DSI)	BS NOT linked to DSI data	Does NOT require tracing of country of origin	Multilateral mechanism
			2.2	No PIC. Standard MAT at international level (benefit-sharing is triggered by use of DSI)			
			3.1	Payment for access to DSI No PIC. No MAT			
			3.2	Other payments and contributions (micro-levy, voluntary). No PIC. No MAT			
			4	Technical and scientific cooperation – could be complementary to other options			
			5	No PIC, No MAT. No Benefit Sharing from DSI (DSI is not considered equal to GR)			

Table 2: policy options from Co-Chair’s webinar (11 Feb. 2021). Option 6 does not appear in this figure but is described below.

Option 0: Status Quo

21. Under this option it is recognized that some Parties have adopted domestic measures that regulate access to and use of DSI, however, there is still a divergence of views among Parties regarding benefit-sharing from the use of DSI.

Option 1: Digital sequence information on genetic resources fully integrated into domestic Access and benefit-sharing measures⁴

22. In this case, DSI is subject to each Party's ABS legislation. It is the traditional bilateral approach to ABS. Access is regulated similarly to how genetic resources are accessed under the Convention on Biological Diversity and the Nagoya Protocol, meaning that depending on the national legislation in place, access to DSI could be subject to PIC and MAT (i.e., essentially, GR = DSI). The utilization of DSI is to be regulated by mutually agreed terms (MAT), as are benefit-sharing obligations, and MATs are negotiated for each DSI access. According to the study on ABS measures made available for the consideration of the AHTEG on DSI, some countries are already including DSI within the scope of their national ABS measures, and more are planning to do so in the near future.

23. Under this option, a tracking and tracing system would be required to not only determine the country of origin of each DSI record uploaded to the database but also how the DSI was being utilized and by whom so researchers could comply with that country's ABS obligations.

Option 2: Standard mutually agreed terms

24. This more general grouping of options enables benefit-sharing from the use of DSI, but it is decoupled from access to DSI (MAT but no PIC). Access is therefore not restricted, but benefit-sharing is determined by some type of standard MAT/license/standard multilateral transfer agreement/terms and conditions. The fact that the MAT is standardized implies that there is no need for individual negotiation of a contract for each DSI utilization, but one or a limited number of standard contracts. This alternative requires downstream monitoring of DSI use for implementation or enforcement, and monitoring. The difference between the two sub-options is the way that MATs are dealt with, one at the national level and the other at the international level.

Option 2.1: Standard mutually agreed terms/licence at the national level

25. In this scenario, each Party establishes a policy system with one or a limited number of standard MAT/licences in their domestic ABS legislation with which users need to comply. This system goes through each country's domestic legislation. Triggers can occur at commercialization, for example, and the benefits would be shared bilaterally. In a similar policy, benefit-sharing obligation is triggered when a patent is registered and starts after successful commercialization of a product developed using DSI. Researchers whose activity is subject to such national legislation must comply with the national system and trace the DSI back to the country of origin of the genetic resource. If a researcher uses multiple DSI from different countries, he/she is required to potentially comply with a number of MAT/licences, depending on which standard MAT/licence the country has decided upon for their DSI.

Option 2.2: Standard mutually agreed terms/licence at the international level

26. This option addresses benefit-sharing at the international level, as opposed to going through each country's national system as presented under option 2.1. One or more standard licences are agreed upon and adopted by Parties, in which the terms and conditions depend on the licence attached to the DSI. The benefits from the use of DSI are handled by an international system that redirects them to the country of origin of the genetic resource. This means that the researcher/user does not have to approach each country individually.

27. This option offers the possibility to integrate the licences in the DSI database itself, and the terms and conditions are communicated to the user upon access (for example, obligations for commercial and non-commercial uses of a particular DSI). Another possibility is the integration of the terms and conditions or licences in the intellectual property system (for example, when seeking intellectual property protection,

⁴ The title was changed for clarification purposes, it was previously listed as "DSI fully integrated into the CBD and the Nagoya Protocol"

on the basis of a disclosure requirement on the use of DSI). In this option, benefits consist of pre-negotiated fixed royalties on the successful commercialization of a product.

