

Virtual Brainstorming on **Digital Sequence Information (DSI) and Germplasm Sharing**

Germplasm Sharing under CBD and ITPGRFA

The conservation and use of plant genetic resources for food and agriculture (PGRFA) are primarily governed by two international agreements - Convention of Biodiversity (CBD) that governs all genetic resources and the International Treaty for Plant Genetic Resources for Food and Agriculture (ITPGRFA) which applies only on a subset of plant species relevant to agriculture and food security. Both are the main elements of the access and benefit sharing (ABS) framework. Recent advances in science and technology, especially genomics and synthetic biology is likely to bring another paradigm shift in germplasm sharing issues.

What is DSI?

Digital Sequence Information (DSI) on Genetic Resources for Food and Agriculture (GRFA) currently in use includes multiple kinds of information (mainly DNA or RNA sequence information) about various biological materials found in GRFA, used to manage GRFA, or to derive value from GRFA.

How DSI influences GRFA use?

DSI makes it easier to get value from a genetic resource without possessing it or even its DNA. Technologies that use DSI do not vary significantly across commodities (plant, animal, microbe, fishes, etc.). DSI is greatly useful for non-agricultural applications, such as drug, vaccine or pesticide development.

What is the apprehension to access DSI?

DSI is stored in electronic digital media. Publicly accessible DSI includes the content and functionality of >1,000 online databases hosted in developed countries. Continuing funding in an open access model is not assured and the amount of private DSI on GRFA is unknown. Private entities will have enormous opportunity to commercially use the GRFA in dematerialized form owing to greater freedom-to-operate and enhanced possibilities of intellectual property rights (IPRs) protection.

How DSI is a game changer in GRFA regulation?

The CBD and Nagoya Protocol aim to regulate the physical access to and thereby use of biological resource from a provider country to a user, according to ABS agreement. The ITPGRFA aims to provide facilitated access to PGR in a multilateral system and manage consequent benefit sharing

opportunities. This GRFA access and use paradigm has been disrupted by advanced technologies in genomics and synthetic biology. The genome sequence of a particular species can now be accessed without the need for any of the GRFA access instruments. Further, commercial use of DSI is not currently within the jurisdiction of CBD or ITPGRFA. As a result, global conventions and treaties are deliberating on whether ABS requirements should apply to the use of DSI from GRFA.

What do we need to address?

Dematerialized use of GRFA calls for a clear understanding of the impact of DSI on sovereign rights, community rights and IPRs, and to develop India's national position of various issues that surround DSI and their use. Not many countries have the luxury of rich bioresources, traditional knowledge, modern R&D institutional framework and expertise in genomics as much as India possesses. Developing countries look up to India's leadership in international negotiations.

Hence, there is a pressing need to generate a formal policy debate involving stakeholders and technical experts to develop India's position/opinion/response to disparate issues/concerns/questions pertaining to DSI of GRFA. This brainstorming meeting is targeted towards this gap.

Organizers

Indian Society of Plant Genetic Resources (ISPGR), New Delhi

Date and Time: March 1, 2021; 3:00 pm IST (+5.30 GMT) onwards

Objective

To gather data for formulation of policy about inclusion of DSI in national and international statutes that relate to access, exchange and benefit sharing of GFRA, based on views of various stakeholders including scientists, technologists, policy makers, farmers and private sector.

Invited Speakers and Participants

Two international experts on the subject, Ms. Anke van den Hurk, International Seed Federation, and Mr. Pierre Du Plessis, African Union Commission, will provide the divergent views on the topic. Thereafter, PGR experts from India's public sector, scientists, private seed industry, farmer representative and legal experts are expected to deliberate on the subject.

Expected Outcome

Demystification of complexity of issues relating to DSI for GRFA and suggesting potential ways for developing comprehensive mechanisms for governance and fair use of genetic resources.