ORIGINAL ARTICLE



A contract-law analyses of the SMTA of the Plant Treaty: Can it work as a binding contract?

Morten Walløe Tvedt^{1,2}

¹Faculty of Business Administration and Social Sciences, The University College in Molde, Britvegen 2, Molde, 6410, Norway

²Fridtjof Nansen Institute, Lysaker, Norway

Correspondence

Morten Walløe Tvedt, Molde University College, P.O. Box 2110, No-6402 Molde, Norway.

Email: Morten.W.Tvedt@himolde.no

Funding information

Norges Forskningsråd, Grant/Award Number: Project number 274519

Abstract

The Standard Material Transfer Agreement (SMTA) of the Plant Treaty is the primary legal tool for making monetary benefit sharing work. International public law, including the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), is binding on states and have no legally binding effect on private companies. Access and benefitsharing, both under the ITPGRFA and the convention on biological diversity (CBD), aim at altering the actions of private users and companies. This article analyses the SMTA from a contract-law perspective raising the question whether the SMTA can work as a binding contract? For a contract to work it must establish legally binding and enforceable obligations on a user of plant genetic resources. The method is to analyse the current SMTA from a contract legal language perspective. It will investigate, ways of coining the obligations in the wording, unclear trigger-points, lack of remedies against breach of contract and limited enforcement mechanisms can explain lack of user payment. It will draw on contract-law research to outline possible ways forward to an improved SMTA. The main aim is to contribute to a future improvement of a second generation SMTA.

KEYWORDS

ABS contracts, access, benefit sharing, contract law, International Treaty on Plant Genetic Resources, multilateral system, Standard Material Transfer Agreement

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2020 The Authors. The Journal of World Intellectual Property published by John Wiley & Sons Ltd

1 | INTRODUCTION: SETTING THE SCENE

Is the current Standard Material Transfer Agreement (SMTA), 2006 of the Plant Treaty functioning as a legally binding and enforceable contract imposing obligations on a user of plant genetic resources? This article analyzes the SMTA, currently in use, from a contract legal language perspective. The aim is to identify legal obstacles and functional binding elements and, so that a next-generation SMTA can be coined to encourage or enforce any user to comply with the objectives of the multilateral system (MLS). Specific proposals for the next round of negotiation are presented in each section.

The objectives of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), 2001, adopted in 2001 and in force since 2004, are to promote the *conservation* and *sustainable use* of plant genetic resources for food and agriculture (PGRFA)¹ and the fair and equitable *sharing* of the benefits arising from the utilization of these resources. Diverse benefits may derive from the use of plants. Plant breeding is one such benefit, as it improves food production; indeed, access to plant material is recognized as a benefit in itself in itself for global food production. This article examines sharing of the *monetary* benefits from commercial users. Is the SMTA likely to require mandatory monetary payment to the Benefit-sharing Fund? The broader spectrum of nonmonetary benefits is not the topic here.

The MLS for access and benefit sharing was made operational by the conclusion of the SMTA. According to its preamble:

The Contracting Parties to the Treaty, in the exercise of their sovereign rights over their Plant Genetic Resources for Food and Agriculture, have established a Multilateral System, both to facilitate access to Plant Genetic Resources for Food and Agriculture and to share, in a fair and equitable way, the benefits arising from the utilization of these resources, on a complementary and mutually reinforcing basis. (Emphasis added)

When the SMTA entered into force in 2013, the system for *access* was recognized as working, as approximately one million accessions were exchanged. However, some member countries have assigned very few accessions to the system.² There has been a process to expand the number of species covered by the MLS, but at the Governing Body (GB) in Rome 2019 these talks were suspended.

The fund has received voluntary payments³ from countries and some private companies, like Nenhems Netherlands b.v., which paid USD 119,083 to the Fund. As yet, the Fund has not received substantial payments through the mandatory "benefit-sharing" provisions of the Treaty. This article explores whether weaknesses in the SMTA in perspective of contract law can explain this lack of mandatory payments. In turn, the findings will be used as basis for suggesting improvements so that the MLS may better contribute to the livelihoods of poor farmers through the Fund.

2 | THE ACCESS PERSPECTIVE: INCLUSION IN THE MULTILATERAL SYSTEM

The Food and Agriculture Organization (FAO) has long had a focus on *access* to plant genetic resources, also before the ITPGRFA came into existence. Early versions of the International Undertaking focused on access, and did not mention benefit sharing. This emphasis on access was also expressed in Section 4 of Resolution 3 from the 1992 Nairobi Conference when the Convention on Biological Diversity was adapted:

4. Further recognizes the need to seek solutions to outstanding matters concerning plant genetic resources within the Global System for the Conservation and Sustainable Use of Plant Genetic Resources for Food and Sustainable Agriculture, in particular: (a) Access to ex-situ collections not acquired in accordance with this Convention; and (b) The question of farmers' rights.

Resolution 3 speaks of "access": the term "benefit sharing" does not appear in the text. Initially, the aim of the ITPGRFA was to address specific needs concerning *access* to the international gene bank collections of plant accessions for breeding as one outstanding issue, because of the "special features of plant genetic resources". Visser (2013, pp. 274–276) notes that the gene banks "formed a major element of the discussions"; moreover, that disagreements over the list in the Annex "revealed deep political divides" (Visser, 2013, p. 272). Regulating collections was regarded as a complex issue due to difficulties in identifying the "country of origin" (as defined by the convention on biological diversity [CBD]) for the accessions in collections (Andersen, 2001).

The MLS for access is limited to the species listed in Annex I to the Plant Treaty, with three criteria concerning the legal status "under the *management* and *control* of the Contracting Parties and in the *public domain*". This considerably restricts the scope of obligatory inclusion in the MLS. Accessions held by famers are not mandatorily covered by the MLS, although there is a movement toward collecting and including such accessions under the "management and control" of public institutions in MLS member-countries. When seed samples from rural farmers are being managed and under the control of public collections, they are one long step closer to be mandatorily accessible under the Multinational System. The last criteria for farmers seeds becoming accessible in the MLS is a declaration of their legal status. The question is whether national law consider them as in the "public domain" or not. There has been considerable disagreement as to what "public domain" means in this context (see, e.g., Tvedt, 2015, pp. 8–12, with further references to the debate). When seeds from farmers is being collected, the rights of the farmers to their germplasm need to be specified. If the legal status of farmers material is not specified their property rights risk becoming eroded when seed is made globally accessible under the MLS. Clear and specific terms and rights retained by farmers' material after collection increases the chance of avoiding them loosing rights in a case where these farmers' accessions are being used in further plant breeding. The SMTA does not include any clauses securing the farmers' rights to the material when it is included under the MLS.

