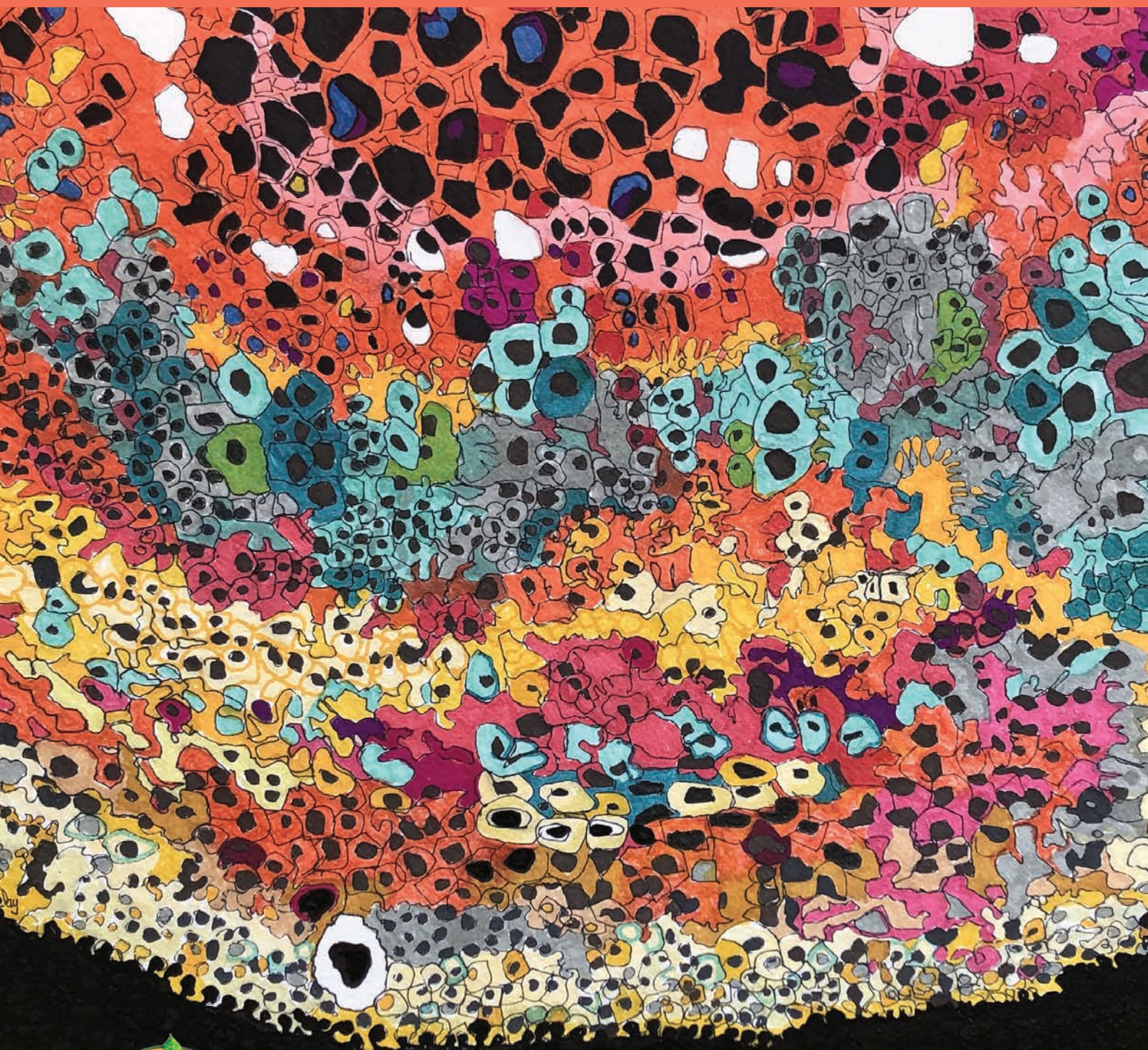


# Crunch Time for the Seed Treaty

## A review of some outstanding issues in the negotiation

Will the effort to fix ITPGRFA's broken benefit sharing system measure up to expectations?



October 2019

TWN  
Third World Network



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## Acronyms and abbreviations

BSF	Benefit Sharing Fund
CBD	Convention on Biological Diversity
CGIAR	Consultative Group on International Agricultural Research
CWRs	crop wild relatives
DSI	Digital Sequence Information
FAO	Food and Agriculture Organization
GB	governing body
IP	intellectual property
IPLCs	indigenous peoples and local communities
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
MLS	Multilateral System
NGOs	non-governmental organisations
PGRFA	plant genetic resources for food and agriculture
PIP	World Health Organization's Pandemic Influenza Preparedness
R&D	Research and Development
SGLE	Standing Group of Legal Experts
SMTA	Standard Material Transfer Agreement



## Introduction

In November 2019, Contracting Parties to the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) will meet to discuss and possibly agree to a deal to fix the Treaty's failed multilateral system of access and benefit sharing. The ITPGRFA (the Treaty) has had a tragic history of seed companies and breeders helping themselves freely to farmers' seeds in its multilateral system (MLS) and promises of benefit sharing and the implementation of farmers' rights never materialising.

The upcoming meeting is crucial for the future viability of the Treaty. Unless a permanent solution is found to earnestly address the abysmal failure by seed companies to make mandatory and significant monetary payments to the MLS's Benefit Sharing Fund (BSF), the Treaty will lose relevance in international access and benefit sharing discussions.

On the negotiating table is a package of related issues. This includes [a proposed amendment to expand the Treaty's Annex 1 and] draft revisions to the Treaty's current Standard Material Transfer Agreement (SMTA).<sup>1</sup> Under discussion is a proposed rescue mechanism called the "subscription system". This system is, in principle, intended to require companies/breeders to make an annual payment to the BSF, linked to seed sales, in return for access to more than a million seeds in the MLS. As a condition of supporting the subscription system, developed countries and closely allied industry interests are demanding an amendment to the Treaty. They want to dramatically expand the coverage of the 64 crops the MLS currently covers to include "all PGRFA" (plant genetic resources for food and agriculture). Expanding the MLS requires

changing the Treaty's Annex 1, and this will require an amendment to the Treaty. Upon ratification of the amendment by two thirds of Contracting Parties, the amendment will take effect and the MLS will be expanded.

What this means is that Contracting Parties are being asked to make a binding commitment to bring an enormous new swathe of their agricultural biodiversity under the MLS and, in so doing, take that diversity out of the coverage of the Convention on Biological Diversity (CBD)'s Nagoya Protocol on Access and Benefit Sharing. If *in situ* genetic resources are not expressly excluded from that expansion, then, shockingly, grossly unjust situations could result, in which the genetic resources of small farmers, indigenous peoples and local communities (IPLCs) will have been committed to the MLS without their consent.

A central feature of the talks, to date, has been the South's commitment to the principle that benefit sharing must be paid and be reliable before the MLS is expanded to new crops – but this position has been dangerously shaken during the discussions that have taken place in 2019.

Many European, North American and other Northern governments have worked diligently to serve up the seed industry's desires, while disregarding the interests of small farmers, IPLCs and others in civil society. Indeed, the voice of the North has become often indistinguishable from that of the industry.

Currently, the seed industry and its Northern government allies have gained an upper hand in the discussions, and a series of compromises and looming unresolved issues – such as that of digital sequence information (DSI) – have further dulled the proposed subscription system's lustre.

