Information, intellectual property and the global information system for plant genetic resources for food and agriculture

Charles Lawson*

The International Treaty on Plant Genetic Resources for Food and Agriculture (Plant Treaty) establishes a mechanism for the accessing and sharing of some plant materials. An essential element of that accessing and sharing is information about the materials including information (and data) about the characterisation, regeneration and evaluation of the materials. A Global Information System (GLIS) will allow much of this information to be made available and shared. This article reviews the information obligations imposed by the Plant Treaty and its associated Standard Material Transfer Agreement on the collection and disclosures of information and other legal obligations that will likely shape the form and function of the GLIS. The article concludes that the GLIS will need to carefully distinguish between information that is freely available and information that is subject to legal restrictions.

INTRODUCTION

Genetic resources are the biological materials that comprise the diversity of living matter. Accessing and benefit sharing these genetic resources are necessary to sustain food production and health in the face of increasing challenges from diseases, climate change and land degradation, and achieving world food and health security. An international regulatory framework is presently evolving to share these genetic resources with a generalised scheme under the United Nations Convention on Biological Diversity (and its *Nagoya Protocol*), and specific schemes now directed to some agricultural plants under the Food and Agriculture Organisation's *International Treaty on Plant Genetic Resources for Food and Agriculture* (Plant Treaty) and human pandemic influenza virus under the World Health Organization's *International Health Regulations* (2005).¹

While these schemes are primarily directed to accessing and benefit sharing the tangible materials comprising the genetic resources, being whole organisms, viruses, DNA, proteins, derivatives, and so on, a critical element is the information and data about these materials. This information is useful to characterise the resources and also to record the use and performance of the materials that might be applied for further research and breeding, regulatory approvals, risk assessments, rationalising conservation strategies, prior art, and so on, that enable these useful materials to be effectively exploited. The rapid advance of computer-based technologies is shifting the focus from the raw materials to the non-material values of these genetic resources – the “dematerialisation” of the use of genetic resources, being “the increasing trend for the information and knowledge content of genetic material to be extracted, processed and exchanged in its own right, detached from the physical exchange of the plant genetic material”.²

This article addresses the information obligations imposed by the Plant Treaty on the collection and disclosures of information from plant genetic resources for food and agriculture that will likely shape the form and function of the Plant Treaty's proposed Global Information System (GLIS) – a mechanism for collecting together, storing and sharing information about these genetic resources. The

* Australian Centre for Intellectual Property in Agriculture, Griffith Law School, Griffith University, Queensland.

¹ For an overview of these schemes and their development see Lawson C, *Regulating Genetic Resources: Access and Benefit-sharing in International Law* (Edward Elgar, 2012).

² Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture, *Fifth Session of the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture*, IT/GB-5/13/Report (2013), Appendix I.2.

particular concern of this article is the laws that might apply to the collection, storage and distribution of this information, and in particular, the limits these laws might impose to the efficient and effective operation of the GLIS.

The Plant Treaty sets out a scheme for access to plant materials made available by contracting parties through the use of a Standard Material Transfer Agreement (SMTA).³ The SMTA is a standard form document in the model of a contract negotiated and adopted by the Plant Treaty's governing body⁴ that imposes terms and conditions on sharing plant materials under the Plant Treaty's obligations.⁵ The SMTA provides that the SMTA "is entered into within the framework of the Multilateral System and shall be implemented and interpreted in accordance with the objectives and provisions of the [Plant] Treaty".⁶ In effect, the Plant Treaty and the SMTA operate together to regulate the exchanges of shared plant materials including various information obligations placed on the Plant Treaty's contracting parties and the parties to the SMTA to make information available.⁷ These forms of information are necessary, in part, to increase the efficiency and sustainability of conserving and exchanging plant materials.⁸ More importantly, however, this information is an essential part of sharing the benefits from transferring the plant materials⁹ and in the longer term enables better plant varieties to be developed because breeders can make better decisions about the breeding materials they have available.

Central to this arrangement is a GLIS to allow the information about plant materials to be collected, made available and shared with all potential users of the Plant Treaty materials.¹⁰ This article reviews the kinds of information requirements under the Plant Treaty and SMTA, and the limits to how this information is disclosed. This is important because various legal obligations are imposed on the collection and disclosures of information that will likely shape the form and function of the developing GLIS. And as the GLIS is the "dematerialisation" site that collects together information detached from the tangible genetic resources, these legal obligations will be central to the efficient and effective functioning of the GLIS.

The first section of this article reviews the information obligations of both the Plant Treaty and the SMTA to identify limitations imposed on sharing materials according to confidentiality, national laws and capabilities and addresses the substance of these limitations in turn. The second section of this article sets out a discussion about the effect of information limitations on the shape and form of the GLIS. Finally, the article concludes that care will need to be exercised in assessing what information can be provided, and suggests that the GLIS will need to carefully distinguish between information that is freely available and information that is subject to restrictions.

