



The International Treaty

ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE



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Item 12 of the Provisional Agenda

INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

THIRD SESSION OF THE GOVERNING BODY

Tunis, Tunisia, 1 – 5 June 2009

REPORT OF THE EXPERT CONSULTATIONS ON INFORMATION TECHNOLOGIES TO SUPPORT THE IMPLEMENTATION OF THE MULTILATERAL SYSTEM

1. Following the First Session of the Treaty's Governing Body, the Interim Secretariat received a number of requests from Contracting Parties and their relevant national institutions, as well as from international institutions that had signed agreements with the Treaty in accordance with Article 15 and non-government stakeholders, for advice and assistance in implementing various aspects of the Multilateral System of Access and Benefit-sharing. These included primarily: the role of information systems regarding plant genetic resources made available with the Multilateral System; the preparation and issue of Standard Material Transfer Agreements, as foreseen in the Treaty; and reporting on such actions. In these initial contacts, it became apparent to the Interim Secretariat that a number of these stakeholders would welcome the availability of information tools to support the implementation of the Multilateral System.
2. The Interim Treaty Secretariat accordingly convened an informal technical stakeholder consultation in Rome, on 13 and 14 February 2007, as a forum to discuss ways in which information technology (IT) could support, simplify and, as far as possible, automate and reduce the transaction costs of the processes involved in the Multilateral System. It was attended by Providers and Recipients in both the public and the private sectors and Government agencies, as well as International Institutions holding materials in the Multilateral System, and managers of information systems on plant genetic resources for food and agriculture.
3. The consultation made a number of recommendations regarding information technology support to the implementation of the Multilateral System, and identified a number of information technology tools that could be rapidly developed and deployed, to support Providers and Recipients in implementing the Multilateral System. These could greatly reduce transaction costs. It recognised that the development of computerised systems, which Providers might use to receive requests for materials, and generate the appropriate Material Transfer Agreements—as well as similar off-line systems—to be put at the disposal of whoever wished to use them on a voluntary basis, would be an important resource in the coherent development of the Multilateral System. It

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stressed the importance of ensuring that these could be integrated into existing information systems and of testing them in real-world situations, and recommended that collaboration therefore be sought with institutions with appropriate capacity and resources.

4. The Interim Secretariat therefore initiated, with Bioversity International, a pilot study for the development of a set of prototype information technology tools, including an on-line Ordering Tool Kit (OTK). A stand-alone application to assist Providers in completing and Standard Material Transfer Agreement, was developed by Cirad for the Treaty Secretariat (Gene-IT), specifically for small genebanks with no easy internet access.

5. These tools were demonstrated during the Second Session of the Governing Body, and aroused a formidable interest and positive feedback from Contracting Parties and institutions holding plant genetic resources in the Multilateral System. The Work Programme and Budget 2008/09 provided for follow-up work and consultations in the present biennium.

6. In implementing the Work Programme and Budget 2008/09 the Secretariat of the International Treaty organized a second technical information technology consultations in Rome. The latest Technical Consultation on Information Technology Support for the Implementation of the Multilateral System of Access and Benefit-sharing (Consultation) met in Rome on 2 and 3 December 2008.

7. The consultation set up a forum to discuss ways in which information technology (IT) could support, simplify and, as far as possible, automate and reduce the transaction costs of the processes involved in the Multilateral System.

8. The Final Report was timely published on the Website of the International Treaty and is included in this document as *Appendix 1*. Annex 1 of the Final Report provides observations, conclusions, possible next steps and further questions for consideration.