Clarifying the terms on which farmers deposit their material and specifying that collection does not mean that it is under a "public domain" will be legal decisive for being able to benefit from the material in the long term. A future expansion of the accessions mandatorily included in the MLS beyond the "public domain"—criterion will entail a challenge to maintaining the rights of farmers. This important perspective on the rights of farmers and peasants to their germplasm has been largely neglected in the debate on and theoretical discourse of "Farmers' Rights." If the scope of mandatory inclusion in the MLS is expanded in this manner, that will probably require renegotiation of the Plant Treaty, and invoking the amendment procedure of the ITPGRFA. Thus, rights of the farmers who contribute to the MLS is a topic that the Plant Treaty will need to clarify if it is to serve the realization of "Farmers' Rights."

The CGIAR system handles accessions of species that are not mandatorily included in the MLS. To a large extent, the CGIAR also applies the SMTA to many of accessions not mandatory covered by the MLS. In fact, this expands the use of the SMTA to samples not mandatory under the scope of the open access system.

3 | CALLS FOR CHANGES

The focus on access and the current failure to meet expectations regarding the mandatory monetary contribution to the MLS has led countries to call for a revision of the SMTA and the MLS.

The Plant Treaty established an Ad Hoc Technical Advisory Committee on the MLS and the SMTA, which worked until 2013, without dealing with the contract-law challenges. The Fifth Session of the GB mandated a new ad hoc working group to "develop a range of measures for consideration and decision," inter alia to:

- (a) Increase user-based payments and contributions to the benefit-sharing fund in a sustainable and predictable long-term manner, and
- (b) Enhance the functioning of the MLS by additional measures.⁶

Global recognition of the need for increased user-based payments and for enhancement of the functionality of the MLS⁷ formed the background for Resolution 2/2013 and 1/2015 of respectively the Fifth and the Sixth Sessions of the GB. These decisions requested the Ad Hoc Open-Ended Working Group to Enhance the Functioning of the MLS of Access and Benefit-sharing to, inter alia:

... invite written inputs or reports from all relevant stakeholders where needed and/or to establish small ad hoc Friends of the Co-Chairs groups, where needed, e.g. on user categories, on crop categories, on legal modalities, on payment rates, and on a termination clause, at the request of the Working Group or its Co-Chairs; the small ad hoc friends of the Co-Chairs groups would be requested to provide written input to the Co-chairs⁸

However, negotiations on the revision of the MLS broke down at the GB in Rome 2019: "The Governing Body could not, at this Session, reach consensus on measures to enhance the functioning of the Multilateral System." The GB-8 was unable to reach agreement concerning a formal intersessional process on the MLS.

Divergent views on how to draft a new wording have divided governments. Here the issue of the digital use of plant genetic resources, the details of the SMTA and the manner of expanding the mandatory scope of the species to be included in the MLS seem to be among the major points causing the deadlock. In hopes of bringing the negotiations further, this article offers a contract-law analysis of the current SMTA, indicating outstanding topics to be developed in a new round of negotiations.

4 | EXPLORING THE SMTA AS A CONTRACT

This article explores the SMTA as a contract. It investigates ways of expressing the obligations in the wording, unclear trigger-points, lack of remedies against breach of contract and limited enforcement mechanisms can explain lack of user payment, drawing on contract-law research to outline possible ways toward to an improved SMTA. The main aim is to contribute to a future improved, second-generation SMTA, noting current obstacles, to enable fruitful proposals for revising the SMTA so it can function better as a contract, thereby contributing more to the objectives of the ITPGRFA. (See also Louafi & Bhatti, 2013, p. 194).

The FAO declares, on the webpage of the Plant Treaty:

The Standard Material Transfer Agreement (SMTA) is a private contract with standard terms and conditions that ensures that the relevant provisions of the International Treaty are followed by individual providers and recipients of plant genetic material.¹⁰

This article explores how the SMTA might ensure compliance by recipients of plant genetic material to the provisions of the Plant Treaty, in particular in respect of the mandatory monetary user payments. ¹¹ The premise for the research question is to explore the SMTA as a contract.

A core question is whether the "standard terms and conditions" have the contract-law potential to *ensure* that individual recipients adhere to the relevant provisions of the International Treaty, which the SMTA has set as its objective. This question will be approached by applying contract law to the SMTA and discussing its contractual functionality. In assessing whether the SMTA could serve as a model for the drafting of new contracts, Young and Tvedt (2017) conclude that it does not serve as a good example of a functional contract

5 | USING A CONTRACT TO IMPLEMENT INTERNATIONAL LAW

5.1 | Fundamental differences between international law and contract law

International public law, including the ITPGRFA, is binding on states but has no legally binding effect on private companies. Access and benefit-sharing (ABS), under the ITPGRFA and the CBD, is aimed at altering the actions of private users and companies. Rules in international law are not directly binding on private companies; they must be transferred into binding obligations on the companies. Using a standard contract is therefore an adequate legal tool for binding private companies to detailed obligations.

Any contract is interpreted and enforced under contract law in the country in which any of its parties operates. As the SMTA calls itself a contract and is intended to establish obligations that are legally binding on the user, it must be able to function in a contract-legal landscape, by being binding, promoting compliance and being enforceable. The SMTA uses the term "agreement" in the heading. Contract-law terminology uses the terms "agreement" and "contract," without necessarily implying any legal distinctions. Here I prefer the term "contract."

The SMTA sets legally binding obligations on all the users that have signed on to it. In this article, I explore the content of the current text of the SMTA, identifying the current contractually binding and enforceable obligations, and indicating some options for the future regarding how to make the SMTA a more legally binding document.