³ *International Treaty on Plant Genetic Resources for Food and Agriculture*, 2400 UNTS 303 (2001) (Plant Treaty), Art 10 (Multilateral System) and 12 (Facilitated Access and Standard Materials Transfer Agreement), <http://ftp.fao.org/docrep/fao/011/i0510e/i0510e.pdf>. See also Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture, *First Session of the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture*, T/GB-1/06/Report (2006), [12] (Resolution 2/2006) and Appendix G (Standard Materials Transfer Agreement), <http://ftp.fao.org/ag/agp/planttreaty/gb1/gb1repe.pdf>.

⁴ T/GB-1/06/Report, n 3, [12].

⁵ Plant Treaty, n 3, Art 12.3.

⁶ T/GB-1/06/Report, n 3, Appendix G: Art 4.1.

⁷ Plant Treaty, n 3, Art 12.3(c).

⁸ Plant Treaty, n 3, Art 5.1(e). For example, the *Global Plan of Action for Plant Genetic Resources for Food and Agriculture* identified a need for a more rational system of global germplasm banks (such as avoiding unnecessary duplication) to "develop an efficient goal-oriented, economically efficient and sustainable system of *ex situ* conservation": International Technical Conference on Plant Genetic Resources, *Global Plan of Action for Plant Genetic Resources for Food and Agriculture* (FAO, 1996), [79]. See also Commission on Genetic Resources for Food and Agriculture Food and Agriculture Organization of the United Nations, *Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture* (FAO, 2011), [107].

⁹ Plant Treaty, n 3, Art 13.2(a).

¹⁰ Plant Treaty, n 3, Art 17.

PLANT TREATY AND SMTA INFORMATION OBLIGATIONS

The Plant Treaty is an agreement among contracting parties within the framework of the Food and Agriculture Organization of the United Nations (FAO)¹¹ and limited to members (and member organisations)¹² of the United Nations, United Nations specialised agencies and the International Atomic Energy Agency.¹³ There are presently 137 contracting parties, with China and the United States being conspicuous exceptions.¹⁴ The objectives of the Plant Treaty are “the conservation and sustainable use of plant genetic resources for food and agriculture” and “the fair and equitable sharing of the benefits arising out of their use ... in harmony with the [United Nations] *Convention on Biological Diversity*, for sustainable agriculture and food security”.¹⁵ The Plant Treaty imposes obligations on these contracting parties to “ensure the conformity [of their] laws, regulations and procedures with its obligations as provided in the [Plant] Treaty”.¹⁶ Some key obligations in the Plant Treaty are on contracting parties to establish a multilateral system¹⁷ of plant materials; facilitated access¹⁸ to these materials; and sharing any benefits from using the accessed materials.¹⁹ The multilateral system comprises plant materials made available for “facilitated access” that are “under the management and control of the Contracting Parties and in the public domain”,²⁰ the ex situ collections of the International Agricultural Research Centres of the Consultative Group on International Agricultural Research (CGIAR),²¹ and any other contributions.²² Presumably the contributions from the CGIAR and others (being natural and legal persons and “international institutions”)²³ will conform to the arrangements and obligations imposed on contracting parties, unless there are terms and conditions of any agreements entered into by the governing body that vary these Plant Treaty (and SMTA) arrangements.²⁴ At present the CGIAR collections and other contributions are being made available under the same SMTA as other materials in the multilateral system.²⁵

The Plant Treaty requires contracting parties to make certain information available through the GLIS:²⁶

Contracting Parties shall cooperate to develop and strengthen a global information system to facilitate the exchange of information, based on existing information systems, on scientific, technical and environmental matters related to plant genetic resources for food and agriculture, with the expectation

¹¹ Plant Treaty, n 3, Preamble.

¹² Plant Treaty, n 3, Art 29.

¹³ Plant Treaty, n 3, Art 25, 26, 27.

¹⁴ For a listing of contracting parties: see <http://www.planttreaty.org/content/contracting-parties-treaty>.

¹⁵ Plant Treaty, n 3, Art 1.1.

¹⁶ Plant Treaty, n 3, Art 4.

¹⁷ Plant Treaty, n 3, Art 10 (Multilateral System).

¹⁸ Plant Treaty, n 3, Art 12 (Facilitated Access).

¹⁹ Plant Treaty, n 3, Art 10.2.

²⁰ Plant Treaty, n 3, Art 11.2. These are predominantly Annex I materials, although the text does not exclude other plant materials not listed in Annex I, and this has been the practice of some contracting parties: see, for example, Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture, *Report on the Implementation of the Multilateral System of Access and Benefit Sharing* (2013) IT/GB-5/13/5, [28].

²¹ Plant Treaty, n 3, Art 11.5.

²² Plant Treaty, n 3, Art 11.3.

²³ Plant Treaty, n 3, Art 11.3, 11.5, 15.1, 15.5.

²⁴ Plant Treaty, n 3, Art 15.2, 15.5.

²⁵ IT/GB-5/13/5, n 20, [28].

²⁶ Plant Treaty, n 3, Art 5.1(e).

that such exchange of information will contribute to the sharing of benefits by making information on plant genetic resources for food and agriculture available to all Contracting Parties.²⁷

Other elements of the GLIS are as an early warning system to safeguard threatened materials²⁸ and to assist the Commission on Genetic Resources for Food and Agriculture of the FAO to periodically assess the state of the world's genetic resources.²⁹ The form of the GLIS is not a single database but rather a conglomeration of existing and future systems that together comprise the GLIS – a decentralised and joined up network of computer-based databases around the globe effectively storing and sharing the information and data that comprises the GLIS.

