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SOUTH CENTRE

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ABSTRACT

Plant genetic resources for food and agriculture (PGRFA) are part of the foundation of agriculture and of central importance to food sovereignty. These gain an increasingly pivotal role in the context of climate crises, which are threatening predictable crop production, and the erosion of agricultural biodiversity. The main instrument for the governance of PGRFA is the International Treaty on Plant Genetic Resources for Food and Agriculture. Strengthening the Treaty is crucial. The Treaty establishes a binding international framework for the conservation and sustainable use of plant genetic resources for food and agriculture, and the fair and equitable sharing of the benefits arising from their use. Since 2013, negotiations have been underway to enhance the functioning of the Multilateral System of Access and Benefit-sharing. Current informal consultations may pave the way for constructive negotiations at the next Governing Body meeting in May 2022.

Los recursos fitogenéticos para la alimentación y la agricultura (RFAA) forman parte de la base de la agricultura y tienen una importancia fundamental para la soberanía alimentaria. Estos adquieren un papel cada vez más fundamental en el contexto de las crisis climáticas, que amenazan la producción de cultivos previsibles, y la erosión de la biodiversidad agrícola. El principal instrumento para la gobernanza de los RFAA es el Tratado Internacional sobre los Recursos Fitogenéticos para la Alimentación y la Agricultura. El fortalecimiento del Tratado es crucial. El Tratado establece un marco internacional vinculante para la conservación y la utilización sostenible de los recursos fitogenéticos para la alimentación y la agricultura, y el reparto justo y equitativo de los beneficios derivados de su uso. Desde 2013, se están llevando a cabo negociaciones para mejorar el funcionamiento del Sistema Multilateral de Acceso y Distribución de Beneficios. Las consultas informales en curso pueden allanar el camino para unas negociaciones constructivas en la próxima reunión del Órgano Rector, en mayo de 2022.

Les ressources phytogénétiques pour l'alimentation et l'agriculture (RPGAA) font partie du fondement de l'agriculture et revêtent une importance capitale pour la souveraineté alimentaire. Elles acquièrent un rôle de plus en plus central dans le contexte des crises climatiques, qui menacent la production de récoltes prévisibles, et l'érosion de la biodiversité agricole. Le principal instrument de la gouvernance des RPGAA est le Traité international sur les ressources phytogénétiques pour l'alimentation et l'agriculture. Il est essentiel de renforcer ce traité. Le Traité établit un cadre international contraignant pour la conservation et l'utilisation durable des ressources phytogénétiques pour l'alimentation et l'agriculture, et le partage juste et équitable des avantages découlant de leur utilisation. Depuis 2013, des négociations sont en cours pour améliorer le fonctionnement du système multilatéral d'accès et de partage des avantages. Les consultations informelles qui sont en cours pourraient ouvrir la voie à des négociations constructives lors de la prochaine réunion de l'Organe directeur en mai 2022.

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1 INTRODUCTION

Alongside soil, water and sunshine, seeds and other plant propagating materials (germplasm or **plant genetic resources**) are the foundation of agriculture. While archaeological records show that the selection, conservation and exchange of plants and seeds have been human practice since paleolithic times, in agricultural civilizations—now the dominant mode of social organization across the planet—the management of plant genetic resources becomes a central aspect of social and political power: the control of seeds and plants is fundamental to the control of food production, and hence the health and survival of societies. Closely connected to the evolution of humanity and its various civilizations, plant genetic resources for food and agriculture (PGRFA) are of central importance to sovereignty at all levels, and gaining an increasingly pivotal role in the context of climate crises, which are threatening predictable crop production. As weather patterns change or become chaotic, access to greater diversity of crops is urgently needed to ensure resilience of food systems and support societal adaptation to climate risks. The governance of PGRFA (i.e., seeds and other germplasm) should hence be of great interest to everyone.

The main instrument for the governance of these resources is the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) (hereinafter “the Treaty”), which reflects an on-going intergovernmental process under the auspices of the Food and Agriculture Organization of the United Nations (FAO). The Treaty provides a framework for pooling germplasm as a shared resource—in effect an international commons known as the Multilateral System of Access and Benefit-sharing (hereinafter MLS or Multilateral System). Since 2013, negotiations have been underway to enhance the functioning of the Multilateral System in a variety of ways. Despite, or perhaps due to the importance of this process, consensus has not yet been found. Current informal consultations within and between Contracting Parties to the Treaty, however, may pave the way for constructive negotiations at the next Governing Body meeting in May 2022.

Strengthening the Treaty is crucial in a world of uncertainty and increased climate risk. Doing so requires participation based on a robust understanding of the Treaty, an appreciation of its relevance as well as its tensions, and especially its historical context and relationships to a number of other international organizations and agreements, notably to those dealing with international agricultural research (CGIAR), access to genetic resources and benefit-sharing (the Convention on Biological Diversity and its Nagoya Protocol) and trade and intellectual property (International Union for the Protection of New Varieties of Plants, and the Agreement on Trade-Related Aspects of Intellectual Property Rights).

2 HISTORICAL BACKGROUND

2.1 Loss of Agricultural Biodiversity

Farmers have always been plant breeders: selecting, saving, storing, sharing and planting of seed over millennia has led to great agricultural biodiversity. These 'landraces' were and continue to be adapted to the local particularities of the landscape, soil and weather of different bioregions. Exchange across regions—beginning in the distant past, but accelerated by various periods of imperial expansion and colonization—has played a pivotal role in this diversity, to the extent that today, all countries depend—to varying degrees—on plant genetic resources which have originated in other geographical regions.[2] All countries are thus interdependent in terms of their crop diversity, even though the majority of food crops have their centre of origin in countries of the Global South.[3]

However, agricultural biodiversity is rapidly declining. It is estimated that some ten thousand plant species have been used for human food and agriculture over millennia, yet today less than 120 crops provide 90 per cent of the food that is supplied by plants, with a mere nine crops providing 66 per cent.[4] Moreover, not only is on-farm diversity of crop species declining, but also the diversity within such species, with ever decreasing numbers of varieties of each crop being cultivated.

This loss of genetic diversity has a number of origins and drivers, including climate change, land use changes, agricultural intensification, and the reduction of farms and farming communities. Especially the rise of scientific-industrial plant breeding from the late 19th century onwards, the advent of hybrid seed in the 1930s, seed regulations instituting certification requirements and quality standards have gradually marginalized practices of traditional seed systems. Genetic modification and intellectual property rights have further consolidated the industrial food and agriculture systems now dominant across the globe. These systems have accelerated the loss of (agricultural) biodiversity, and led to a consolidation of corporate power over PGRFA, making farmers across the world increasingly dependent on purchased (rather than farm-saved) seed.[5]

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[2] Galluzzi, Gea, Michael Halewood, Isabel López Noriega, and Ronnie Vernooy, "Twenty-Five Years of International Exchanges of Plant Genetic Resources Facilitated by the CGIAR Genebanks: A Case Study on Global Interdependence", *Biodiversity and Conservation* 25(8), 2016, pp. 1421–46. DOI: 10.1007/s10531-016-1109-7.

[3] Esquinas-Alcázar, José. "Protecting Crop Genetic Diversity for Food Security: Political, Ethical and Technical Challenges", *Nature Reviews Genetics* 6(12), 2005, pp. 946–53. DOI: 10.1038/nrg1729.