1. The Standard Material Transfer Agreement is a mandatory model/template for Parties wishing to provide and receive material under the multilateral system. The material transfer agreements that use the standard template are private agreements between the particular providers and recipients, but the Governing Body, through the FAO as the Third-Party Beneficiary, is recognised as having an interest in the agreements. <https://preview.tinyurl.com/y26t78d4>

## Reconstructing the MLS: Brief historical context

International negotiations to reconstruct the BSF began soon after the Treaty's September 2013 Governing Body (GB) meeting in Muscat, Oman. Since that time, a small Working Group, more recently co-chaired by Hans Hoogeveen of the Netherlands and Javad Mozafari from Iran, and comprising of Contracting Parties, representatives of farmers, non-governmental organisations (NGOs) and industry, has met nine times formally and many more times informally.

Attendees at early meetings of the Working Group were initially buoyed with optimism that a new idea, the subscription system, might solve the problem of little to no benefit sharing having taken place on the part of seed companies. However, this optimism was deflated when, in November 2017 in Kigali, Rwanda, the (then) co-chairs of the Working Group proposed a hopelessly premature draft deal to the GB, which was emphatically rejected.

Since the Kigali GB meeting, the Working Group has continued to seek consensus, and is poised to meet again in late October 2019. This may mean that some changes to the current draft proposed agreement may occur in the final weeks before the GB meets. It is anticipated that the Working Group will thus present a new draft proposed agreement to the GB when the latter convenes in Rome in November 2019.

## About this paper

This paper discusses a number of problems concerning the current draft agreement. These involve crossing several “red lines”, which developing countries, small farmers, IPLCs and NGOs should not allow. The draft agreement, as it presently stands, essentially means the Contracting Parties would expand the MLS to include a broad new range of plant biodiversity in return for nothing more than a dysfunctional subscription system, with scant hopes for fair and equitable benefit sharing.

There are ways, discussed here, in which the draft agreement can and should be improved at the next meetings. If the improvements discussed here are not made, however, developing countries, farmers, IPLCs and NGOs may have to accept that, despite many years of effort, the best course of action at the GB meeting in Rome will be to reject the Working Group's draft agreement.

It would be infinitely better to leave the Treaty in its present form, despite its inequitable limbo status, than to “throw more good seeds after bad”.

## Prelude to SMTA discussions: A complicated document

*Perfect may well be the enemy of good, but so is complication.*

At the outset of the Working Group's negotiations, many Contracting Parties, particularly African countries, as well as civil society, lamented the unnecessary complexity of the current SMTA. Africa, in particular, supported simplicity very strongly. There is a common view that the current SMTA is also fatally flawed, in that it allows ways to avoid benefit sharing. Negotiations to improve the SMTA were intended to develop a simpler, loophole-free and readily understandable approach to increasing user payments. Africa, especially, wants an effective benefit sharing system.

But disappointingly, years of meetings to discuss revisions have not simplified the SMTA. In fact, the revisions have made it much more complicated. While access and benefit sharing agreements are not known for their simplicity, the draft revised SMTA is a labyrinth. A complicated document almost invariably reduces transparency and produces





ambiguities, working to the advantage of those looking for loopholes, rather than those trying to assert their rights. A complicated SMTA will severely limit people's understanding of the system and undermine its robust implementation, reducing confidence in and support for the Treaty.

First, the draft SMTA currently on the negotiating table is illogically organised. Provisions with very different applicability are interspersed throughout the document. Indeed, during Working Group meetings even well-resourced delegations from wealthy countries have routinely become confused about the significance and applicability of certain draft provisions. This has prompted pauses, awkward interventions, questions to the Secretariat, and reorientation and reordering of discussions.<sup>2</sup>

The major provisions of the current SMTA have now been renamed the "single access option" or "occasional access option." This "single access option" now exists in parallel with the proposed new access and benefit sharing mechanism, which is called the subscription system.

Termination clauses have been crafted that define how obligations would unwind over time. In particular, proposed new provisions that deal with "thresholds" in relation to benefit sharing payments have been designed to permit deliberate "leakage" of the progeny of MLS seeds, allowing genetic resources to escape from the system and to be used without benefit sharing.

While the new provisions attempt to create a subscription system, they raise crucial questions about the applicability of the old SMTA under various scenarios: the meaning of "all PGRFA under the control of Contracting Parties and in the public domain"; income from licensing; in situ genetic resources; and many more. Many of these questions are unlikely to be resolved, either at the October 2019 Working Group meeting or at the November 2019 GB meeting in Rome. If this is the case, and the draft SMTA is adopted, inevitably it will give rise to enormous interpretational and implementation difficulties in the future.

It is extremely unwise to accept a draft SMTA that contains too many alternate interpretations, loopholes, and unclear permutations and try to bring such a document into legal force.

2. This paper avoids referencing paragraph numbers, as the current text (an up-to-date copy of which is not publicly available at time of writing) may be reordered, or numbering may be changed in the draft agreement that will be presented to the Governing Body in Rome in November 2019.

*Is a vastly simpler benefit sharing system impossible to achieve, or do wealthy interests prefer complication instead of clarity, in order to exploit loopholes and avoid meaningful benefit sharing?*

## Negotiating without a target: The abject failure of the Funding Committee

It is astonishing that over six years of negotiations, the Working Group did not discuss specific funding **requirements** for the BSF. The Working Group was stymied in its efforts to set and agree upon a revenue target in order to orient its work. This omission frustrated the primary task given by the GB to the Working Group, namely, to increase payments from commercial users of the MLS. Indeed, the co-chairs actively sought to avoid discussing money, despite that yielding more money was the primary goal of the effort to revise the SMTA.

Numerous suggestions were made for needs assessments to be conducted and for the setting of fixed annual funding targets for the BSF, which would be periodically revised. However, the co-chairs of the Working Group at the time deflected these suggestions, in deference to the weak-kneed Northern governments that were unwilling to engage with their industry with a discussion on payment levels.

Indeed, the only fiscal guidance available to the Working Group while it tried to revise the SMTA were assurances by a co-chair (who

has since left the Working Group) that an outdated and unfulfilled US \$25 million per year goal – itself basically a random number<sup>3</sup> – would be revisited by the Ad Hoc Advisory Committee on the Funding Strategy in the future, and that the report would come back to the Working Group.

So, instead of negotiating toward an agreed fiscal target, the Working Group has muddled along without knowing if the financial objective for the revised SMTA is to produce US \$500,000, \$500 million, \$50 million or \$5 million per year. This situation has strongly contributed to the Working Group's meandering path and inability to approach the question of payment rates.

*Working Group meetings to revise the SMTA have, at times, been like a room full of engineers working to create a new vehicle, without having agreed on whether it is to be a child's bicycle or the presidential limousine.*

In late 2018, five years after the MLS Working Group started, the Ad Hoc Advisory Committee on the Funding Strategy finally met to discuss a BSF funding target,<sup>4</sup> and failed dismally. Facing fierce North American opposition to fixing any specific funding goal, the Committee retreated. It instead proffered a convoluted recommendation containing a wide range of possibilities.

The Ad Hoc Advisory Committee on the Funding Strategy's recommendation is a sort of Rube Goldberg device:<sup>5</sup> it is made up of conditional clauses that are linked to one another, and that back-pedal on previous goals. The recommendations are so obtuse that even the Committee co-chairs struggle to explain them.

3. The recollection of participants in the original negotiation of the Treaty is that the goal of \$25 million per year for the BSF stemmed from a desire for the BSF to parallel investment in *ex situ* collections. At the time that the issue was taken up during negotiations, the budget of the Consultative Group on International Agricultural Research (CGIAR) gene banks was about US \$25 million per year. To parallel this, \$25 million was also established as the goal for in situ funding through the BSF.

4. See: <http://www.fao.org/plant-treaty/meetings/meetings-detail/en/c/1173573/>

5. A Rube Goldberg device, named for a cartoonist, is a ridiculous contraption intentionally designed to perform a simple task in an indirect and complicated fashion.



