The International Undertaking on Plant Genetic Resources in the Context of TRIPs and the CBD

By Robert J. L. Lettington

Agriculture is probably the oldest form of globalisation known to the world with the principles of the cultivation of crops and domestication of livestock having spread from some eight or ten centres of origin 10 to 20,000 years ago[1] to almost the whole globe today. Pigs, cows and smallholder farming may not seem revolutionary but they were the Coca-Cola and Internet of the world for millennia. The process, partly due to its varied origins and long history, continues today with all regions of the world being interdependent for the continued vitality and future improvement of their crops and livestock. Throughout history small farmers have been the backbone of this system, cultivating a diversity of varieties and breeds, gradually improving them through informal exchange and cooperation.

In recent history the international aspect of this system was taken up by the public sector, still largely on a basis of informal exchange. However, in the last ten years the dynamics in the use and, above all, ownership of biological material have changed with the entry into force of the Uruguay Round Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPs) and the Convention on Biological Diversity (CBD).

In their treatment of the use and ownership of biological material these agreements have largely been responses to the increasing interest of the private sector in this material. Unlike the public sector, the private sector is driven by a proximate[2] profit motive. Producing a single product with the widest possible application, and ideally limiting the source of that product to a single company generally captures maximum profits. However, homogenisation in agriculture undermines the diversity that ensures its continued vitality, and indeed viability, while limiting access to the means of production threatens the immediate food security of those without the means to leverage that access.

The aim of the International Undertaking (IU)[3] is to ensure the conservation, sustainable use and continued free flow of a diversity of germplasm for crops of major importance, the basis of world food security. This '*special nature*' of agriculture and its associated '*distinctive features and problems needing distinctive solutions*' are recognised in the preamble of the IU.

The preamble also recognises that this special nature places questions of the management of plant genetic resources for food and agriculture (PGRFA[4]) '*at the meeting point between agriculture, the environment and commerce*'. This points out the fact that the International Undertaking is intended to address systemic deficiencies in the application of existing trade and environmental agreements, above all TRIPs and the CBD, to agricultural systems. Rather than examine the details of the IU, which will probably be the subject of many theses and much debate, discussion here will focus on manner the IU addresses these systemic deficiencies.

What is the International Undertaking?

The heart of the IU is the Multilateral System (MLS).[5] The MLS guarantees that PGRFA for crops covered by the system will be made freely available for research and breeding in agricultural food and feed uses. In return for this 'facilitated access' those who commercialise products incorporating PGRFA from the MLS will be obliged, payments being voluntary where products do not restrict further research and subsequent commercialisation, to pay a percentage of their profits towards furthering the broader objectives of the IU. The MLS covers a list of crops, which is still the subject of negotiation, currently consisting of approximately 80 species of food crops and forages. However, the question of coverage is more complex than the simple inclusion of a species.

A basic analysis reveals three basic categories of PGRFA covered by the MLS. The first includes material held under the management and control of the states party to the IU. This would include national collections and *in situ* resources found on public property.

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Benefit Sharing under the IU

The main benefit to be gained from participation in the Multilateral System is the free flow of germplasm, which promotes the vitality of crops throughout the world, thus guaranteeing their future. A further type of benefits consists of provisions frequently found in other international agreements, including TRIPs, on technology transfer, capacity building, exchange of information and similar measures.

The key novel element of benefit sharing under the IU is mandatory contributions derived from the commercialisation of products developed from plant genetic resources accessed under the Multilateral System. The payment is mandatory when the commercialised product has limits on its availability for use in further research and breeding and voluntary in the event that the product is freely available for such purposes. The IU does not discriminate between IPR holders and others in terms of the application of its benefit sharing provisions. However, it could be argued that while it does not explicitly do so, it does in practice due to the distinction between products available for further research and breeding and those that are not. If this argument were to be accepted, one would turn to TRIPs Article 28, *Rights Conferred*. Nowhere does this Article make any reference to immunity from any kind of charges or levies associated with the holding of a patent, indeed intellectual property offices routinely make fees a requirement for the processing of a patent application and for the maintenance of a patent once granted. This latter point may well be worth bearing in mind: patents only grant limited rights and one should be clear as to exactly what those rights are.

The political importance of the commercial benefit sharing provisions has far outweighed any likely tangible benefits, particularly due to their linkage to the question of intellectual property rights. These provisions are extremely unlikely to generate substantial funds, the seed industry is simply not that profitable a business in global terms and the likely royalty rate that industry will accept is going to be low, probably substantially less than one percent of sales. Perhaps one might have been better off seeking a proportion of direct and indirect subsidies to products rather than of the profits they generate since for the OECD countries alone subsidies are estimated to amount to 110 percent of the combined GDP of Africa!

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It is also likely to be understood so as to include *in situ* plant genetic resources found on private land in states that vest the rights to genetic resources in the state rather than in the landowner. The second category is the *ex situ* collections of the Consultative Group on International Agricultural Research (CGIAR) and other international institutions that agree to submit their collections to the authority of the IU's Governing Body, an arrangement similar to that which is currently in force between FAO and twelve CGIAR centres. The final category is other private collections that are to be encouraged to submit to the authority of the Governing Body.

