

# **Promoting sustainable use and conservation of biodiversity through open exchange of Digital Sequence Information**

*Joint statement by public and private sector organisations, academic and scientific institutions, data repositories and collections representing a broad range of stakeholders*

## **Background**

The public and private sector organisations, academic and scientific institutions, data repositories and collections underwriting this statement represent stakeholders who are actively engaged in or support the conservation and/or sustainable use of genetic resources to unlock their potential for society in different domains.

Most have also been active and collaborative participants in negotiations related to Access and Benefit Sharing (ABS) for many years, providing expertise and insights on the systems and practices which could best support effective ABS related to genetic resources.

They are closely monitoring the activities pursuant to the decisions at the Conference of the Parties of the CBD (Decision XIII/16) and the Nagoya Protocol (NP) (Decision NP-2/14) to “*consider any potential implications of the use of digital sequence information (DSI) on genetic resources for the first three objectives of the CBD and the objective of the NP*”. They have also taken note of the report of the AHTEG in which some experts from these organisations have directly participated.

As key stakeholders, the signatory organisations are vigilant about the potentially harmful effect of inappropriate or overly burdensome regulation of genetic resources. They are therefore greatly concerned about proposals to apply ABS obligations to DSI. Such obligations would place additional hurdles on biological research – with potentially negative consequences for the advancement of science and the huge societal value this generates, as well as for achieving the three objectives of the CBD.

## **Statement of the issue**

The unencumbered access to and use of DSI now in the public domain benefits countries at all levels of development – it supports conservation, fosters research into technological solutions to tackle societal challenges, and benefits the population as a whole. Researchers collect and extensively use DSI to advance science and scientific understanding of biological systems. The rate of scientific advancement and technological development is heavily dependent on unencumbered access to and use of publicly available DSI. Barriers to the sharing and use of DSI would discourage innovation and scientific research. Extensive tracking and tracing mechanisms would be needed – if they were even possible – ultimately making downstream uses more complex and costly, and products and technologies less accessible. The net effect on conservation and sustainable use of biodiversity could be negative and in contradiction with the objectives of the CBD and the NP, as well as with several of the UN Sustainable Development Goals.<sup>1</sup>

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<sup>1</sup> Including, for example, goal 2 on hunger and food security, goal 3 on health, goal 13 on climate change and goal 15 on biodiversity, forests and desertification

## Recommendations

The signatory organisations recommend that the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) recognise the importance of the continued ready access to and use of DSI for advancing research and development that will help achieve the objectives of the CBD and the NP. Such a recommendation should:

1. Acknowledge the importance of unencumbered dissemination and use of DSI, including for fulfilling the objectives of the CBD and the NP.
2. Explicitly recognise that the open sharing of DSI represents a form of non-monetary benefit sharing.
3. Recognise the need for more fact-based information on how DSI is collected, generated, shared and used in biological research, as well as on the value which the unencumbered access and use of DSI represents for furthering the objectives of the CBD and the NP. Such value is created by, for instance, facilitating biological research, taxonomic studies to deepen the understanding of biodiversity, and international research collaboration. The submissions by a wide variety of stakeholders already provide examples in this regard.
4. Acknowledge the important role of major publicly accessible global databases holding DSI in providing an effective and inclusive system for sharing DSI globally.
5. Encourage capacity building to further enhance access to and use of DSI, in particular by developing countries and with a focus on their needs.
6. Recommend that international and national efforts should be focused on the effective and internationally coherent implementation of the current ABS framework to realise CBD objectives, instead of on reopening negotiations on the scope of the CBD.

## Justification

The signatory organisations wish to emphasise that the outcome of the discussion on DSI will have a very important impact on the future of biological research and its benefits for society, and urge CBD Parties to take the following into consideration:

1. As noted above, DSI is a critical tool in the conservation and sustainable use of genetic resources, and its use is currently leading to many societal benefits. Impeding the flow and use of information would work against research projects in several different areas, including many which contribute to the objectives of the CBD and the NP. The CBD specifically encourages the exchange of information to support conservation, protection and sustainable use of biodiversity<sup>2</sup>. It is of paramount importance that DSI now in the public domain continues to remain freely accessible to achieve the broader aims of the CBD.

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<sup>2</sup> Article 17, Convention on Biological Diversity