28. A collaboration with journals, patent offices, databases, or any other point along the value chain of DSI should help enforce the reporting back to the DSI provider. In this case, the user is responsible for complying with the licence terms and conditions, and a downstream utilization tracking/monitoring mechanism will ensure the enforcement of these ABS measures.

Option 3: No prior informed consent, No mutually agreed terms

29. This general grouping of options involves a payment or contribution to go into a multilateral fund. It avoids the need for tracing the origin of the genetic resource from which the DSI was extracted, or the need to monitor the downstream utilization of the product or service derived from DSI. This option includes various possible forms of payments and contributions, with one sub-option being linked to the DSI itself, and the other being separate from the information itself.

Option 3.1: Payment for access to digital sequence information on genetic resources

30. Here, the principle of a payment for access to the sequences itself is central and can be set up in several ways.

31. One way is to collaborate with databases to help introduce a membership fee/subscription to access DSI. This fee can be determined following pre-negotiated criteria, such as, but not limited to research application, sector of research, revenue, or a flat rate annual fee.

32. Another way is to introduce a very small payment for access to individual DSI in the database. An account is created, and each sequence download results in a pre-determined fee being charged to the account.

33. Finally, a different arrangement is to provide free access to the sequence data itself, including some minimal data around it, such as species name, but introduce a fee to be paid on the associated data resulting from the analysis and processing of the data, such as protein function or gene association, as this associated data is estimated to be valuable for research and development. The BioSample database currently links sequence data with other data associated with the sequence itself, or the genetic resource from which it comes. In this policy sub-option, a collaboration with the BioSample database would lead to a charge for access.

Option 3.2: Other payments and contributions

34. Several ways in which payments and contributions can be established to be paid into a multilateral fund for benefit-sharing from the use of DSI have been proposed in the literature, all stemming from agreements with external entities. One proposal includes payment for a DSI-related service, such as storage, processing, expertise, and analysis of the sequences, offered in return for a payment.

35. Another proposal imposes a levy on products or services associated with DSI. One example is the imposition of a micro-levy on laboratory equipment linked with the production of DSI, while another is on the cloud-computing space rented for the purpose of sequence storage and/or processing.

36. Yet, another proposal revolves around biodiversity bonds, as experiences from other fields, such as payments for the use of wildlife images, or climate change green bonds could be used to inform options for DSI. Another option involves a marketing programme whereby a label or badge is used on products to boost their sale and convey an idea around biodiversity conservation, while the companies selling these products would redirect a negotiated percentage of benefits to a multilateral fund. Finally, voluntary contributions could fuel a multilateral fund and come from the private sector, database users, countries, private donors, sub-national governments, or observers etc.

Option 4: Enhanced technical and scientific capacity and cooperation⁵

37. Under this option, systematic and mandated technical and scientific cooperation and capacity development related to DSI are promoted. Enhanced capacity support for developing countries will democratize the access and use of DSI, making it more equitable so that each country has improved/expanded capacity and opportunity to generate, access and use DSI to its full potential. This could take the form of research collaborations, training, knowledge platforms, technology transfer, technology co-development, database satellites, database infrastructure, and more. This option is almost always presented in combination with other policy options.

Option 5: No benefit-sharing from digital sequence information on genetic resources

38. This option entails that the international community decides that no explicit benefit-sharing is necessary from the use of DSI from genetic resources and, thus, no additional mechanisms are proposed for benefit-sharing to be implemented.

Option 6: 1 per cent levy on retail sales of genetic resources

39. Under this option, a multilateral fund would be established and financed through a 1 per cent levy on all retail sales of goods in developed countries arising from the utilization of genetic resources in cases where the bilateral PIC and MAT system is not implementable or practicable. Funds would be distributed through a competitive project-based approach for conservation and sustainable use by indigenous peoples and local communities and others, guided by scientists and governed by the multilateral governing body.

