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CHANGES IN THE PLANT TREATY – HOW CAN BENEFIT SHARING HAPPEN
AND THE LINK TO INTELLECTUAL PROPERTY RIGHTS – ASSESSING
THE MUTUALLY SUPPORTIVENESS

Morten Walløe Tvedt

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CHANGES IN THE PLANT TREATY – HOW CAN BENEFIT SHARING HAPPEN AND THE LINK TO INTELLECTUAL PROPERTY RIGHTS – ASSESSING THE MUTUALLY SUPPORTIVENESS

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1

SETTING THE SCENE FOR THE IPR CONTEXT OF ABS AND QUESTIONS EXPLORED

The plant sector is currently in focus because it is where access is granted under two Access and Benefit Sharing (ABS) schemes in combination with two other systems for securing Intellectual Property Rights (IPRs, in this case mostly patents and plant breeders' rights under the International Convention for the Protection of New Varieties of Plants 1991). A core perspective on the functionality of ABS schemes is their interrelation with the intellectual property rights systems. This is particularly so since it is the IPRs systems that secure a right to exclude others from using an invention based on a certain plant genetic resources (PGRs). However, treaty discussions tend not to address the interfaces between the patent system and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). For example, two recent edited books on the ITPGRFA and its function do not devote any section to the relationship between ITPGRFA and the patent system or plant breeders' rights system, not even under the section on 'Critical Reflections'.¹ The rationale for this is not easy to understand, as it is a timely topic. When a suggestion was made to study the impact on food production of IPRs at the meeting of the Commission on Genetic Resources for Food and Agriculture

(CGRFA) in 2013, a large number of states contended that the Food and Agricultural Organisation (FAO) had no mandate to commission such a study. In their study of mutually supportive ABS regimes, Halewood and others discuss a number of core implementation questions for the Treaty without mentioning the relationship either to IPRs or to seed legislation.² In the Conference of the Parties for the Convention on Biological Diversity (CBD-COP) and in the Open-ended Ad Hoc Intergovernmental Committee (ICNP) for the Nagoya Protocol on ABS as an interim governing body for the Nagoya Protocol discussions respectively, the link to IPR receives somewhat more attention. However, the discussion of 'disclosure of origin' of the genetic material in patent applications receives the most attention. In the discussions leading to the Nagoya Protocol (NP), the interface to other ABS systems received far more attention than the link between ABS and IPRs.

A better understanding of the link between ABS systems and IPR would probably enhance the chance to generate a larger venue for benefit sharing for both ABS systems. Exploring these relationships could promote the mutual supportiveness of the objectives of the two ABS systems.

This analysis explores this relationship through public international law. The methodology involves a text-based reading of treaties, interpreting them in conjunction with and in light of less binding sources of law such as minutes of meetings, other documents and legal theory. It presents no opinion on policy or related political questions. It performs a technical legal analysis and seeks to contribute to a better understanding of the interaction and mutual support they hold potential to provide.

1 Michael Halewood, Isabel López Noriega, Selim Louafi, '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 Michael Halewood, Isabel López Noriega, Selim Louafi (eds), *Crop Genetic Resources as a Global Commons - Challenges in International Law and Governance* (Routledge, 2013); Christine Frison, Francisco Lopez, Jose Esquinas-Alcazar (eds), *Plant Genetic Resources and Food Security: Stakeholder Perspectives on the International Treaty on Plant Genetic Resources for Food and Agriculture* (Earthscan, 2011); Regine Andersen and Tone Winge, *Realising Farmers' Rights to Crop Genetic Resources: Success Stories and Best Practices* (Routledge, 2013).

2 Michael Halewood and others, 'Implementing "Mutually Supportive" Access and Benefit Sharing Mechanisms Under the Plant Treaty, Convention on Biological Diversity, and Nagoya Protocol', (2013) 9/1 Law, Environment and Development Journal (LEAD) 70 <<http://www.lead-journal.org/content/13068.pdf>> accessed 01 February, 2015. The term 'patent' is mentioned once in the article in the context of the trigger point for the benefit sharing obligations.

2 THE SET-UP OF THE MULTILATERAL SYSTEM

2.1 The Standard Material Transfer Agreement as a Tool for ABS

The Standard Material Transfer Agreement (SMTA) is the practical legal tool for transferring genetic material under the Multilateral System for ABS (MLS).³ It enables rapid access because no negotiations are needed. It was adopted by the parties in 2006, and provides a standardised means by which countries can exercise their sovereign rights to a specific and limited selection of plant genetic resources for specific uses.⁴ It also implies a standardised approach to gaining prior informed consent and mutually agreed terms. The ITPGRFA Secretariat ‘believes that the SMTA is a “cornerstone” of the ITPGRFA.’⁵ Access is provided free of charge, and if a fee is charged, it shall not exceed the minimum cost involved (ITPGRFA Art. 12.3.b). All available passport data and related information are to be provided together with the material (ITPGRFA Art. 12.3.c). It is important to note that countries originally also have sovereign rights over plant genetic resources as part of the general right confirmed in the Convention on