[4] These figures, as well as other information regarding the erosion of agricultural biodiversity, especially PGRFA, has been compiled from, amongst others: FAO, *The State of the World's Biodiversity for Food and Agriculture*. Edited by J. Bélanger and D. Pilling. (Rome, FAO, 2019); Seed Freedom, *The Law of the Seed* (Florence: Navdanya International, 2013); FAO, *The Second Report on the State of the World's Plant Genetic Resources for Food and Agriculture*, edited by Commission on Genetic Resources for Food and Agriculture. (Rome, FAO, 2010); Wouw, Mark van de, Chris Kik, Theo van Hintum, Rob van Treuren, and Bert Visser, "Genetic Erosion in Crops: Concept, Research Results and Challenges". *Plant Genetic Resources* 8(1), 2010, pp. 1–15. DOI: 10.1017/S1479262109990062.

[5] Clapp, Jennifer. "The Problem with Growing Corporate Concentration and Power in the Global Food System", *Nature Food* 2(6):404–8. DOI: 10.1038/s43016-021-00297-7; Clapp, Jennifer. "Mega-Mergers on the Menu: Corporate Concentration and the Politics of Sustainability in the Global Food System". *Global Environmental Politics* 18(2), 2018, pp. 12–33. DOI: 10.1162/glep_a_00454; Barber, Dan. "Save Our Food. Free the Seed", *The New York Times*, 7 June 2019. Available from https://www.nytimes.com/interactive/2019/06/07/opinion/sunday/dan-barber-seed-companies.html; Bonny, Sylvie, "Corporate Concentration and Technological Change in the Global Seed Industry". Sustainability 9(9), 2017, p. 1632. DOI: 10.3390/su9091632.

The erosion of agricultural biodiversity has been accelerated by industrial systems geared towards high yields and simplification of processes (monocultures, crops adapted to industrial transformation, etc.)—yet at the same time, these systems have also tried to stem the loss, in a recognition of the need of genetic variety for plant breeding and the wider functioning of agriculture.

2.2 Developing International Agricultural Research

The historical politics of agricultural development are complex and its leading actors many.[6] Key amongst them, however, was the United States Department of Agriculture (USDA), which in the 1920s began developing a cooperative research model in conjunction with the many land grant universities in the US. Through this model of pooling resources into a single coordinated program, and research cooperation across several states and hence a variety of sites and environmental conditions, breeding was greatly accelerated. After the end of the Second World War, USDA exported this institutional innovation in partnership with the newly established FAO, whose mandate it was to foster global scientific collaboration relating to nutrition, food and agriculture. Several European countries participated in a hybrid maize network which trialled USDA seed in numerous sites across the European region and adopted the US cooperative model, influencing the design of similar international networks focused on other crops, notably wheat, barley and rice.

Simultaneously, in the post-WW II period, the Rockefeller Foundation (and later also the Ford Foundation) increased their involvement in and funding of agricultural development, particularly plant breeding. The Mexican Agricultural Program, a collaboration between the Rockefeller Foundation and the Mexican Government, was the precursor for several other such programs across the world, and was staffed by scientists many of whom had been educated in the collaborative programs of USDA-land grant universities. In a variety of ways, the FAO-led programs and the Rockefeller-Ford-financed programs came together with parallel, US-driven efforts for developing research on tropical plant commodities, which ultimately produced the first international agriculture research centres (IARCs): IRRI, CIMMYT, and later CIAT.

Parallel developments in agricultural sciences took place through networked colonial research stations in countries under British and French rule. The imperial interest moved from an initial focus on plant commodities to a focus on improving cultivation in the colonies to stem soil degradation and other emerging issues. After independence, these stations evolved, ceased or transformed in various ways and led to the establishment of further IARCs.

In the late 1960s, the question of continued funding for IARCs brought together the World Bank, USAID, FAO, UNDP and others to provide financial support for what was by then an emerging international system of connected IARCs. The Consultative Group on International Agricultural Research (CGIAR) was established in 1971 to support investments and provide

[6] The historical account in this article has been informed by numerous sources, the most important of which are given here. For an excellent recent overview, see especially Byerlee, Derek, and John K. Lynam, "The Development of the International Center Model for Agricultural Research: A Prehistory of the CGIAR". World Development 135:105080, 2020. DOI: 10.1016/j.worlddev.2020.105080. Furthermore, please consult Esquinas-Alcazar, Jose, Angela Hilmi, and Isabel Lopez Noriega, "A Brief History of the Negotiations on the International Treaty on Plant Genetic Resources for Food and Agriculture", 2012, pp. 254–75 in Crop Genetic Resources as a Global Commons, edited by M. Halewood, I. L. Noriega, and S. Louafi. Routledge; Dutfield, Graham, *Intellectual Property, Biogenetic Resources, and Traditional Knowledge* (London: Sterling, VA: Earthscan, 2004); CGIAR Fund Office, The CGIAR at 40 and Beyond: Impacts That Matter for the Poor and the Planet. GGIAR, 2011. Available from https://hdl.handle.net/10947/2549; Frison, Christine, Francisco Lopez, and Jose Esquinas-Alcazar, eds., *Plant Genetic Resources and Food Security: Stakeholder Perspectives on the International Treaty on Plant Genetic Resources for Food and Agriculture* (London, Routledge, 2011).

strategic direction for the IARCs. The CGIAR brought donors together to discuss research priorities, investment options, and the continuing relevance of the IARCs which it supported.

2.3 Conservation of Genetic Diversity, Protection of Intellectual Property

From the 1950s onwards, concerns had grown over the loss of farmer's varieties, as well as loss of crop wild relatives and wider genetic erosion. It was increasingly recognized that there was a need to ensure the conservation of and access to plant genetic resources for research and breeding, especially as the economic value of improved plant varieties grew. In the 1960s and 1970s, at the height of the "Green Revolution", the FAO organized a number of technical conferences to address the issue.

In 1974, FAO and CGIAR established the International Board for Plant Genetic Resources (now Bioversity International), whose mission at the time was to coordinate international collection missions and promote the expansion of existing and the building of new gene banks at the national, regional and international levels. Between 1975 and 1995, the IBPGR collected and conserved over 200,000 accessions from over 136 countries.[7]

In parallel to these processes of conservation, however, the development of technological life sciences, especially genetics, and of novel breeding techniques, influenced the development of intellectual property regulation, leading to the adoption of the Convention of the International Union for the Protection of New Plant Varieties (UPOV) in 1961, and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) in 1994.[8]

In this new context, developing countries and smallholder farmers started to more frequently express resistance to what was considered a system of injustice. Tensions grew over the power asymmetry: developed countries and multinational companies were freely accessing genetic diversity from developing countries, yet reinforcing their control of this diversity through technological and legal means, excluding the provider countries, and farmers within them, from the accruing benefits. This conflict over the control over genetic resources is sometimes referred to as the "Seed Wars"[9] and in certain ways continues to this day.

It cannot be denied that the preoccupation with safeguarding seeds and other germplasm from further erosion was at least in part due to the needs of an increasingly powerful industry, underpinned by national interests from the Global North. At the same time, the loss of crop diversity is undeniably a global issue, putting countries and communities at risk across the world—averting it, and promoting the conservation and sustainable use of genetic diversity is hence of importance for everyone.