2. Making the sharing of DSI more legally uncertain, time-consuming, administratively burdensome and costly by regulating its use will have a chilling effect on the use of DSI in biological research, and consequently lead to less benefits. All countries rely on and benefit from unencumbered access and exchange of DSI to deal with key societal issues, like human, animal and plant health, food security and the environment. There is currently a well-established and functioning international framework supporting the open exchange of DSI, consistent with established principles of ethical and responsible scientific research that are foundational for the advancement of science. Open exchange is especially important for DSI, whose unencumbered use allows the swift compilation, comparison and reanalysis of genetic information from a variety of sources, across multiple databases and gene sequences.
3. Considerable “non-monetary” benefits can be derived by all countries from the open exchange of publically available DSI. The extensive public DSI database managed by the INSDC (International Nucleotide Sequence Database Collaboration), maintained at the expense of the three host governments, is freely accessible to researchers in all countries; and was accessed by 172 countries from all regions between 2014 and 2016<sup>3</sup>. Open exchange of DSI is also necessary for international research collaborations, which not only allow the pooling of expertise and resources to resolve problems of global or regional relevance, but are also essential vehicles for capacity building and the exchange of knowledge and expertise. Countries also benefit from the technologies and products resulting from research supported by open exchange of DSI, wherever this research takes place. Widespread regulation of DSI is likely to result in a dramatic reduction in information being made available in public databanks. There is therefore a danger that the significant non-monetary benefits currently being delivered to developing countries could be diminished in the process.
4. Academic and public institutions, which are key players in the R&D process, will be seriously affected by ABS obligations on DSI. Such obligations would also seriously impede international collaborations in which such institutions participate.
5. Under the existing NP framework, benefit-sharing provisions relating to DSI can already be included by provider countries in mutually agreed terms. In order to include DSI within the scope of CBD and/or NP, contracting Parties to the CBD and the NP would have to renegotiate the scope of the treaties. Numerous legal interpretations have confirmed that the definition of genetic resources refers to tangible material and does not include immaterial information. Negotiations to change this definition would require years, or even decades, as well as resources that would be better spent on efficient implementation of effective and workable measures that achieve the three objectives of the CBD.

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<sup>3</sup> “As a member of INSDC (International Nucleotide Sequence Database Collaboration) maintaining the international DSI database, we found that a total of 172 countries were using the database during the period from 2014 to 2016 (Europe 46, Asia 43, South/Central America 35, Africa 32, Oceania 14, and North America 2; Website access: 1,621,300) upon investigating the state of the use from outside Japan of DDBJ (DNA Data Bank of Japan) operated by National Institute of Genetics”- *Extract from the Submission by the Government of Japan on the “Current state of the use of digital sequence information on genetic resources in the biodiversity field”*.

## SIGNATORY ORGANISATIONS

### International



**International Community of Breeders of Asexually Reproduced Ornamental and Fruit Plants**



**CropLife International**



**Global Genome Biodiversity Network**



**Global Invertebrate Genomics Alliance**



**Global Open Data for Agriculture & Nutrition**



**International Biocontrol Manufacturers Association**



**The International Fragrance Association**



**International Probiotics Association**



**International Seed Federation**



**World Vegetable Center**

**World Vegetable Center**

### Regional



**African Seed Trade Association**



**Association of Manufacturers and Formulators of Enzyme Products**



**Asia & Pacific Seed Association**

**Confederation of European Yeast Producers (COFALEC)**



**European Cooperative Programme for Plant Genetic Resources (On behalf of 22 National Coordinators of ECPGR countries<sup>4</sup>)**



**European Food & Feed Cultures Association**



**European Fermentation Group (CEFIC Sector Group)**

<sup>4</sup> Albania, Bosnia and Herzegovina, Bulgaria, Czech Republic, Estonia, Finland, Germany, Ireland, Italy, Latvia, Lithuania, Montenegro, The Netherlands, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey



**European Federation of Pharmaceutical industries and Associations**



**European Seed Association**



**Enzyme Technical Association**



**European Association for Research in Plant Breeding**



**EU Specialty Food Ingredients**



**Specialty Feed Ingredients industry**



**Lactic Acid Bacteria Industrial Platform**



**Seed Association of the Americas**

**National**



**Brazilian Association of Industry and Trade of Food Ingredients and Additives**



**American Institute of Biological Science**



**American Society for Microbiology**



**Asociacion Nacional de Obtentores Vegetales**



**Associazione Italiana Sementi**



**German Plant Breeders' Association**



**Biotechnology Innovation Organisation**



**Centre for Biodiversity Genomics, University of Guelph (CBG)**



**Deutschen Industrievereinigung Biotechnologie**



**The Graduate School, Experimental Plant Sciences**



**German Association for Plant Breeding**



**GigaDB**



GigaScience



Holland Bio



Leibniz-Institut für  
Pflanzen-genetik und



Japan Bioindustry  
Association



Japan Enzyme Association



Japan Pharmaceutical  
Manufacturers Association

Natural Science  
Collections Alliance



Personal Care Products Council



Plantum



Phycological Society of  
America



Science Industries Switzerland



Society for Industrial  
Microbiology and  
Biotechnology



Society for the Preservation of  
Natural History Collections



University of California  
Conservation Genomics  
Consortium



University of Leuven

US Department of Energy Joint  
Genome Institute Prokaryotic Super  
Program User Advisory Committee  
([members](#) signing as individuals and not  
as employees or agents of the US  
government)

US Culture Collection  
Network



Verband Biologie,  
biowissenschaft, & biomedizin

Vlaams Instituut voor  
Biotechnologie