Biological Diversity.⁶ One hundred and thirty-one contracting parties to the ITPGRFA have chosen to apply their sovereign rights by including 64 specific categories of crops (species and others) in the MLS where access is granted ‘solely for the purpose of utilization and conservation for research, breeding and training for food and agriculture, provided that such purpose does not include chemical, pharmaceutical and/or other non-food/feed industrial uses’ (ITPGRFA Art 12.3.a). The MLS became the legal instrument for the already on-going exchange of accession of PGRs in the international collections, while adding a number of national collections to the MLS.⁷

Halewood and others discuss in detail who is responsible for responding to requests for access under the MLS, including questions any grantor of access must consider in each individual request for access to PGRs under the MLS. As their discussion shows, there are a number of unresolved issues concerning institutional setup for the MLS in the different countries, including the appointment of a focal point and identification of the counterpart to a SMTA. This resembles the challenges facing a functional ABS system under the CBD when it comes to identifying the counterpart to the agreement. Having different institutions as focal points might make it cumbersome for the user to identify which institution he should turn to depending on whether the requested PGR falls within the MLS or other side. Here, implementation could be mutually supportive if a common focal point was set up with the competence to determine whether a certain PGR is included under the MLS or regulated by general ABS.

2.2 Multilateral, Bilateral or Two Contractual Mechanisms?

One prominent difference between the systems is that the MLS is often described as having a ‘multilateral

3 *Standard Material Transfer Agreement [SMTA]*, ITPGRFA Governing Body, 16 June 2006, Resolution 1/2006.

4 This view is also expressed in the EU draft Regulation (EU) 511/2014 on compliance measures for users from the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in the Union, Preamble 10a: ‘in the exercise of their sovereign rights, have determined that Plant Genetic Resources for Food and Agriculture (PGRFA) under their management and control and in the public domain, not contained in Annex I.’

5 SelimLouafi and Shakeel Bhatti. ‘Efforts to Get the Multilateral System Up and Running’ in Michael Halewood, Isabel López Noriega, SelimLouafi (eds), *Crop Genetic Resources as a Global Commons Challenges in International Law and Governance* (Routledge, 2013) 194.

6 See for example: International Treaty on Plant Genetic Resources for Food and Agriculture [ITPGRFA] (adopted 3 November 2001, entered into force 29 June 2004) 2400 UNTS 303 (Food and Agriculture Organization). Art. 10.1.

7 Collections in the Multilateral System, <http://www.planttreaty.org/inclusions?field_mls_noti_inclu_type_owner_value_many_to_one=Contracting+Party> accessed 18 January 2013.

approach' rather than a 'bilateral approach', which ABS in CBD/NP is often said to have. Linguistically, multilateral and bilateral generally refer in international law to the number of countries being parties to an agreement. A bilateral treaty is between two countries, while a multilateral treaty is between more than two countries.

The multilateral element of the MLS is that state parties to the ITPGRFA have decided to make the list of plant genetic resources for food and agricultural purposes (PGRFA) available on private contractual law terms. Nevertheless, the SMTA is a private law contract between the parties providing collection and the recipient. It has been described as 'a private contract between individual provider and the recipient', and is relied upon as the 'principle mechanism for the operation of the multilateral system'.⁸ It is therefore a common feature of the two systems that they are based on private law agreements: the 'Standard Material Transfer Agreement' and the 'Mutually Agreed Terms' respectively. The multilateral element of the MLS is that the terms and conditions are pre-negotiated independently of the actual context in which access takes place. This removes the flexibility to re-draft the SMTA, e.g. in the current situation when there is a growing recognition that the benefit-sharing mechanism under the SMTA fails to ensure that private companies using the PGR share the economic benefits.⁹ The NP encourages parties to develop 'model contractual clauses' (Article 19). So far, no such standards have been developed. If the NP embarks on this approach it would increase the similarity between ABS under the NP and the MLS.

Common to both ABS situations is their reliance on private law agreements being between two (private) parties, the user and the provider. Both are therefore bilateral in contract-law terminology. The MLS could therefore be called a 'standardised

contractual approach' whereas the CBD/NP could be called a 'tailor-made contractual approach'. The latter could become a 'model contractual approach' if the system under Article 19 were used.¹⁰ If so, it could prove to be crucial to ensuring the mutual supportiveness of the two systems, insofar as clearer attention would be given to the fact that the users are bound by certain private law conditions and can be liable for breaching them. The use of the terms 'bilateral' and 'multilateral' appears to create more confusion than clarity, since both are highly dependent on private law contracts.