The kinds of information addressed by the Plant Treaty (and SMTA) are inclusively identified in the Plant Treaty:

The Contracting Parties agree to make available information which shall, *inter alia*, encompass catalogues and inventories, information on technologies, results of technical, scientific and socio-economic research, including characterization, evaluation and utilization, regarding those plant genetic resources for food and agriculture under the Multilateral System. Such information shall be made available, where non-confidential, subject to applicable law and in accordance with national capabilities. Such information shall be made available to all Contracting Parties to this [Plant] Treaty through the information system, provided for in Article 17 [the GLIS].³⁰

The Plant Treaty then requires facilitated access that will include “[a]ll available passport data” and “any other associated available non-confidential descriptive information”³¹ subject to any laws limiting disclosure, and any relevant international agreements and national laws.³² The “passport data” is essentially identifying information that allows the correct material to be properly exchanged.³³ The limit to only “descriptive information” is probably distinguishing between the kinds of information collected in the day-to-day operation of germplasm repositories (such as seed moisture content, seed viability testing, seed storage, and so on) that does not need to be provided and the kinds of information collected about the characterisation, regeneration and evaluation of the materials that do need to be provided.³⁴ This recognises that many different sorts of information are likely to be collected about plant materials in the multilateral system and that only some of that information needs to be passed on with the accessed materials.

The Plant Treaty's obligations on contracting parties are then imposed on those accessing plant materials from the multilateral system through the SMTA.³⁵ The SMTA is a contractual agreement between a provider³⁶ and a recipient.³⁷ The agreement imposes the obligation on the provider to make available any “passport data” and “any other associated available non-confidential descriptive information” connected with the provided plant materials³⁸ “consistent with relevant international [intellectual property] agreements” and “relevant national laws”.³⁹ On the recipient there is the

²⁷ Plant Treaty, n 3, Art 17.1.

²⁸ Plant Treaty, n 3, Art 17.2.

²⁹ Plant Treaty, n 3, Art 17.3. See, for example, Food and Agriculture Organisation of the United Nations, *Second Report on the State of the World's Plant Genetic Resources for Food and Agriculture* (FAO, 2010).

³⁰ Plant Treaty, n 3, Art 13.2(a).

³¹ Plant Treaty, n 3, Art 12.3(c).

³² Plant Treaty, n 3, Art 12.3(f).

³³ Alercia A, Diulgheroff S and Mackay M, *FAO/Bioversity Multi-Crop Passport Descriptors (MCPD V.2)* (FAO and Bioversity International, 2012).

³⁴ Painting K, Perry M, Denning R and Ayad G, *Guidebook for Genetic Resources Documentation* (IPGRI, 1995) pp 46-47.

³⁵ Plant Treaty, n 3, Art 10 (Multilateral System), 12 (Facilitated Access and Standard Materials Transfer Agreement); T/GB-1/06/Report, n 3, Appendix G: Art 4.1.

³⁶ T/GB-1/06/Report, n 3, Appendix G: Art 1.2.

³⁷ T/GB-1/06/Report, n 3.

³⁸ T/GB-1/06/Report, n 3, Appendix G: Art 3, 5(b), Annex 1.

³⁹ T/GB-1/06/Report, n 3, Appendix G: Art 3, 5(d).

obligation to both pass on the same SMTA terms and conditions to subsequent recipients including the information provisions,⁴⁰ and if the materials are conserved, or subjected to further research and development, then some information must be passed on to the multilateral system information systems.⁴¹ For “conserved” materials this is limited to any “associated available non-confidential descriptive information”,⁴² and for “research and development” materials this is “all non-confidential information”.⁴³

The effect of the Plant Treaty and SMTA is to impose on the contracting parties, providers and recipients obligations to make information available through the multilateral system using the GLIS. So far the Plant Treaty’s governing body has addressed the GLIS welcoming the contribution of existing information systems,⁴⁴ encouraging ongoing collaborations,⁴⁵ and starting the development of the system.⁴⁶ The result at this time is that the development of suitable information systems and tools for plant materials is underway,⁴⁷ even though the precise form of these systems remains uncertain.⁴⁸ This makes the assessment of the legal obligations applying to the information obligations timely and important.

The Plant Treaty does not identify the outer limits of information that might be made available or limit the potential scope of information that might be included in the GLIS. The Plant Treaty does, however, specifically limit the making of information available in three circumstances: where the information is confidential, where national laws limit making information available, and “in accordance with national capabilities”.⁴⁹ Further, the SMTA imposes the same obligations on providers and recipients about providing information.⁵⁰ The question, therefore, is what are the limiting factors in both the Plant Treaty and the SMTA that will impose structural limits on the developing GLIS? Before addressing this question directly the article reviews the scope of the limits applying to information made available under the Plant Treaty and SMTA, noting that there is some overlap between the Plant Treaty and SMTA limitations. The three specific circumstances limiting information availability of confidentiality, national laws and national capabilities are now considered in turn.

⁴⁰ T/GB-1/06/Report, n 3, Appendix G: Art 6.4.