Nevertheless, here is an attempt to present a simplified summary of the Funding Strategy's recommendations:

- Reduce the number of goals in the Food and Agricultural Organization (FAO)'s Global Plan of Action that the BSF will support from six goals to only two, without any rational, robust reason to do so. This means that the BSF will aspire to supporting fewer types of in situ conservation activities.
- Avoid setting specific monetary targets for the BSF, and rather speak of possibly supporting the two Global Plan of Action goals at "low", "low-medium" or "high" etc. levels.
- Fix a payment "milestone" of 40% of an undefined total amount, by 2026.

The irrational number – 40% of an unknown – ensures that pressure for developing countries to ratify an amendment to the Treaty that expands the MLS will peak before payments into the BSF reliably increase, if they ever actually do. If this is maintained in the final discussions of the GB, it will represent a major reversal of long-held developing country positions.<sup>6</sup>

### **Recommendations: A fixed number for payments to the BSF**

The lack of a concrete payment target for the BSF is alarming.

This dangerous situation repeats past Treaty mistakes, in which the South has waited for benefit sharing that never materialises, while the corporate seed sector's access to genetic resources expands. Under the Funding Committee's scheme, companies and Northern governments can manipulate vague goals to argue that funding commitments are being "successfully" met with under US \$1 million per year paid into the BSF.<sup>7</sup> In other words, because no target



has been set, it makes it possible for the seed industry to argue that any minimal amount paid by them to the BSF translates into successful funding under the Treaty.

Farmers, IPLCs and others in civil society and developing countries cannot and should not accept this situation. To do so will be surrendering to intense pressure for developing countries, especially, to ratify an expanded MLS to all PGRFA, potentially for little or nothing in return.

A fixed minimum target for the BSF of no less than US \$50 million per year must be an explicit part of any agreement. No expansion of the MLS can or should be permitted before that goal is met.

If such a fixed goal cannot be established, then the status quo is preferable to the present proposal. Sadly, it would be better to leave Annex 1 untouched and for developing countries to continue to receive virtually no benefit sharing for access to Annex 1 crops, rather than to expand the MLS to "all PGRFA", only to get nothing, or a mere pittance, once again.

6. Discussions presently anticipate allowing about five years to accumulate for ratifications of an amendment to Annex 1, expanding the MLS to "all PGRFA", before the revised SMTA and the amendment's progress are reviewed. The Funding Committee only aspires to 40% of an unknown total (which might be ridiculously low) by 2026, meaning that Parties will take stock of the amendment's progress – a process that will invariably pressurise developing countries – before even half of the anticipated total annual contributions to the BSF are realised. This is the opposite situation to the long-held position of developing countries.
7. Since about \$1 million per year can be interpreted as a "success" under the Funding Committee scheme, if the subscription system only garners the support of a low percentage of the seed industry, perhaps 30% of the industry by sales, then it might be argued that payments of \$300,000 per year are a "success" because the proportion of the industry that subscribes is paying a minimal amount.

## Rates: A not so simple question

In the present SMTA text, there are two types of rates that must be set:

- those for the subscription system; and,
- those for the single access option (as set out in Articles 6.7 and 6.8 of the current SMTA of the Treaty,<sup>8</sup> if this is still to be retained.)

The first rate, for companies and others that join the subscription system, is payment of a proportion of overall company seed sales of crops in the MLS. This would include some – but maybe not all – income from licenses (see below).

The second type of rates are those for the single access option, in which companies sign SMTAs for individual accessions and make payments based on a proportion of income from plant varieties linked to those specific accessions. (The latter is the present system, which has not resulted in significant payments to the BSF, though in the revised SMTA, payment under Article 6.8 will no longer be voluntary.)

Setting rates for both options is more complicated than it may initially seem because each option is intricately linked to other aspects of the SMTA. This includes the length of time that obligations would exist under the terms of each system and what would happen when a company leaves the subscription system. These include questions in relation to “thresholds”, and what rights are granted, as well as what rights would companies be able to retain, share or market seeds that are the progeny of MLS material during their subscription to the system, after

their subscription has expired, or once their respective obligations under the single access system have expired.<sup>9</sup>

In addition, establishing a correct ratio between the subscription system and single access payment rates is a matter of great importance, particularly if the termination clauses under the single access option are generous to companies. For instance, if users are permitted to share progeny with a high proportion of MLS parentage (e.g. over 3.5%), especially within relatively few years of signing the SMTA, by way of threshold clauses or expiry of obligations, then even an extremely high payment rate under the single access mechanism will not increase payments into the BSF.

That is because if companies can exfiltrate interesting material from the MLS by simply waiting, or by transferring interesting genes into progeny whose MLS parentage is below a certain threshold, that material will be exempt from payment obligations. This creates an incentive for users to prefer the single access option and, for example, prepare breeding material (but not sell products) with new MLS parentage while the obligations apply. Companies may then be able to use material with MLS parentage for free after the mandatory payment clauses expire.

In this context, it should be noted that the breeding cycle for new varieties of many crops is 10 years or more. Since companies in some circumstances already plan to take a decade or longer to market new varieties bred from newly accessed MLS germplasm, they can actively breed with MLS material, not make any payments under the single access option, and wait for the SMTA obligations to expire.

8. Article 6.7 of the current SMTA provides as follows: “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, the Recipient shall pay a fixed percentage of the Sales of the commercialized Product into the mechanism established by the Governing Body for this purpose, in accordance with Annex 2 to this Agreement.”

Article 6.8 provides: “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 that Product is available without restriction to others for further research and breeding, the Recipient is encouraged to make *voluntary* payments into the mechanism established by the Governing Body for this purpose in accordance with Annex 2 to this Agreement.” (own emphasis)

9. Expiration of obligations did not previously exist in the SMTA but are being introduced in the new version by governments eager to accommodate industry demands.



Thus, if a single access option is permitted, it must both have a much higher rate than the subscription system and have termination and threshold (progeny) terms that do not incentivise gaming the system. The Working Group has heard proposals for this rate for the single access option to be anything from ten to as much as one hundred times the rate of the subscription system. It is to be noted that it is impossible to rationally settle on a specific rate, without knowing the terms of the revised SMTA concerning the conditions for termination and thresholds.

### Payment rates under the subscription system

On the surface, setting rates for the subscription system is relatively straightforward, as follows:

$$\begin{array}{ccccc} \text{ANNUAL SALES} & \times & \text{RATE} & = & \text{PAYMENT} \\ \text{(of crops in the MLS)} & & \text{(\%)} & & \text{(\$)} \end{array}$$

Thus, for the fictitious MegaSeed Corporation, an annual payment could be:

$$\begin{array}{ccccc} \text{US \$2 billion} & \times & 1\% & = & \text{US \$20 million} \\ \text{(sales and} & & \text{(hypothetical} & & \text{(annual payment)} \\ \text{license income)} & & \text{rate)} & & \end{array}$$

And for the global seed industry:

$$\text{US \$38 billion} \times 1\% = \text{US \$380 million}$$

But, of course, it is not so simple.

Companies don't want to pay anything close to 1% of seed sales, and instead have proposed a massively lower rate of 0.01% minus 30%.<sup>10</sup> By comparison, Africa has suggested a rate of 0.3% – forty times more – yet Africa's rate may also be significantly too low.

It is difficult to predict what proportion of the seed industry will subscribe and how reasonable their calculation of payments will be. Importantly, companies are likely to remain insistent that much of their income from genetically modified (GM) crops should not be included in payment calculations, because GM traits such as glyphosate resistance do not originate in the MLS and thus income from them should not be counted. Or so the companies argue.

Secretariat-commissioned estimates by the company Agribusiness Intelligence<sup>11</sup> are that, globally, total seed industry sales are somewhat more for GM crops (US \$20.8 billion) than non-GM crops (US \$17.0 billion). Since GM crops are more than a single GM trait, however, not all income from GM crops could be excluded from payment calculations (if Parties permit this exclusion, which they appear poised to do). But unfortunately, since the system is not transparent, how such calculations are made will be hidden from public view, creating latitude for abuse (see below).