3

LEGAL USES OF PLANT GENETIC RESOURCES TAKEN FROM THE MULTILATERAL SYSTEM

One core question is what happens when material is taken out of the MLS to be used. Several bodies, including the Secretariat, the Governing Body and the Third-party Beneficiary, have been set up to take policy decisions and manage the running of the MLS.¹¹ The institutional structure will not be explored here. Instead, the focus is on the legal questions concerning the material.

The essential condition targeting the user of the facilitated access to PGR under the MLS is that countries agreed to give open access in the MLS for specific purposes only. According to the wording of ITPGRFA Art.12.3 (a),

8 Halewood and others (n 2) 72; Daniele Manzella, 'The Design and Mechanisms of the Multilateral System of Access and Benefit Sharing', in Michael Halewood, Isabel López Noriega, Selim Louafi (eds), *Crop Genetic Resources as a Global Commons - Challenges in International Law and Governance* (Routledge, 2013) 150.

9 The Governing Body has called for working group meetings to look into this question, the first one in Geneva May 2014.

10 Morten Walløe Tvedt, 'Beyond Nagoya: Towards a Legally Functional System of Access and Benefit-sharing' in Sebastian Oberthürand G. Kristin Rosendal (eds), *Global Governance of Genetic Resources Access and Benefit Sharing after the Nagoya Protocol* (Routledge, 2014) 158.

11 Manzella (n 8) 157-158; Gerald Moore, 'Protecting the Interests of the Multilateral System under the Standard Material Transfer Agreement' in Michael Halewood, Isabel López Noriega, Selim Louafi (eds), *Crop Genetic Resources as a Global Commons - Challenges in International Law and Governance* (Routledge, 2013) on the Third Party Beneficiary; Louafi and Bhatti (n 5) 190-191.

Access shall be provided solely for the purpose of utilization and conservation for research, breeding and training for food and agriculture, provided that such purpose does not include chemical, pharmaceutical and/or other non-food/feed industrial uses.

The wording sets out certain specific purposes or reasons for seeking access and defines them as the only legitimate ones under the MLS. The MLS is established for specific purposes, the main criterion of access being the use of the material for 'food and agriculture'. This means that non-food and non-agricultural uses are outside the scope of the MLS. Technically, the wording can be read in two ways. It can be regarded as a condition of access, i.e. only access for these purposes is legal. Second, if access is sought for other purposes the user must apply through an ABS system other than the MLS, as it has no mandate to grant access. However, there is no institutional arrangement for granting access to MLS material for non-food or non-agricultural uses. The other alternative is that the SMTA sets limits to the legal uses afterwards, and if such illegal use were to transpire, it would be regarded as a breach of the contract.

The purpose of food production could possibly be interpreted, delimited, and determined by externally verifiable facts. The term 'agriculture' is wider and less easily interpreted, determined and applied. Examples of agriculture that are not food production are biofuel crops, carbon capture crops, and cash crops. One relevant question is whether the 'and' between 'food' and 'agriculture' makes the two elements cumulative in the sense that agriculture must be interpreted narrowly and confined to food production. Since the objective of the ITPGRFA is food security, this becomes an interpretative argument. One could say that since food security is one of the core objectives of the Treaty, agriculture beyond securing food production falls outside the scope of the legal intentions for permitting access through the system. No detailed interpretation has been accepted as yet. For the sake of clarity between the CBD/NP and ITPGRFA, it is important to clear this issue up because access for non-food and non-agricultural intentions falls outside the scope of the

MLS and is by principle governed by the general ABS rules.

There is also a legal grey area between using accessions of PGR for 'research, breeding and training' in the fields of technical biotechnology and gene technology. If a single gene is identified in material received from the MLS, the question is whether this use is legal under the MLS. It can hardly fall under 'breeding' or 'training,' so the alternative must be 'research'. It would probably be covered by 'research' since the wording does not use any word to qualify the type of research intended.

A pragmatic implementation of the MLS might provide a reason for not paying too much attention to these legal niceties. If state parties to the ITPGRFA accept the use of accessions for a broader range of purposes than what follows from the wording of the Treaty, it would be a political decision and would need to be informed and taken in an open manner. The SMTA mainly regulates benefit sharing when utilisation results in a plant variety as the product. The point at which the benefit sharing mechanisms in the SMTA are activated targets a 'product that is a Plant Genetic Resource for Food and Agriculture'. Products developed from MLS material that are not 'a Plant Genetic Resource for Food and Agriculture' do not elicit any legal obligation to share benefits according to the SMTA (Article 6.7 of the SMTA). If uses for other purposes are accepted or tolerated under the SMTA, the irony is that the unintended uses are left without benefit-sharing obligations attached to them. Access through the MLS for subsequent non-authorized uses will therefore occupy a blind spot in the system, and might proceed legally without benefit sharing.

'Where a request is made for access to such materials for other purposes,'¹² Halewood and others suggest, 'it would have to be considered pursuant to national access and benefit-sharing laws or policies that are applicable with respect to genetic resources outside the multilateral system.'¹³ It seems that Halewood and others are not too worried about this blind spot

¹² Halewood and others (n 2) 90.