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[7] Frison, Emile, and Gerald Moore, "International Research Centres: The Consultative Committee on International Agricultural Research and the International Treaty", in *Plant Genetic Resources and Food Security: Stakeholder Perspectives on the International Treaty on Plant Genetic Resources for Food and Agriculture*, edited by C. Frison, F. Lopez, and J. Esquinas-Alcazar (London, Routledge, 2011); Thormann, Imke, Johannes M. M. Engels, and Michael Halewood, "Are the Old International Board for Plant Genetic Resources (IBPGR) Base Collections Available through the Plant Treaty's Multilateral System of Access and Benefit Sharing? A Review". *Genetic Resources and Crop Evolution*, 66(2) (2019) 291–310. DOI: 10.1007/s10722-018-0715-5.

[8] For the official texts of the UPOV Convention, see https://upovlex.upov.int/en/convention. For the official text of the TRIPS Agreement, see https://www.wto.org/english/docs_e/legal_e/27-trips_01_e.htm.

[9] See above all: Aoki, Keith, *Seed Wars: Controversies and Cases on Plant Genetic Resources and Intellectual Property* (Durham, N.C: Carolina Academic Press, 2008).

2.4 Seed: A Question of Common Heritage, National Sovereignty or Intellectual Property?

The question of the ownership status of CGIAR collections created controversy. Developing countries expressed concerns about losing sovereignty over their genetic resources, while private companies based in developed countries could reap the monetary benefits of improving and commercializing plant varieties based on these genetic resources held in *ex situ* collections. In response, the FAO in 1983 (Resolution 8/83),[10] adopted the International Undertaking on Plant Genetic Resources (hereinafter the International Undertaking). The International Undertaking's objectives were "to ensure the safe conservation and promote the unrestricted availability and sustainable utilization of plant genetic resources for present and future generations, by providing a flexible framework for sharing the benefits and burdens". While it was a non-binding agreement, it clearly and explicitly identified plant genetic resources as a common heritage of humankind, and was the first international attempt at pooling and managing germplasm collectively for the benefit of present and future generations. The International Undertaking was adopted thanks to the efforts of a number of FAO Members from the developing world.[11]

As the Undertaking had been approved with reservations from eight developed countries,[12] three Agreed Interpretations were developed subsequently in an attempt to sway the reservations and bring the remaining countries on board.[13] These interpretations clarified that intellectual property rights, especially plant breeders' rights, were not in conflict with the Undertaking; that breeders' rights as well as farmer's rights were to be recognized in parallel; that farmers' rights were to be met principally through compensation ("the sharing of benefits") via an international fund; and that the 'heritage of humankind' was subject to 'national sovereignty' over plant genetic resources.

This narrowing of the common heritage approach was further reinforced through the adoption of the 1992 Convention of Biodiversity (CBD).[14] The legally binding Convention stressed the principle of national sovereignty over all biodiversity, including plant genetic resources for food and agriculture, within a given nation state. While this principle was and is widely understood as an important protection of the Global South and its indigenous peoples and peasants, from the Global North and its life sciences industry, the CBD was designed with pharmaceutical bioprospectors in mind. The agricultural sector was weakly represented in the CBD negotiations under the United Nations Environment Programme (UNEP), and hence the Convention did not take the unique needs of food and agriculture into account. Unlike the previous ideas under the FAO of a multilateral mechanism of access to plant genetic resources for all, the CBD instituted access to biological and genetic resources via bilateral agreements, to preserve the member countries' individual rights over their natural resources. Recognizing that there remained matters concerning access to plant genetic resources as well as farmers'

[10] The Resolution is archived online at http://www.fao.org/wiews-archive/docs/Resolution_8_83.pdf.
[11] José Esquinas, personal communication.
[12] These countries were: Canada, France, Germany, Japan, Switzerland, United Kingdom, United States of America, as well as New Zealand. For more details on their reservations, see Esquinas-Alcazar, Jose, Angela Hilmi, and Isabel Lopez Noriega, "A Brief History of the Negotiations on the International Treaty on Plant Genetic Resources for Food and Agriculture", in *Crop Genetic Resources as a Global Commons*, edited by M. Halewood, I. L. Noriega, and S. Louafi, (Routledge, 2012), pp. 254–75.
[13] FAO Resolutions 4/89, 5/89 and 9/91 were ultimately integrated in the International Undertaking as Annexes. The full text has been archived online by the Environment Impact Assessment Resources & Response Centre, India, and is available from https://ercindia.org.in/archive.ercindia.org.in/files/international/International%20Undertakingon%20Plant%20Genetic%20Resources,1983.pdf.
[14] For the official text of the Convention, see https://www.cbd.int/convention/text/.

rights that needed to be addressed more thoroughly, Resolution 3 of the Nairobi Final Act of the CBD requested that the FAO seek solutions to these outstanding issues.[15]

When the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) was concluded in 1994, which required contracting parties to provide intellectual property protection for plant varieties through its Article 27.3(b), the agricultural sector found itself wedged between two binding agreements, without its own needs being properly addressed. The emerging global governance regime was conceptually opposed to the principle of free availability of germplasm as introduced by the International Undertaking. While the International Undertaking aimed to govern a shared resource collectively, the emerging CBD-TRIPS regime instituted a market-focused approach conducive to commercial appropriation.

This pressure of the asymmetry between environment and trade on the one hand and agriculture on the other, seemed to unite developed and developing countries, the seed industry and civil society and farmers' organizations under a common front, together working for the shared objective of turning the International Undertaking into a binding agreement.

[15] For the text of the Nairobi Final Act and its Resolution 3, see https://www.cbd.int/doc/handbook/cbd-hb-09-en.pdf.

3 THE INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

3.1 Aims of the Treaty

Following seven years of negotiations, the International Treaty on Plant Genetic Resources for Food and Agriculture[16] was adopted by the Conference of the FAO on 3 November 2001, and came into force on 29 June 2004.[17] The Treaty establishes a binding international framework for the conservation and sustainable use of plant genetic resources for food and agriculture, and the fair and equitable sharing of the benefits arising from their use.

Box 1
Article 1.1
"The objectives of this Treaty are the conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use, in harmony with the Convention on Biological Diversity, for sustainable agriculture and food security."

To this end, the Treaty aims not only at promoting and facilitating the conservation and sustainable use of crop germplasm (Articles 5 and 6), but also at recognizing the "enormous contribution" of farmers to the diversity of crops that feed the world (Article 9), and at establishing a global system that provides facilitated access to plant genetic materials, and simultaneously ensures that recipients share benefits they derive from the use of these genetic materials (Articles 10–13).

The Treaty represented a turning point in the global policy framework on genetic resources. Recognizing that countries are highly interdependent in agriculture and food production, and that global access to plant genetic resources is indispensable for sustainable agriculture and food security in the face of genetic erosion and climate change, the Treaty established a Multilateral System of Access and Benefit-Sharing (hereinafter MLS or Multilateral System), which provides a counterweight to the bilateral—and bureaucratically burdensome—approach of the CBD (and later the Nagoya Protocol to the CBD). Simultaneously, the Treaty also tempers the strict exclusivity of the intellectual property regulations of UPOV and TRIPS by ensuring continued, free access to a common pool of PGRFA and mandating the sharing of benefits that arise from the use of this germplasm, such as from commercialization of a new plant variety bred from seed from the MLS.

Formally, the Treaty and the CBD and its Nagoya Protocol are in harmony (see Box 2). However, their underlying principles remain in tension when it comes to practical implementation. The Treaty emphasizes exchange over appropriation, yet has to operate within a field pressured by enclosure: on the one hand from the commercial seed sector through an insistence on intellectual property rights and on the other through an insistence on a narrow interpretation of national sovereignty and thereby the threat of denied access. Only judicious national implementation of the various elements of the genetic resources governance regime (Treaty, CBD, UPOV-TRIPS) can develop ways for resolving—or balancing—these tensions in practice.