Additional options received through submissions

40. The following two hybrid options were received through the call for submissions through notification [2021-063](#).

(a) The first hybrid option is a combination of options 1 and 2.2 presented above. Under this arrangement there would be three alternatives that would depend on whether single or multiple DSI was used and whether the country of origin of the genetic resources from which the DSI was derived from is known:

- (i) For single or multiple genetic sequences that come from a known single country of origin that acts also as the provider country of the genetic resource from which the DSI was obtained: PIC and MAT should be negotiated directly with the provider country of the genetic resource from which the DSI is obtained;
- (ii) When using multiple genetic sequences that come from different but known countries of origin that act also as the providers of the genetic resource from which the DSI were obtained: no PIC should be negotiated and the benefits from the use of DSI are handled by an international system that directs benefits to the countries of origin. In this case, an internationally standardized MAT is used;
- (iii) When using single or multiple genetic sequences where the country of origin of the genetic resources from which the DSI were obtained is not known: no PIC should be negotiated and the benefits from the use of DSI are handled by an international system and used for global projects for the conservation and sustainable use of biodiversity.

(b) The second option is also a hybrid option that would facilitate open access to sequences with some terms and conditions in case the genetic sequences are being used for commercial purposes. Similar to the option above, this alternative would employ internationally standardised MATs when the country of origin of the genetic resources from which the sequences are derived is not known and the

⁵ The title was changed for clarification purposes, it was previously listed as “Enhanced technical and scientific cooperation”

benefits would go into a multi-lateral fund. In the case where the country of origin is known the benefits must be shared with the provider countries including indigenous peoples and local communities.

41. These hybrid options have not been included in the performance matrix because they are not distinctly separate options. Hybrid options obviously can be considered by the Advisory Group but can not be included in this initial assessment using the multi-criteria performance matrix because of methodological limitations. They will be assessed at a later stage of the step-by-step approach.

5. *Criteria, sub-criteria and scoring*

42. An important step for the scoring exercise is to assign different weights to the criteria. There are different techniques for assigning weights to criteria in multi-criteria analysis. The selection of the most appropriate method depends on the decision-making context and can benefit from the support of an expert.

43. Each score should be accompanied by a brief justification (explain the reasoning for the score). This is crucial to understand the rationale behind each answer, particularly when pulling all responses together to identify convergences and divergences. If a question cannot be answered, no score should be assigned, but an explanation for this choice must be put forward (lack of data, the criterion is not applicable, the question cannot be answered in one's opinion, or the scorer simply doesn't know).

44. **Scoring method:** The scoring method proposed for this broad framework, as the first step to assess policy options, is an absolute scoring of each of the options for each of the criteria, using a scale of 0 to 10. The co-leads, supported by the secretariat and possibly one or more expert, subject to available resources, will undertake an initial exercise to assign scores to the criteria under each policy option while explaining their reasoning and the assumptions underlying the process. The purpose is to guide Parties, other governments and observers on how to use the framework. This exercise will be based on facts and data, as much as possible, and on best-informed opinion when data is not available. N/A can be used to indicate *do not know* or *not applicable* and will also be explained. Additionally, a selection of criteria can, upon agreement, be assigned a "pass" or "fail" scoring, rather than an incremental scoring.

45. The result of the scoring exercise will be presented to the advisory group or a larger subset of Parties and relevant stakeholders for comments and reactions. The goal is to reflect on the areas of strength and weakness of each option. This will serve as a basis for more in-depth assessment of options at a later stage.