⁴¹ T/GB-1/06/Report, n 3, Appendix G: Art 5(b), 6.3, 6.9.

⁴² T/GB-1/06/Report, n 3, Appendix G: Art 5(b), 6.3.

⁴³ T/GB-1/06/Report, n 3, Appendix G: Art 6.9.

⁴⁴ Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture, *Third Session of the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture* (2009) IT/GB-3/09/Report, [37] and Appendix A.4 (Resolution 4/2009).

⁴⁵ IT/GB-3/09/Report, n 45, [50] and Appendix A.7 (Resolution 7/2009) and [54] and Appendix A.8 (Resolution 8/2009). See also International Treaty Secretariat, *Second Technical Consultation on Information Technology Support for the Implementation of the Multilateral System of Access and Benefit-sharing* (2008) IT/GB-3/TCIT-2/08/Report.

⁴⁶ Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture, *Fifth Session of the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture* (2013) IT/GB-5/13/Report, [41], Appendix A.10 (Resolution 10/2013); Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture, *Fourth Session of the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture* (2011) IT/GB-4/11/Report, [25], Appendix A.4 (Resolution 4/2011), [31], Appendix A.8 (Resolution 8/2011). See also Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture, *Vision Paper on the Further Development of Article 17: Global Information System* (2013) IT/GB-5/13/17; Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture, *Vision Paper on the Development of the Global Information System in the Context of Article 17 of the Treaty* (2011) IT/GB-4/11/19.

⁴⁷ Expert Consultation on the Global Information System on Plant Genetic Resources for Food and Agriculture, *Report of the First Meeting of the Expert Consultation on the Global Information System on Plant Genetic Resources for Food and Agriculture* (2015) IT/COGIS-1/15/Report.

⁴⁸ IT/GB-5/13/17, n 46, [32]-[42].

⁴⁹ Plant Treaty, n 3, Art 13.2(a). See also Moore G and Tymowski W, *Explanatory Guide to the International Treaty on Plant Genetic Resources for Food and Agriculture*, No 57 (IUCN, 2005) pp 104-105.

⁵⁰ T/GB-1/06/Report, n 3, Appendix G: Art 1.2, 3, 5(b), 5(d), 6.3, 6.4, 6.9, Annex 1.

What information is “confidential”?

The Plant Treaty identifies the kinds of information that it covers, such as “catalogues and inventories, information on technologies, results of technical, scientific and socio-economic research, including characterization, evaluation and utilization”.⁵¹ This is an incredibly broad ambit and consistent with the ideal that sharing and disclosing information is one of the benefits flowing from accessing the multilateral system and that this should be enabled through the GLIS.⁵² Despite this wide ambit, the Plant Treaty and SMTA do specifically limit making information available as a part of benefit sharing where it is confidential.⁵³ This is because of the expressed obligations not to disclose confidential information⁵⁴ and to comply with relevant international agreements and national laws that impose confidentiality standards.⁵⁵

These bounds of confidentiality are generally established by evolving minimum standard norms in international agreements with the Plant Treaty expressly affirming that “nothing in this Treaty shall be interpreted as implying in any way a change in the rights and obligations of the Contracting Parties under other international agreements”.⁵⁶ The effect of this provision is to maintain existing contracting party obligations to their various multilateral and bilateral agreements addressing confidentiality. These schemes are well established and provide some insight into what information is confidential. Perhaps the most significant standards setting agreement for the Plant Treaty and SMTA is the World Trade Organisation’s (WTO) *Agreement on Trade Related Aspects of Intellectual Property (TRIPS)*.⁵⁷ Importantly, most contracting parties to the Plant Treaty are also members of the WTO and are required to implement the minimum standards set by TRIPS.⁵⁸ The TRIPS agreement does set global minimum standards for protecting undisclosed information,⁵⁹ although these TRIPS standards are now enhanced in many of the existing bilateral agreements.⁶⁰ As a minimum standard, TRIPS essentially requires members to protect confidential information (including trade secrets) and regulatory test data for the marketing approval of pharmaceutical and agricultural chemicals.⁶¹ These are now considered further.

First, confidential information is broadly protected, with TRIPS providing:

Natural and legal persons shall have the possibility of preventing information lawfully within their control from being disclosed to, acquired by, or used by others without their consent in a manner contrary to honest commercial practices so long as such information:

- (a) is secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question;
- (b) has commercial value because it is secret; and
- (c) has been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret.⁶²

And the associated footnote provides:

⁵¹ Plant Treaty, n 3, Art 13.2(a).

⁵² Plant Treaty, n 3, Art 13.2.

⁵³ Plant Treaty, n 3, Art 13.2(a); T/GB-1/06/Report, n 3, Appendix G: Art 5(d).

⁵⁴ Plant Treaty, n 3, Art 13.2(a).

⁵⁵ T/GB-1/06/Report, n 3, Appendix G: Art 5(d).

⁵⁶ Plant Treaty, n 3, Preamble.

⁵⁷ *Agreement of Trade Related Aspects of Intellectual Property* (1994) 33 ILM 1197 (TRIPS).

⁵⁸ TRIPS, Art 1(1).