While the Treaty's MLS was built to accommodate the specific genetic resource needs of the world's agricultural research and development community, its aspirations are much wider and

[16] For the official text of the Treaty, see http://www.fao.org/plant-treaty/overview/texts-treaty/en/.
[17] Ninety days after the 40th state had ratified it. At the time of writing this document the Treaty had 148 Contracting Parties including one member organization (European Union).

include societal resilience in environmental crisis and a significant contribution to ending hunger. One of the Treaty's central challenges hence remains balancing the needs of private plant breeders and public research institutions with those of farmers, smallholders and peasants—and the interests of developed countries with those of developing countries. While it would be wrong to assume that smallholder farmers' interests are always aligned with those of developing countries' governments, the latter have generally taken on the role of defending farmers' interests in the negotiations, with developed countries often taking more seriously into account the interests of breeders and the seed industry within their jurisdictions.

At its heart lies the ambition to safeguard crop genetic resources for the benefit of all of humanity, and especially for future generations. As such, the Treaty has to meet the ongoing need to ensure a robust financial, social and legal basis for conservation—in an international context that remains biased towards economic growth over international solidarity, cooperation and resilience.

Box 2
Harmonization of the Treaty and CBD/Nagoya
Aside from explicitly recognizing the Treaty being in harmony with the CBD (see Article 1.1. in Box 1), the text of the Treaty further specifies its close links with the CBD in Article 1.2:
Article 1 – Objectives
...
1.2 These objectives will be attained by closely linking this Treaty to the Food and Agriculture Organization of the United Nations and to the Convention on Biological Diversity.

Similarly, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity, refers explicitly to the Treaty in its preamble and Article 8:
Nagoya Protocol
Preamble
...
Recognizing the interdependence of all countries with regard to genetic resources for food and agriculture as well as their special nature and importance for achieving food security worldwide and for sustainable development of agriculture in the context of poverty alleviation and climate change and acknowledging the fundamental role of the International Treaty on Plant Genetic Resources for Food and Agriculture and the FAO Commission on Genetic Resources for Food and Agriculture in this regard,
...
Recalling the Multilateral System of Access and Benefit-sharing established under the International Treaty on Plant Genetic Resources for Food and Agriculture developed in harmony with the Convention,
Recognizing that international instruments related to access and benefit-sharing should be mutually supportive with a view to achieving the objectives of the Convention,

Article 8 Special Considerations
In the development and implementation of its access and benefit-sharing legislation or regulatory requirements, each Party shall:
...
(c) Consider the importance of genetic resources for food and agriculture and their special role for food security.

3.2 Farmers' Rights

In addition to establishing the MLS, the Treaty is the first legally binding international instrument to have promoted Farmers' Right and recognizes the importance of farmers in

conservation, selection and development of new crop varieties. The Treaty calls on its member countries to implement appropriate measures to recognize and protect Farmers' Rights through the protection of traditional knowledge, the right of farmers to equitably share in the benefits that result from the use of crop genetic resources and to participate in making decisions on matters related to the conservation and sustainable use of these resources.

Farmers' Rights, first brought onto the agenda by civil society organizations,[18] have been at the very core of the negotiations of the Treaty, and can be traced to the asymmetry in the distribution of benefits between farmers as providers of PGRFA and commercial plant breeders who generate returns on the basis of such PGRFA. Central here is hence a question of recognition and economic compensation—which the Treaty aims to address through its system of benefit-sharing.

There is however another aspect to farmers' rights which concerns traditional agricultural practices of saving, using, exchanging and selling farm-saved seed. Intellectual property rights can restrict these practices. In this sense, and since the 1991 revision of the UPOV Convention, breeders can restrict the use of the seed they develop, and prevent farmers from saving seed, unless an (optional) exception is established in national law. This means that farmers can face sanctions for practicing traditional aspects of their work in countries that have adopted the 1991 version of UPOV.[19]

This question continues to play a major role in intersessional work, between the meetings of the Treaty's Governing Body.

Importantly, the 2018 UN Declaration on the Rights of Peasants and other People Working in Rural Areas (UNDROP)[20] refers to the Treaty in its preamble, and adopts text from the Treaty's Article 9 (on Farmer's Rights) in its Article 19 (on Right to Seed – see Box 3).

The Governing Body finally established the Ad Hoc Technical Expert Group on Farmers' Rights in 2017.[21] This represents a milestone in the discussions on farmers' rights. The group has produced an inventory of national measures, best practices, and lessons learned from the realization of farmers' rights. This inventory was presented at the 8th meeting of the Governing Body in November 2019, and will be updated on a regular basis.[22] The group is further developing a set of options for encouraging, guiding, and promoting the realization of farmers' rights, which promises to facilitate the implementation of the Treaty's Article 9.[23]

Box 3
Declaration on Rights of Peasants and other People Working in Rural Areas adopted by HRC 2018
Article 19
1. Peasants and other people working in rural areas have the right to seeds, in accordance with article 28 of the present Declaration, including:

[18] Specifically, farmers' rights were advocated by Pat Roy Mooney and Cary Fowler of the Rural Advancement Foundation International (RAFI, now known as ETC Group). See for example: Mooney, Pat Roy, *The Law of the Seed: Another Development and Plant Genetic Resources* (Dag Hammarskjöld Foundation, 1983).
[19] Dutfield, Graham, "The Role of the International Union for the Protection of New Varieties of Plants (UPOV). Global Economic Issue Publications", Intellectual Property Issue, Paper Number 9. Quaker United Nations Office, 2011. Available from https://quno.org/sites/default/files/resources/UPOV%2Bstudy%2Bby%2BQUNO_English.pdf; Christinck, Anja, and Morten Walloe Tvedt, "The UPOV Convention, Farmers' Rights and Human Rights: An Integrated Assessment of Potentially Conflicting Legal Frameworks", GIZ, 2015.
[20] For the official text of UNDROP, see https://digitallibrary.un.org/record/1650694.
[21] The Ad Hoc Technical Expert Group was established through Resolution 7/2017. Available from http://www.fao.org/3/a-mv102e.pdf.
[22] The draft inventory as presented to GB8 is available online at http://www.fao.org/3/na906en/na906en.pdf.
[23] At the time of writing, the Options Report had not been published. A final version is foreseen before the end of 2021.

(a) The right to the protection of traditional knowledge relevant to plant genetic resources for food and agriculture;
(b) The right to equitably participate in sharing the benefits arising from the utilization of plant genetic resources for food and agriculture;
(c) The right to participate in the making of decisions on matters relating to the conservation and sustainable use of plant genetic resources for food and agriculture;
(d) The right to save, use, exchange and sell their farm-saved seed or propagating material.
...
3. States shall take measures to respect, protect and fulfil the right to seeds of peasants and other people working in rural areas.
...
8. States shall ensure that seed policies, plant variety protection and other intellectual property laws, certification schemes and seed marketing laws respect and take into account the rights, needs and realities of peasants and other people working in rural areas.

3.3 The Multilateral System on Access and Benefit-Sharing

Although the Treaty applies to the access to, and conservation and use (in plant breeding, research and training) of **all** plant genetic resources for food and agriculture (Art. 3), it has established a special regime of **facilitated access** for currently 64 food crops and forages which are listed in its Annex 1 (see Box 4). This regime is known as the Multilateral System of Access and Benefit Sharing (Articles 10-13), and considers the materials in Annex 1 as part of a common pool shared by Contracting Parties and the entities under their jurisdiction, available free of charge and without any other condition for access apart from acceptance of a Standard Material Transfer Agreement (SMTA).