46. **Note on cost-effectiveness:** the cost-effectiveness criterion that was included in the earlier version of the matrix has been removed. Despite being useful for assessing policy alternatives, this is not a scorable criterion, rather it is a ratio that needs to be calculated. Currently, it is not possible to calculate it due to the lack of quantitative data on costs and benefits. Parts of costs or benefits might be included, as comparative data is available and agreed upon, and elements of cost-effectiveness are included through other criteria in this framework. It is proposed that the ratio itself be considered at a later stage, once the number of options under consideration has been reduced and further elaborated.

47. Cost-effectiveness compares different alternatives on how well they deliver a specified, non-monetized outcome. Typically, this is expressed as a ratio: *cost/effect or effect/cost*. "Effect" is the indicator used to determine whether you are getting the results you expect. For DSI a possible ratio could be cost (public and private) of setting up and implementing the option (monetary) in relation to amount of benefits shared (monetary and non-monetary). The option that costs the least per unit of benefit shared would be assessed as the most efficient.

(a) Effective in achieving policy goals

(1) Potential to deliver predictable monetary benefits

48. This policy option can deliver monetary benefits directly to the provider, or to a common fund. The predictability points to the ability of a country or indigenous peoples and local communities to anticipate the monetary benefit that they will receive at a point in time, according to the benefit-sharing modalities of the solution.

(2) Potential to deliver predictable non-monetary benefits

49. This policy option can deliver non-monetary benefits in a direct and systematic manner (imbedded in the option, not in an ad hoc manner).

(3) Access to public databases remains open

50. DSI in public databases remain openly accessible as is in the current system.

(4) Does not hinder research and innovation

51. The option would facilitate scientific research, innovation, and future technical and technological advances, both non-commercial and commercial.

(5) Potential to contribute to the conservation and sustainable use of biodiversity

52. This option would yield benefits that would help the conservation of biodiversity and its sustainable use, either directly (through targeted capacity-building or financing of conservation) or indirectly (through investment in fields proven to positively impact conservation and sustainable use of biodiversity), from both monetary and non-monetary benefits.

(b) Efficient and feasible to implement

(6) Technically feasible

53. This relates to the technical feasibility of the option, and whether it can be done with existing infrastructure or whether it would require significant investments in new infrastructure and/or technology. Technical/infrastructure certainty also comes into consideration.

(7) Legally feasible

54. This criterion touches on the legal feasibility of the option in terms of the Convention on Biological Diversity and its protocols, its scope and its ability to suggest policy to its Parties.

(8) Legally clear and certain to implement

55. This criterion relates to the legal burden that would be required to implement the option. Would the legal aspect be understandable by all, easily implemented, and provide certainty? Or would it require the establishment of a complicated legal framework and significant investments to be implementable?

(9) Administratively simple

56. Administrative simplicity encompasses the procedures and processes needed for the implementation of the option. An administratively complex option would include high transaction costs and be a lengthy process.

(10) Implementable in an efficient and timely manner

57. Linkages between DSI and the post-2020 global biodiversity framework are being considered, so that the implementation of a DSI solution should be coherent with the post-2020 timeline and could benefit from a clear, pragmatic, and practical process that would allow for a rapid implementation.

(11) Enables distinction between commercial and non-commercial use of DSI

58. The option allows that distinctions be made between commercial and non-commercial uses of the data to facilitate benefit-sharing on commercial applications of DSI.

(12) Cost of set-up and implementation

59. The monetary costs (public and private) of set up and implementation are clear (or can be estimated with ease). This information can be used at a later stage to perform a cost-effectiveness analysis.

(c) Enables good governance

(13) Easy to understand by providers and users

60. Each option involves a certain level of complexity that may make it easier or harder for all stakeholders concerned, both providers and users of DSI, to understand. Easy to understand options can help foster greater buy-in and a smoother implementation on the ground.

(14) Easily enforceable by providers

61. High enforceability means that, legally and technically, the option can be enforced by providers.

(15) Ease of compliance for users

62. Ease of compliance for the option means that it is easy for the user to comply with the policy in place.

(16) Does not result in jurisdiction shopping

63. Jurisdiction shopping happens when different countries have different laws and regulations some more stringent or complex than others making it cheaper or faster to do business in certain locations. Companies may end up preferring certain countries or locations because the regulations are easier to deal with.

