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The International Treaty
ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

FIRST MEETING OF THE EXPERT CONSULTATION ON THE GLOBAL INFORMATION SYSTEM ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

San Diego, USA, 7-8 January 2015

Compilation of Submissions Received from Contracting Parties, Non-Contrating Parties and International Relevant Organizations

Input from the Australian Government

The Australian Government welcomes the opportunity to provide input for the Consultation on the Global Information System on Plant Genetic Resources for Food and Agriculture (COGIS-PGRFA) as notified on 21 March 2014 by the Secretary of the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture (the Treaty).

General comments

Australia supports the development of a Global Information System on Plant Genetic Resources for Food and Agriculture (GIS-PGRFA) in the context of Article 17 of the Treaty and as a contribution to the full implementation of the Treaty's access and benefit sharing regime.

Australia also welcomes the establishment of the COGIS-PGRFA as a forum for providing the Secretary with expert advice on the development of an effective Global Information System (GIS), in accordance with the terms of reference outlined in Resolution 10/2013.

Australia recognises that the ability to utilise and exchange the information contained in the world's crop diversity will be key to unlocking future productivity growth and achieving food security. Access and exchange of this information will be one factor underpinning capacity to adapt crops to climate change, improve food production and contribute to the sharing of benefits arising from use of the Treaty's multilateral system. To ensure that all Contracting Parties are able to receive the benefits of this information it will be necessary for the GIS-PGRFA to be highly coordinated, with clear governance

structures. The system will also need to be adaptable so that it is able to evolve with advances in technology, information storage and changing demands. We note that the Diversity Seek (DivSeek) initiative will be a vital part of efforts to strengthen the GIS-PGRFA and that the governance of this initiative needs to be coordinated with the GIS-PGRFA.

Specific Comments

i.) Information on user's need and national and regional priorities on information exchange

Australia considers that a GIS-PGRFA will need to be flexible in design, especially to allow the capture of a wide range of data descriptors. It will need to be easy to use, and the user interface search function will need to be able to filter across multiple traits, accessions and ecogeographic regions.

Other priorities will be the integration of existing phenotypic, genotypic and geographic data with genebank collections and on-site training for documenting and managing genebank data, including training in the use of database software, which could be possible through the development of regional mentoring arrangements. It will also be important to ensure the accessibility of the system where internet is unreliable.

ii.) Information on relevant ongoing initiatives, projects and programmes at national, regional and international levels of relevance for the development of Article 17 of the International Treaty

Australia's key plant genetic resources centres have electronic systems for storage of information relevant to each accession, however, these have mostly been developed "in house" and have not yet been integrated to a functional national system covering accessions in all major seed banks. Most of these systems record passport and characterisation data, but this information is generally not broadly available on the internet.

An exception is the Australian Plant Genetic Resource Information Service, which is an online system containing passport and characterisation data for collections such as the Australian Tropical Crops and Forages Collection. The University of Queensland and its Queensland Alliance for Agriculture and Food Innovation (QAAFI) are also developing an initiative to gather, analyse and store genetic data to facilitate identification of new genetic variation to meet commercial breeding demands in Australia. Discussions with potential Australian and overseas partners are currently underway. It is expected that the initiative will complement QAAFI's *Speed Breeding* initiative which offers a direct pipeline for gathering data to its use and the ultimate discovery and deployment of novel genes.

While the plant genetic resources centres may not all have an online presence, some passport and characterisation information about each centre's material is available in international systems such as the International Crop Information System (ICIS) developed by the CGIAR. Information about the Australian Temperate Field Crops Collection's lentil and chickpea holdings are available through ICIS.

Australian PGRFA genebanks are using the GRIN-Global database system, which should facilitate interactions with the Genesys portal.

iii.) Inputs on information gaps on scientific, technical and environmental matters on PGRFA;

Information gaps on scientific, technical and environmental matters on PGRFA include spatial and geographic data associated with PGRFA, difficulties in capturing and accessing the genetic diversity/traits in crop wild relatives (and subsequent data capture and management) and provision of data back to genebanks from user groups.

We note that the lack of provision of user group data to genebanks is partly due to lack of certainty about the requirements of the data to be provided (e.g. form and frequency) and the effect of intellectual property of generated data on these requirements. Standardised protocols and data requirements would be valuable in this context.

This type of data is likely to add significant value to the genebank collections, and processes should therefore be put in place to ensure that the GIS-PGRFA receives as much data possible from users and that it is of appropriate quality.

iv.) Best practices and appropriate methodologies for the strengthening of an effective global information system;

It will be important that clear guidelines are established on how data is to be provided to the GIS-PGRFA, such as format and frequency, and that data requirements for submission are standardised.

The following principles and practices are likely to be important to the development of an effective GIS-PGRFA:

- Flexibility to enable the adoption of new standards and other innovations being developed.
- Accepted data standardisation protocols, with validation of data as a prerequisite.
- The inclusion of protocols with detailed descriptions on the experimental process and conditions etc. used to generate the data.
- Formal linkage between genebanks and plant researchers/breeders to facilitate the provision of data.
- The testing of new standards *in situ* to ensure their applicability.
- Link to phytosanitary requirements to facilitate transfer of material.
- Training in the use of the GIS-PGRFA for global users, especially via a ‘train the trainers’ approach.

v.) Other relevant inputs for the elaboration of the Vision paper on the Global Information System.

Given the range of initiatives, tools and protocols related to information on crop diversity, and the fast pace of advances in the collection, storage and use of different types of information, it will be crucial that the GIS-PGRFA is developed with clear vision, a coordinated plan of implementation and a defined mode of governance.

It will be important to articulate a vision for the GIS-PGRFA that encompasses the various existing and emerging initiatives underway and the dynamic nature of advances and changes in data collection and exchange. The vision paper should articulate what the GIS-PGRFA intends to achieve, how this will be delivered and arrangements for achieving this in a coordinated manner, including how it is expected the system is to be sustained over time. We welcome consultation with a diverse range of experts representing a diversity of PGRFA user communities.

Conclusion

Australia thanks the Treaty Secretary for the opportunity to comment on the *Consultation on the Global Information System for Plant Genetic Resources for Food and Agriculture*. Australia welcomes consideration of the points raised in this submission as part of a productive and successful COGIS-PGRFA and looks forward to the outcomes of the consultation.