Thus, somewhat more realistic estimates of subscription system income are sobering.

If industry income is discounted by 45%<sup>12</sup> and it is assumed that 80% of the remaining sales/license income is from Annex 1 crops, 40% of the seed industry (by sales) subscribes to the system, and industry's proposed payment rate (0.01% less 30%) is used, then MLS income would theoretically reach about US \$4.7 million per year.<sup>13</sup> If only 20% of industry joins, then income would be half that figure.

If industry-proposed rates are applied to all PGRFA, in other words if the MLS is expanded and the Treaty is amended, *it does not make a*

10. The formulation of rates as "X%, less 30%" is a holdover from the original SMTA that industry and some developed countries are trying to carry into the new SMTA. The 30% "discount" in theory reflects the difference between wholesale and retail prices of seeds. There is no sound reason, however, to continue to express rates in this overcomplicated way.

11. See: <http://www.fao.org/3/ca5151en/ca5151en.pdf>

12. Agribusiness Intelligence, commissioned by the Secretariat, estimates that global sales of GM crops sum \$20.822 billion per year (55% of the total), while conventional crops sum \$17.036 billion. If industry refuses to pay benefit sharing on profits it says are from GM traits not of MLS origin, it will still owe some benefit sharing for sales of those varieties due to value stemming from non-GM content.

13. Calculated as follows:

Discount to remove GM trait income:  
Discount for non-Annex 1 crop sales:  
Adjust for estimated rate of company subscription:  
Calculate payment at industry's proposed rate:

\$38b x 55% = \$20.9 billion  
\$20.9b x 80% = \$16.72 billion  
\$16.72b x 40% = \$6.69 billion  
\$6.69 billion x 0.01%, less 30% = \$4.68 million per year

*very large difference.* If 40% of industry joins, annual payments would theoretically come to about \$5.9 million, or less than one quarter (23.6%) of the BSF funding goal before the negotiation started. This begs the question: if benefit sharing does not rise considerably with the addition of “all PGRFA”, even in theory, then does it make sense for the South, farmers, IPLCs and NGOs to be participating in these discussions at all?

In short, a focus on rates in the absence of a fixed annual goal and removal of threshold and termination loopholes won’t bear fruit, and, even under relatively optimistic scenarios, little will be paid into the BSF at industry’s proposed payment rates.

In a more rationally designed system, the specific rate used should be derived from the annual payment yield that is required. If payments are made on sales of all PGRFA, excluding GM traits, and loopholes and the single access option eliminated, the following situation may arise:

Proportion of industry	Approximate rate needed to yield... <sup>14</sup>	
	subscribing <sup>15</sup>	
	\$50m/yr	\$100m/yr
10%	2.40%	4.80%
25%	0.96%	1.92%
50%	0.48%	0.96%
75%	0.32%	0.64%
100%	0.24%	0.48%

### **Recommendation: Include a hard, financial goal**

In the light that there are a number of unknowns, such as what proportion of industry will join the subscription system, how the question of GM traits will be resolved (if it is resolved), and the severity of loopholes in the final revised SMTA, a discussion focused solely on rates will never yield a clear picture of what the BSF will, or even should, be.

Any agreement to revise the SMTA must include a hard, financial goal that creates a tangible measurement of success (and failure) that is operationally linked to any Treaty amendment. That amount should be at least US \$50 million per year. Such a figure will require that many of the world’s major seed companies subscribe to the new system, in order for it to work. This would be a useful and appropriate requirement, because a subscription system without the participation of major seed companies will not be worth implementing.

No expansion of the MLS should be permitted until the \$50 million figure is reliably realisable. If it is not, the Treaty should revert to the status quo, which, while undesirable, is preferable to immeasurably exacerbating the situation by expanding a hopelessly failed system.

Developing countries have long maintained that they will not permit expansion of the MLS until substantial user payments into the BSF materialise. However, disconcertingly, the resolve of the South on this issue has been worn down over six years of negotiations in the very small Working Group and the Funding Committee. The South’s wavering is evident in the current text, which neither ensures substantial benefit sharing nor reliably postpones expansion of the MLS until payments are locked in at an acceptable level.

At the Governing Body meeting, developing countries must retake their long-held position and staunchly defend it. If developed countries and industry refuse to make the necessary commitments, then the process should be allowed to fail.

### **Payment rates for the single access option (if retained)**

The single access option should be eliminated from the revised SMTA, in which case this will become a non-issue.

14. This assumes that loopholes are substantially closed, and that industry does not pay on a proportion of sales of crops with GM traits.

15. According to preliminary analysis by Agribusiness Intelligence, the eleven global seed companies with over US \$500 million in annual sales collectively represent 75% of industry sales. Thirty or forty companies sell \$100–\$500 million in seeds annually and account for another 15% of the global market. The remaining 10% of seed sales are shared by everyone else, numbering hundreds or thousands of companies. Notably, these figures do not discount GM traits from company sales.



If the single access option is retained, however, then a rate is required that very strongly discourages the use of the single access option and encourages joining of the subscription system. Such a rate could be 10% or even higher. But, as discussed earlier, very high rates alone will not fix the problem of the single access system, if the text retains lax termination clauses and thresholds allow leaks of progeny with MLS parentage. This situation will undoubtedly undermine the subscription system.

In such an event, the single access option will be more attractive to companies than the subscription system, as they will be able to access MLS material under the single use option. Once they do this, they will be able to push it out of the system in the form of breeding materials incorporating MLS parentage of interest, and/or postpone using MLS material in commercialised varieties until after SMTA obligations under the single access option have diminished or disappeared.

### **Recommendation: Remove the single access option**

Removal of the single access option from the SMTA is the strongly preferred result.

If the single access option is retained, payment rates under it should be at least 10 and maybe 100 times higher than those of a subscription system that is realistically designed to generate payments of US \$50 million a year, or more.

Of equal or more importance than rates are termination and threshold clauses. Single access users **should not be permitted** to share breeding material containing any MLS parentage outside of an SMTA, nor retain and use MLS material and its progeny after an SMTA terminates.

If developed countries refuse to agree to eliminate the single access option, and very strict terms on termination of single access SMTAs and thresholds/progeny cannot be included, then developing countries would be amply justified and are strongly encouraged to end the negotiation at the GB meeting with no deal.

## Transparency and a revised SMTA

If a revised SMTA is adopted, will it be transparent? Of particular importance, will it be possible to review company payments into the BSF, to see how these are being calculated? For example, to what extent is a company that sells GM crops attempting to discount its payments, by claiming that income from some, but not all, GM traits should not be counted? GM traits aside, do the amounts of payments make sense when compared against other sources, such as the required reporting of public companies?

At present, such transparency has been ruled out, and information about payments and the basis of their calculation will be withheld from public oversight as “confidential business information”.

Support for preventing public scrutiny of the system is widespread among developed countries, whose agriculture ministry officials eagerly defer to industry’s demands to keep documentation out of the hands of potential whistle-blowers. For any civil society organisation, and for farmers, IPLCs, governments and others interested in accountability and transparency, the present draft SMTA is a severe disappointment.

Canada, which wants to ensure that information about individual payments is impossible to access and verify, is the strongest advocate for secrecy. Indeed, the secrecy measures proposed by Canada in the Treaty are probably greater than those permitted by Canada’s domestic freedom of information laws. Canada has even proposed rolling back what little transparency presently exists in the MLS, including documentation of seed shipments under the SMTA by the CGIAR centres.