(17) Facilitates the sharing of benefits with indigenous peoples and local communities

64. This option has the potential to include the establishment of a specific provision that channels benefits (monetary and/or non-monetary) to indigenous people and local communities.

(d) Coherent and adaptable

(18) Coherence with other forums considering DSI

65. This option has the potential to be coherent with and adaptable to other international fora currently considering DSI in their discussions and negotiations. This will help avoid the proliferation of DSI “systems”.

(19) Agile and adaptable to future technological and scientific development

66. To stay relevant over time, the option should be adaptable and flexible enough to remain relevant and effective in the face of future technological developments and information growth.

B. Co-leads' summary of the discussion on potential convergence and apparent divergence of the Informal Co-Chairs' Advisory Group on digital sequence information on genetic resources

67. The present summary has been prepared by the co-leads of the Informal Co-Chairs' Advisory Group on DSI (hereafter 'Advisory Group'), Ms. Lactitia Tshitwamulomoni (South Africa) and Mr. Gaute Voigt-Hanssen (Norway), based on a discussion held during the advisory group's second meeting and as an update to the co-leads' summary of the discussion of the contact group on the same topic (see annex V of the report of the Open-ended Working Group on the Post-2020 Global Biodiversity Framework on the first part of its third meeting).⁶ Advisory group members participated in their individual capacity. The summary was not negotiated by advisory group members and represents the co-leads' understanding of some of the main views expressed during the discussion on potential areas of convergence and of apparent divergence regarding DSI and the treatment thereof. The main elements of the discussion, as summarized by the co-leads, are presented below.

1. Fair and equitable benefit-sharing

(a) Area of potential convergence: *The benefit from the use of DSI should be shared in a fair and equitable way*

68. Many views expressed in the advisory group supported the fair and equitable sharing of the benefits arising from the use of DSI, both for monetary and non-monetary benefits. There was convergence that this point is relevant for the assessment of the options on DSI.

(b) Area of apparent divergence: *Implementation of fair and equitable sharing of benefits from DSI*

69. There was a recognition that further discussions were needed to determine what modalities of benefit sharing would fulfil the fair and equitable criteria in practical terms (monetary and/or non-monetary, voluntary and/or mandatory, for example

2. Open access of DSI in public databases

(a) Area of potential convergence: *It is important to keep access to DSI in public databases open as it is currently*

70. Open data is crucial in research and innovation, and therefore, a change in the current open data policy in public databases might hinder research and development. This is an area of convergence, where most of the advisory group converged on the view that hinderance of research and innovation must be avoided and is an important criterion for any DSI policy solution assessment. Some in the advisory group argued that a solution on DSI should in fact enable and facilitate scientific research, innovation and technology to advance, a point which could be linked to capacity-building (see section 4 below).

71. Several principles on data were proposed for consideration by some in the advisory group, such as the FAIR (findable, accessible, interoperable, reusable) or the CARE (collective benefit, authority to control, responsibility and ethics) principles. Additionally, potential linkage to the open science work by the UNESCO could be considered here.

(b) Area of apparent divergence: *Interpretation of "open access"*

72. There was divergence within the advisory group on how to define open access: free, restricted or unrestricted, regulated or unregulated, linked to the capacity to use and benefit from the data or independent of capacity, etc... It was suggested this could be an area of further work.

⁶ [CBD/WG2020/3/5](#).

(c) Area of apparent divergence: *Control over access to data*

73. Countries have sovereign rights and indigenous peoples and local communities have rights over their own genetic resources, particularly those associated with traditional knowledge, and the advisory group diverged on whether open access would encroach on these rights, if not acknowledged appropriately, or if there were no possibility of subjecting access to DSI to prior informed consent. On the other hand, some in the advisory group argued that any prior form of authorization to access to DSI would not be technically feasible, or would potentially hinder data access, and therefore be detrimental to the generation of benefits.