5.2 A change in terminology: From "benefit-sharing" to "user payment"

Increasingly, the term "user payment" is used instead of the generic term "benefit sharing" in connection with the SMTA and the MLS. Commercial corporations constitute the typical user expected to pay into the fund. Before a commercial user becomes obliged to pay, the expectations set out in the SMTA must become legally binding contractual obligations. As a primary objective of corporations is to create economic surplus to their shareholders, a company is not entitled to pay parts of its turnover unless obliged to do so. Except for corporate social responsibility schemes, it is generally contrary to corporate law to "share the benefits created by the company" unless the company is contractually obliged to pay. Thus, if the SMTA does not establish contractually binding obligations on a company, any payment or sharing of benefits might breach the law of the user country. A corporation has no legal competence to share parts of its value-creation with anyone else than its shareholders.

5.3 | Major challenges for a contract to regulate both access and benefit sharing

There are several obstacles for contracts in general to be used as the main legal tool for making access and benefit sharing work on the ground. One major challenge in making a contract work for both *access* and for *benefit sharing* is the time-lag between the act of obtaining the material and the point of payment or sharing of any results. Unlike most conventional contracts, the two transactions in an ABS contract rarely take place at the same time. First, the user gains access to the material, without any up-front payments being foreseen. Time passes; and then, if the venture proves successful, a product is finally put in the market, is sold and generates revenue. Contractually, this gives rise to numerous challenges.

At this point, the user is the only one who can provide evidence for the link between a genetic resource—accession of a plant seed—and a product in the market. The provider has fulfilled all his obligations under the contract up-front; the users/recipients have got all they want, in exchange for a latent contractual obligation to be fulfilled in the future. The imbalance in time between the performance of the respective obligations implies a risk: the latter performance might not be fulfilled. Thus, it is essential that the contractual obligations be *clear*, *specific*

and easily monitored—to be binding, encourage compliance and be possible to enforce. Also for a compliant user, the existence of clear and specific obligations will increase compliance.

The analysis here will not dwell much on rules on the provider side, focusing instead on obligations on the user side.

6 TRIGGER-POINT FOR OBLIGATIONS

6.1 | Exploring current trigger-points: Do they meet the criteria "clear and specific"?

A major challenge for making benefit-sharing obligations work involves the fact that the user receives *accessions of plant seeds*, but sells something different in the market, often a *new plant variety*. There is no identity between the subject matters received and what triggers the payment obligations (Tvedt et al., 2016, pp. 3–4). The SMTA reflects this by using the two terms "material" (defining the input) and "product that is a PGRFA that incorporates the Material" (defining the trigger for sharing).

A core challenge in contract drafting is to define the trigger-points for an obligation in a manner that is clear, specific, binding, and enforceable. The wording of a contact is per se binding. The choice of terms and the wording may indicate differing degrees of bindingness in the language: vague or unspecific wording may reduce the level of bindingness. This is well-known from international law, where the use of qualifying terms like "reasonable" or "as appropriate" will dilute the bindingness of any obligation. Moreover, there are many commonly used words with no fixed, universally totally agreed reference in the physical world—take "boat," for instance. While there is agreement on subsuming some types of floating devices under this term, there will be uncertainty in certain grey zones: for instance, is a kayak a *boat*? In a technological area like plant breeding that applies a range of new techniques, the uncertain zone of words and criteria used as triggers for obligations will tend to be grayer and greater. In turn, vague contract wording gives rise to complex questions concerning interpretation and practical application.

The idea is to hold the wording of the SMTA to these virtues in legal language, and identify the extent to which they are met.

6.1.1 | "Genetic material" as a legal term

One core term of the SMTA is "genetic material." It is the basis for the definition of Plant Genetic Resources for Food and Agriculture, and therefore defines the scope of several articles and obligations.:

'Genetic material' means any material of plant origin, including reproductive and vegetative propagating material, containing functional units of heredity.

The core limiting wording in this definition is "any material," a word "material" that has a range of meanings. One understanding is "a physical substance that things can be made from." This notion of the term leads the associations in direction of the physical plant material. The focus in the FAO on the accessions in the collections underscores this understanding.

A complementing definition of "material" is "information used when writing something such as a book." ¹³ Here the understanding of the term connotes to nonphysical input to creative activity. One reason why the discussions at the GB 8 in Rome ended was because of disagreement on whether digital sequences data that include genes in a computer format are covered by the scope of the Plant Treaty. The definition "genetic material" here showed to be an ambiguous term that could pave the way to agreeing to the treaty in 2001, but that, when pinning down the more detailed and binding rules, countries argued opposing interpretation of the same word. In contracts failure to

agree on the specific content on core terms will make the obligations impossible to determine, comply to and in last resort to enforce (Young & Tvedt, 2017, Ch. 5).

Let us now contrast the ambiguous term "genetic material" with the most recent contract-law analysis in the ABS area. In the ABS Contract Tool it is suggested that the description of plants when subject matter to an ABS contract should be defined in rather specific and detailed language, while at the same time seeking to encompass all elements of plants that can be used in biotechnology and similar fields.

A plant sample [includes/covers/reaches on to] any seeds or propagating or multiplication material of any kind.

A plant sample includes/covers any part of plant:

- a) the vegetative material, including leaves, roots, straw, flowers, fruits, or any other, including but not limited, to any extract in any form.
- b) the entire bioactive [elements/compounds] or organic composition (molecules, amino acids, proteins, lipids, glucides, [enzymes] or any other bioactive element in or [isolated/generated] from the vegetative material.
- c) every subcell element/part, including DNA, RNA, or any other element carrying genetic information.

A sample covers any information in the material, or which is extracted from it by any method, or genetic information in any format, or data generated therefrom, including but not limited to genetic information, biochemical content, or bioactive, or any other information in or extracted or analyzed from the samples.

A sample also includes any micro-organisms in or on the plant, including but not limited to parasites or pathogens on or in the plant material.

This proposal is developed by the author in collaboration with a number of experts. The reason for proposing a detailed, specific, comprehensive, but at the same time not narrow, definition is for it to cover any relevant "material," physical or nonphysical, related to the activities relevant for the user. The wording indicated in the boxed text will lead to far less potential disagreement than the ambiguous term. The lack of precision and specificity in the trigger in the SMTA reduces the precision in the obligation.

The definition of "plant genetic resources for food and agriculture" (PGRFA) is based on the definition of "genetic material." The ambiguity in the core term extends to the other legal concepts that build on the core term.