Developing countries have been relatively silent on transparency issues. Secrecy has huge implications for farmers, IPLCs and generally for developing countries in the South, in regard to corporate accountability. If there is no transparency, how will developing countries and their peoples know if they are being cheated? Further, the lack of



transparency in the system will prevent civil society and farmers' organisations from monitoring the system and identifying corporate misbehaviour. Without transparency, the new system will have no "policing mechanism" to ensure farmers and developing countries are not short-changed. (Additionally, the FAO itself is ill positioned and may lack legal ability to be an enforcer of the SMTA, a point Africa has repeatedly made.)

Secrecy will also prevent the development of broader confidence in a revised SMTA. It is noteworthy that aggregated data will not provide sufficient operational detail, and this will inevitably lead to concerns about the integrity of the Treaty system and fears that the BSF is being short-changed. It will also give rise to serious concerns about biopiracy that will be very hard for the Treaty to dispel, because the information necessary to prove or disprove is protected as being secret under the SMTA.

By comparison, the World Health Organization's Pandemic Influenza Preparedness (PIP) Framework, a multilateral access and benefit sharing system that

routinely meets its monetary benefit sharing goals, emphasises transparency. Each transfer of material is publicly documented in an online database, and the exact amount of each annual payment and its method of calculation is a matter of public record.<sup>16</sup> When some companies have failed to make payments, they have been identified on a list on the WHO website. While this transparency has been in place, the influenza vaccine industry has not suffered – indeed it has thrived – nearly doubling in size.

### **Recommendation: Create a transparent system for access and payments**

The revised SMTA must create a transparent system for access and benefit sharing payments if Parties hope for the Treaty to gain public relevance and stakeholder confidence. There is no legitimate reason to broadly allow companies to hide the amount of their payments and the basis of their calculation. To do so opens another large loophole in the revised SMTA, by permitting abuse and potential dishonesty. This will create lingering disquiet about the Treaty's integrity and engender suspicions about fraud and biopiracy.

16. See the PIP Framework "Partnership Contribution" page: [https://www.who.int/influenza/pip/partnership\\_contribution/en/](https://www.who.int/influenza/pip/partnership_contribution/en/)



Ensuring availability of information on what companies are accessing, and how payments are calculated would not damage the subscription system. Rather, it would create accountability and build confidence in the system, including for companies, who could, in turn, be confident that their competitors are also making payments properly.

Governments should eliminate any presumption of confidentiality for materials submitted to the Treaty for the purpose of accessing germplasm or making payments under the revised SMTA. If, in unusual and occasional cases of very small markets or niche products, there are legitimate competitive reasons why a small amount of payment-related data might be suppressed, provisions can be made – but this should be allowed only as an exception, and not the rule.

## Licence income in limbo

Income from licensing is likely to continue to increase in importance among MLS users and, hence, its proportion in relation to sales figures that should be used to calculate BSF payments is likely to get bigger. Seed companies not only licence varieties that they develop to other companies, but also breeding material and traits (genes). These varieties, breeding materials and traits are usually covered by intellectual property (IP) claims of one type or another.

As a general principle, the Treaty should not permit IP claims on MLS materials, including claims on traits, as they impact the implementation of farmers' rights. However, now and in the future, a company may become an important player in the seed market by deriving a large proportion, or even all, of its income from licences, rather than seed sales.

For instance, a company might build a business around licensing of drought tolerance or other kinds of traits, and access

to and evaluation of MLS materials (including DSI), could be a major component of the company's research and development. Or a company using IP protected traits in its own varieties may license the same traits to a different seed company operating in another market or even to a company that produces its product in industrial bioreactors.

Many such examples, especially with GM crops, already exist, and it is easy to see the practice expanding with genome editing technology to the emergence of "trait companies" that could be as or more profitable than companies that sell seeds.

The Working Group is certainly aware of licence income and Parties are seeking to address the issue, some more diligently than others. Despite consultations with the Standing Group of Legal Experts (SGLE), a satisfactory formulation of SMTA language that unequivocally captures all income from licensing and similar arrangements has not been found and agreed upon.<sup>17</sup>

Insufficiently clear and comprehensive language in the SMTA on licence income could open a major loophole, because companies could exploit ambiguity by arguing that some or all of their licence income falls outside the SMTA, and accordingly reduce their obligations to make payment.<sup>18</sup> Indeed, companies are already seeking to exclude income from many GM traits.

That this issue is of such significance and the fact that lack of trust has come to characterise the entire system is a disappointing indictment of the Treaty and the SMTA. In an alternative, simpler, approach to benefit sharing, companies might be assigned a payment amount, for example, based on their public reporting.

### **Recommendation: Capture licence income in the SMTA**

Clear, comprehensive and unequivocal provisions are required in the revised SMTA to capture benefit sharing on licence (and similar) income. Incomplete capture of

17. See the SGLE report: <http://www.fao.org/3/ca5050en/ca5050en.pdf>

18. And since payment calculations are to be kept secret in the present draft, at the insistence of Canada and others, there will be no possibility of outside monitoring of this potential problem.

licence income in the SMTA will result in companies not paying for their shares, and these underpayments would be difficult or impossible to detect, due to the excessive secrecy of current SMTA drafts.

Of note, similar issues exist with respect to capturing income of company affiliates, subsidiaries, etc. SMTA language here should ensure that underpayments do not result from income being assigned to affiliates, rather than the parent company (or vice-versa), if it subscribes, or under a single access SMTA. In the case of subsidiaries, however, it presently appears that the Working Group will be able to find appropriate language.

## The amorphous concept of “all PGRFA” and exceptions

“All PGRFA” covers a wide range of plant biodiversity, not just of cultivated crops, and includes<sup>19</sup> many crop wild relatives (CWRs). These undomesticated plants contribute valuable traits to breeding programmes, such as environmental tolerance, growth habit and disease resistance.

Like other issues that the Working Group has not settled, the scope of CWRs is complex and tricky. Equally tricky is the question of determining how expanding the MLS to include CWRs would interface with the Nagoya Protocol on Access and Benefit Sharing, including under national access laws.

Some cultivated crops – such as potatoes, tomatoes, and aubergines (eggplant), all *Solanum* species – have thousands of other plant species in the same genus. Thus, disagreement over the meaning of CWRs has major implications for the scope of the MLS, and can easily spill over into plants that are not typically considered relevant to agriculture and are squarely under the aegis of the access and benefit sharing systems of the Nagoya Protocol.

The Working Group has not discussed the biological scope of the CWRs, nor is there an agreed definition among scientific experts. On its global portal for CWRs,<sup>20</sup> Bioversity International reveals the lack of precision of the concept, defining them as “plant species which are more or less closely related to crops”.

Bioversity International’s manual for conservation of wild relatives<sup>21</sup> says that CWRs “may be defined as a wild plant species that is *more or less closely related* to a particular crop and to which it may contribute genetic material, but unlike the crop species has not been domesticated” (emphasis added). The manual then continues by noting that “it is difficult to give a more precise definition”. CWRs could, therefore, include just about any plant on earth, obviously leading to severe confusion about the scope of the MLS – and conflict with Nagoya Protocol – if such an understanding was used by the Treaty.

Other sources refer to CWRs as being plants in the same genus as a cultivated crop, though this understanding is not shared across the scientific community nor enshrined in any manner in the Treaty. How inclusive should the concept of CWRs be, especially in an era where technology is increasing its abilities to move genes across taxonomic barriers?

Forest and tree species that have historically provided food and are today utilised by rural communities are another ill-defined category. Many forest plants might seem wild but have, in fact, been managed by humans for millennia. With a broad interpretation of “all PGRFA”, all such species that humans have historically used and managed for food and agriculture could become part of the Treaty’s MLS.