3. *role of indigenous peoples and local communities, and traditional knowledge*(a) Area of potential convergence: *Indigenous peoples and local communities are stewards of biodiversity and their role and interests should be considered in the sharing of benefits from the use of DSI*

74. The advisory group converged on the importance of the role of indigenous peoples and local communities as stewards of biodiversity, including some genetic traits that exist today, and of the need to take this into account in considering benefit-sharing from the use of DSI. This is particularly applicable when DSI comes from a genetic resource over which IPLC enjoy established rights in accordance with the ABS measure of the country(ies) where this genetic resource can be shown to be located.

(b) Area of apparent divergence: *Mechanism of recognition of traditional knowledge associated with DSI*

75. The advisory group diverged on whether the merits of a mechanism that would clearly associate traditional knowledge with a particular DSI (such as tracing or labelling) is feasible and sufficient, or whether the recognition that the role of indigenous peoples and local communities should be addressed through benefit-sharing modalities, all the while building bridges with initiatives on traditional knowledge that will eventually enable the tagging and tracing of indigenous heritage and traditional knowledge.

(c) Area of apparent divergence: *Scope of DSI or scope of benefit-sharing modalities*

76. Views in the advisory group diverged on whether or not associated traditional knowledge and/or contribution of indigenous peoples and local communities should be part of the scope of DSI, as per the work of the AHTEG. The inclusion of associated traditional knowledge or IPLC ownership of the genetic resource could be included in the scope of DSI rather than a part of the definition of DSI per se, and instead considered in the context of a solution on DSI, through a modality on benefit-sharing, or a recognition in publications, acknowledgement mechanism, for example.

4. *Capacity-building*(a) Area of potential convergence: *Capacity-building is needed and important*

77. There was a clear convergence of views in the advisory group supporting the need for and importance of capacity-building for all stakeholders, based on needs, including for the generation, analysis and use of DSI. As an important feature of any solution on DSI, it was suggested by some to integrate this element in all options rather than keeping it as an option on its own (option 4). Capacity-building was also linked to the 'open data' principle where scientific research and innovation should be facilitated, a notion linked not only to the access to the data, but also to the capacity of all users to fully benefit from the use of this data.

5. *Linkages between access and benefit-sharing*(a) Area of apparent divergence: *Are access and benefit-sharing coupled?*

78. Some in the advisory group linked the issue of access to data to the question on potential modalities for benefit-sharing, stating that a favourable modality on benefit-sharing would allow for the data to remain

open. Decoupling access from benefit-sharing was suggested by some in the advisory group while others considered them to be intrinsically linked.

6. *Legal clarity and certainty*

(a) Area of potential convergence: *the DSI solution must be legally clear and certain for users and providers*

79. Views in the advisory group converged on the need for legal clarity and certainty for both users and providers of DSI and that this was an important feature to be considered as part of a policy solution.

7. *Consistency with existing laws, decisions and other forums*

(a) Area of potential convergence: *a DSI solution must be consistent with international law and treaties (including the Convention and its Protocols), respect previous CBD decisions, and be coherent with other international forums that are considering DSI.*

8. *Traceability*

(a) Area of apparent divergence: *whether traceability of DSI is essential to a solution*

80. Traceability of country of origin was a topic of divergence, on whether traceability is of crucial importance to a fair and equitable solution, or whether benefit-sharing modalities could achieve that fairness and equity. While technically and administratively feasible in some cases, a system of tracking and tracing might not be efficient nor cost-effective at this point in time. The advisory group recognized that most DSI used by scientists are not retained in a commercial product, complicating the question of the scope of sequences needing tracing.

9. *Importance to the Convention on Biological Diversity and the Sustainable Development Goals*

(a) Area of potential convergence: *A solution on DSI is important for the objectives of the Convention and the SDGs*

81. The advisory group acknowledged the importance and/or contribution of DSI to the achievement of the objectives of the Convention as well as the Sustainable Development Goals.