¹³ *ibid.*

in the MLS. If, however, material from the MLS is allowed to be used without incurring benefit-sharing obligations, it could undermine the long-term legitimacy of the system. It is difficult to see how creating and maintaining this blind spot can be regarded as ‘mutually supportive’ of the system of benefit sharing from the utilisation of PGR.

For these reasons, these legal questions concerning legal access from the MLS and its limitations deserve more attention than is currently the case. Contracting parties to the ITPGRFA would probably prefer to take an informed decision on whether they are willing to accept a blind spot in the open access system of the ITPGRFA.

4 BENEFIT SHARING UNDER THE ITPGRFA

The other main legal topic in the SMTA concerns the benefit-sharing mechanisms. According to the CBD system there are two contractual mechanisms for deciding benefit sharing: future benefits can be specified at the point of time of access (CBD Art 15.4 and 5) or at the point of time of utilisation, when the success of the use is better known (CBD Art. 15.7 second para.). Thus, the general rule in ABS is that a contract between provider and user sets the conditions for benefit sharing. The main idea of benefit sharing is that the user and beneficiary of the utilisation of genetic resources shall pay a share for the long-term maintenance of the resource base through conservation.

For the MLS in the ITPGRFA there is no corresponding system whereby an individual level of benefit sharing can be agreed. In the discourse regarding the ITPGRFA, it is often said that ‘facilitated access to PGRFA is in itself a “major benefit”’.¹⁴ Benefit sharing under the ITPGRFA is linked to a specifically defined trigger-point at which

benefit sharing shall take place.¹⁵ Monetary benefit sharing is fixed in terms of shares from the sale of some specific products developed from the use of material from the MLS, as set out in the SMTA. Instead of leaving the parties to the private law contract to determine the trigger point and level of benefit sharing (as in ABS as we know it from CBD), the Treaty itself sets the trigger point. Art. 13.2.d.ii states:

(ii) The Contracting Parties agree that the Standard Material Transfer Agreement referred to in Article 12.4 shall include a requirement that a recipient who commercializes a product that is a plant genetic resource for food and agriculture and that incorporates material accessed from the Multilateral System, shall pay to the mechanism referred to in Article 19.3f, an equitable share of the benefits arising from the commercialization of that product, except whenever such a product is *available without restriction* to others for further research and breeding, in which case the recipient who commercializes shall be encouraged to make such payment. (Emphasis added)

This general obligation in international law is made more specific in SMTA Art. 6.7, where the trigger point for benefit sharing is formulated such that benefits must be shared if 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*

¹⁴ Manzella (n 8) 155.

¹⁵ Standard Material Transfer Agreement (SMTA) for Plant Genetic Resources for Food and Agriculture (PGRFA) (adopted 16 June 2006), ITPGRFA Governing Body Resolution 1/2006. Art. 6.7 and 6.10, Art. 6.8 of SMTA sets an interesting rule which explicitly establishes an exclusion for benefit sharing where there is a use of plant breeders’ rights where the commercial product is a plant variety which can be used for further research and development.

research and breeding'(emphasis in original). The benefit obligation here is a fixed 1.1 percent of the net sales of the protected product through the time of protection.¹⁶ The wording prompts three questions. When is a product a Plant Genetic Resource? When can it be said that the product 'incorporates Material'? What is meant by 'available without restrictions'?

4.1 A Product that is a Plant Genetic Resource

This trigger point is rather specific in that it applies only to the commercialisation of a product which itself is a PGRFA. The most obvious such product is a seed, which contains functional units of heredity. The wording intends here to capture the value of the genes, not the bulk value of the harvest.

What if the product is not considered a PGRFA but a research institution or company that develops a patented product related to food and agricultural production, but not in itself a PGRFA. According to the wording in the SMTA there is no benefit-sharing obligation in this situation.

Under the CBD, the obligation to share benefits is linked to the 'utilization' of genetic resources. This is a broader concept, since it does not target any particular type of product. The trigger point covers processes upon drawing of the genetic resource. The weakness of the trigger point in the CBD is that it is not concrete, but depends on the interpretation of the utilisation of genetic resources. Under the ITPGRFA, utilization is not a trigger point. The trigger point is more narrowly and specifically defined in the SMTA than in the CBD/NP.

4.2 Incorporates the Material

The second criterion for triggering the benefit-sharing obligation is that the product 'incorporates Material' from the MLS. 'Incorporate' means to 'take in or contain (something) as part of a whole', 'include', or 'to combine into one substance'. The wording 'incorporated' suggests the putting of something into a larger whole in a manner that

consumes the element. Linguistically, it could be understood as a reference to genetic technology (or recombinant techniques), as in a situation where a gene is modified and transferred to another plant into which it will be 'incorporated'. Literally, a new plant variety is the next generation of the material received, not a mixture of that material with some other material. In traditional breeding, saying that a number of accessions is 'incorporated' into the new product is less obvious given a strictly linguistic interpretation. Incorporation must refer to the genetic information in the accession.