For example, the Brazil nut tree (*Bertholletia excelsa*) is found across much of the Amazon Basin. Most Brazil nuts are said to be “wild” harvested, but in fact the tree’s populations have been under various forms of human care and management for at least two

19. This section has been adapted from a previous report by Third World Network, *Expanding the Seed Treaty: Concerns for Developing Countries, Indigenous Peoples, and Farmers*. <http://www.twn.my/title2/biotk/2019/btk190602.htm>

20. See: <http://www.cropwildrelatives.org>

21. Hunter D & V Heywood (2011) *Crop wild relatives: A manual of in situ conservation*. Earthscan.



thousand years, since people began to spread the species across Amazonia. Similar examples include crops that have moved into plantation agriculture, such as many other nut species, palms (e.g. *Elaeis guineensis*, the African oil palm), fruits such as jujubes (*Ziziphus spp.*), and the economically huge cacao – source of chocolate – and its relatives (*Theobroma spp.*).

Then we come to sacred plants. Indigenous peoples and local communities have long since utilised plants that are considered sacred. Such plants include many used in only one country or in small regions. These plants are not necessarily excluded from “all PGRFA”, and non-consensual use of indigenous peoples’ sacred genetic resources could result from the Treaty expanding.

The Treaty’s authors sought to address this potential problem but did not do so comprehensively, in Article 12.3a of the Treaty.<sup>22</sup> It therefore remains the case that plants that are sacred to indigenous peoples and local communities, but that are also deemed by others to have use in relation to food security may not be excluded. This may result in national governments bargaining away access to the indigenous peoples’ resources, without their consent.

Medicinal plants are another potential problem in regard to the expansion to “all PGRFA”, with huge and obvious implications for traditional knowledge. Especially under an expanded Annex, the obligations of the Treaty could be used as justification for serious injustice in the area of plant medicine. If a plant has food uses but is also used in medicine – e.g. in a poultice – how is it to be treated?

Drawing a clear line between whether a plant is being accessed for use as medicine or food is difficult, due to the linkages between health and nutrition, and the variety of approaches among traditional medicine systems. For example, turmeric (*Curcuma longa*) is a plant that has wide use in Ayurvedic medicine as well as strong recent



popularity in Western diets. Thus, if turmeric is included under an expanded Annex, will varieties from South Asia with particular medicinal uses and properties be treated in the same way as types cultivated for food use?

Similar conundrums are easy to find with other Asian, African and Latin American plants. When is an “aqueous herbal extract” a beverage (tea), and when is it medicine? There are no clear lines, and there have been no discussions to date of such issues by the Treaty’s Working Group.

Some forage/fodder crops for animals (and which sometimes also provide human food) are already in the MLS, but others, such as trees, including acacias or the multi-use Moroccan argan (*Argania spinosa*), would be newly included.

Ornamental plants could also be subsumed within “all PGRFA”. This economically important subset includes many plants relatively recently removed from wild surroundings and in respect of which wild

22. Article 12.3a of the Treaty provides: “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. In the case of multiple-use crops (food and non-food), their importance for food security should be the determinant for their inclusion in the Multilateral System and availability for facilitated access.”

populations and wild relatives often exist. Like some other categories of agricultural biodiversity, ornamentals cannot be neatly separated from food plants.

Still more unresolved problems stem from how disagreement about what “all PGRFA” means will interact with a possible provision in the amendment that would allow Parties to exclude some crops from their participation in the system.

While most developing countries want to maintain substantial latitude to exempt a number of plants in their country from the MLS at the time of ratification, developed countries and industry are pushing hard to limit the number of possible exemptions to a handful or less, or even just one per country.

If Parties are only allowed one or a few exemptions from the MLS, countries will face difficult decisions and those in biodiversity hotspots will be placed at a relative disadvantage. It would be impossible to truly withhold a crop from the system if the country hosted many related species.

For example, if Ethiopia wished to withhold its *Coffea* collection, and Parties were limited to only one or a few species to exempt, it might exempt *Coffea arabica*, but it could not keep the germplasm of dozens of other wild (and cultivated) *Coffea* species out. Similarly, a country like Bolivia would perhaps be able to exempt one or two species of cultivated peppers (capsicum), but not dozens of other wild and cultivated peppers.

### **Recommendation: Return to a list and allowances for exclusions**

Rather than expanding the MLS to the vague “all PGRFA”, Parties should reconsider the merits of a draft amendment that would instead add to the list of crops in Annex 1. The current list approach is generally clear and well-understood, while “all PGRFA” is a loose and ill-defined concept destined to result in misunderstandings and disagreements, many of which will take the form of pressure on biodiverse countries to include materials in the MLS that they believe should not be part of the system.

At a bare minimum, if “all PGRFA” is not eliminated from a proposed amendment,

then its definition must be clear. Parties will need to consider such a definition in the context of the number of exclusions from the MLS that Parties are permitted to declare when ratifying a proposed amendment. If “all PGRFA” is retained, countries should require the right to declare hundreds or even thousands of species exempted from the scope of the MLS in order to protect even just a few crops, if those crops have many wild relatives and cultivated cousins.

## **What about in situ genetic resources?**

A common misperception about the Treaty is that it only applies to *ex situ* collections. In fact, the Treaty also applies to in situ genetic resources found in farmers’ fields and the broader environment. In terms of Article 11.2 of the Treaty, genetic resources “*under the management and control of the Contracting Parties and in the public domain*” are included in the Treaty, and therefore part of the multilateral system, provided that they are species listed in Annex 1.

As the North now insists that Annex 1 be expanded to “all PGRFA” by process of an amendment, if that amendment enters into force, an enormous new swathe of genetic resources may become part of the MLS.

This dramatic expansion of the in situ applicability of the Treaty’s “facilitated access” system would apply in areas where PGRFA is “*under the management and control of the Contracting Parties and in the public domain*”. In a naïve understanding, this phrase might be seen as protecting to small farmers and IPLCs from having their genetic resources expropriated, since small farmers and IPLCs might presumably control their own seeds. Unjustifiably, companies are protected from being forced to share their seeds by the exclusion of materials that are not in the “public domain”.

The rosy and misguided view of small farmers and IPLCs with firmly established resource rights appears to be especially beguiling to Northern negotiators from



densely populated countries that have well-developed systems of property title and perhaps relatively few small farmers and even fewer IPLCs among their citizenry.

But the reality in much of the world is that there are many small farmers and IPLCs who farm lands in respect of which they lack clear legal title, and who manage genetic resources that are not legally unequivocally under their control. These communities, often including poor and marginalised peoples that have been historically subject to discrimination, may never have been granted title or may have been displaced from their land by exploitation. Other farmers anachronistically remain almost wards of the state, working land set aside for them by central governments but without grant of legal title and resource rights.

For example, Peru is an extremely important country for crop and wild relative biodiversity. It has made strides forward in recognising the rights of indigenous peoples, yet it is estimated that there are still about 20 million hectares of indigenous peoples' lands lacking proper legal title in that country;<sup>23</sup> an area nearly five times the size of Switzerland (4.13 million hectares).

Although those untitled lands and the resources on them rightly belong to indigenous peoples, who are very frequently farmers, these peoples do not have formal control and many of their activities are managed by the state. In these territories, the state operates schools, asserts military control, authorises and manages mineral and other resource exploitation, regulates movement, and many other activities.

In Peru and other countries with similar situations, could the state's significant presence on untitled lands now or in the future be construed to mean that small farmers and IPLCs' genetic resources are "under the management and control" of the "state", namely, the central government?

In Brazil, strong concerns have recently surfaced concerning efforts to demarcate and title indigenous peoples' lands. Many of these peoples are skilled farmers and undoubtedly knowledgeable about CWRs, but they find themselves in often violent conflict with an industrialised agriculture system whose interests are much more aggressively represented by the state. Brazil is well known for the zealous measures it takes to protect state sovereignty and maintain government control over the remote lands and genetic resources where many of its indigenous people live. Yet the peoples that live in these areas often lack legal recognition of their rights over their lands and resources, even as the state strongly asserts its control and, in many cases, does not act to restrain encroachers.

