

# The Role of IP in providing Sustainable Agriculture and Food Systems in the Context of Climate Change

WIPO, June 28, 2023

What is the contribution of the review of the TRIPS Article 27 3(b) review?

The proper scope of plant variety protection, and its implications for wider policy issues, was a subject of negotiations for the WTO TRIPS Agreement, leading to a requirement for an 'effective' system of plant variety protection in the concluded agreement, as an optional alternative to use of the patent system. This presentation reviews the policy considerations that arose concerning plant variety protection firstly during the negotiations for the TRIPS Agreement and secondly in the ensuing debate in the WTO TRIPS Council in the context of the mandated review of the relevant TRIPS provisions, Article 27 3(b). While there has been reduced attention to these issues in the TRIPS framework in recent years, the review process remains in place and it is arguably an opportune time to refresh this dialogue in the light of the considerable extent of domestic experience and practical learning garnered over the past 28 years of TRIPS implementation, and in particular the increasing focus of policymakers on the need for innovation and dissemination of new technologies and new crop varieties to deal with the impact of climate change. This may be informed by the extensive discussion in the TRIPS Council on innovation and access relating to climate technologies generally.

## Background – the negotiations

The progress of the TRIPS negotiations saw gradual convergence on the need to establish principles governing the protection of plant variety rights. However, as negotiators subsequently observed, even among the major demandeurs for a broad agreement establishing a strong foundation of IP protection, there were significant differences on the question of patentability of plant and animal inventions. This reflected ongoing domestic legal and policy evolution. For instance, a Swiss negotiator recalled extensive domestic dialogue which "contributed to emphasizing and supporting reservations in the negotiations for the protection of environmental concerns and human dignity, and to the idea of a sui generis system of protecting plant varieties."

A pivotal issue concerned the patentability of plants or animals other than micro-organisms and essentially biological processes for their production. A number of domestic systems provided express exclusions from the scope of patentability, and negotiators were not prepared to make concessions on this point. The resulting text, Article 27 3b, was indeed largely modelled on the corresponding provisions of the European Patent Convention, with additional wording regarding environmental concerns and the Paris Convention. Article 53(a) and (b) of the EPC (1973) provides that: European patents shall not be granted in respect of: (a) inventions the publication or exploitation of which would be contrary to "ordre public" or morality; such exploitation shall not be deemed to be so contrary merely because it is prohibited by law or regulation in some or all of the Contracting States; (b) plant or animal varieties or essentially biological processes for the production of plants or animals; this provision shall not apply to microbiological processes or the products thereof. The text in the TRIPS Agreement is modelled on a submission by the EC in March 1990 which took this approach.

Thus Article 27.3(b) allows for exceptions to patentable subject matter in respect of living matter, while, at the same time, requiring certain types of inventions in this category to be protectable under patent law or, as far as plant varieties are concerned, alternatively, an effective sui generis system or any combination of the two. As one of the EU negotiators recalls, "Questions have since been asked as to how Article 27.3(b) should be interpreted, in particular as the provision was negotiated at a time when there were also other negotiations taking place relevant to aspects addressed in Article 27.3(b), that is, those that led to the revision of the International Convention for the Protection of New Varieties of Plants (UPOV Some memories of the unique TRIPS negotiations 125 Convention) and those resulting in the adoption of the Convention on Biological Diversity. In this regard, the TRIPS negotiators seem to have opted for constructive ambiguity."

The Brazilian negotiator recalls that "one of the strongest arguments... to exclude from patents plant and animal varieties [was that] these can be reproduced by natural means. If a plant could be patented, how could it be possible to control its propagation and determine whether it has been reproduced by employing technical means or has been the result of simple natural reproduction?"

Similarly, Canada opposed the patenting of multicellular organisms. It submitted in October 1989 that it would not be reasonable to oblige all governments to extend patents to multi-cellular life forms, as this area required more technical study to determine the most appropriate form of protection.<sup>45</sup> At the time, the EC had not yet passed its Biotechnology Directive and had difficulties in accepting an immediate obligation to provide patents for plant and animal inventions. The Nordic countries also wanted such exclusions. The Association of Southeast Asian Nations (ASEAN) countries, and even some Latin American countries, had no problem supporting the patentability of microorganisms and microbiological and non-biological processes for the production of plants and animals, but could not support the patentability of plant and animal inventions.

India also had concerns over the implications of plant variety protection and it was reportedly two clarifications, one by the then GATT Director-General, Peter Sutherland, and the other by a leading official, A.V. Ganesan, which led to acceptance of sui generis protection of plant variety protection. The issues addressed concerned farmers' privilege and the relationship of the TRIPS provision with the 1991 UPOV Convention.