Appendix I: Final Report of the Second Consultation on Information Technology Support for the Implementation of the Multilateral System of Access and Benefit-sharing

1. The Technical Consultation on Information Technology Support for the Implementation of the Multilateral System of Access and Benefit-sharing (Consultation) met in Rome on 2 and 3 December 2008. It was convened by the International Treaty Secretariat (ITS) and hosted by the *Centro di Ricerca per la Frutticoltura* on behalf of the Italian Government.
2. This Second Technical Consultation builds upon the results of the First Technical Information Technology Consultation organized by the Interim Treaty Secretariat in Rome, on 13 and 14 February 2007, as a forum to discuss ways in which information technology (IT) could support, simplify and, as far as possible, automate and reduce the transaction costs of the processes involved in the Multilateral System. It forms part of the Work Programme and Budget for the 2008/09 biennium.
3. In building on the work of the Interim Secretariat and in the period since the Second Session of the Governing Body in October 2007, the ITS has been developing further two distinct but inter-related aspects of information management in the context of the Multilateral System:
 - It has been working with potential providers and recipients of material from the Multilateral System of Access and Benefit-sharing (MLS), in order to better identify users' needs for IT modules simplifying and automating the use of the Standard Material Transfer Agreement (SMTA), and to develop and test prototypes; and
 - It has been promoting discussions among managers of information systems and databanks providing information on the plant genetic resources they hold, in order to identify improvements they may wish to make, so as to play their role in the implementation of the Multilateral System.
4. This Second Technical Consultation aimed to taking stock of developments and identifying ways forward. The Secretary of the International Treaty will report on progress to the Governing Body at its Third Session.
5. Contracting Parties, experts and stakeholders participated from Contracting Parties of all the regions, including providers and recipients from both the public and private sectors and government agencies, as well as international institutions holding material in the MLS. The ITS also invited legal experts with experience in international contracts in the digital environment. A wide range of managers of the most important existing information systems on plant genetic resources for food and agriculture contributed actively to the technical consultation. The agenda of the Consultation is in Annex 2 to this report. The list of participants is in Annex 3 to this report.
6. The following main topics were addressed during the Consultation, which benefited from several presentations to assist the participants in their discussions:
 - (a) The background and the rationale for the development of IT tools in general, and the principles guiding the ITS in further developing the IT modules;
 - (b) Information technology initiatives to make available information on material included in the MLS.
 - (c) IT tools to support the implementation of the SMTA.

A. BACKGROUND AND RATIONALE FOR THE DEVELOPMENT OF INFORMATION TECHNOLOGY TOOLS

7. Dr Carmine Damiano, Head of the *Centro di Ricerca per la Frutticoltura*, Ministry of Agriculture of Italy, opened the introductory session by presenting his Centre's activities on PGRFA and the status of implementation of the International Treaty in Italy.
8. Mr Shakeel Bhatti, Secretary of the International Treaty, presented the background and rationale for the development of IT tools based upon the results of the First Technical Information Technology Consultation. At a practical level, the development and use of IT tools has therefore been considered as a means of reducing transaction costs and achieving efficiency, effectiveness and transparency of the Multilateral System.
9. The principles of efficiency, effectiveness and transparency apply to those three areas of the MLS operation where different actors utilize IT tools. Those principles have been translated concretely into the development of the IT modules, by using three practical criteria, namely: i) flexibility of use; ii) user friendliness; and iii) cost-effectiveness.
10. To close the introductory session, Mr Clive Stannard, former Interim Secretary of the International Treaty, presented an update and progress on SMTA operations and the MLS, underscoring current implementation challenges that the IT tools could help to address. Those challenges include :
 - a. documenting and making visible the PGRFA in the MLS;
 - b. facilitating exchange by lowering the transaction costs of the SMTA;
 - c. feeding non-confidential research information back into the MLS;
 - d. providing legal effectiveness to the Third Party Beneficiary.