A critical point to note about the coverage of the MLS is the distinction between the physical and the conceptual control of crops and forages under the system. The IU expressly states its intention to respect property rights of all kinds and thus one is clearly not talking about the physical ownership of all examples of a crop or forage becoming public. What one is talking about, are the conceptual elements of the crop or forage being public. A rough analogy might be to buying a car. When you buy a car nobody else has rights to take that individual example of a car away from you but equally you have no right to prevent anybody else from using the same type of car, or to stop the manufacturer from producing more of the same. This has become significant with some commentators erroneously raising the idea of governments being obliged to enter private property and remove PGRFA for public distribution in fulfilment of their IU obligations.

Recognition of the Innate Value of Agrobiodiversity

The theoretical and practical basis of the IU lies in the recognition of the innate value of agrobiodiversity, something akin to the economic concept of internalising external costs. The idea is that while some PGRFA 'achieve prominence' through being developed into commercial products that are profitable for their developers and farmers alike, the ability to consistently produce these products depends on the broader base of PGRFA from which the desired characteristics can be selected. Most classically bred varieties are developed from a number of immediate predecessors, that may in turn have been developed from others and so on *ad infinitum*, so that the value of the related background agrobiodiversity can often be far more immediate than one might imagine. Most products of modern biotechnology, including GMOs, are not substantially different, as they tend to consist of elite lines of a variety with the biotechnology element constituting an 'added extra'. In more explicit terms the IU recognises this innate value in Article 1, Objectives, and through its provisions on conservation and sustainable use, principally contained in Part II, General Provisions.

Recognition of Farmers' Contributions to Agrobiodiversity

A further fundamental fact affirmed by the IU is that farmers, ever since those first examples of cultivation 10 to 20,000 years ago, have played a critical role in recognising, conserving, developing and distributing agrobiodiversity across the globe. In the modern world the heirs to this tradition are actually the least technologically advanced farmers, as they are the ones who are most dependent on the biological characteristics of their crops rather than on added inputs, and thus who place the greatest value on diversity. The IU's recognition of this contribution comes in two forms that are intended to encourage the continuation of this tradition, on which all agriculture ultimately depends, and to provide some substantive assistance to the small farmers who are often some of the most marginalized sectors of society. This is achieved firstly through the preambular paragraphs on Farmers' Rights and, more particularly, by Part III of the IU, on the same subject. The more substantive assistance is to be found in the priority that the IU gives to small farmers in its provisions on benefit sharing and conservation and development activities.

Acceptance that Conserving and Developing Agrobiodiversity Costs Money

Inextricably tied to the concepts that agrobiodiversity is innately valuable and that farmers have husbanded it for millennia is the fact that the conservation and development of this infinitely valuable asset comes at a price. Historically this was not a major problem for two reasons. Firstly the main food producers, directly dependent on the diversity of their crops for survival in the same way that today's small farmers often are, were also the main agents of conservation and development. As a result the costs of the conservation and development were accounted for in the cost of the final product. Secondly, mankind's impact on the abundant global pool of agrobiodiversity was minimal, meaning that conservation and development were not urgent tasks and could be undertaken informally.

However, recent history has seen fundamental shifts in both these dynamics. The rise of industrial agriculture has limited the immediate dependence of the world's main food producers on the natural quality of their crops, and thus on the agrobiodiversity that guarantees this quality, at the same time that mankind's negative impact on the base of agrobiodiversity has reached unprecedented levels. The problem is that even industrial agriculture is still *ultimately* dependent on the ever-dwindling base of agrobiodiversity, as dramatically illustrated by the Wheat Rust crisis in the mid-west United States in the 1970s, but has managed to externalise the costs of conserving and developing it.

Industrialised agriculture now acts as a free rider on the efforts of the world's remaining small farmers who are largely excluded from recapturing the costs of conservation and development due to falling commodity prices[6]. In effect the IU's Article 14 on Benefit Sharing in the Multilateral System and Article 19 on Financial Resources, should not be seen as development assistance but rather as addressing a market failure; an insurance policy where industrial agriculture and the world's food consumers[7] are the insured while small farmers and developing countries are the insurer.

TRIPs and the IU

Table 1: TRIPs and the IU

TRIPs	IU
• Limited Monopolisation to encourage creativity • *Sui Generis* System for the Protection of Plant Varieties • Rights to Capture Benefits • Technology Transfer • Adam Smith's 'Invisible Hand'	• Public Goods to encourage diversity and limit entry barriers • Farmers' Rights • Rights to Access Benefits • Technology Transfer • Financial Mechanism

The fundamental difference between TRIPs and the IU, which can be seen in all the elements that differ between the two in Table 1 above, is that TRIPs depends on an ability to command a premium, to capture benefits through manipulation of market forces, as a reward for innovation. This is achieved through the concept of a limited monopoly that is common to all intellectual property rights.

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However, as the idea of a monopoly clearly shows, commanding a premium depends on an ability to exclude. Inevitably monopolies tend to exclude the most marginalized actors and, unfortunately, the most marginalized actors in agriculture are the small farmers in developing countries; the very same farmers who play the major role in conserving and developing the basic agrobiodiversity upon which the monopoly they are excluded from was originally built.