It is the Multilateral System and its SMTA which make the Treaty the first international instrument to provide a practical method of access and benefit-sharing and a multilateral approach designed for the specific context of crop diversity. It thereby facilitates the exchange of the genetic resources of these crops without the need for complex bilateral negotiations.

Box 4
The Treaty's Annex 1
The current boundaries of the Multilateral System are the outcome of an extended and complex political negotiating process. Annex 1 lists 35 food crops, including wheat, maize, rice, potatoes, but excluding many vegetables now understood to be of great importance to food and nutrition security. Annex 1 also lists 29 forage crops.

These crops have been chosen based on criteria of food security and interdependence (Treaty Article 11). The list also reflects a number of other factors, important among which are (1) the historical legacy of crop genetic resource exchange between regions and countries dating back to paleolithic times; (2) the international exchange regime for plant genetic resources for food and agriculture and paradigms that were prevalent prior to the International Treaty and the Convention on Biological Diversity (particularly the International Undertaking on Plant Genetic Resources); (3) the international collaboration in agricultural research facilitated by the International Agricultural Research Centres of the CGIAR; (4) the progressive application of intellectual property rights to plant variety innovations over the last four decades in developed countries and the extension of intellectual property regimes in developing countries following the TRIPs Agreement under the WTO.[24]

[24] See amongst others the contributions in Frison, Christine, Francisco Lopez, and Jose Esquinas-Alcazar, eds., *Plant Genetic Resources and Food Security: Stakeholder Perspectives on the International Treaty on Plant Genetic Resources for Food and Agriculture* (London, Routledge, 2011).

While the MLS applies to Annex 1 crops, in practice many accessions held in ex situ collections (gene banks) are distributed under SMTAs whether or not they belong to crops in Annex 1. These decisions in effect expand the Multilateral System beyond the crops in Annex 1. Pursuant to Treaty Article 15.1b, CGIAR centres distribute their accessions under SMTAs, regardless of crop. Several Contracting Parties have also issued a large number of non-Annex 1 accessions under SMTAs, as an independent policy decision, thereby creating a beneficial interest for the Treaty in products resulting from those accessions. The Nordic Gene Bank, the Canadian federal gene banks, as well as the most important European Union gene banks (in Germany and the Netherlands) are making all their PGRFA available under the terms and conditions of the SMTA.

The SMTA is a contract in private law between the provider and the recipient of the material in question and it sets the terms and conditions for benefit-sharing, which take both monetary and non-monetary forms. Benefit-sharing in all its forms is not only a way to achieve the Treaty's objectives through exchange of information, transfer of technology, capacity building and the funding of sustainability and conservation projects, but is also understood as a matter of social and environmental justice.

3.4 The current functioning of the Multilateral System

The material from the Multilateral System's "common pool"—generally seeds and other propagating material that are conserved *ex situ* in gene banks—is distributed to individuals or institutions under the terms and conditions of the SMTA. This material can be used in plant-breeding programs (public or private), which means that some material from the MLS may be incorporated into a new plant variety as part of its parentage. A number of new plant varieties developed from this material will enter the market as commercial products, very often protected by intellectual property rights.

In certain cases, utility patents are used for new plant varieties, in particular if these are also transgenic. Plant varieties protected by patents are only available **under restrictions** to others for further research and breeding—usually through licenses and royalty payments. More often, however, plant variety protection (PVP) is sought for newly developed varieties, although it is possible that a commercial variety may be released without being subject to any form of intellectual property protection. PVP is formulated with a breeder's exemption, which means that the varieties which fall under this particular intellectual property protection are available **without restriction** to others for further research and breeding.

Box 5
Access by farmers to the Multilateral System's 'common pool' for direct use for cultivation
To facilitate the implementation of the MLS, the Ad Hoc Technical Advisory Committee on the MLS and the SMTA was established in 2009.[25] Included in its deliberations was the question of access to the MLS by farmers. The Committee agreed that the best way of conserving, sustainably using and developing crop and forage diversity is for farmers to make use of this diversity. The importance of farmers being provided access to material through the MLS was thereby explicitly acknowledged.[26]

In most cases, materials in the Multilateral System can be distributed to farmers for direct use, that is, for cultivation of the food or forage crop in question. However, materials distributed for

[25] The Ad Hoc Technical Advisory Committee was established through Resolution 4/2009, available online at http://www.fao.org/3/a-be010e.pdf.
[26] For details, see especially opinions 6 and 10 in the following report: FAO. 2015. Opinions and Advice of the Ad Hoc Technical Advisory Committee on the Multilateral System and the Standard Material Transfer Agreement. Rome: FAO. Available online at http://www.fao.org/3/a-i4578e.pdf.

direct use for cultivation are not usually transferred under an SMTA, but rather with the suggested statement: “This material can be used by the recipient directly for cultivation, and can be passed on to others for direct cultivation.”

However, while the Treaty hence aims to facilitate access to germplasm by farmers, national legislation often delimits which crops can be cultivated commercially, and requires farmers to cultivate only certified seed. This means that in practice, having access to materials in the MLS is of little use to farmers if they cannot gain market authorization for these seeds.

In order to ensure that the MLS serves both farmers and breeders, it is hence important that Contracting Parties with strict certification rules develop intelligent ways to facilitate approval of MLS material in their national seed systems.

The SMTA provides for monetary benefit-sharing when material accessed under an SMTA has been incorporated into a commercial plant variety. However, for plant variety products that are released **without restrictions** for further research and breeding—i.e., PVP protected varieties or varieties that are not protected by any intellectual property—payment is only **encouraged**. This means that, in effect, monetary benefit-sharing is **voluntary** unless the plant variety which has been developed on the basis of material accessed from the MLS is protected by a patent—in which case it is **mandatory**.

The SMTA stipulates payments to the Treaty’s Benefit-sharing Fund on commercialization of “a product that is a plant genetic resource for food and agriculture and that incorporates material accessed from the Multilateral System” (Article 13.2d). These payments due are either voluntary or mandatory, depending on specific intellectual property (or other) restrictions which recipients may place on the products they develop from the material they received. Mandatory benefit sharing obligations continue until restrictions on the material are lifted.

The Benefit-Sharing Fund, into which benefit-sharing payments are meant to flow, forms part of the Treaty’s Funding Strategy. The overarching aim of the latter is to mobilize funds “for priority activities, plans and programs, in particular in developing countries and countries with economies in transition” (Art 18.3) in order to assist farmers to conserve and sustainably use plant genetic resources for food and agriculture, with a particular focus on adaptation to climate change. To date, 67 projects have been funded through the Treaty’s Benefit-sharing Fund over a total of four project cycles, translating into approximately 30 million USD.

Aside from providing for monetary benefit-sharing, the SMTA also urges the recipients of material from the MLS to share non-monetary benefits resulting from research and development carried out on the material through “the exchange of information, access to and transfer of technology, [and] capacity-building” (Article 13.2).