B. INFORMATION TECHNOLOGY INITIATIVES TO MAKE AVAILABLE INFORMATION ON MATERIAL INCLUDED IN THE MLS

11. The second session was chaired by Dr S.K. Sharma, Director of the National Bureau of Plant Genetic Resources, Ministry of Agriculture of India, and benefited from three different presentations.
12. Mr Frank Begemann, Head, Information and Coordination Centre for Biological Diversity (IBV), Federal Agency for Agriculture and Food of Germany presented the German and European information management system on PGRFA in support to MLS implementation. The key instrument in Germany to identify material in the MLS is the National Inventory for Plant Genetic Resources (PGRDEU). The PGRDEU includes data on PGRFA that are gathered through a reporting infrastructure established in the framework of the National Programme. Mr Begemann described how the European network of *ex situ* National Inventories (EURISCO) can contribute to Treaty implementation, including for the provision of information through a global system.

13. Mr Ruaraidh Sackville Hamilton, Senior Scientist at the Genetic Resources Center, IRRI, Philippines, presented IRRI's experience with identifying the material included in the MLS. He described in detail the workflow required to check the MLS status of each material, emphasizing on the complexities attached to PGRFA under development where information on the pedigree is required.
14. Mr Michael Mackay, Coordinator of the Biodiversity Informatics Project at Bioversity International, presented the Global Information on Germplasm Accessions (GIGA) project, which aims to developing a global system for accessing and managing accession-level data in support of conservation and use of PGRFA by linking up national, regional and international genebank databases.
15. The following discussion focused on the following three questions: i) how to make information on material available in the MLS visible and accessible to users; ii) how to initiate discussions on Global Information System under Article 17 of the International Treaty which could be considered by the Governing Body; iii) what work should the ITS undertake on MLS information? The conclusions reached by the Consultation on these items are summarized in the conclusions adopted by the participants. The conclusions are in Annex 1 to this report.

C. INFORMATION TECHNOLOGY WORKS ON THE STANDARD MATERIAL TRANSFER AGREEMENT OPERATIONS

16. The third session was opened by a presentation by Rajesh Sood, Information System Analyst at Bioversity International, on the prototype online IT modules that were developed and presented at the Second Session of the Governing Body and another presentation by Mr Selim Louafi, Senior Treaty Officer at the ITS, who provided a general overview of SMTA IT tools. Subsequently, the session was divided in two parts: the first one on the application of offline IT tools and the second one on the application of online IT tools.

The offline IT tool : Gene-IT

17. The sub-session was chaired by Catherine Mungoma, Ministry of Agriculture of Zambia and consisted of a presentation by Mr Roland Cottin, Senior Scientist, BIOS, *Centre de coopération internationale en recherche agronomique pour le développement* (CIRAD), Montpellier, (France) on the software prototype he had developed in collaboration with the ITS.
18. This software would make it possible for small genebanks and other providers to make their material available through the SMTA, and manage their SMTA-related information. Participants reported that Gene-IT was already being used successfully and congratulated with the ITS and CIRAD. Suggestions were made for its further development and potential collaboration with GRIN-global was suggested by the Consultation.

The online IT modules

19. The sub-session was chaired by Mr Frank Begemann and included a general presentation by Mr Luca Castellani, Secretary of Working Group on Electronic Commerce of the United Nations Commission on International Trade Law (UNCITRAL)¹, on legal issues arising in the conclusion of private contracts in the digital environment.
20. Mr Castellani pointed out that the United Nations Convention on the Use of Electronic Communications in International Contracts, which is administered by the UNCITRAL

¹ UNCITRAL is the UN convention responsible for harmonization of international trade rules (www.uncitral.org).

