



To,

Secretariat of the International Treaty

Submission by the African Centre for Biodiversity to the Secretariat of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)

Dear Sir/Madam,

The African Centre for Biodiversity (ACB) (previously 'Biosafety') was established in 2003 and registered in 2004 in terms of the laws of the Republic of South Africa. The ACB is committed to dismantling inequalities in the food and agriculture systems in Africa and our belief in people's right to healthy and culturally appropriate food, produced through ecologically sound and sustainable methods, and their right to define their own food and agricultural systems.

The ACB would like to refer the Secretariat to our previous submission made to the Secretariat of the Convention on Biological Diversity (CBD) and to the Commission on Genetic Resources for Food and Agriculture (CGRFA) on; the potential implications of the use of digital sequence information on genetic resources for the three objectives of the Convention and information on the use of digital sequence information on genetic resources for food and agriculture and; potential implications for the conservation and sustainable use of genetic resources for food and agriculture, including exchange, access and the fair and equitable sharing of the benefits arising from their use respectively. This submission was made on the 30th of August 2017.

The ACB would also like to thank the Secretariat for the invitation to submit views and other information on "Digital sequence information" reference to notifications NCP GB8-016 MYPoW/DSI and NCP GB8-020 MYPoW/DSI on the potential implications of the use of "digital sequence information" (DSI) on genetic resources for the objectives of the International Treaty.

Background and Context to this submission

At its 7th session of the Governing Body (GB) of the ITPGRFA, which was held on Rwanda, Kigali from the 30th October to the 3rd of November 2017, the GB adopted a resolution 13/2017 on the Multi-Year Programme of Work of the Governing body of the International Treaty (MYPoW) under which paragraph 4 invites Contracting Parties, other governments, relevant stakeholders and individuals with relevant expertise on the matter to provide information to the Governing Body on, digital sequence information on plant genetic resources for food and agriculture (PGRFA), the types and extent of uses of “digital sequence information” and relevance of “digital sequence information” on PGRFA for the objectives of the International Treaty, including exchange, access and the fair and equitable sharing of the benefits arising from their use.

The topic on digital sequence information has been a contentious issue in the negotiations under the CBD and the ITPGRFA particularly in relation to the Multilateral System and Access and benefit sharing. There has been no consensus on the definition and scope of “digital sequence information” and thus a need to clarify the terminology as also noted under resolution 13/2017 of the MYPoW.

As we have noted in our previous submissions on DSI, genetic sequence data poses grave challenges as it can be accessed easily such as on the internet or in an email, this means that it may no longer be a need to access and exchange of the physical genetic resources/biological materials. In this way, crop traits can be accessed in this way as well as genes that encode for active compound in medical plants, and be used in the manufacture of pharmaceuticals. This gives rise to the possibility that genetic resources can be accessed without prior informed consent and in the absence of a benefit sharing agreement. This would thus undermine several international agreements, including in particular the 3rd objective of the Convention on Biological Diversity (Convention), the Nagoya Protocol on Access and Benefit Sharing (Protocol) and the International Treaty on Plant Genetic Resources for Food and Agriculture (Treaty). We continue to reiterate that the current benefit sharing regimes may be rendered redundant as we go into the future particularly those of the Protocol and Treaty. The rationale underpinning objective 3 of the Convention, and the central imperatives underpinning the Protocol and the Treaty to prevent biopiracy or the misappropriation of genetic resources will be totally eroded.

Thus, in light of the above, we would like to make the following points in reference to the invitation to submit our views.

1. The terminology used in this area

The terminology on DSI must be broadly defined as depending on its application and different uses such as research, intellectual property for commercial value, particularly in medical and industrial applications e.t.c. In addition, databases around the world contain different types of sequences which is not limited to DNA and RNA and amino acids but also these databases, have various amounts of metadata, annotations that provide information on relationship between genotypes

and phenotypes, gene identity and function and mutations¹. Thus, according to Laird et. al 2018, DSI could also include metagenomes, various epigenomic markers and other molecular information. Furthermore, these should be addressed with respect to benefit sharing mechanisms.

2. Actors involved with DSI on plant genetic resources for food and agriculture (PGRFA)

There is a huge concern that researchers and scientists from companies, universities and industry who are the main users of DSI can access seeds under the Multilateral System and generate digital sequence information using farmers' varieties without benefit sharing. In addition, the International Rice Research Institute (IRRI) have been posting digital sequence information of hundreds of rice varieties online without requirements for users to follow the requirements under the Multilateral System of the International Treaty².

It is therefore, quite crucial that farmers, indigenous people and local communities who are the original holders of biological genetic resources of which genetic sequence data is obtained from are given due recognition. These important stakeholders are usually ignored and more prominence is given to 'corporate breeders', researchers and scientists that are currently conducting projects related to sequencing data. Thus, there is a need to consider farmers, indigenous peoples and communities that have been maintaining, developing and improving plant genetic resources for food and agriculture for millennial of years, as failure to do so will have severe negative effects on the conservation and sustainable use of genetic resources and thus economically and culturally undermining them.

3. Types and extent of uses of DSI on PGRFA, such as characterisation; breeding and genetic improvement; conservation; identification of PGRFA

The extent on the uses of digital sequence information is vast. Our concerns are on the intellectual property rights especially where genetic sequence information arising from biological genetic resources are protected particularly in the case of patents. There is a current move by companies amassing private databases of DSI. This is quite threatening where the Treaty provides for private seed databases. The question is what will happen to the private DSI databases that include sequence information of the accessions in the Multilateral System (MLS) of the Treaty? It is thus crucial that access and benefit sharing are not only linked to the physical transfer of biological material but also to sequence data. Particularly if this sequenced data is obtained from material under the MLS. If this is not resolved, DSI will undermine any possibility of the Treaty's benefit sharing mechanism. Furthermore, in relation to the current discussion under the MLS on the expansion of Annex 1 there is need to consider the aspect of DSI before further discussions are undertaken.

¹ Karger E, 2018. Study on the use of digital sequence information on genetic resources in Germany. BfN. Bonn http://www.biodiv.de/fileadmin/user_upload/PDF/Projekte-aktuell/DSI-Study.pdf

² <https://www.twn.my/title2/biotk/2017/btk170301.htm>

4. The relevance of DSI on PGRFA for food security and nutrition

Studies show that DSI may play an important role in the feeding of the growing human populations such as through use of sequencing for plant breeding e.g. mapping populations and breeding lines, to explore the relationship between genotypes and phenotype³. However, the main users of DSI are not farmers and thus we don't consider the sequence databases as sustainable use of PGRFA. 70-80% of food in Africa is provided by smallholder farmers and thus there is a potential for the disruption of their farming systems especially in the cases where patent rights restrict the use of PGRFA arising from sequence data. It is quite crucial that further scrutiny over the implications of DSI on food production and agricultural systems particularly where the sector is dominated by smallholder farmers is done.

We hope that these views will be taken into consideration.

³ Karger E, 2018. Study on the use of digital sequence information on genetic resources in Germany. BfN. Bonn http://www.biodiv.de/fileadmin/user_upload/PDF/Projekte-aktuell/DSI-Study.pdf