If a plant breeder has used MLS material in his innovative work, but no traces of that material find their way into the product, then this criterion is not met.

This issue has been discussed in the bodies of the ITPGRFA, but without reaching a definitive, legally binding conclusion. Whether or not the product incorporates material from the MLS is a concrete and factual assessment of which material is micro-physically connected to the product. If the law is taken literally here, it becomes a complex assessment both in law and in fact. It is difficult in law because one needs to determine at which point a certain material was incorporated. It is also a tricky factual assessment as the proof of what happened is situated in the laboratory of the plant breeder.

'The plant breeding sector', according to Van den Hurk, 'was of the opinion that benefit sharing should only take place when a great part of the genetic resources could be found back in the final product; a minimum of 25 percent should be incorporated.'¹⁷ In addition, she holds that an 'identifiable trait of value or essential characteristic' should be proved to be present.¹⁸ These proposed links between the material received from the MLS and the final product require a high degree of

¹⁶ *ibid* Annex 2.

¹⁷ Anke van den Hurk, 'The Seed Industry: Plant Breeding and the International Treaty on Plant Genetic Resources for Food and Agriculture', in Christine Frison, Francisco Lopez, Jose Esquinas-Alcazar (eds), *Plant Genetic Resources and Food Security: Stakeholder Perspectives on the International Treaty on Plant Genetic Resources for Food and Agriculture* (Earthscan, 2011) 168.

¹⁸ *ibid*.

convergence. Van den Hurk has also stated that the plant breeders use very little new material and mostly bred varieties and that there must be a cut-off point for benefit-sharing requirements. There is however no support in the treaty language supporting any such cut-off point.¹⁹ The closer the link between any material received from the system and the required product, the less the new products will be mandatorily subject to the benefit-sharing obligation.

What plant breeders look for is traits that could add value to a new variety. An attractive trait could be governed by a single gene, but still be commercially valuable. Incorporating 25 percent of an accession of PGR (such as a landrace) does not happen, according to a professor in plant breeding. Plant breeding is an evolutionary process with gradual improvements in terms of modification of existing varieties.²⁰ Typically, a product will be developed (at least in traditional plant breeding) based on a several materials. These materials will typically come from a number of collections.

Often it is claimed that the material, which currently is in the MLS, is also available from other sources. This adds to the difficulties of proving that a certain PGR that has been incorporated into a product, actually comes from the MLS and not from some such other source. Companies that want to avoid benefit sharing may be able to secure parallel access to the same accession if found elsewhere.

The difficult evidence and legal questions are, however, not peculiar to MLS situations. The link between a genetic resources and the utilisation triggering benefit sharing under the CBD or NP is also a complex issue. A parallel question is whether a patent applicant shall be obliged to disclose the origin of material used in the innovative process.

19 Anke van den Hurk, 'Mutually Supportive Implementation: Challenges And Options – Views Of Stakeholders (Panel Discussion With Introductions By The Panelists)', (*The International Treaty and the Nagoya Protocol – A tandem workshop for National Focal Points*, co-organised by Biodiversity Capacity Building Initiative for ABS, Rome, June 2014).

20 Comments by Conversation between author and Trygve Berg, Professor at the Norwegian University of Life Sciences in June 2014.

4.3 Available without Restrictions for Further Research and Breeding

The third question is when a PGR product is not 'available without restriction to others for further research and breeding' (emphasis in original). If patents protect a product resulting from the use of material from the MLS,²¹ then the fixed share of the sales must be paid into the benefit-sharing mechanism. If a plant breeders' right protects the result of the use of the material, then it is assumed not to be subject to the benefit-sharing obligation, as the product will be available for further breeding. This interpretation is the prevailing one in the discussion. The wording, rather than linking the benefit-sharing obligation to a specific utilisation, relies on a particular circumstance in which the product is available with or without restrictions.

Breeding based on a protected variety under laws based on the International Convention for the Protection of New Varieties of Plants 1991 (UPOV-91) is allowed according to Art 15.1(iii). However, breeders' rights are restricted to essentially derived varieties, varieties 'not clearly distinguishable' and those 'varieties whose production requires the repeated use of the protected variety', according to UPOV-91 Art. 14.5. Thus, a plant variety protected by a system based on UPOV-91 is not completely 'available without restriction'. There are restrictions. Perhaps this calls for a reinterpretation of the SMTA in such a way that also plant varieties protected by a UPOV-91-based right should be covered. There is legal support for such a re-interpretation without having to amend the SMTA in any way.