⁵⁹ TRIPS, Art 2(1), 39.

⁶⁰ *Australia-United States Free Trade Agreement* [2005] ATS 1, Art 17.1-17.12; *North American Free Trade Agreement* (1993) 32 ILM 605, Art 1701-1721.

⁶¹ Malbon J, Lawson C and Davison M, *The WTO Agreement on Trade-Related Aspects of Intellectual Property Rights: A Commentary* (Edward Elgar, 2014) p 566.

⁶² TRIPS, Art 39(2) (footnote omitted).

For the purpose of this provision, “a manner contrary to honest commercial practices” shall mean at least practices such as breach of contract, breach of confidence and inducement to breach, and includes the acquisition of undisclosed information by third parties who knew, or were grossly negligent in failing to know, that such practices were involved in the acquisition.⁶³

As a generalisation, the meaning of this provision is to require WTO members to make available remedies against the disclosure, acquisition and use, without consent, of information that is “secret”, of “commercial value” and that “has been subject to reasonable steps under the circumstances ... to keep it secret”.⁶⁴ Most members have enacted legislation or developed judge-made laws (common law and equity) that satisfy these standards. For example, the states of the United States have broadly adopted the *Uniform Trade Secrets Act* that appears to have been the substantial origin of the TRIPS obligations,⁶⁵ defining “trade secret” to mean:

[I]nformation, including a formula, pattern, compilation, program, device, method, technique, or process, that –

- (i) derives independent economic value, actual or potential, from no[t] being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use; and
- (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.⁶⁶

The effect of TRIPS, and the domestic laws of WTO members complying with the TRIPS standard, is to protect information that has some commercial value and where measures have been taken to keep that information secret. This same standard might be expected to apply to confidential information under the Plant Treaty and SMTA.

Secondly, some regulatory test data for the marketing approval of pharmaceutical and agricultural chemicals is also protected according to TRIPS, and may require protection against disclosure as confidential information:

Members, when requiring, as a condition of approving the marketing of pharmaceutical or of agricultural chemical products which utilize new chemical entities, the submission of undisclosed test or other data, the origination of which involves a considerable effort, shall protect such data against unfair commercial use. In addition, Members shall protect such data against disclosure, except where necessary to protect the public, or unless steps are taken to ensure that the data are protected against unfair commercial use.⁶⁷

As a generalisation this provision is primarily directed to the information associated with a pharmaceutical or an agricultural chemical product that requires some form of regulatory approval.⁶⁸ For example, in some jurisdictions safety and efficacy data might be required before an agricultural chemical can be released into the environment. The information collected as a condition of gaining regulatory approval for these products must be protected, although in many jurisdictions the scope of data protection is actually much broader and extends beyond chemicals to include, for example, devices, plants and animals. The obligation attaching to test data is that the regulatory approver must not disclose it unless they are protecting the public or there are protections “against unfair commercial

⁶³ TRIPS, Art 39(2) (footnote).

⁶⁴ For a detailed analysis of this provision see, for examples, Malbon, Lawson and Davison, n 61, pp 578-582.

⁶⁵ Malbon, Lawson and Davison, n 61, p 581.

⁶⁶ *Uniform Trade Secrets Act* (Drafted by the National Conference of Commissioners on Uniform State Laws, as amended 1985), s 1(4).

⁶⁷ TRIPS, Art 39(3).

⁶⁸ For a detailed analysis of this provision see, for example, Malbon, Lawson and Davison, n 61, pp 582-594.

use”.⁶⁹ Most TRIPS Members have implemented specific test data laws that provide a term of exclusivity for test data submitted as part of a regulatory approval process, after which the data becomes available for others.⁷⁰

The analyses shows that the Plant Treaty and the SMTA conceive information very broadly and apply a standard of confidence where this information has some commercial value, where measures have been taken to keep that information secret, or the data is submitted as part of a regulatory approval process. And these protections readily extend to materials under the Plant Treaty and SMTA. So, for example, commercially sensitive information about the genomic sequences and agronomic performance of a plant bred from materials accessed with an SMTA under the Plant Treaty would attract confidentiality where it is to be commercialised for profit and requires regulatory approval, such as genome sequence comparisons with other competing plant varieties or a test data package for regulatory approval for the release of a genetically modified organism into the environment.

National laws limiting making information available

The Plant Treaty (and SMTA) limit the availability of information, as benefit sharing that is consistent with national laws – “subject to applicable laws”.⁷¹ With a very broad scope to make all kinds of laws that limit making information available, the following might be characterised as the main forms of national laws that are likely to apply (noting that sometimes the same information might be covered by more than one law):