The concept of PGRFA is confined to "material of plant origin," as spelled out in Article 3, on the subject matter of the SMTA. This might imply that any methods or nonmaterial uses of plant DNA, genetic information or related subject matters are contractually defined as not covered by (or regulated by) the SMTA. But if the second linguistic understanding of "material" is applied, these less physical subject matters are brought under the definition.

When used in the operative articles, the first definition leads to a narrow scope for the obligations, whereas the contrast between the first and the second understanding creates ambiguity.

6.1.2 | "Product" as the trigger

Closely linked to the definition of "genetic material" is the definition of the core term "Product." The definition of Product is central in defining the trigger-point for benefit sharing:

"Product" means Plant Genetic Resources for Food and Agriculture that incorporate the Material or any of its genetic parts or components that are ready for commercialization, excluding commodities and other products used for food, feed and processing. (SMTA Art 2.)

Combining these definitions, "Product" means

any [material of plant origin, including reproductive and vegetative propagating material, containing functional units of heredity] of plant origin of actual or potential value for food and agriculture that incorporate the Material or any of its genetic parts or components that are ready for commercialization, excluding commodities and other products used for food, feed and processing. (SMTA Art 2.)

The definition of "Product" contains two references to "material." With the first understanding of "material," the wording indicates that products that trigger the payment obligations are linked to physical plant material. The term "incorporates the material" could be read narrowly if it concerns only products that are material, and excludes immaterial methods or informational aspects. With the second understanding, the scope of obligation loses precision, but gains a broader scope.

If we take a broader look at which products that are meant to capture benefit sharing under the SMTA, this wording emerges as far from certain for a contractual obligation, as it leaves room for interpretation.

The most typical product that incorporates the material is "plant varieties." However, under today's benefit-sharing obligation, the plant varieties protected by plant breeders' rights are left outside the mandatory benefit-sharing obligation. Which products remain to be covered when the core defining term is that the physical material must be "incorporat[ed]"? The term "incorporated" leaves room for a certain margin of interpretation, or unspecificity. When interpreted in conjunction, it means that the benefit-sharing obligation applies only to seeds that are in a physical relationship to accessions from the MLS. With its emphasis on the physical material, this definition leaves all digital or synthetic products and virtually all *methods* in plant breeding outside the scope of the benefit-sharing obligation. Moreover, the term "incorporates" indicates that other uses than breeding or genetic introduction into the new material fall outside the scope of the trigger-obligation.

The core definitions render the scope of the obligation *narrow*, *but not specific*. The narrowness of the definitions reduces the number of products that will generate benefits to be shared. It is not easy to imagine clear instances, other than a new plant variety, that would trigger this benefit-sharing obligation from a technical legal point of view. In addition to being narrow, the manner in which the trigger-point is constructed linguistically, depending on two definitions, introduces a lack of specificity which in turn makes it challenging for a judge to decide when the obligation is triggered. If the MLS and SMTA were intended only to trigger benefit sharing from new plant varieties and no other products, then the wording would gain in legal certainty if clearer terms were used.

Detailed interpretation of the substantive obligations in the SMTA hinges on the definitions of core concepts in its Article 2. Unless the definition is tailor-made to the specific substantive obligation, the scope of the obligation might end up not being as expected. In contract drafting, it is always best to draft obligations as specifically and clearly as possible, leaving minimal room for interpretation, but avoiding wording that makes the obligations unnecessarily narrow in scope.

6.1.3 | Proposing solutions

If the process for reviewing the SMTA can manage to get back on track, it will be necessary to revisit the definitions of the trigger-points ("Product that is a Plant Genetic Resource for Food and Agriculture and that incorporates Material"), so as to enable the SMTA to be enforced as a contract. One challenge facing the future work is to make the language of the obligation sufficiently clear for any reader of the SMTA to grasp when the benefit-sharing obligation kicks in.

If the intention had been to capture sales of plant varieties only, the wording of the SMTA would have provided an obligation that was easier to comply with and far more enforceable if a narrow, definite trigger-point had been specified. If the intention had been to capture any unforeseeable research results in the future, a more detailed list would have reduced the uncertainty. It would also have become narrower, but that could be dealt with by including a listing in combination with "not limited to."

One solution, presented here, would be to specify in detail the products or processes that trigger payment obligations with commercialization. Trigger-points for benefit sharing can be defined as the physical material itself, and the next generations of these physical accession. From this there is a continuity of material in development: much of the material in public collections and in commercial companies is in the process of being developed towards products. Further trigger-points: digital expressions of the DNA or scanned genomes of plants and synthetic use of these digital expressions as long-standing valuable assets in plant breeding; and end-products in plant breeding protected by plant breeders' rights or registered as plant varieties registered in the system of seed laws. (Here it should be noted that, in a few countries, a plant variety may be protected by the patent system. See, for example, the EU Patent Directive 44/98 Article 4) Finally: patents on inventions targeting other subject matters—for example, parts of the DNA, parts of the gene, or specific properties of the plant.

The definitions in the SMTA are unspecific but narrow, in turn leaving the payment obligation undefined but narrow. Each of these results of the use discussed above here would raise different political challenges in being included as triggering payment obligations. It should be noted that future discussions on the SMTA, as other political negotiations regarding digital aspects of genetic resources, run the risk of not reaching agreement ending in a political deadlock.

7 | LOOPHOLES OF THE SMTA: ALLOWING SPECIFIC USES AND PROHIBITING OTHERS

7.1 Loopholes in the current SMTA

Article 6 of the SMTA emplaces rights and obligations on the recipient. The first obligation targets the legal uses of the material:

6.1 The *Recipient* undertakes that the *Material* shall be used or conserved only for the purposes of research, breeding and training for food and agriculture. Such purposes shall not include chemical, pharmaceutical and/or other non-food/feed industrial uses.

Legal uses are research, breeding and training. In contract language, the term "and" normally implies that both/all the criteria on each side of the "and" must be present for an obligation to kick in. In this case, the three alternatives must be understood as alternative manners to use the material.

However, there are activities that do not fall within the allowed activities or the excluded ones. In a contract, that destroys the chances of compliance and/or enforcement. How would a judge decide whether a not-listed activity is within or outside of these obligations?