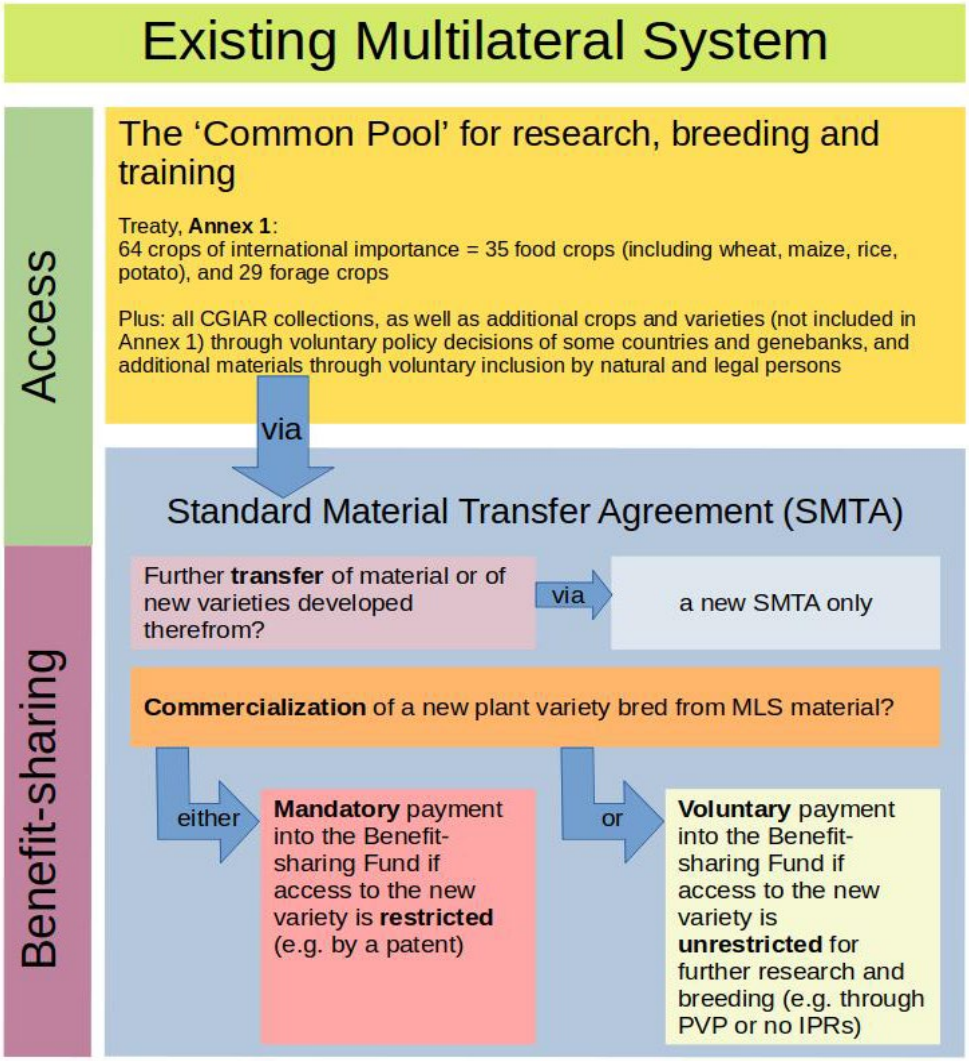
Crucially, the SMTA establishes the principle of **benefit-sharing in perpetuity**: recipients of material under an SMTA are obliged to use the same SMTA conditions to transfer to any further user the MLS material they received, or any variety developed with this material. In effect, this means that the benefit-sharing obligations “attach” to material under the MLS and are thereby passed on to other, future users of the material or any varieties developed therefrom.

While similar “perpetuity” clauses exist in the context of software (compare especially the GNU General Public License, or GPL, which establishes **copyleft** and thus a Free and Open Source Software commons),[27] the SMTA brings this innovation for the first time into the field of

[27] The GPL was originally released in 1989 by the Free Software Foundation https://www.fsf.org/. The text of the current version of the GPL (version 3) is available online at https://www.gnu.org/licenses/gpl-3.0.html. For an insightful exposition on how the GPL constitutes a software commons, see Pedersen, John Martin, “Property, Commoning and the Politics of Free Software”. The Commoner 14, Special Issue, 2010. Available from https://thecommoner.org/wp-content/uploads/2019/10/the-commoner-14-winter-2010-complete-issue.pdf.

international agricultural and environmental governance. Furthermore, the SMTA is an unusual contract in that it creates a beneficial interest for the Treaty (rather than for the provider). This use of contract law with a **third party beneficiary**, again pioneered by the Free Software Foundation in its GPL, was introduced for the first time into the context of international law by the Treaty. It means that in practice, the real beneficiary of the SMTA is the Treaty (and not the provider of the genetic material), and that the FAO will act on behalf of the Treaty to enforce the SMTA if necessary. Figure 1 visualizes the current functioning of the Multilateral System.

Figure 1
Existing MLS



A large number of SMTAs have been entered into since the SMTA was adopted by the Governing Body in June 2006. The Treaty estimates that, on average, more than 1000 material transfers occur every day via SMTAs.[28] However, as of December 2020, the Benefit-sharing Fund has only received 166,356 USD in accordance with the provisions contained in the SMTA, from two companies. Mandatory contributions will continue for as long as these companies commercialize the varieties for which they decided to restrict access, and are based on a percentage of their seed sales. All further finance flows to the Benefit-sharing Fund

[28] This figure is based on data from the Report on the Implementation and Operations of the Multilateral System, presented to the Governing Body in 2019, available from www.fao.org/3/na911en/na911en.pdf.

to date have been based on **voluntary** contributions from Contracting Parties and international institutions.

Views differ on the most important reasons for this shortfall, but the dearth of monetary benefit sharing contributions has raised questions regarding the overall functioning of the Multilateral System. While monetary benefit-sharing is only one aspect of the MLS—with active germplasm exchange and conservation, as well as non-monetary benefit-sharing constituting further important elements of the system—it is arguably politically the most important aspect, and needs to be functioning well.

Interviews with the seed industry—the largest potential contributors of benefit-sharing payments—revealed that the Multilateral System was not as attractive to them as had been assumed.[29] This, according to these interviews, had less to do with benefit-sharing as such, and more to do with the transaction costs of having to track individual varieties throughout multi-year breeding programs, and the requirement of having to transfer new varieties bred from MLS material under SMTA conditions to other users. Some industry representatives also explained that many useful materials were available outside of the Treaty's Multilateral System, in private collections, as well as via the USDA freely accessible gene bank,[30] and that hence reliance on materials of the Multilateral System for these corporate users was minimal.

In order to make the system more attractive to users, develop measures to increase user-based payments to the Benefit-sharing Fund, and otherwise improve the functioning of the Multilateral System, the Treaty's Governing Body, at its 5th Session in 2013, created the Ad Hoc Open-Ended Working Group to Enhance the Functioning of the MLS (hereinafter the Working Group).[31]

[29] See: Moeller, Nina Isabella, and Clive Stannard, *Identifying Benefit Flows: Studies on the Potential Monetary and Non-Monetary Benefits Arising from the International Treaty on Plant Genetic Resources for Food and Agriculture* (Rome, FAO, 2013).
[30] The US has since ratified the Treaty, bringing the USDA collections under the Multilateral System. Annex 1 materials are now distributed via an SMTA internationally. However, the national transfer of germplasm, within the US, continues to proceed without the SMTA.
[31] The Working Group was established through Resolution 2/2013, available from http://www.fao.org/3/a-be595e.pdf.