One additional question worth asking is if the plant variety has been protected by a UPOV right and there is a seed law preventing the uncertified/unauthorised use of the material as in further breeding. A registered plant variety is, according to *seed legislation*, not available without (technically and legally speaking) restrictions. In such a case, there are indeed restrictions on breeding, but they are not

21 Regine Andersen and others, *International Agreements and Processes Affecting an International Regime on Access and Benefit Sharing under the Convention on Biological Diversity - Implications for its Scope and Possibilities of a Sectoral Approach* (Fridtjof Nansens Institutt Report, no. 3/2010).

IPR-based restrictions. The wording in the SMTA does not refer to IPRs, but includes a general reference to being available without restrictions.

Patent law in a number of countries also includes a research exception for experimental use. If this exception is practised in manner whereby the breeders' rights are allowed also for a patented product, one could argue that also a patented product should be available in a *more or less* restricted form. A certain degree of legal uncertainty is therefore attached to this criterion. It reduces predictability for the users of genetic material from the system because the trigger point of the benefit-sharing obligation requires interpretation and can vary among countries depending on the level of restrictions.

It is the *product* that triggers benefit sharing. In a purely linguistic interpretation of the wording, a *patented process* resulting from material obtained from the MLS would not trigger benefit sharing. Linking the trigger point to the restriction on the product and not on the material in the common pool might coincide with other changes in patent law and part of the trend of applying for process patents (thereby also gaining indirect product protection). The situation in these cases is arguably that since the wording uses the term 'product', then the decisive argument in these cases is inaccessibility of the product, which is thus covered by the benefit-sharing obligation.

If the product is not protected or protected and still available for use, research, and development, then benefit sharing is optional. The idea behind these rules is to maintain the common pool as it was originally.

4.4 Self-assessment of the Benefit-sharing Mechanism

Consequently, benefit sharing is detached from the individual access situation and individual provider in the MLS. Moreover, most types of PGR utilization do not trigger the benefit sharing obligation. Perhaps one can say that countries in adopting the ITPGRFA waived the benefit sharing obligation for certain PGRs to secure another policy goal – that of easy access. This is often expressed as *access is a benefit* in itself.

According to Manzella, 'Financial contributions from various entities have been made into the Benefit-Sharing Fund'.²² What he forgets to say is that almost none of the funds available in the Fund have been shared benefits, as the SMTA or the rules of the MLS require, but rather voluntary contributions by governments. As Visser states, 'only if the ... benefit-sharing arrangements and the funding strategy in particular, appear to be successful and not negative effects resulting from the execution of the intellectual property rights, might the occasion arise for an expansion of the list of crops.'²³ This he states in a discussion of the list of crops in the Annex; but it has wider implications in terms of the success of the benefit-sharing mechanism to receive economic benefits from the users and recipients of the large number of accessions being transferred under the MLS.

The alternative to benefit sharing based on commercialisation of a product which itself is a PGR is that accessions from the MLS are used, and benefit sharing is accepted on a general basis. The SMTA Art. 6.11 reads:

Alternatively, the user can opt for paying according to Article 6.11c of the SMTA:

The payments shall be based on the Sales of any Products and of the sales of any other products that are Plant Genetic Resources for Food and Agriculture belonging to the same crop, as set out in Annex 1 to the Treaty, to which the Material referred to in Annex 1 to this Agreement belongs.

Annex 3 sets the level of payment here to 0.5 per cent²⁴ of the all the sales of the products based on the same crop.²⁵ Till now no commercial actors have used this option.

22 Manzella (n 8) 153.

23 Bert Visser, 'The Moving Scope of Annex I: The List of Crops Covered under the Multilateral System', in Michael Halewood, Isabel López Noriega, Selim Louafi (eds), *Crop Genetic Resources as a Global Commons - Challenges in International Law and Governance* (Routledge, 2013) 279.

24 SMTA, Annex 3.

25 Manzella (n 8) 156.

Non-monetary benefit sharing is to be facilitated between the contracting parties independently of the transfer of material. This includes making available information on PGRFA; transfer of technology for the conservation and sustainable use of PGRFA; and capacity building in terms of education and training, improvement of facilities, and research cooperation for the conservation and sustainable use of PGRFA (Art. 13.2). The options found under the CBD and NP are more akin to non-monetary benefit sharing than monetary benefit sharing as discussed above.

Products that are available for further research and breeding are explicitly excluded from monetary benefit-sharing obligations. The rationale for this is that the system is to encourage breeding and research. To follow this rationale, one could argue that these plant varieties should be expressively made available in the MLS for other researchers and breeders, as this would speed up the pace of plant breeding.

4.5 The Way Forward to Enhance Benefit Sharing

At the last meeting of the Governing Body, parties to the ITPGRFA agreed to look into both the scope of the MLS and the benefit-sharing mechanisms. This section has highlighted a number of challenges in the benefit-sharing mechanism. It is interesting to note that Halewood and others do not address any of these weaknesses in their thorough discussion of the implementation of the MLS in the domestic law of the provider countries.²⁶

5 ITPGRFA AND THE INTELLECTUAL PROPERTY RIGHT SYSTEMS

5.1 The Rules in the MLS

The core provision for determining the relationship between the MLS and IPRs, is ITPGRFA Art. 12.3.d:

²⁶ Halewood and others (n 2).