Moreover, such wording probably does not permit, say, a farmer who does not conduct breeding or research on the material, but simply wants to multiply and grow the material, the right to get accessions from the MLS. In terms of realizing Farmers' Rights, this is highly problematic. Seeds are collected from farmers and included in the MLS—but farmers have no clear right to access to material from others. If the Plant Treaty is to improve the implementation of Farmers Rights, substantive rights in the MLS must be recognized as a core building block.

The term "breeding" is specific, and relates to the overall aim of the MLS: to make accessions available for the breeding of new plant varieties. The term "research" is broader, indicating many more activities than those legally

covered by specific breeding. Relevant here is the qualifier "for food and agriculture": research for purposes other than food and agriculture is not legal, according to the SMTA. However, the broad term "agriculture" is not sufficiently specific.

The final sentence of Art. 6.1 is most problematic from a contract perspective: "Such purposes shall not include chemical, pharmaceutical and/or other nonfood/feed industrial uses." Here the SMTA seeks to limit the legal uses of the material under the MLS.

But what happens if the user applies the material for purposes other than research, breeding or training? That is illegal under the SMTA—but nothing is said about the consequences in case of infringement or breach of contract. For the sake of clarity as to contractual obligations the SMTA will need to specify what the User is required to do in case of nonauthorized uses—whether this is beyond the specific legal uses or "chemical, pharmaceutical and/or other nonfood/feed industrial uses." Currently, any breach of these limits to what is authorized becomes almost impossible to enforce, as there is nothing in the contract itself on the consequences of breach of the SMTA. One rationale underlying the MLS is that it shall not possible to identify the country of origin of the accession—but that means there will not be a counterpart to an ABS contract for uses not authorized by the SMTA.

When then would be the legally correct approach if a user intends to undertake other activities? In brief: as access to the material is exempt from the general ABS system according to the Nagoya Protocol under the CBD Art. 4, and the collections are not mandated to enter into individually negotiated contracts regulating these uses of the material, there exists no way of providing legal access for such purposes. It is here that the SMTA creates the largest loophole in the ABS system. This becomes particularly problematic if the material is used in digital and synthetic manners: The only way to get access to the material is by using the SMTA. Such uses are not legal under the SMTA, but no sanctions for breaching these limits are specified. Moreover, as any uses beyond "research, breeding and training for food and agriculture" are not legal under the SMTA, such uses would never trigger the benefit-sharing obligations.

7.2 | Possible solutions

A new SMTA should include two aspects: (1) a procedure for Users seeking access for the nonlegal uses according to the SMAT; and (2) remedies for dealing with noncompliant users. One approach is to specifically regulate the legal consequences of breaches. This includes specifying clear consequences for access for non- or nonagriculture access or food purpose chemical or industrial uses these purposes.

An example of alternative formulations could be:

In the case where the Recipient undertakes screening, scanning or any other research on the genetic information, data, or knowledge, then the Recipient shall [specify the consequences].

In the case where the Recipient embarks on any activities that are not research, breeding or training for food and agriculture, the Recipient shall enter into an ABS contract with the Country of Origin of Material. The collection from where access is sought must have a system in place for granting such access. If it not possible to identify the Country of Origin, the agreement shall be made with [choose and insert an institution that can administer these situastion] and the benefits shall be shared in the mechanisms of NP Art. 10.

To facilitate access also for such purposes, one approach for the parties to the ITPGRFA and the CBD is to use the mechanisms in Nagoya Protocol (NP) Art. 19 and 20 to create standard ABS Contracts that the collection can require be used. To follow the standard-contract approach of the MLS, such a mutually supportive supplementing contract could be developed.

8 | ATTEMPTS TO PROHIBIT A USER FROM APPLYING FOR INTELLECTUAL PROPERTY RIGHTS (IPRS)

8.1 Can a contract limit the right to claim IPRs?

The SMTAs establishes a rule on the relationship to the right to apply for intellectual property rights:

6.2 The *Recipient* shall not claim any intellectual property or other rights that limit the facilitated access to the *Material* provided under *this* Agreement, or its genetic parts or components, in the form received from the *Multilateral System*.

Parallel wording is found in the Plant Treaty Article 12.3.d. Generally, ABS Contracts have tended to seek to prohibit any IPRs on the material exchanged. In ABS, as spelled out in the CBD and Nagoya Protocol, many contracts have included similar language seeking to establish contractual limitations to the use of the patent, so there is broad academic experience regarding the success of such a clause.

The first observation is that the grant of a patent or plant breeder's right is a statutory competence of the Patent Office of each nation (or regional office). The competence of a public administrative (statutory) body cannot be limited by any private law contract in constitutional systems. The patent office assessment of whether to grant a patent depends merely on whether the patent applicant describes his invention in a manner that meets the patent criteria. The patent office does not assess whether the application infringes any contractual obligations pre-grant of the patent. Moreover, patent systems do not open for such an assessment in the post-grant phase. Breach of contract is not a relevant reason for rejecting a patent application. Thus, the obligation according to Art 6.2 will not have legal effect for patent offices, neither will the longstanding discussion in the World Intellectual Property Right Organization (WIPO) regarding disclosure of origin of material render this obligation functional.

The only subject of the obligation is the Recipient of the Material: the wording of the obligation indicates a clear and specific obligation on the user. The contractual obligation according to Article 6.2 does not alter the right that of the Recipient of MLS material has as an inventor to apply for a patent. Breach of this contract-clause could never have any legal effect for the validity of the patent, although breach of the obligation might have contractual consequences. Moreover, the SMTA does not establish any remedies, nor stipulate any legal consequences of a breach. In contract law, this means that this obligation cannot be enforced. The clear wording gives a false impression for member states that the Users of the MLS can effectively be prevented from patenting material from the MSL. Article 8 sets out the mechanism for dealing with breach of this clause, including the activities of the "third party beneficiary."