Secretariat, contains three fundamental principles, which are the cornerstone of modern regulatory system for electronic commerce and fully apply to the MLS information technology tools. Those three principles are: 1) non-discrimination; 2) functional equivalence; and 3) technological neutrality.²

21. Mr. Castellani touched upon another key legal issue for the MLS architecture, which is the liability of data providers. He referred to the current leading practice of dealing with the issue in contractual terms in order to allocate risks based on technological capacity and system control.
22. Mr. Castellani made reference to prevailing standards in e-signatures, and, in particular, the two-tiered approach adopted in several jurisdictions, including European Union Member States. He stressed that the choice of identification method should depend on the value and quantity of transactions, and that different technological solutions might be possible depending on user's technology and risk magnitude.
23. The Consultation felt that the inputs provided by UNCITRAL are key to designing stable IT support for the MLS and expressed its thanks to UNCITRAL for making available its expertise. The Consultation requested UNCITRAL and other relevant international organizations to continue contributing to the development of IT support for the MLS and collaborating with the ITS on the implementation of the Treaty in general. The Consultation requested UNCITRAL, other relevant international organizations and the ITS to continue their collaboration in order to analyze the legal aspects of SMTA operations in the digital environment.
24. Mr Selim Louafi gave an overview of the online applications developed by the ITS and its partners followed by several demonstrations of existing or prototype online systems for SMTA operations, namely:
 - a. the draft online IT modules developed by the ITS, which include three components: i) an ordering tool kit that can be plugged into a provider database system; ii) a PID server which allows to uniquely identify users; and iii) a Datastore enabling users to report back to the Governing Body of the International Treaty through the ITS in accordance with the provision of the SMTA;
 - b. the draft prototype ordering system developed by the International Network for Genetic Evaluation of Rice (INGER) for breeding material which will be connected to the PID server and to the ITS Datastore;
 - c. the online ordering system developed by Centre for Genetic Resources of the Netherlands (CGN), which enables users to select material from this institution and order it. The information on exchange could be reported back on a regular basis directly to the Datastore using an upload function developed by the ITS.
25. The demonstrations were followed by two presentations by two Contracting Parties, Brazil and Malaysia. Mr Leontino Rezende Taveira, Ministry of Agriculture of Brazil, presented the IT work for cassava collections and noted the challenges ahead for full participation in the MLS. Mr Zulhairil Arrifin, Ministry of Agricultural and Agro-based

² Non-discrimination means that a communication or a contract shall not be denied validity or enforcement on the sole ground of their electronic form. Functional equivalence requires the analysis of the functions performed by requirements for paper-based work and the establishment of conditions for fulfilling the same functions in the electronic setting. Technological neutrality calls for regulators to develop rules applicable to all technologies potentially available to achieve certain functions without reference to any specific technology.

Industry of Malaysia, presented the Malaysian experience with MLS implementation and highlighted the importance of both offline and online IT tools for Malaysian users.

26. The Consultation provided comments on the draft prototypes and the ITS undertook to consider those comments prior to finalization and launching of the prototypes.
27. In the final roundtable chaired by Mr Leontino Taveira, the Consultation discussed next steps and reached several conclusions by consensus. Those conclusions are listed in Annex I to this report.

Annex 1

Conclusions reached by the Second Technical Consultation on Information Technology Tools for the Implementation of the Multilateral System of Access and Benefit Sharing

1. The Second Technical Consultation on Information Technology for the Implementation of the Multilateral System of Access and Benefit-sharing (Consultation) met in Rome on 2 and 3 December 2008. Users and experts from Contracting Parties and other relevant stakeholders participated in the Consultation.
2. The Consultation held a wide range of discussions on ongoing initiatives for information technology (IT) support to the operation of the Multilateral System of Access and Benefit-sharing (MLS) and the Standard Material Transfer Agreement (SMTA). The Consultation reached a number of substantive observations and conclusions on partnerships, next steps and questions for further consideration.