Recipients shall not claim any intellectual property or other rights that limit the facilitated access to the plant genetic resources for food and agriculture, or their genetic parts or components, in the form received from the Multilateral System.

This is further specified in SMTA Art 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.

At first glance, this looks rather like a ban against the use of IPRs, but the wording implies a more lenient limitation on the right of the recipient of the material to take out IPRs. The wording of the SMTA refers to three 'objects' that cannot be the object of IPRs: 'plant genetic resources'; 'their genetic parts'; and 'components'. For these three items the SMTA does not allow parties to obtain IPR protection 'in the form received'.

5.2 A Look at Patent Law and the Limits in the MLS

In patent law, any object qualifying as an invention, being novel, and including an inventive step and having an industrial application shall be awarded a patent. The concept 'invention' does not correspond to any of the three objects described in the SMTA. Patent law does not use any of the three terms 'plant genetic resources'; 'their genetic parts'; or 'components'. Neither is the term 'in the form received' used in patent law. The ITPGRFA does not use patent-law terminology. These discrepancies in terminology and thus also in the assessments of the respective legal systems create a challenge to the two systems' mutual supportiveness.²⁷

²⁷ Morten Walløe Tvedt, 'Disentangling Rights to Genetic Resources Illustrated by Aquaculture and Forest Sectors' (2013) 9/2 *Law, Environment and Development Journal* (LEAD) 129 <<http://www.lead-journal.org/content/13127.pdf>> accessed 05 February 2015, where the terminology in the different legal systems is analysed.

In patent law, the novelty and inventiveness criteria are both assessed from a common baseline, the *prior art*. One pertinent question is whether the inclusion of an accession in an MLS collection means inclusion in patent-law *prior art*. *Prior art* is a technical term which defines what the patent system regards as known. In the *Biogen* case, the dispute was whether the deposit of the gene in a gene bank could sufficiently be considered as *prior art* and thus not sufficiently *novel*.²⁸ The Enlarged Board of Appeal held that the gene ‘had not been made available to the public by this publication itself or through this publication from the gene bank.’²⁹ If there is a need for screening a gene bank, the Board held, then the deposit in the gene bank does not constitute a part of the *prior art*.³⁰ In that case, the DNA would be ‘hidden in the multitude of clones’ in the gene bank. Therefore, the accession was not considered as part of the *prior art*. The inclusion of a sample in a collection is therefore not sufficient for it to qualify automatically as *prior art* in patent law.

There are incentives and work is going on to improve the access of patent examiners to the information in databases of gene banks. Negotiations have been going on for a long time in the Intergovernmental Committee on Genetic Resources, Traditional Knowledge and Folklore under the WIPO on whether the patent system could include a requirement of disclosing the origin of the material used in the invention.

If a certain ‘plant genetic resource’, ‘their genetic part’ or ‘component’ is regarded as part of the *prior art*, the next question concerns the relationship between the term ‘in the form received’ and the novelty/inventiveness assessments.

The novelty criterion entails a linguistic comparison between the invention described in the patent claims with the published *prior art*. The threshold for meeting the novelty criterion is that the described invention is found to be non-identical with the item of *prior art*. The assessment is not congruent with an assessment of whether the material is described

as identical to the criterion of ‘in the form received’. This means that a slight difference between the two written sources can be sufficient to merit a patent – regardless of whether the object is close to the *form* in which it was *received*, only in a slightly different description. Knowing that patents, according to many patent offices, can be granted to naturally occurring genes, viruses, and other microorganisms, the mere pre-existence of the material in a collection governed by the MLS is not sufficient to fail the novelty criterion.

The inventiveness criterion takes another approach by assessing whether the invention as a whole differs from the total body of *prior art* before the patent application. The substance of this assessment is whether the new invention is non-obvious when assessed in light of the body of existing literature. This assessment is qualitatively different from that embedded “in the form received” assessment. Therefore, it is not probable that the inventiveness criterion in patent law will safeguard this prohibition in the SMTA.

This brief look at the potential of patent law to support the attempt of the SMTA and MLS to prevent the privatization of material obtained from the collections has showed that support from the patent system is unlikely. The above discussions revealed fundamental challenges in the relationship between the patent law assessments and the criteria chosen to safeguard the MLS as a common pool of PGR. The main observation here is that more attention needs to be paid to the mechanisms both in patent law and in the MLS to ensure that accessions governed by the MLS are excluded from being patented in a form received.³¹

5.3 Plant Breeders Rights and the MLS

The other type of IPR is plant breeders’ rights (PBRs). These rights are also granted according to national procedures whereby the merits of a claimed plant variety are assessed. The criteria differ from

28 T 0301/87 *Biogen v. BoehringerIngelheim Pharma AG* [1989] Board of Appeal EPO, paras 3.3.2.

29 *ibid* paras 5.2.