In sum, unqualified expansion of the MLS to "all PGRFA", including in situ genetic resources, presents clear threats to the rights of small farmers and IPLCs.

Developing countries generally seek an expansion of Annex 1 that only includes genetic resources in ex situ collections, and some developed countries appear willing to accept this limitation. However, there is another group of developed countries, including some in Europe and North America, that continue to insist on the inclusion of "all PGRFA", including in situ resources, despite the alarming implications for IPLCs.

### **Recommendation: Exclude in situ genetic resources from the revised Annex**

In situ genetic resources must be expressly excluded from an amended Annex 1. This should be a red line for the South, small farmers and IPLCs. The South has obligations to protect the human rights and interests of its peoples. It is particularly necessary to protect disadvantaged communities that would potentially be most affected by an expansion of the MLS to "all PGRFA", including in situ PGRs. The limitation can be accomplished in the wording of the proposed amendment itself, which should explicitly

23. RRI (Rights and Resources Initiative) (2015) *Who owns the world's land? A global baseline of formally recognized indigenous and community land rights*. [http://rightsandresources.org/wp-content/uploads/GlobalBaseline\\_complete\\_web.pdf](http://rightsandresources.org/wp-content/uploads/GlobalBaseline_complete_web.pdf)

24. Ibid.

## Situations where small farmers and IPLCs lack control of their land and PGRFA

Type	Example	Possible Impact
Parks and other conservation areas	Parks and other state conservation management areas often displace IPLCs or limit their rights over agricultural genetic resources.	This category includes useful plants belonging to now-displaced peoples; wild plant populations historically used and managed by IPLCs that have been dispossessed. IPLCs may use agricultural genetic resources on parklands yet not have rights.
“Designated” and other lands where IPLCs may have limited rights	In many countries IPLCs have land designated for their use but do not have full legal rights over those lands, including genetic resources.	Agricultural genetic resources on such lands may be controlled by states and, hence, crops and wild relatives located on them forced into the MLS without IPLC consent.
Slow progress in titling lands	Despite progress in recent decades in Peru, “estimates indicate that an additional 20 [million ha] of land is still due for formal recognition” (RRI 2015). <sup>24</sup>	If untitled, land may be controlled by the state. Untitled IPLC lands in Peru hold varieties and wild relatives of many globally crucial vegetable, fruit, and others crops from a wide range of ecosystems.
Local communities never granted titles	Following Colombia’s 1991 Constitution, Afro-Colombian lands were to be titled, yet recent studies conclude that “only around 2% of land held under customary tenure by Afro-Descendant communities has been formally titled” (RRI 2015).	This category includes much of the Choco region on Colombia’s Pacific coast that has native agrodiversity, including <i>Annona</i> , <i>Passiflora</i> , <i>Borojoa</i> , solanaceous species and others. At 7.4 million hectares, the Colombian Choco is nearly twice the size of Netherlands, and 2.5 times the size of Belgium.
Customary use areas	“[A]n Indonesian Constitutional Court decision in May 2013 invalidated Forestry Law 41 which claimed government ownership of customary forests” (RRI 2015). The decision, if implemented, could affect tenure on over 22% of Indonesia’s land mass, or about 42 million hectares, an area about equal to that of California and larger than Germany and Netherlands combined.	Although Indonesia is advancing toward more thorough legal recognition of the rights of IPLCs, it isn’t there yet. Many CWRs can be found in Indonesia, including relatives of sugarcane, banana, rice, coconut, mango, yam ( <i>Dioscorea</i> ) and other crops.

state that the revised Annex applies to genetic resources in ex situ collections only.

It is unclear how determined Northern countries will be to insist on including in situ genetic resources. They may attempt to use the issue as a bargaining chip. The South should not allow that game to be played. Establishing that any proposed amendment will only apply to ex situ resources should be an early priority in the discussion and the issue rapidly dispensed with, without any concessions from the South.

## No going back: Amendment risks for developing countries

To summarise the previous discussions, the Working Group’s two-pronged approach to changing the Treaty creates a very risky situation for small farmers, IPLCs in particular and developing countries in general. Under the Working Group’s plan, in November 2019 the Governing Body hopes to simultaneously adopt a revised SMTA that establishes the subscription system and an amendment to the Treaty to expand Annex 1. The new





SMTA with the subscription system will then be open for use, while the amendment will require ratification by two-thirds of the Parties to enter into force.

Yet the present plan foresees the amendment entering into force before full payments are made to the BSF, due to the sequence of events contained in the Funding Committee's confusing plan. This is contrary to a long-held Southern position. In such a scenario, developing countries that ratify will risk surrendering their leverage without a corresponding gain.

Presently, it is foreseen that at its meeting in 2025 the Governing Body will review progress in regard to both the ratifications needed to bring the amendments into force as well as benefit sharing payments. As previously discussed, the only financial measurement presently under discussion is the Financial Committee's "milestone" for 40% of an undefined total to be paid annually into the BSF.

If the proposed amendment has not entered into force, or is not approaching that point by late 2025, Northern countries want the system to, in effect, revert to a state similar to the present one, with a "voluntary

benefit sharing" option (present article 6.8) reappearing in the SMTA. The fate of the amendment, in turn, would depend on future decisions. While it is tempting to think that, six years from now, the South would be able to withdraw the amendment from consideration if the SMTA reverts to allowing voluntary benefit sharing, such an assumption could be extremely hazardous.

In the nightmare scenario where the subscription system fails while the amendment succeeds, withdrawal from the Treaty would only be marginally effective, because on a practical level it would be very difficult or impossible to remove materials already shared within the MLS, even when a Party departs from the Treaty.

**Recommendation: Institute a binding guarantee of income for the BSF of at least \$50 million per year**

In recent negotiations the South's position on benefit sharing has weakened substantially while the North's insistence on expanding Annex 1 to "all PGRFA" has advanced. In the draft text, it is foreseen that an expansion of the Annex would enter into force circa 2025, without a corresponding benefit sharing obligation placed on developed countries and users taking effect.

While expansion of the MLS scope by amendment would be legally binding, for benefit sharing the metric is the Financial Committee's "milestone" of 40% of an undefined number, which could be as little as under US \$400,000 per year. Yet, there are no guarantees of even that pittance materialising.

For the amendment to enter into force, the South needs a binding guarantee of income to the BSF of at least \$50 million per year. This guarantee should require wealthy governments to step in and fill the void if industry fails to pay. In the absence of such a guarantee, the GB should not open an amendment for ratification.

The South's original position in the negotiation, that benefit sharing must materialise at acceptable levels before expansion of the MLS remains valid. However, this lacks articulation and realisation in the text and is in danger of being lost.

## Monster in the closet: Digital Sequence Information

The question of Digital Sequence Information (DSI) in the Treaty will be addressed in greater detail in a separate paper to be published by the African Centre for Biodiversity and the Third World Network. Please refer to that publication for a more in-depth discussion.

Like other access and benefit sharing agreements of a certain age, the Treaty's original SMTA was designed in a time before widespread awareness of the value and importance of DSI in plant breeding. The issue, and its implications for benefit sharing, was first raised in the Treaty context by the Executive Secretary in Oman in 2013. Since that time, parallel discussions on DSI have begun to unfold in the negotiations under the CBD and the World Health Organization. The Treaty's Governing Body will also consider an agenda item on DSI in Rome in 2019.

It has also been a clear part of the mandate of the Working Group to consider the ramifications of DSI for the revised SMTA. In a sense, the Working Group is in a predicament

not of its own making, having arrived at the issue prior to the availability of usable outcomes from the DSI discussion under the CBD, which may provide guidance to ITPGRFA and other agreements.