A. SUBSTANTIVE OBSERVATIONS AND CONCLUSIONS

3. The Consultation welcomed a number of initiatives for the development of IT support tools for MLS and SMTA operations which have been undertaken by various stakeholders and commended the work of the Secretariat of the International Treaty (ITS) on the ongoing development of IT support tools.
4. The Consultation welcomed the processes underway to provide global information on germplasm accessions. It welcomed the initiation of the GIGA project and the collaborative approach between the ITS and project partners.
5. The need to assist developing countries through capacity-building, so that they can establish and develop their national information systems was stressed.
6. The Consultation recognized that while the development of information systems on plant genetic resource for food and agriculture (PGRFA) was not the direct task of the ITS, it played a valuable role in providing a forum in which stakeholders can discuss and take stock of developments that could help implement the MLS. This would assist the Governing Body to take stock and assess the current status of the MLS, and set its objectives in this regard.
7. The Consultation recommended that further consultations form part of the Treaty's work programme for the next biennium, based on activities already included in the present work programme 2008/09.
8. The Consultation stressed the importance of the ITS mobilizing information on the PGRFA that are available through the MLS and bringing this to the attention of the Governing Body. This is in the spirit of the Treaty, which is to facilitate access. It suggested using not only national focal points designated by Contracting Parties, but reaching out to farmers' organizations and seed organizations.
9. The Consultation agreed that the development of IT tools to facilitate the use of the SMTA, particularly in developing countries and by small genebanks, should be a priority for the ITS, under the guidance of the Governing Body. It noted that this was being done in a way that would support reporting of information to the Governing Body, in

accordance with the provisions of the SMTA, when the Governing Body had given guidance on what items of information would be required.

B. CONCLUSIONS ON PARTNERSHIPS, NEXT STEPS AND QUESTIONS FOR FURTHER CONSIDERATION

10. The Consultation concluded that the next steps of the work on IT support tools for the MLS and SMTA should include the establishment of the following three focus groups:

1. *Focus group on existing IT support tools for MLS information in relation to Article 17*

The focus group will develop a vision paper which takes stock of existing information systems and outlining a process for the establishment of the Global Information System under the International Treaty, as foreseen in Article 17. A first draft of the vision paper will be prepared by the ITS based on the discussions at the second IT Consultation. The vision paper will be provided to the experts participating in the second IT Consultation and, following incorporation of comments, will be presented to the Governing Body at its third session.

2. *Focus group on legal issues*

The focus group will consider and elaborate a checklist of legal issues prepared by the Secretariat, based on the legal issues identified during discussions at the second IT Consultation and inputs from UNCITRAL. The checklist will be provided to the experts on the SMTA and MLS who met in Montreal in July 2008 and presented to the Governing Body at its third session. An initial illustrative and non-exhaustive list of items, which was developed by the Second IT Consultation as a basis for further elaboration of the Checklist is in Appendix 1.

3. *Focus group on use cases for IT tools to support SMTA operations*

The focus group will establish use cases to identify problems which users are facing in using the SMTA and address them through the IT tools being developed by the ITS on the basis of the prototypes that were presented before the Governing Body at its second session and the second IT Consultation. The ITS will review the use cases for further developing and finalizing the IT modules.

11. With regard to the finalization of the stand-alone, off-line IT tool (Gene-IT), the Consultation reviewed the stand-alone, off-line IT tool (Gene-IT), which would make it possible for small genebanks and other providers to make their material available through the SMTA, and manage their SMTA-related information. Participants reported that Gene-IT was already being used successfully, and congratulated the ITS and CIRAD. Suggestions were made for its further development. Potential collaboration with Grin-global was suggested by the consultation.

APPENDIX 1 OF THE FINAL REPORT

Legal matters to be considered include:

- The need to provide the Recipient with an opportunity to correct errors.
- Clarification of the point at which the contract is concluded between the recipient and the provider.
- What “reasonable measures” to identify persons requesting PGRFA might include.
- Clarity regarding the authority of the person requesting PGRFA, or another person in the institution, to conclude an SMTA.
- The measures necessary to ensure privacy, and data protection.
- Standards for secure data transmission and maintenance and questions of liability.
- Clarification of grounds for rejecting a request for PGRFA.
- Clarification of copyright management policy with regard to the IT tools.