### **The review of Article 27.3b of TRIPS**

The exclusions for patentability of plant and animal inventions were agreed subject to a review that would commence in 1999. While some initial perceptions of this review process were that it would concentrate on the possibility of removing the exclusions, the actual review that unfolded covered a wide range of public policy issues.

One general issue was the case for and against providing patent protection for plant and animal inventions, especially from a development perspective. One view favoured a broad provision of patent protection for such inventions, for the following reasons:

- plant and animal inventions, as well as other biotechnological inventions, should be accorded adequate patent protection, in the same way as inventions in other fields of technology, in order to promote private sector investment in inventive activities that contribute to solving problems in both developed and developing countries in areas such as agriculture, nutrition, health and the environment;
- for this purpose to be adequately met, it is necessary to have international rules for the protection of plant and animal inventions rather than relying on differing national rules;
- patent protection for plant and animal inventions facilitates the transfer of technology and the dissemination of the state-of-the-art research on plant and animal inventions by providing an important incentive for the private sector to conclude licensing agreements and by discouraging confidentiality and trade secret arrangements and, instead, requiring the publication of patent applications on a global basis;
- patent disclosure requirements and the control over exploitation given to the patent owner can facilitate the operation of laws designed to protect public morality, health and the environment.

Another view was that patents on life forms give rise to a range of concerns, including in regard to development, food security, the environment, culture and morality: These include:

- concerns relating to the implications of patent protection in the field of plants for access to, and the cost, re-use and exchange of, seeds, by farmers, as well as concerns about the displacement of traditional varieties and depletion of biodiversity;
- concerns relating to the grant of excessively broad patents, which do not fully meet the tests of patentability and the consequent problems of "bio-piracy" in respect of genetic material and traditional knowledge and of the costs and burdens associated with the revocation of such patents;
- another area of concern has been the view that present international arrangements, which it has been said protect the interests of innovators but do not adequately protect the countries and communities that supply the underlying genetic material and traditional knowledge, need

rebalancing, in particular to make the principles of the CBD in regard to prior informed consent and benefit sharing more effective.

On plant variety protection, the view was put that such protection allows development of new technological solutions in the field of agriculture. It encourages the easy introduction of new varieties and ensures that breeders continue breeding effectively. Improvements in agricultural biotechnology have resulted in the design of new plants through direct manipulation of the genome of a plant rather than reliance upon conventional plant breeding techniques that involve a trial and error process. Advances in the area include the development of new crops with higher productivity and yields and with disease resistance. Further, it was argued that strengthening plant varieties protection ensures a more efficient agricultural sector.

Concerns were expressed that the protection of plant varieties can have an adverse impact upon the fulfilment of the national goals of developing countries, in particular in regard to food security, health, rural development and equity for local communities whose traditional knowledge systems have produced staple varieties, including varieties that have medicinal and biodiversity value and should not lead to excessive dependence on foreign commercial breeders. Concern was expressed about the possible adverse implications for the cooperative relationships among neighbouring farmers that are common in developing countries and the difficulty of traditional farmers in having the capacity or education required to use the system to protect their own interests.

Further debate touched on the exact meaning of the TRIPS provisions in this area, such as the significance of the term "effective sui generis system", and their relationship with the 1978 and 1991 UPOV Conventions, as well as issues of farmers' privilege and the protection of traditional knowledge.

### **Introducing the climate dimension**

Interestingly, in the initial intensive phase of the review process, leading up to 2006, there was no reference to the impact of climate change and the need for resilience in the agricultural sector, despite the wide range of issues discussed. Since then, however, the issue has been raised about the need for access to new crop varieties that are resistant to the impact of climate change.

More widely, the TRIPS Council has considered the multiple factors with bearing on innovation and the dissemination of technologies relating to climate change, and enabling the transition to a low-carbon economy. Member governments reported on a wide range of innovation promotion programmes to support and accelerate local innovation for sustainable resource usages and the development of low emission technologies. These included increasing competition among those developing new technologies (promoting an environment conducive to licensing IP and investment); addressing the 'matching problem' (enhancing coordination between licensor and licensee and addressing the need for technology to adapt to local environment, enabling the licensee to adapt and apply technology in the light of specific applications), including through enhanced use of patent databases, and programmes to accelerate processing of patent applications for green technology. Members stressed the need to promote specific identify areas in priority need for research and innovation cooperation, and reported a disproportionate increase in innovative activity in green technologies: "since TRIPS, patenting rates for clean energy technologies have increased by approximately 20% per year, which far outpaces patenting rates for fossil fuel technologies."

There is clearly scope for these parallel review processes to inform one another, and the opportunity is there for a timely and productive consideration of how the TRIPS framework can and does support the innovation and dissemination of urgently needed new agricultural technologies to enable resilience in the face of climate change.