- (a) *Confidentiality and trade secrets* – Confidentiality and trade secrets, consistent with international standards such as TRIPS, generally provide protection against disclosing information that has some commercial value and that the holder has taken steps to protect against disclosure. There is generally no time limit on how long these laws apply to the confidential information, and they cease to protect confidentiality once the information is no longer confidential or secret. For the Plant Treaty and SMTA, an example would be results from technical and scientific research, such as genome sequence comparisons with other competing plant varieties, a method of breeding, agronomic characters like growth rates, seed sets, plant weights, plant heights, and so on. This is likely to be significant as much of the valuable information about the useful elite plant materials in the multilateral system will involve commercially sensitive information for plant breeders and others that providers and recipients are likely to maintain as confidential. These forms of protected information are likely to be diverse and reflect the broad and general thresholds that apply for protection – *any* information of commercial value and for which steps have been taken to protect against disclosure;
- (b) *Copyright and related rights* – Copyright (or authors’ right’s) and related rights laws, consistent with international standards, such as TRIPS,⁷² the *Berne Convention for the Protection of Literary and Artistic Works*⁷³ and so on, generally provide limits on the distribution of various creative works. The effect of these laws is to limit the copying, arrangement of signs and symbols (such as words and numbers), colours, and so on,⁷⁴ and imposing penalties for infringement. These rights apply automatically on the creation of the copyright protected work and generally last for many decades (up to 70 years) after the death of the creator. The infringement can be avoided by seeking permission from the rights holder, including a waiver, licence or assignment. For the

⁶⁹ TRIPS, Art 39(3).

⁷⁰ See, for example, Cook T, “Regulatory Data Protection in Pharmaceuticals and Other Sectors”, in Krattiger A, Mahoney R, Nelsen L, Thomson J, Bennett A, Satyanarayana K, Graff G, Fernandez C and Kowalski S, *Intellectual Property Management in Health and Agricultural Innovation: A Handbook of Best Practices* (MIHR and PIPRA, 2007) pp 437-455.

⁷¹ Plant Treaty, n 3, Art 13.2(a).

⁷² TRIPS, Art 9-14.

⁷³ *Berne Convention for the Protection of Literary and Artistic Works* (1979) 828 UNTS 221.

⁷⁴ See, for example, *Berne Convention for the Protection of Literary and Artistic Works*, n 73, Art 2 that provides: “The expression ‘literary and artistic works’ shall include every production in the literary, scientific and artistic domain, whatever may be the mode or form of its expression”.

Plant Treaty and SMTA, an example would be catalogues and inventories listing plant varieties and breeding methods, the presentation of technical results (such as listings and presentations of genomic sequence comparisons), and so on;

- (c) *Databases* – Database rights provide a limitation on the copying and distribution of some systematic or methodical collections and arrangement of information or other materials. The exemplar law is the European Union *Directive on the Legal Protection of Databases*⁷⁵ that provides a general limit on the extraction and/or re-utilisation of the contents of databases.⁷⁶ These rights apply automatically on the creation of the protected database and expire (generally after 15 years). Notably copyright laws may apply to the reproduction, adaptation, alteration, and so on, of the contents of databases.⁷⁷ For the Plant Treaty and SMTA, an example would be databases of scientific and technical information about the materials collecting together information and data about the agronomic characters (such as drought tolerance, aluminium sensitivity, and so on) and performance (such as growth rates under low light, water use efficiency, and so on);
- (d) *Test data* – Test data exclusivity applies to information provided to regulatory authorities for the purposes of obtaining approval and prevents others from accessing or relying on that test data. Generally these are schemes that provide a period of exclusivity to data packages provided for obtaining regulatory approval to market pharmaceutical and agricultural chemicals, although some schemes have a broader application.⁷⁸ The exclusivity generally lasts for a limited period (usually up to about 8-10 years). For the Plant Treaty and SMTA, an example would be a test data package for regulatory approval for the release of a genetically modified organism into the environment;
- (e) *Privacy* – Privacy laws generally limit the collection, storage and use of personal information about a person.⁷⁹ Information is generally considered to be personal if it is about a person or can be compiled in a way that can be linked to a person.⁸⁰ There are a number of international exemplars, such as the European Union *Directive on the Protection of Individuals with Regard to the Processing of Personal Data and on the Free Movement of Such Data*,⁸¹ the *Asia-Pacific Economic Cooperation Privacy Framework*,⁸² and so on, addressing the collection, holding, use, transfer and disclosure of personal information. For the Plant Treaty and SMTA, an example would be personal information such as names, addresses, affiliations, and so on, about breeders and researchers that might be included, for example, in passport data identifying a breeder and their address, catalogues and inventories listing contact details for plant varieties, and so on; and
- (f) *Privileged communication* – Certain communications between advisers and their clients are privileged, such as attorney-client privilege, patent attorney-client privilege, and so on, and are protected against disclosure to maintain the confidentiality of these communications. The purpose of the privilege is to encourage full and frank disclosures between advisers and their clients so that the proffered advice is candid, relevant and efficient. As a generalisation, but only in some jurisdictions, these privileged communications are maintained as confidential information and the courts will protect against their disclosure, usually in litigation, governmental inquiries, and so

⁷⁵ Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases (1996) Official Journal L 77/20, 27/03/1996.

⁷⁶ Directive 96/9/EC, n 76, Art 7.

⁷⁷ Directive 96/9/EC, n 76, Art 5.

⁷⁸ For example, permissions to field test genetically modified organisms: see *Gene Technology Act 2000* (Cth), s 184.

⁷⁹ See, for example, *Privacy Act 1988* (Cth), s 14 and Sch 1.

⁸⁰ See, for example, *Privacy Act 1988* (Cth), s 6(1) (“personal information”).