30 *ibid* paras 5.4.

31 Again, the relationship between the MLS and patent system is not on the radar for the discussions concerning implementation of the MLS. See Halewood and others (n 2), where the link to the patent system is omitted.

those of the patent system, and PBRs are only applicable for one particular type of object: a plant variety. UPOV 91 Art. 1 (vi) defines a plant variety as a 'plant grouping within a single botanical taxon of the lowest known rank' regardless of whether a certain variety meets the protection criteria or not. Here *one* core issue is whether the claimed plant variety has been marked or commercialized as a plant variety before. Genetic parts or components are not as such protectable under the PBR system.

A breeder is defined in UPOV91 either as one who has bred, or discovered and developed, a plant variety (UPOV 91 Art. 1). For the first activity, the result of a breeding process is something other than PGRs in the form received. The second grouping, however, implies a lower threshold of action on the received material. Here, an accession *in the form received* can be considered as discovered; this is a parallel question to the one raised with regard to patent law. There will be an assessment of how 'developed' an accession received from the MLS must be to avoid disqualifying it under the "in the form received" criterion. Also here there is no necessary connection between the interpretation of the wording of the ITPGRFA and the criterion in UPOV 91. The extent to which plant material must be modified before it is no longer regarded as being 'in the form received' under this Article is uncertain.

Whether a patent or a plant breeders' right will be granted depends on practice in the patent system. How these rules will interplay in practice with those of CBD, ITPGRFA and NP is still to be seen in detail. It is likely that concrete legal disputes will arise. Till now, however, there has not been any court case in the world where the issue has been a patent versus a right based on ABS. Whether these questions will be resolved by a national court under patent law or by the third-party beneficiary or dispute settlement mechanism in the ITPGRFA is also still to be seen.

6

DISCUSSION AND CONCLUSIONS – MUTUALLY SUPPORTIVE?

6.1 Assessing the SMTA of the MLS as a Common Pool Drawing on Open Source

Technically and legally speaking, there are two sets of norms in the SMTA that are closely interlinked and of crucial significance to the maintenance of the common pool of PGRs: the *link to IPRs*; and *benefit sharing* under the MLS. Manzella, who takes it upon himself to explain the "nuts and bolts" of the MLS,³² mentions neither benefit sharing nor the relationship to patent law to the four objectives of the SMTA.³³

Against this backdrop, the MLS was developed with features of a *common pool of genetic resources* into which all contracting parties (countries) place a selection of plant genetic resources of Annex I crops that are in their public domain and under their control. In addition, the contracting parties shall invite all their holders of such material to include it in the MLS (Art. 11.2). Accessions of plant genetic resources that are outside the *public domain*, such as the resources held in private collections, are not included in the MLS. Countries are to take appropriate measures to encourage their inclusion, but this remains a factor limiting the success of the MLS, as none have been included yet.

The MLS has thus been characterised as a common pool.³⁴ Common-pool thinking is based on a balance between participants' willingness to place material into the pool and their interest in taking something out of it. The principle of Open Source software makes the source code freely available to the public

32 Manzella (n 8) 150.

33 *ibid* 154.

34 Halewood, Lopez Noriega, Louafi (n 1) 1-36.

for use and modification, but such modifications and innovations must remain in or be shared with the common pool under the same conditions as the modifier obtained the software in the first place. Under this principle in the MLS, countries have a sovereign right to their genetic resources, i.e. to include in a common pool a limited and well-defined list of PGRFA. The users and primary beneficiaries, however, are not obliged to share their inventions with the MLS. There is no mechanism by which the developer of a product from material found in the common pool can be obliged to share his inventions or products with the pool. In this context, the primary beneficiaries do not contribute to the growth of the common pool. Theoretically, a plant breeder in the food or agriculture sector could have been asked to allow access to the research results on the same terms as he obtained the material in the first place. The SMTA does not impose such a requirement. And in any case, it would introduce a negative incentive to use material from the MLS for commercial purposes. Openness is merely a recipient-side issue, and does not impinge on the results of the research. This reduces the nature of the MLS as a common pool of PGRs.

6.2 Conclusions

The purpose of this article was to explore the mutual supportiveness of the instruments. Halewood and others claim that CBD and ITPGRFA are ‘very different, but “mutually supportive” nonetheless’.³⁵ The MLS differs from the ABS system as it is practised under the CBD thus far. By detaching benefit sharing, benefits are not shared with the providers but with a limited number of internationally selected projects. According to the benefit-sharing figures so far, the money shared has mainly come from donor countries. The potential to become mutually supportive is there in the domestic implementation. To this author, it is still not clear how these two systems will or can support each other to achieve their respective missions to share benefits arising from the utilisation of genetic resources to secure the long-term conservation and sustainable use of the resource base.

³⁵ Halewood and others (n 2) 74.

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