The second observation regarding today's SMTA concerns the scope of the obligation. The wording restricts only the patenting of "Material provided under this Agreement, or its genetic parts or components, in the form received." However, patent claims are almost never formulated in a manner as qualify as "material" as defined in SMTA Article 2. The prohibition extends to "its genetic parts or components [...] in the form received." Linguistically, the wording gives the impression of a broad prohibition, focusing on parts of the material received. The wording "in the form received" implies a narrow obligation on the recipient, as a patent claim is almost never identical to accession of seeds as received from the MLS. This limitation makes more legal sense in respect of limiting the right to register a new plant variety that is almost identical to the accession received through the MLS. In countries where legislation on plant breeders' rights operates with a low requirement for novelty and accepting the registration of a plant variety which has not been registered before, seeking protection of material obtained

directly from the MLS would not imply a breach of contract. The wording gives a non-patent-lawyer the impression of a functional limitation. Countries fought hard to get this wording included in the SMTA, although it is hardly enforceable from a contract-law perspective.

The only way to challenge legally a breach of Art. 6.2 in the SMAT would be by claiming reparation or damages from the breach of this obligation. This raises contractual-legal obstacles, as it would be difficult to prove that the MLS had suffered damages in the case of an illegal patent or plant variety protection.

8.2 | Outlining solutions to the relationship with IPRs

There are no obvious solutions for preventing or prohibiting the Recipient from applying for a patent. A better contractual solution would be to change the trigger-point for benefit sharing to use patenting or registration of a plant breeders' right. However, that would involve problems in identifying when a patent or plant breeders' right are related to Material from the MLS. Including special language in the SMTA could help to bridge this difficult gap in identifying the material used in an invention.

When a patented invention is developed under special conditions, a revised SMTA could specify certain obligations (Tvedt & Rukundo, 2019). In the United States, when the government or public funds are used for research, and results are patented, a contractual obligation enters in. The patent applicant is required to introduce a text-box on the cover page of the patent application, clearly stating that the U.S. government retains certain limited rights to the research leading to the patented invention:

The user shall place the following statement in any Patent Application it files on any Subject Invention related to any material or knowledge developed enabled by it: 'This invention was created in the performance of a [Name of this contract/Cooperative Research and Development Agreement] with the [National Institutes of [NAME OF THE PARTNER IN THE PROVIDER COUNTRY]]. The MLS of the Plant Treaty has certain rights in this invention.'

This is based on a formulation frequently used in patent applications where the U.S. government enjoys a limited right. Perhaps the MLS and SMTA could require the inclusion of such an obligation, to secure their contractual rights.

9 ☐ FROM "BENEFIT-SHARING" TO "USER PAYMENT"?

9.1 The trigger-point for benefit sharing in the current SMTA

Whether a product in the marked triggers the benefit-sharing obligation, or not, depends on the definition of the trigger points set out in the SMTA:

6.7 In the case that the Recipient commercializes a Product that is a Plant Genetic Resource for Food and Agriculture and that incorporates Material as referred to in Article 3 of this Agreement, and where such Product is not available without restriction to others for further research and breeding [...]

According to the current SMTA, the activity that triggers benefit sharing "commercializes a product" that "is a PGRFA" and "incorporates Material" from the MLS. The wording here refers back to the definitions in Article 2; interpretation of its exact legal content is a tricky exercise that requires reading several articles in conjunction. The trigger-action is "commercializes," as defined in Article 2:

"To commercialize" means to sell a Product or Products for monetary consideration on the open market, and "commercialization" has a corresponding meaning. Commercialization shall not include any form of transfer of Plant Genetic Resources for Food and Agriculture under Development.

The trigger-action is defined solely as selling for money, on the open market. As "to sell" is normally understood as "[g]ive or hand over (something) in exchange for money," this excludes licensing where nothing is handed over. Also excluded is payment for limited rights. The triggering action is narrowly defined.

In view of the ongoing process aimed at improving the functionality of the MLS it is useful to note the wording of trigger-points for rights in other regimes. In the CBD and Nagoya Protocol, the term used as trigger-point for benefit sharing is "utilization of genetic resources." This is an unspecific but all-inclusive (comprehensive) trigger activity. In patent law, the trigger-points for payment to the patent holder are defined as: "making, using, offering for sale, selling, or importing" (TRIPS Art. 28.1.a). The patent-law triggers are far more detailed and specific, without being overly narrow.

The next limiting factor of the trigger-point concerns "Product that is a Plant Genetic Resource for Food and Agriculture and that incorporates Material." This part of the wording is complex, in turn opening for varying interpretations, and introducing unpredictability, especially in judiciary enforcement.

"Product" means Plant Genetic Resources for Food and Agriculture that incorporate the Material or any of its genetic parts or components that are ready for commercialization, excluding commodities and other products used for food, feed and processing.

The wording of Article 6.7 includes limiting criteria that define the trigger-point. The first concerns what is meant by "Product that is a PGRFA." This core trigger-point was discussed in Section 6 above, in light of the definitions in SMTA Article 2. Both "product" and "PGRFA" refer to material. This means that nonmaterial subject matters do not trigger benefit-sharing, and narrows the product developed from accessions gotten from the MLS.

The next limiting item in the trigger-point is the requirement that the product shall incorporate material. Again, the focuses is on physical seeds. The term "incorporates" refers to the inclusion of something physical into something else, without specifying the level of dependence that is required. The level of incorporation is uncertain, with very few sources for interpreting it. There are also considerable challenges of evidence in applying this criterion.

Most countries include an exception from patent protection in their patent acts for plant varieties. If the patent holder sells seeds that are developed from applying the method, then the product is a PGRFA and incorporates parts of the material received from the MLS. This illustrates the narrowness of the trigger-point: If the method for breeding is licensed out, it is no obligation to share benefits; this obligation applies only when the recipient of the material from the system commercializes seeds. The combination of the SMTA and the patent system renders the mandatory obligation of benefit sharing narrow indeed.

The wording excludes a benefit-sharing obligation from synthetic use of the DNA. Further, it excludes any application of gene-editing techniques applied to plants, as material from the MLS is not incorporated in such cases (often referred to as CRISPR).

The pass-on obligation in Art. 6.10 applies when the invention concerns "any Products developed from the Material or its components." The obligation to pass on the SMTA is limited by the definitions discussed above: thus, the pass-on obligation does not constitute a trigger.

The subject matter of ABS in general is "genetic resources"; despite for all its vagueness, it is far more interpretable than the complex wording presented above. In patent law, the subject matter is flexible, and is easier to tailor-make than in a standard contract. The question for reflection in reviewing and redrafting the SMTA is thus: Why does not the Plant Treaty learn from these two other international instruments, but instead insists on retaining highly complex wording but narrowly delimited trigger points for the benefit-sharing obligation?