⁸¹ Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the Protection of Individuals with Regard to the Processing of Personal Data and on the Free Movement of Such Data (1995) Official Journal L 281/31, 23/11/1995.

⁸² Asia-Pacific Economic Cooperation, *APEC Privacy Framework* (2005).

on.⁸³ For the Plant Treaty and SMTA, an example would be information made available to attorneys in prosecuting intellectual property infringement. In some jurisdictions this privilege also applies to patent attorneys in advising and prosecuting intellectual property.⁸⁴ And often there are circumstances when the privilege may be lost, such as on death, with consent, where there is fraud, and so on.⁸⁵

Nation states have adopted a host of other laws that may limit the making available of certain kinds of information. For our purposes, the point is that there are national laws that limit the Plant Treaty and SMTA obligations to making information available and that these laws might limit both the provision of information to the GLIS and disclosure of information from that system. Further, these obligations apply to the contracting parties through the Plant Treaty obligations and to providers and recipients of plant materials through the SMTA.

In accordance with national capabilities

The Plant Treaty only requires that information be provided with facilitated access if it is “in accordance with national capabilities”.⁸⁶ The meaning of this provision is uncertain. For contracting parties this might:

... recognise that certain countries do not possess high levels of information collection, analysis and sharing capacity, or the personnel and funds that are sometimes required; and to recognise as a consequence, that compliance with this obligation cannot be judged on a purely comparative basis, but only as adjusted by these considerations. Thus [contracting parties] would not be expected to meet standards that are beyond their national capacity, in their efforts to make information available.⁸⁷

Articulated in the SMTA, however, the obligation is clearer. There are no “national capabilities” provisions in the SMTA, so neither the provider, nor the recipient, is allowed to avoid their information obligations because of national capabilities.

DISCUSSION AND CONCLUSIONS

The obligations to provide information under the Plant Treaty and the SMTA are on the contracting parties to make non-confidential information available to the GLIS according to their national capabilities,⁸⁸ on providers to make non-confidential information available to recipients about the materials made available,⁸⁹ and on recipients to make certain non-confidential information available to the GLIS from their research, development and conservation of the accessed materials.⁹⁰ In each instance the GLIS will be the final repository of the relevant information.⁹¹ This system, however, is not a single database but rather a conglomeration of existing (and future) systems that together comprise the GLIS. As a consequence the form and function of the system will not be uniform as there will be a large number of information sources distributed over computer networks with different interfaces. This also means that the kinds of information distributed over computer networks will be diverse, including information about the plant materials (such as characterisation, regeneration and evaluation data) and a range of other kinds of information (such as information about the management of materials in germplasm banks). This will make the proposed GLIS a complex and difficult system

⁸³ See, for example, *Evidence Act 1995* (Cth), s 118 and s 119 that protects against disclosure in federal courts confidential communications created for the dominant purpose of providing legal advice or litigation.

⁸⁴ See, for example, *Patents Act 1990* (Cth), subsections 200(2) and (2A) for affording privilege to a registered patent attorney for a communication, record or document made for the dominant purpose of providing advice to a client about patents, trade marks, designs, plant breeder's rights or “any related matters”.

⁸⁵ See, for example, *Evidence Act 1995* (Cth), ss 121-126.

⁸⁶ Plant Treaty, n 3, Art 13.2(a).

⁸⁷ Moore and Tymowski, n 49, p 105.

⁸⁸ Plant Treaty, n 3, Art 17.

⁸⁹ Plant Treaty, n 3, Art 12.3(c) and (f); T/GB-1/06/Report, n 3, Appendix G: Art 5(b) and (d).

⁹⁰ T/GB-1/06/Report, n 3, Appendix G: Art 6.3, 6.9.

⁹¹ Plant Treaty, n 3, Art 5(e), 17.

to develop and manage. The design, architecture and other technical matters about the GLIS are beyond the scope of this article.⁹² The analysis here, however, shows that legal considerations about the information will need to be addressed across the networks and interfaces. This is because laws apply to the collection, storage and distribution of this information, and this limits the efficient and effective operation of the GLIS because special measures need to be taken to address the legal limitations on collection, storage and distribution of the information (such as confidentiality, copyright, test data protections, and so on). The most useful way to frame the legal considerations is from the perspective of the information that should not be disclosed – this is information that is protected by national laws, such as confidential information, trade secrets, test data submitted for regulatory approvals, copyrighted materials without permissions, privacy protected information, and so on. The form and function of the GLIS, therefore, will need to at least address the following issues:

- (a) *Identifying information that is confidential information* – As the Plant Treaty and SMTA limit the disclosure of confidential information, the GLIS needs to be able to distinguish between confidential and non-confidential information. Information will be confidential if its disclosure is limited according to either national laws or international agreements.⁹³ A further distinction that may be relevant in understanding the limitations imposed by the Plant Treaty and SMTA is between data and information.⁹⁴ Data might be considered the quantitative or qualitative values. Information might be considered the meaning that is apparent from the data when considered alone or in combinations and within a particular context. Thus, the signs and symbols “3” and “foliates” separately are data and together in the context of leaf forms and soybeans has meaning as a trifoliate leaf form characteristic of *Glycine*. This distinction is important because the Plant Treaty and SMTA deal with “information” suggesting that the concerns are about the meaning of the data, and not necessarily the data *per se*. In most instances, and as a matter of practicality, however, the dealings with data will likely also address the dealings with information. The GLIS will, however, need to carefully distinguish between confidential and non-confidential information, and this will require a careful consideration of the potential meanings of the data, including the potential to combine data in a particular context that gives it (confidential) meaning;
- (b) *Restricting the availability of confidential information* – Where information (and data) in the GLIS is identified as confidential then the GLIS needs to maintain that confidentiality. This means that this information must not be disclosed and active steps taken to maintain its confidentiality to satisfy the minimum TRIPS undisclosed information standard and most national trade secret laws. These active steps might include notices about confidentiality, restricting access (such as password protections), logging access and use, and so on. However characterised and implemented, the GLIS will need to maintain the restrictions on confidential information for the term of the confidentiality;
- (c) *De-restricting no longer confidential information* – Where information (and data) has been restricted in the GLIS and then ceases to be restricted the GLIS will need the capability to reflect this change in circumstances. This might occur, for example, where material has been accessed, is being further developed by the recipient and is transferred to another recipient before commercialisation. Characterisation and evaluation data about the development might be confidential at the time and then cease to be confidential on commercialisation. Where this data is stored on the GLIS as confidential information the status would need to change when the information was no longer confidential so that the information becomes accessible to contracting parties, providers and recipients;
- (d) *Collecting information that was confidential information* – Where information (and data) has not been recorded in the GLIS and then ceases to be restricted, the GLIS will need the capability to incorporate this change in circumstances. This might occur, for example, where accessed material

⁹² These matters are being addressed in some detail: see IT/GB-5/13/Report, n 46, [41], Appendix A.10 (Resolution 10/2013 (Annex)).

⁹³ Plant Treaty, n 3, Art 12.3(c) and (f); T/GB-1/06/Report, n 3, Appendix G: Art 5(b) and (d).

⁹⁴ See, for example, Bygrave L, “Information Concepts in Law: Generic Dreams and Definitional Daylight” (2015) 35 *Oxford Journal of Legal Studies* 91.

has been developed into a commercial product that undergoes testing for regulatory approval and that proprietary test data about the material's performance will be valuable for future uses of that material. This is likely to be significant as much of the valuable information about the elite plant materials in the multilateral system will involve commercially sensitive information for plant breeders and others that providers and recipients are unlikely to provide to the GLIS during the period of confidentiality. This information will need to be actively sought for inclusion in the GLIS so that this valuable information becomes available for contracting parties, providers and recipients;

- (e) *Collecting and recording information from contracting parties* – The contracting parties have a positive obligation to make available information about the plant materials in the multilateral system that is not confidential, restricted by national laws or “national capabilities”.⁹⁵ This information will include “catalogues and inventories, information on technologies, results of technical, scientific and socio-economic research, including characterization, evaluation and utilization”⁹⁶ and any other information about the plant materials that might be useful. To make this information available contracting parties will need to actively and positively implement measures that collect and record this information in the GLIS. This is likely to include administrative measures (such as policies and procedures) about collecting and recording information, and matrices and reporting obligations to confirm that contracting parties are in fact collecting and recording relevant information. Presumably contracting parties will also implement measures to improve the quality of the information in the GLIS, both ensuring the information is accurate and up to date, and removing incorrect or stale information;
- (f) *Collecting and recording information from recipients* – Recipients have positive obligations to make available non-confidential information about the materials they receive from the multilateral system where that material is conserved or used in research and development.⁹⁷ This is likely to be information (including data) collected by the recipient in their experimentation with the materials such as characterisation, regeneration and evaluation data. Again, contracting parties will need to actively and positively implement measures that collect and record this information for the GLIS. This is likely to include administrative measures (such as policies and procedures) about collecting and recording information and matrices and reporting obligations to confirm that recipients are in fact collecting and recording relevant information. Some measures to improve the quality of the information in the GLIS might be expected; and
- (g) *Collecting and recording information from providers* – Providers of plant materials will be an important source of information because they will principally be the entities holding the materials that form the multilateral system. As such they will be storing and maintaining the materials that are then made available under the treaty and SMTA. Operating collections will necessarily involve collecting information (and data) about the plant materials that will be about their characterisation, regeneration and evaluation. As such the GLIS should capture the providers' information through active collection and recording. The contracting parties, through the governing body, will likely be the main avenue driving this collection and recording, by taking “appropriate measures”⁹⁸ and including appropriate terms and conditions in agreements to include materials in the multilateral system.⁹⁹

Above all, this article demonstrates that care will need to be exercised in assessing what information can be collected, stored and provided through the GLIS. The GLIS will, therefore, need to carefully distinguish between information that is freely available and information that is subject to restrictions.

⁹⁵ Plant Treaty, n 3, Art 13.2(a).

⁹⁶ Plant Treaty, n 3, Art 13.2(a).

⁹⁷ T/GB-1/06/Report, n 3, Appendix G: Art 6.3, 6.9.

⁹⁸ Plant Treaty, n 3, Art 11.3.

⁹⁹ Plant Treaty, n 3, Art 15.1(b).