The Consultation considered that issues related to electronic ordering systems and the on-line generation of SMTAs could be addressed by a combination of:

- Recognition of the role of the UN Convention on the Use of Electronic Communications in International Contracts.
- Posting on relevant web-sites of FAQs addressing the relevant matters in the check-list.
- Reconsideration of the structure of relevant IT tools, in the light of the check-list.

In order to increase trust in the MLS and the use of the SMTA, the Consultation stressed the need for the ITS to develop and diffuse simple information on the SMTA and its use, particularly in developing countries.

Annex 2

Agenda of the Second Technical Consultation on Information Technology Tools for the Implementation of the Multilateral System of Access and Benefit Sharing

DAY 1: 2 December 2008

INTRODUCTORY SESSION

9:00

Opening speech

Mr Carmine Damiano, Director of the 'Centro di Ricerca per la Frutticoltura'

9:15

Introduction of participants

9:30

Introduction: objectives, background and rationale of the development of the information technology tools for the implementation of the Multilateral System of Access and Benefit-sharing (MLS)

Mr Shakeel Bhatti, Secretary of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)

09:50

Update on progress in the operation of the Standard Material Transfer Agreement (SMTA) and the MLS

Mr Clive Stannard, International consultant and former Interim Secretary of the ITPGRFA

Mr Shakeel Bhatti

10:10

Coffee Break

SESSION 1 : INFORMATION TECHNOLOGY INITIATIVES TO MAKE AVAILABLE INFORMATION ON MATERIAL INCLUDED IN THE MLS

10:30

Inclusion of material in the MLS: the German and the European information management system on PGRFA

Mr. Frank Begemann, Head, Information and Coordination Centre for Biological Diversity (IBV), Federal Agency for Agriculture and Food

11:00

Identification of material in the MLS: the International Rice Research Institute (IRRI) experience

Mr Ruaraidh Sackville Hamilton, Senior Scientist, Genetic Resources Center, IRRI

11:30

The Global Information on Germplasm Accessions (GIGA) project

Mr Michael Mackay, Coordinator, Biodiversity Informatics Project, Bioversity International

12:00

Roundtable discussion on future information technology work in support to the MLS

13:00

Lunch Break

SESSION 2 : INFORMATION TECHNOLOGY WORKS ON THE SMTA OPERATIONS

2.1 : Background and introduction

14:30

Presentation of the prototype information technology tools demonstrated at the second session of the Governing Body

Mr Rajesh Sood, Information System Analyst, Bioversity International

15:00

Presentation of SMTA information technology tools: a general overview

Mr Selim Louafi, Senior Treaty Officer, Secretariat of the ITPGRFA

15:30

Coffee Break

2.2 : Application of offline information technology tools: Gene-IT

15:50

Presentation of Gene-IT, a stand-alone software for the Generation of SMTAs and the management of SMTA related information

Mr Roland Cottin, Senior Scientist, BIOS, Centre de coopération internationale en recherche agronomique pour le développement (CIRAD), Montpellier, France.

16:30

Roundtable discussion on Gene-IT

DAY 2 : 3 December 2008

2.3 : Application of online information technology tools

9:00

General overview of legal issues in the digital environment: integrity, liability and confidentiality

Mr Luca Castellani, Secretary of Working Group IV (Electronic Commerce), UN Commission on International Trade Law (UNCITRAL)

9:45

Presentation of the further developments of the information technology online modules: Provider Ordering Tool Kit (POTK), Permanent Identifier (PID), and Data Store (DS)

International Treaty Secretariat staff, with inputs from Contracting Parties and partner organizations

11:00

Coffee Break

11:30

Roundtable on the online information technology modules

12:30

Lunch Break

SESSION 3 : FINAL SESSION

14:00

Wrap up roundtable: partnerships, next steps and questions for further consideration

16:00

Closing of the Consultation

Annex 3

List of participants to the Second Technical Consultation on Information Technology Tools for the Implementation of the Multilateral System of Access and Benefit Sharing

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