10 WHAT HAPPENS IN CASE OF INFRINGEMENT?

10.1 | Lack of remedies

In contract law, specifying the remedies in case of breach of contract is essential, to make a contract legally binding and enforceable. As the essence to the classic British legal scholar Blackstone expressing that for every legal right, there is a remedy: where there is no remedy, there is no right.

The SMTA makes no mention of any remedies that apply in case of infringement or breach of the contract. This means that the SMTA establishes no rights for the provider and no obligations on the commercial users. This is not suggested for inclusion in the draft.

SMTA Article 7 on applicable law refers to "General Principles of Law, including the UNIDROIT Principles of International Commercial Contracts 2004." However, the UNIDROIT Principles are not binding and have no legally binding effect, as they represent an attempt to establish general contractual principles, but without binding effect as "law." The wording in Article 7 does not provide any remedies for breach of contractual obligations in the SMTA.

Further legal sources for the SMTA are "the objectives and the relevant provisions of the *Treaty*, and, when necessary for interpretation." These sources are binding on Parties to the ITPGRFA, with no binding effect on private parties. How, then, could public international law become relevant sources of interpretation of a contract? Moreover, it is not possible to see how a general treaty can give guidance to the interpretation of a private law contract.

The final reference, to "the decision of the Governing Body," is also a peculiar one in contract law. It means that a source for the interpretation of private law obligations shall be dependent on nonbinding decision from an international body. However, it seems highly dubious that a court would accept such a dynamic source for the interpretation of a contractual obligation: The clause renders questions of the contract to decisions on which the parties of the contract have no influence—and courts will be reluctant to draw legally binding interpretations and solutions from such a mechanism. This wording has an element of retroactive effect for amendments of the contract, which is problematic under most contract laws. In conclusion, the current SMTA offers no contractual rules that stipulate reactions or remedies in case of breach.

10.2 | Enforcing the SMTA: The recipient, collection, and the third-party beneficiary

One generally overlooked question in ABS contracts: Who are the parties to the contract, the SMTA? (see Young & Tvedt, 2017, Ch. 3.) In contract law, it is only the parties to a contract that are bound by its obligations. Today there is a discrepancy between the contractual parties to the SMTA: On the one side, there is the User, who will have a strong interest in there being no obligations. On the other side there is a public collection as the Provider. Any user payment goes, not to the providing collection, but to the Benefit-sharing Fund of the Plant Treaty. Normally, both parties to a contract have a strong interest in compliance, but the collection as such has no economic interest in enforcing user payment—an atypical contractual relationship indeed. In a narrow economic sense, *no* parties to the SMTA have any interest in ensuring compliance with the benefit-sharing obligation.

The Third-Party Beneficiary is established to act on behalf of the contract party on the provider side. However, the Third-Party Beneficiary is set as being the FAO. Here we have an interesting situation: a UN specialized agency is granted competence to act as a counterpart to and take legal steps against a private corporation in one of the UN member countries. This is not found in any other UN agencies or organizations, and there are considerable obstacles. First, the FAO, as a specialized agency under the UN, has no direct interest in enforcing the contractual obligation, as payment does not accrue to the organization itself. Moreover, it seems highly unlikely that a UN agency or organization would take legal action against a private corporation. If the FAO should engage in such

enforcement of a private contract, it would probably be met with the requirement to maintain its neutrality. It is therefore very difficult to see how this system could lead to compliance, despite the formal competences given to the Third-Party Beneficiary.

The Third-Party Beneficiary system makes compliance with the SMTA a decision that the user can take without any likely legal consequences in case of noncompliance. To be contractually functional, a new SMTA will need to take into account two points: how to oblige the party who is going to create the benefits; and to establish a party to the contract with potential to enforce it. Otherwise, a new SMTA cannot be expected to increase the flow of benefits to the Benefit-sharing Fund.

11 | IS THE SMTA REALLY A CONTRACT?

The SMTA calls itself an agreement, and there are indeed some elements that resemble a contract. However, calling something a contract does not make that document an enforceable contract in and of itself. For a text to have private-law effects, it must not be void as assessed in terms of contract law; it must describe legally binding obligations; and it must be enforceable.

The GB of the ITPGRFA mandated the Ad Hoc Open-Ended Working Group to Enhance the Functioning of the Multilateral System to work to increase the functionality of the MLS. One step in this direction involves amending the SMTA. However, drafting a contract is a legal skill in which not all lawyers are trained. As has become evident in the case of the current SMTA, negotiating a contract in a group of diplomats, few of them contract lawyers, does not necessarily produce a functional result.

If the GB intends to establish legally binding obligations on users of material from the MLS, the text of the SMTA must be revised so as to become *valid*, *binding* and *enforceable* as a contract. Otherwise, a revised SMTA will continue providing monetary benefits as limited as under the current one; and in 10 or 15 years, the Parties to the Plant Treaty will again be asking why there have been so few user payments into the Fund. And here, the answer is obvious: If a company is not contractually obliged to pay anything, it cannot be expected to do so voluntarily.

ACKNOWLEDGMENTS

The theoretical background for a contact analysis is the comprehensive monography by Tomme Young and Tvedt on how to *Drafting Successful Access and Benefit-sharing Contracts* (2017). Very useful comments on this manuscript have been provided by Jan Borring, Bell Batta Torheim, Regine Andersen and G. Kristin Rosendal. I am also very grateful for the discussions and comments provided at the side event at the 7th Governing Body of the Plant Treaty in Kigali. The research behind this article forms part of the project Suitable Seeds for Food Security in Fragile States funded by the Norwegian Research Council in project number 274519, with additional supporting funding from the ABS Capacity Building Initiative.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ENDNOTES

¹PGRFA are defined as "any genetic material of plant origin of actual or potential value for food and agriculture (Art. 2)."

²For example, France has designated only 719 accessions; http://www.fao.org/plant-treaty/areas-of-work/the-multilateral-system/collections/en/ (accessed November 5, 2018).

³Norway was the first country to donate to the fund and has been doing so for the four first calls for projects, http://www.fao.org/plant-treaty/areas-of-work/benefit-sharing-fund/projects-funded/en/.