4 Enhancing the Functioning of the Multilateral System

4.1 Proposed Revisions that are Generally Agreed Upon

The Working Group has held nine formal meetings since 2013, with its 9th meeting taking place in Rome in June 2019, and resumed in October 2019.[32] From its outset, the Working Group aimed at developing measures to enhance the functioning of the Multilateral System through a focus on its twin provisions of (1) facilitated access to plant genetic resources for food and agriculture, and (2) the equitable sharing of (monetary) benefits resulting from their use. The expansion of Annex 1, to include more or even all crop genetic resources, as well as changes to the SMTA to create a subscription system, and to make all benefit-sharing payments mandatory, were discussed throughout the six years of the group's negotiations.

In June 2019, the Working Group was able to reach a tentative compromise to expand Annex 1 to include all plant genetic resources for food and agriculture that are under the management and control of contracting parties, in the public domain, in *ex situ* conditions, while allowing for potential national exemptions regarding a limited number of native species. The wording of this compromise is relevant, as it reasserts the Treaty's exclusion of genetic resources that are under intellectual property protection (by emphasizing "in the public domain"), as well as genetic resources found *in situ*, i.e., in farmers' fields (by stating "in *ex situ* conditions"), aiming to strike a balance between considerations regarding both breeders and farmers.

The Working Group also agreed on what is known as the "Growth Plan", a number of measures to simultaneously adopt the revisions to Annex 1 (for enhanced access) and the revisions to the SMTA (for enhanced benefit-sharing)—again in an attempt to balance the needs of breeders, and developed countries, with those of farmers, and developing countries.

Consensus was also reached on several revisions to the SMTA, notably on the institution of a subscription system through which users can subscribe to the Multilateral System on a multi-year basis by paying a percentage of their annual seed sales into the Benefit-Sharing Fund, regardless of whether these sales incorporate varieties bred with material from the MLS or not. The idea behind this subscription system is that users would circumvent the transaction costs and legal uncertainty of having to track individual varieties through multiple breeding programs, making this an attractive option for commercial users, while also ensuring a more predictable flow of payments into the Benefit-Sharing Fund. It was also agreed that the SMTA would continue to provide an option for "single access" use, through which users could access a single set of materials for which **mandatory** benefit-sharing payments would arise upon commercialization, regardless of whether the variety commercialized would be protected by patents, PVP or be free of intellectual property protection.

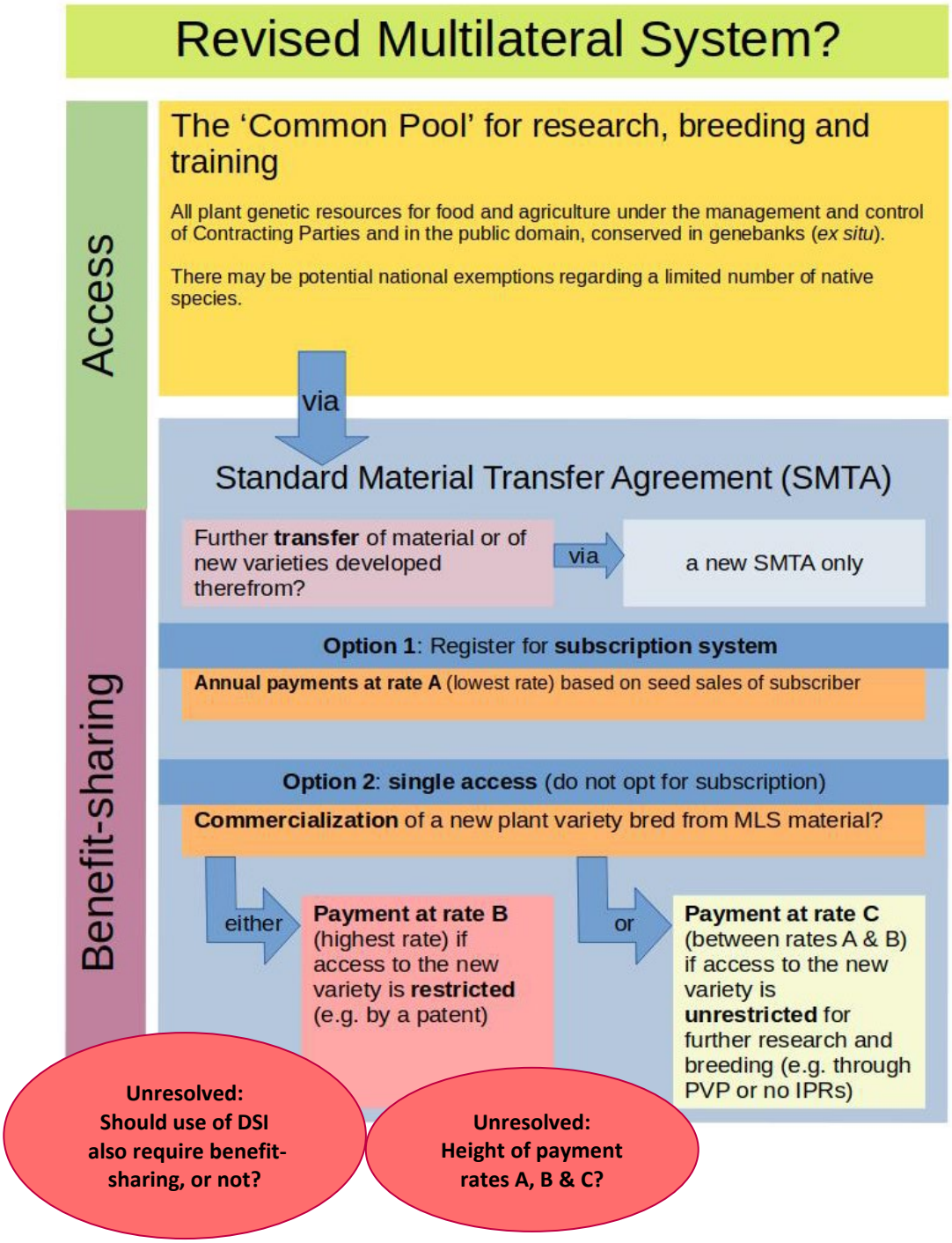
4.2 Revisions for which no Agreement could be Reached

However, neither in June nor at the resumed meeting in October 2019 could consensus be reached on the height of the rates for benefit-sharing payments, nor, on whether genetic sequence data (also known as digital sequence information – DSI) on materials in the MLS

[32] For helpful accounts of the negotiations at these two meetings, see the International Institute for Sustainable Development's Earth Negotiation Bulletins available from https://enb.iisd.org/events/9th-meeting-ad-hoc-open-ended-working-group-enhance-functioning-multilateral-system-access and https://enb.iisd.org/events/resumed-9th-meeting-ad-hoc-open-ended-working-group-enhance-functioning-multilateral-system. The final report presented to the Eighth Session of the Governing Body is available from http://www.fao.org/3/na617en/na617en.pdf.

should also be subject to benefit-sharing payments and hence be explicitly included in the provisions of the SMTA. Figure 2 visualizes how a revised Multilateral System could potentially look like, in terms of what has been largely agreed upon within the Working Group, as well as the key unresolved questions.

Figure 2
Revised MLS?



While the Working Group's discussions did not resolve the question of the height of payment rates for benefit-sharing under either the subscription option or the single access option of the SMTA, the group agreed that the difference should be significant to make the subscription

system more attractive. Discussions ranged from 0.01 per cent of annual seed sales (indicated as acceptable in a Declaration of Commitment by the seed industry) to 1 per cent of annual seed sales (indicated by civil society as reasonable based on the example set by the World Health Organization's Pandemic Influenza Preparedness framework in their Access and Benefit-sharing provisions). Under the single access system, rates of 0.2–2 per cent were mooted, depending on whether or not the commercialized product remains available for further research and breeding. Developing countries generally preferred higher rates, to increase the flow of payments into the Benefit-Sharing Fund, while developed countries generally argued for lower ones, insisting that low rates make the system more attractive to users.