10. *Importance of DSI in research and conservation*

(a) Area of potential convergence: *Digital sequence information on genetic resources is of importance for scientific research and innovation, for contribution to the conservation and sustainable use of biodiversity, and for human, animal, and plant health as well as food security, in tandem to benefit-sharing*

11. *Future proofing*

82. Discussions on the futureproofing of the solution showed that many in the Advisory Group converged on building flexibility into the solution on DSI to allow for adaptations to future technological advances, benefiting from newly available legal and administrative framework, data and technology, and keeping the solution efficient and effective over time.

12. *Scope of the Convention on Biological Diversity and/or the Nagoya Protocol*

(a) Area of apparent divergence: *DSI and the scope of the Convention on Biological Diversity, the Nagoya Protocol and the post-2020 global biodiversity framework*

83. Elements of divergence raised in the discussion included whether DSI is genetic resources, whether it is in scope of the Convention on Biological Diversity and/or the Nagoya Protocol, and therefore whether or not it should be included in the post-2020 global biodiversity framework.

13. *Terminology*

(a) Area of apparent divergence: *The definition of DSI and the use of the term*

84. The importance of determining an appropriate term for DSI was raised as a divergence. Some in the advisory group voiced that a potential solution to the divergence on a definition of DSI could be to focus further work on the scope of DSI in the context of ABS, rather than a definition per se.

14. *Cost-benefit*

(a) Area of potential convergence: *A solution on DSI should be cost effective*

85. The advisory group converged on the idea that a solution on DSI, in order to be successful, would require that net benefits exceed costs.

15. *Other important criteria*

(a) Area of potential convergence: *Other criteria should be considered for DSI*

86. The advisory group converged on the importance of such criteria as administrative simplicity, and technical and legal feasibility. The assessment framework developed such criteria to be considered in future discussions.

(b) Area of apparent divergence: *Timing of implementation of a solution on DSI*

87. There was a divergence of views within the Advisory Group on whether there was a need for a rapid implementation of a solution on DSI (as rapid as a two-year implementation, due to its linkage to the post-2020 global biodiversity framework), versus a further assessment of potential approaches before any implementation, partial or full.

(c) Area of apparent divergence: *Consideration of pathogens*

88. The Advisory Group diverged on the consideration of pathogens in the DSI solution, with some expressing the view that pathogens should not be considered under the Convention, others suggesting that a special mention of sharing of pathogens in case of health emergencies should be added, and finally a third opinion that pathogens should be considered like any other genetic resource, and therefore the associated DSI also.

16. *Process*

(a) Area of potential convergence: *The use of the assessment framework is part of a pragmatic next step to consider DSI proposed solutions*

89. The pragmatic use of the assessment framework as a tool to analyse the DSI policy options was a point of convergence of the advisory group. This is part of a larger step-by-step approach that the co-leads considered here, where an initial set of criteria will be applied to narrow down the number of proposed policy options. Those can then be further developed (for example, what would the modalities of a multilateral system look like, or modalities for other options), and analysed at a later stage (see sections II.A.2 and II.A.3 for the draft framework for the assessment of policy options relating to the access and benefit-sharing for DSI).

III. CO-LEADS' CONCLUSIONS AND RECOMMENDATIONS FROM THE DISCUSSIONS OF THE INFORMAL CO-CHAIRS' ADVISORY GROUP ON DIGITAL SEQUENCE INFORMATION ON GENETIC RESOURCES TO THE WORKING GROUP

90. From positive and constructive discussions of the Advisory Group on areas of potential convergences, the co-leads identify the following key points of consideration of elements that they believe could lead to 'higher-level criteria' or 'principles' for a solution on DSI:

A. Potential elements of a recommendation

(a) Any benefits from the use of genetic resources should be shared in a fair and equitable way, and solutions should be found on how to share benefit arising from the use of DSI;

- (b) Access to DSI in public databases remains open;
- (c) Indigenous peoples and local communities are stewards of biodiversity and their role and rights should be taken into account in addressing DSI;
- (d) Capacity-building is an integral part of the solution on DSI.