⁴On the negotiations that led to the Plant Treaty and the difficult political challenges encountered along the way, see Andersen (2008, pp. 87–115).

⁵Views differ fundamentally on interpretations of these criteria. See Tvedt (2015), and compare with Halewood et al. (2013) and Correa (2013).

⁶http://www.fao.org/plant-treaty/areas-of-work/the-multilateral-system/bsf-efmls/en/referring to decision 2/2013 at the fifth Governing Body.

⁷Fraleigh and Harvey (2011, p. 116) refer to the US opinion: the list is "far too short and should be expanded"—an interesting position for a country which is not even party the Treaty. Europe has expressed a similar view, according to Visser and Borring (2011, pp. 72–73). See also Visser (2013, pp. 265–266), who notes that African countries at one point suggested nine food crops for inclusion, whereas European countries proposed as many as 287.

8http://www.fao.org/3/a-bp082e.pdf

9http://www.fao.org/3/nb918en/nb918en.pdf (accessed July 1, 2020, recital 31).

¹⁰https://mls.planttreaty.org/itt/index.php (accessed March 13, 2019).

¹¹Oddly enough, the Technical Legal Expert Group has not discussed the contract question related to the SMTA, but has examined only issues of international law.

¹²https://dictionary.cambridge.org/dictionary/english/material (accessed June 30, 2020).

13 Ihid

¹⁴https://en.oxforddictionaries.com/definition/sell (accessed March 16, 2019).

¹⁵SMTA Art. 7 Applicable law, reads: "The applicable law shall be General Principles of Law, including the UNIDROIT Principles of International Commercial Contracts 2004, the objectives and the relevant provisions of the Treaty, and, when necessary for interpretation, the decisions of the GB."

ORCID

Morten Walløe Tvedt https://orcid.org/0000-0002-8846-3661

REFERENCES

Andersen, R. (2001). Conceptualising the Convention on Biological Diversity: Why is it Difficult to Determine the 'Country of Origin' of Agricultural Plant Varieties? Lysaker, Fridtjof Nansens Institutt. (FNI Report 7/2001).

Andersen, R. (2008). Governing agrobiodiversity: plant genetics and developing countries, London: Ashgate.

Correa, C. M. (2013). Plant genetic resources under the management and control of the contracting parties and in the public domain: How rich is the ITPGRFA's multilateral system? In M. Halewood, I. L. Noriega, & S. Louafi (Eds.), *Crop Genetic Resources as a Global Commons - Challenges in International Law and Governance* (pp. 177–186). New York, Routledge.

Fraleigh, B., & Harvey, B. L. (2011). The North American Group: Globalization That Works. In C. Frison, F. López, & J. T. Esquinas-Alcázar (Eds.), Plant Genetic Resources and Food Security: Stakeholder Perspectives on the International Treaty on Plant Genetic Resources for Food and Agriculture (pp. 109–119). Earthscan.

Halewood, M., Noriega, I. L., & Louaf, S. (2013). The global crop commons and access and benefit-sharing laws - Examining the limits of international policy support for the collective pooling and management of plant genetic resources. In M. Halewood, I. L. Noriega, & S. Louafi (Eds.), Crop Genetic Resources as a Global Commons - Challenges in International Law and Governance (pp. 1–36). New York, Routledge.

International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), Food and Agriculture Organization, November 3, 2001, 2400 UNTS 303, entered into force June 29, 2004.

Louafi, S., & Bhatti, S. (2013). Efforts to get the multilateral system up and running. In M. Halewood, I. L. Noriega, & S. Louafi (Eds.), Crop genetic resources as a global commons: Challenges in international law and governance (pp. 189–196). Routledge.

Standard Material Transfer Agreement, Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture, June 16, 2006.

Tvedt, M. W. (2015). Access to plant genetic resources – Legal questions for material on its way into the multilateral system of the plant treaty. *Law, Environment and Development Journal*, 11(1), 37–50.

Tvedt, M. W., Eijsink, V., Steen, I. H., Strand, R., & Rosendal, G. K. (2016). The missing link in ABS: The relationship between resource and product. *Environmental Policy and Law*, 46(3–4), 228–237.

- Tvedt, M. W., & Rukundo, O. (2019). The ABS contract tool: Version 2.0. The GIZ the ABS Capacity Development Initiative. https://absch.cbd.int/api/v2013/documents/B1C6A46D-5EC6-E5BA-45A2-2F3E406DCB49/attachments/ABS_Contract-Tool_EN_ANSICHT.pdf
- Visser, B., & Borring, J. (2011). The European Regional Group: Europe's role and positions during the negotiations and early implementation of the international treaty. In C. Frison, F. López, & J.T. Esquinas-Alcázar (Eds.), *Plant genetic resources and food security: Stakeholder perspectives on the international treaty on plant genetic resources for food and agriculture* (pp. 69–80). Earthscan.
- Visser, B. (2013). The moving scope of Annex I: The list of crops covered under the multilateral system. In M. Halewood, I. L. Noriega, & S. Louafi (Eds.), *Crop genetic resources as a global commons: Challenges in international law and governance* (pp. 265–282). Routledge.
- Young, T. R., & Tvedt, M. W. (2017). Drafting successful access and benefit-sharing contracts, Brill Nijhoff. https://doi.org/10. 1163/9789004356573

AUTHOR BIOGRAPHY



Morten W. Tvedt, Associate Professor at the University College in Molde (see https://app. cristin.no/persons/show.jsf?id=14465, for a complete list of publications). He has published extensively in the area of contract law and biotechnology. A review of the Standard Material Transfer Agreement of the Plant Treaty is one of the latest contributions to the contract-law understanding of ABS. In 2018 Tvedt published the monography on ABS Contracts with Tomme Young, How to draft Successful ABS Contracts. He is working closely with the ABS Capacity Building Initiative giving legal advice to governments. He may be contacted at Morten.W.

Tvedt@himolde.no or by post Molde University College, P.O. Box 2110, 6402 Molde, Norway.

How to cite this article: Tvedt, M.W. A contract-law analyses of the SMTA of the Plant Treaty: Can it work as a binding contract? *J World Intellect Prop.* 2021;24:83–99. https://doi.org/10.1111/jwip.12180