For a functioning Multilateral System, a balance is required between capturing monetary benefits, and making the system attractive enough for commercial breeders and companies, from whom the greatest benefit flows could potentially be expected. While agreement on rates has yet to be found, a basis for discussion of this issue exists. More divisive proved the question of whether benefit-sharing obligations should also arise for the use of genetic sequence data and other information associated with germplasm under the Multilateral System.

4.3 Digital Sequence Information

Digital sequence information (DSI) is an umbrella term that refers to digital information on genetic resources, such as genetic sequence data. DNA sequences, RNA sequences, and protein sequences, as well as metadata, annotations and related information can all come under the term DSI, all of which are held in databases around the world from which they can be downloaded.[33] As its precise meaning and scope are still being debated, the term 'DSI' is currently used as a placeholder until agreement is reached.

The implications of DSI are currently being discussed not only in the context of the Treaty, but also in a number of other international fora, notably in the context of the CBD and its Nagoya Protocol, the World Health Organization's Pandemic Influenza Preparedness Framework, and the UN Convention on the Law of the Sea's International Instrument on Biodiversity Beyond National Jurisdiction. Positions diverge, sometimes sharply, on whether DSI should be included in the access and benefit-sharing provisions of these agreements.[34]

The main concern regarding DSI is that it represents information available online which, due to technological advances, can substitute the use of the physical, biological material it relates to. That is to say that certain research and development can be conducted, and commercially exploited, purely on the basis of accessing and processing DSI, thereby circumventing the

[33] Hiemstra, Sipke Joost, Martin Brink, and Theo van Hintum, *Digital Sequence Information (DSI): Options and Impact of Regulating Access and Benefit Sharing - Stakeholder Perspectives* (Wageningen (Netherlands): Centre for Genetic Resources, Wageningen University, 2019). Available from https://library.wur.nl/WebQuery/wurpubs/fulltext/470286.

[34] For some relevant discussions of the issues involved, see Welch, Eric, Margo A. Bagley, Todd Kuiken, and Selim Louafi, "Potential Implications of New Synthetic Biology and Genomic Research Trajectories on the International Treaty for Plant Genetic Resources for Food and Agriculture", Emory University School of Law Legal Studies Research Paper Series, 2017. DOI: 10.2139/ssrn.3173781; Smyth, Stuart J., Diego M. Macall, Peter W. B. Phillips, and Jeremy de Beer, "Implications of Biological Information Digitization: Access and Benefit Sharing of Plant Genetic Resources", *Journal of World Intellectual Property* 23(3–4), 2020, pp. 267–87. DOI: 10.1111/jwip.12151; Aubry, Sylvain "The Future of Digital Sequence Information for Plant Genetic Resources for Food and Agriculture", *Frontiers in Plant Science*,10:1046 (2019). DOI: 10.3389/fpls.2019.01046; Hammond, Edward, "Prudence versus Pressure at the Seed Treaty: Will the Critical Need to Address Digital Sequence Information Break the Seed Treaty's Effort to Fix Its Benefit Sharing System? It Probably Should". African Centre for Biodiversity & Third World Network, 2019. Available from https://www.twn.my/title2/susagri/2019/sa775.htm. Further information can also be found on the FAO website: http://www.fao.org/cgrfa/topics/digital-sequence-information/en/.

need for accessing the physical material at all. Circumventing material access currently also means circumventing the benefit-sharing obligations which go hand in hand with this access.

While DSI is playing increasingly important roles in taxonomy, and thereby tracking of threatened species, illegal trade and conservation management, its chief use lies in genetic engineering and molecular recombination technologies. Given the economic value of these technological sciences, DSI is understood to potentially catalyze enormous monetary benefits for organizations with the capacity to exploit these sciences, whereas the societal and environmental benefits created by them are heavily contested. In other words, these technological developments threaten to increase existing power asymmetries.

Millions of genetic data sequences are submitted to open access databases every year.[35] Its digital nature means DSI is easily shared and replicated. In its easily shareable nature lies also its value, which is accrued through the processing of high volumes of digital data by multiple users in multiple iterations. Tracing its origin, various uses and transformations along numerous value chains is complex or even, some argue, impossible.

For what concerns the Treaty, at this stage, the absence of specific provisions relating to the use of DSI are likely to lead to a loss of monetary and non-monetary benefit-sharing potential in a world in which genetic information plays an increasingly pivotal economic role. This could marginalize the Treaty, erode its efforts to redress power imbalances, and impair the plant genetic resource commons it has established.

It has been suggested by some members of the Working Group that a general subscription to the MLS could also provide a solution to the question of benefit-sharing for use of DSI, but concerns remain that will need to be explored to craft workable solutions.[36]

4.4 Current State of the Negotiations

At the last meeting of the Treaty's Governing Body, GB8, in November 2019, no decisions with regard to the enhancement of the Multilateral System were taken.[37] Many countries of the Global South rejected the package of measures that had been proposed, stressing its lack of balance with regard to benefit-sharing and its lack of adequate consideration of genetic sequence data. In turn, several developed countries opposed continuation of the Working Group which had been negotiating these measures for six years.[38]

However, ongoing informal consultations among Contracting Parties, as well as national consultations among different sectors and stakeholders, promise to clarify positions and may advance negotiations in the run up to the Ninth Meeting of the Governing Body in May 2022.

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[35] See for example: Karsch-Mizrachi, Ilene, Toshihisa Takagi, Guy Cochrane, and on behalf of the International Nucleotide Sequence Database Collaboration, "The International Nucleotide Sequence Database Collaboration". *Nucleic Acids Research*, vol. 46, Issue D1, 4 January 2018, pp. D48–D51. DOI: 10.1093/nar/gkx1097.

[36] See the summary note by the Co-Chairs of the Working Group prepared for the group's Ninth Meeting in June 2019, available from http://www.fao.org/3/ca5046en/ca5046en.pdf.

[37] For detailed and summary accounts of the negotiations at the Eighth Session of the Governing Body, see Earth Negotiation Bulletins, available from https://enb.iisd.org/events/8th-session-governing-body-international-treaty-plant-genetic-resources-food-and-agriculture. The final, official report of the session is available online at http://www.fao.org/3/nb918en/nb918en.pdf.

[38] Specifically, it was Australia, Canada, Finland, the US, Japan, and Switzerland that opposed continuation of the Working Group, calling for a pause in deliberations on the enhancement of the MLS.

5 FUTURE OF THE TREATY

Moving forward the process of enhancing the functioning of the Multilateral System will reinforce the role of the Treaty as a core instrument to equitably support sustainable agriculture and deliver global food security. As the only existing, functioning alternative to bilateral negotiations under CBD rules and commodity exchange governed by intellectual property regulation, the Treaty's Multilateral System constitutes a framework that is uniquely adapted to the needs of the agricultural sector.

In a world in which international collaboration is more urgently needed than ever, and solidarity across borders crucial in overcoming major challenges in the context of climate, environment, and health, the Treaty provides a rare and precious space to pool resources and combine efforts for collective benefit.

Only time can tell whether countries appreciate and value this common space enough to surmount their differences and achieve an improved Multilateral System which contributes to ending hunger and malnutrition, diversifies agriculture and delivers justice.

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