The few short and exploratory discussions that the Working Group has held on DSI have yielded one important tentative understanding: payment for DSI can be reflected within a subscription rate. For the single access option there is no parallel understanding, and the great difficulty of integrating provisions for DSI into the single access option is another major reason why this option should be eliminated.

But underneath this simple understanding lies a plethora of practical questions about how DSI will be handled in a revised SMTA. These questions must be dealt with in the SMTA text itself, as it is the binding document on users (companies and others). A selection of such questions includes:

- Can subscribers sequence seeds? If so, can they treat that DSI as proprietary? If the accession remains available in the MLS how could its sequence be private?
- Shouldn't all sequences and other DSI generated from MLS material be part of the MLS and placed in the Treaty or other MLS database? Should subscribers that sequence MLS materials be obligated to deposit them in the Treaty database?
- And for such databases, what should the terms and conditions of access be? Since genetic materials can be made from sequences, and sequences themselves can be used profitably, shouldn't the obligations surrounding the access to sequences parallel those of the SMTA itself? If they do not and companies can access MLS DSI without sharing benefits, this will substantially discourage subscribing.
- Should a subscriber be allowed to retain sequences if a subscription is terminated, or must the sequences be "returned"? What should happen if a subscriber profits from sequences after terminating? Since DSI income may not be from seed sales, how is DSI income to be factored into the system rate?
- What if a subscriber incorporates MLS DSI into artificial intelligence systems or



other data collections used in selection and breeding new varieties, or to support the growing trend of producing food in industrial bioreactors? How is it possible to ensure that the benefits of such databases and uses are shared? What should happen to DSI in such tools when a subscription is terminated? Would the tools have to be taken off the market?

- A subscriber can't freely share MLS seeds with others, so should a subscriber be free to share potentially valuable MLS DSI with non-subscribers?
- In the past, varieties have acquired MLS parentage through traditional plant breeding, but if a subscriber incorporates an important MLS gene, or gene variant, into a variety through DSI and genome editing, how do the rules apply?
- What is to stop an entity without seed sales from becoming a subscriber, requesting large amounts of MLS seed, and then placing sequences of that seed in "open access" databases or providing/selling those sequences to a private entity? In such a case, MLS DSI could be generated and used commercially without any benefit sharing payments.

*Such questions have not been contemplated, much less answered, by the Working Group.* Notwithstanding the push to obtain an agreement at the Working Group meeting in October 2019, the issue of DSI could crash the GB's discussion.

The SMTA, as a binding private contract, must spell out the answers to the questions

posed above, lest it leave treatment of DSI at the discretion of companies, who can hardly be expected to act in the public interest. Unfortunately, the process of incorporating provisions on DSI into the SMTA has barely begun and it is difficult to foresee how it can be done in the time remaining.

### **Recommendation: Deal with the complex issues related to DSI prior to adopting the revised STMA**

A sea of complicated issues faces the Governing Body. Of these, DSI is the most challenging, and because of the complexity of incorporating it into the SMTA, DSI seems to be the least likely of the major issues to be resolved. Obviously, with the rapidly growing importance of DSI, it would be foolish to adopt an SMTA that does not fully address the issue.

An important unknown is how the Treaty's discussion of DSI under a separate agenda item will feed back into the Working Group, assuming the DSI discussion advances quickly enough for that to happen.

It is difficult not to conclude that the best practical course of action for the Treaty will be to postpone adoption of the SMTA (and proposed amendment) and focus on dealing with the DSI issue in the next biennium, particularly as guidance from the CBD becomes available, as the CBD has its own reckoning with the issue in the lead-up to the Conference of the Parties, which is likely to take place in Kunming, China in October 2020.

## Annex 1

### More on rates: What should payment rates be?

Rather than talking about unanchored percentages with GM trait loopholes, it would be easier and more transparent, and would provide create greater clarity and predictability if the point of departure for designing the subscription system were a specific annual yield, for instance US \$75 million per annum. In this case, Parties could set rates and other aspects of the system to fit the goal and could work with industry to ensure participation and a fair distribution of the burden among differently sized companies in different locations.

Examples of successfully functioning multilateral access and benefit sharing systems are almost non-existent. There is, however, one reasonably parallel precedent that informs the Treaty with respect to rates.

The WHO's PIP Framework governs a system that collects potentially pandemic human influenza viruses and candidate vaccine viruses, characterises information, and distributes this to companies that manufacture influenza-related products, including both large and small enterprises in the North and South.

At the time that the PIP Framework benefit sharing payment was fixed in 2011, the \$28 million figure was equivalent to just under 1% (0.93%) of the slightly less than US \$3 billion market for influenza vaccines. Funds paid each year mainly go to a WHO pandemic contingency fund and to projects to build the capacity of public health laboratories in developing countries.

Since 2011, the global market for influenza products has nearly doubled. The annual payment now represents about 0.56% of global influenza vaccine sales. However, the payment figure is to be periodically reviewed and revised, and such a process is underway at the WHO. Given the success of the industry, it may soon increase.

Since collections began in 2014, over US \$178 million has been paid by companies into the PIP Framework.<sup>25</sup> A proportion of those payments (a total of about \$45 million) have been made by diagnostic and antiviral drug companies, rather than vaccine makers. When those payments are subtracted, the rate that has been paid by vaccine manufacturers is 0.70% of 2011 sales, or 0.42% of 2018 sales.

Thus, the influenza vaccine industry, which is only about one seventh of the size of the seed industry, has paid US \$132 million into the PIP Framework since benefit sharing began in 2014. By comparison, seed companies whose sales are seven times larger have paid almost nothing into the Treaty's BSF in twice the amount of time. Notably, the vaccine, diagnostic, and drug industries also make substantial non-monetary commitments, including setting aside a proportion of their product for WHO use, in the event of an emergency.

Conservatively overlaid on the ITPGRFA context, and putting aside the substantial additional value of non-monetary benefit sharing in the PIP Framework, if seed industry giants like Monsanto and Syngenta paid the BSF about the same proportion of seed sales that companies like Sanofi, Glaxo and Novartis pay into WHO's PIP Framework for influenza vaccines, benefit sharing figures for the BSF under the Treaty would look as follows:

25. For more information see: [https://www.who.int/influenza/pip/partnership\\_contribution/en/](https://www.who.int/influenza/pip/partnership_contribution/en/)



Scenario	Calculation	Annual payments to BSF
Payments on all seed sales	\$38 b x 0.70% (2011) \$38 b x 0.42% (2018)	\$266.0 m \$159.6 m
Less GM traits	\$20.9 b x 0.70% \$20.9 b x 0.42%	\$146.4 m \$117.0 m
Less GM traits and 70% subscription rate	\$20.9 b x 0.70% x 70% \$20.9 b x 0.42% x 70%	\$102.4 m \$61.5 m
Less GM traits and 40% subscription rate	\$20.9 b x 0.70% x 40% \$20.9 b x 0.42% x 40%	\$58.5 m \$35.1 m

*Notably, the proportion of sales (0.42%) currently paid by the influenza vaccine industry to the PIP Framework is sixty times (60 x) higher than what the seed industry proposes to pay the BSF (0.01% less 30%).*

While there are obviously differences between the seed and vaccine industries, there are also many parallels, for example, those between the WHO laboratory system (which collects, characterises, stores, and distributes viruses) and the CGIAR (which performs similar functions for seeds).

And like the healthcare industry, the seed industry touts its research and development investments. These expenditures, the seed industry suggests, limit its ability to pay benefit sharing. Yet while R&D spending by both seed and biomedical companies is high in comparison to other industries, according to Agribusiness Intelligence, *R&D investment by biomedical firms as a proportion of sales generally exceeds that of seed companies.*

Further, under the PIP Framework, influenza manufacturers have nearly doubled their sales, while simultaneously paying into a multilateral benefit sharing system a *rate that is sixty to one hundred times higher than what the seed industry says it is willing to pay into the BSF.*



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