91. Additionally, from the discussions of the Advisory Group on divergence and on criteria for the assessment framework, several areas of further work have emerged as follows:

B. Areas for further consideration towards convergence

- (a) While it is difficult currently for all stakeholders to identify an agreed approach to benefit-sharing from the use of DSI, most of the advisory group considers that efforts to explore potential modalities will help to elucidate further common understanding on what fair and equitable benefit-sharing would entail in practical terms in this context;
- (b) Further work is needed to characterize the monetary and non-monetary benefits that could be shared through a solution on DSI;
- (c) Further discussions are needed on modalities to consider indigenous peoples and local communities in a solution on DSI;
- (d) Further discussions are needed on the timetable for implementing a solution on DSI, and what it would imply;
- (i) Further discussion on the consideration of special cases, such as health emergencies, and their implications for the solution, would be useful.

92. The following are other recommendations by the co-leads for consideration by the Open-ended Working Group at the resumed sessions of its third meeting:

C. Mandate to advance work on the multi-criteria analysis and for the continuation of work of the informal advisory group

- (a) A step-by-step approach should be followed ahead to help us gradually narrow in on the elements needed to move the discussion forward;
- (b) The completion of the multi-criteria analysis of policy options according to discussed criteria, with the support of external expertise, and to advance the assessment to the next steps, such as weighing the criteria, assessing available information, and consultation with a small group of Parties and stakeholders. The application of the criteria will help the group in focusing the options and developing the promising ones further for the assessment;
- (c) The continuation of the work of the Informal Co-Chair's Advisory Group in the intersessional period leading to the resumed sessions of the fifteenth meeting of the Conference of the Parties, to complete its original mandate and/including to provide feedback on the analysis of policy options referred to above, and to address any other issues mandated by the Working Group at the resumed sessions of its third meeting.

Annex

ORGANIZATION OF WORK OF THE ADVISORY GROUP

Date and time (Montreal time)	Agenda
<i>Kick-off meeting: Wednesday 22 September 2021</i>	
7.30-9.00 am	<ol style="list-style-type: none"> 1. Welcome from co-leads and Co-Chairs 2. Introductions 3. Terms of Reference of the Group 4. Logistics and administrative items 5. Presentation of the work plan for the upcoming sessions
<i>1st working meeting: Wednesday 6 October 2021</i>	
7.30-10.30am	<ol style="list-style-type: none"> 1. Presentation of key new elements arising from the compilation of submissions 2. Presentation on multi-criteria decision-making frameworks 3. Presentation and discussion on updated policy options and criteria framework (matrix)
<i>2nd working meeting: Wednesday 20 October 2021</i>	
7.30-10.30am	<ol style="list-style-type: none"> 1. Feedback on revised assessment framework document 2. Expert presentation on key issues of divergence <ul style="list-style-type: none"> • open access: Professor Sabina Leonelli • traditional knowledge: Professor Maui Hudson 3. Discussion on areas of convergence/divergence
<i>Additional working meeting: Wednesday 27 October 2021</i>	
7.30-10.30am	<p>Discussions on areas of convergence and divergence:</p> <ol style="list-style-type: none"> 1. Open data 2. Traditional knowledge 3. Other areas of potential convergence and apparent divergence 4. Planning of the report to be presented to the working group
<i>3rd working meeting: Wednesday 3 November 2021</i>	
7.30-10.30am	<ol style="list-style-type: none"> 1. Comments on updated framework and criteria 2. Comments on updated summary of areas of convergence and divergence 3. Discussion of recommendations for areas of further work 4. Planning: Co-leads' report on the Informal Co-Chairs' Advisory Group