Thus, if TRIPs were to be the only system governing agrobiodiversity, it would actually undermine the basic tools of future development for short term gain rather than achieving its goals of the long term availability and promotion of innovation. The IU thus seeks to ensure that the basic tool of agriculture, agrobiodiversity, remains as a common pool, hence the existence of Farmers' Rights rather than plant variety protection, that all may draw from for mutual advantage. To avoid asymmetries in access to its benefits, which would inevitably undermine food security, it depends on a financial mechanism rather than market manipulation to support it and thus the success of Articles 14 and 19 of the IU are critical to its effective implementation.

The CBD and the IU

Table 2: The CBD and the IU

CBD	IU
• Sovereign Rights • Comparative Advantage • Right to Capture Benefits • Contributions of Indigenous and Local Communities • Technology Transfer • Financial Mechanism	• Public Goods • Mutual Advantage • Right to Access Benefits • Farmers' Rights • Technology Transfer • Financial Mechanism

Ironically, considering the fierce debates over conflicts with TRIPs, the CBD creates some of the exact same problems for agriculture as TRIPs. This largely derives from the access and benefit sharing mechanism developed in Article 15. Sovereign rights over genetic resources are an effective method for limiting the asymmetries of a neo-colonial paradigm where manufactured products are valued and the raw materials that create them are discounted. However, sovereign rights still depend on the concepts of monopoly and market manipulation, and thus exclusion, found in TRIPs. Comparative advantage, part of the market's invisible hand, will guarantee an ability to capture benefits, but if you have no comparative advantage, and in agriculture very few countries do[8], then you have no leverage.

What the CBD does do[9], however, and TRIPs does not (admittedly because conservation is not a primary goal of TRIPs), is to recognise that monopolies and market manipulation will not provide a comprehensive answer to conserving biodiversity and thus Article 15 is only one element of a wider package, a wider package that is largely mirrored in the conservation and sustainable use provisions of the IU.

These parallels extend to the CBD's recognition of the contributions of indigenous and local communities, almost identical, if less detailed, to Farmers' Rights, and to its establishment of a financial mechanism. The relative contributions of benefit sharing under Article 15 and the GEF to CBD related conservation activities in developing countries might prove to be instructive for the future relative performance of Articles 14 and 19 of the IU.

The IU: Safety Valve for TRIPs and the CBD

Table 3: The CBD and TRIPs – A Crisis for Agriculture

CBD	TRIPs
• National sovereignty in access to genetic resources depends on comparative advantage: – No country or region has an overall comparative advantage in agricultural biodiversity. – Bilateral exhange raises costs and, since everybody depends on agriculture, marginalises the poor.	• Intellectual property rights depend on an ability to charge a premium for access to an individual product: – Charging a premium means limited access and thus under-mines food security. – A premium of individual products undermines the value of diversity.

The conclusion is simple: the TRIPs and CBD mechanisms for managing genetic resources do not, and will not, address the specific needs of agriculture and thus asymmetries and pressure on PGRFA will increase. An effectively implemented IU will act as a safety valve that guarantees the future availability of a diversity of PGRFA, and thus the future of agriculture.

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ENDNOTES

[1] Diamond, Jared, *The Rise and Spread of Food Production* in *Guns, Germs and Steel: The Fates of Human Societies* (New York, 1997).
[2] The term 'proximate' is used on the understanding that the public sector does have an 'ultimate' profit motive in terms of benefits for society as a whole, otherwise it would be a pointless exercise, but that this differs from the profit motive of the private sector, which is more immediate and focused on shareholders.
[3] The Agreed Text of the IU adopted on 1st July 2001 can be found at <www.fao.org/ag/cgrfa>.
[4] The exact definition of PGRFA is one of the outstanding issues in the current text with the main question being the degree to which the 'genetic parts and components' of plant material are also PGRFA in their own right. The concern of developing countries over this is the belief that benefit-sharing requirements should be triggered by the use of genetic parts and components in the same way as they are for other plant material.
[5] Id. at Part IV of the Agreed Text.
[6] 'Commodity markets worked in such a way that prices of primary commodities (excluding oil) declined to their lowest levels since the Great Depression. Sub-Saharan Africa alone lost more than $50 billion in export earnings between 1986 and 1990 because of depressed commodity prices.' *Human Development Report* (UNDP, 1992).
[7] '[T]hose that spend money on food...' as opposed to those who eat, Tansey, G, *Food Security: A Food System Overview* in Broggio and Kaukab eds., *The Geneva Documents:Proceedings of the Workshops on TRIPs, CBD and the International Undertaking* at 58 (IAO/South Centre, 2000, www.iao.florence.it).
[8] Thus in the preamble to the IU the Parties thereto are; '*Cognizant* that plant genetic resources for food and agriculture are a common concern of all countries, in that all countries depend very largely on plant genetic resources for food and agriculture that originated elsewhere'
[9] This apart from the CBD Conference of the Parties repeated recognition that it is not an appropriate framework for PGRFA.