

# PATENT AND PLANT BREEDERS RIGHTS IN THE INTERNATIONAL DEBATE

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<http://www.agric-econ.uni-kiel.de/Abteilungen/II/forschung/file6.pdf>

## **INTRODUCTION**

Negotiations on intellectual property protection in the current trade round known as the Uruguay Round are but one episode in a drawn-out contest between developing and developed countries on this issue. In this presentation, I intend to provide some background on these discussions and on how strengthened protection of intellectual property would effect developing countries. I will then review the current status of the Uruguay Round negotiations on this use, and end with a brief comment on how I see these negotiations relating to the interests of the CGIAR Centers.

## **INTELLECTUAL PROPERTY AND DEVELOPING COUNTRIES**

Developing countries have traditionally opposed the concept of suppliers, i.e. the developed North. If protecting the inventions of the North, the South would deprive itself of access to that technology. Or so the argument runs. Only when a developing country reaches a level of technological sophistication where it produces leading edge technology, will it feel the need to provide intellectual property protection.

The industrial countries, by contrast, have argued that protecting intellectual property is critical to stimulating R & D and to facilitating the transfer of technology, either through arms-length transactions, or various forms of investment. Only if granted a temporary monopoly, can an inventor recoup R & D expenses, and only with sufficient protection will a patent owner be ready to license his invention.

With few exceptions, the developing countries have remained unconvinced,. And they can point to the fact that some industrial countries saw their industry develop without patent protection for many years. Switzerland had no patent protection between 1850 and 1888, and only introduced more comprehensive protection in 1907 under the threat of trade retaliation from Germany. The Netherlands did not protect patents from 1869 to 1912, and Korea, until recently providing weak protection, had been very successful in buying protected technology from the industrial world without offering protection.

Already in the last century, economists developed the theoretical underpinnings of intellectual property protection, particularly for patents, offering explanations such as the "reward by monopoly" thesis, the "monopoly profit incentive" thesis, and the "exchange for secrets" thesis.

But attempts to empirically assess the implications of protection are recent. Only in the last twenty years, modern statistical analysis has been used to test the traditional assumptions about benefits and costs of protection. While far from fully conclusive, evidence now available allows two important conclusions:

(1) while not the most critical incentive to innovation, intellectual property protection is an important element of a policy and business environment conducive to stimulating R & D.

(2) Intellectual property protection allows an inventor to capture a return on his or her invention. In a patent-free situation the return on an invention would accrue to society. But even with protection, the inventor will only capture part of these returns. Social returns have been shown to exceed private returns, mostly by a wide margin. According to a 1977 study, the average social return on major inventions was 56%, while private returns averaged 25% (Mansfield et al., 1977). One explanation is that the protected invention if it promises a high return will be imitated, and in a recent sample of U.S. firms 60 percent of patented inventions were found to have been imitated within four years after they reached the market (Mansfield, 1985). Not stolen, but legally imitated.

Unlike the earlier theoretical explanations of what intellectual property does, should these findings not allay the concerns of developing countries about the cost of introducing or strengthening protection?

Unfortunately, the empirical work on which these conclusions are based, has been undertaken on industrial countries, while little or no analysis has been done on how intellectual property affects developing countries, their indigenous R & D activities and their access to foreign technology through licensing.

Are there reasons for assuming that intellectual property will affect developed and developing countries differently. There are. Most developing countries offer little protection for intellectual property. They exclude important sectors from protection, or grant protection for short periods only. And more often than not, they cannot provide an enforcement mechanism needed to make protection effective. But more importantly, their technology needs differ from those of industrial countries. Most inventive activity in developing countries is adaptive in

nature, making their inventions less likely to be appropriated elsewhere. This means that developing countries have less interest in obtaining worldwide protection.

Where do developing countries stand on the protection of intellectual property on plants and seeds?

To our knowledge, to date no developing country has granted patents on plants or seeds, and many explicitly exclude plants and seeds from patent protection. Some developing countries are protecting plant breeders' rights, but little is known about the effectiveness of such protection. These countries include, Argentina, Uruguay, Chile, Mexico and Kenya. Pakistan, India, Korea and Turkey are said to consider plant breeders' rights legislation, but preparation is little advanced. Mexico, as the only developing country, signed the Convention for the Protection of New Varieties of Plants (the UPOV Convention) in 1978 but never ratified it.

This reluctance to consider PBR protection reflects the doubts that developing countries generally have about the validity of intellectual property protection. They may well be wrong.

There are good reasons why developing countries should review their position on plant breeders' rights. First, in the industrial countries the introduction of plant breeders' rights in the 1960s has generally led to an increase in private breeding activity. Second, there are indications that also in developing countries private breeders would respond positively to the availability of protection. Evidence is the growth of private breeding in India in hybrid millet and sorghum where nature combined with trade secrecy provide protection. Thanks to the natural phenomenon that a crop from a hybrid variety cannot be reused as seed (at least, not without significant reduction in yield), the variety is protected as long as the breeder guards the identity of or access to the parental lines used.,

## **THE URUGUAY ROUND OF MULTINATIONAL TRADE NEGOTIATIONS**

As we saw, the debate over intellectual property has traditionally divided the more advanced countries from the less advanced, the haves from the have-nots, and nowadays the North from the South. But also within the industrialized or industrializing world, protection of intellectual property has not always been accepted. In the second half of the last century, patent protection in Europe was strongly opposed on the grounds that it constrained free trade. And again in the post World War II years, a strong current of opinion questioned the rationale for protection on these grounds and several attempts to tighten the provisions of international intellectual property conventions, in particular the Paris Convention on Patents and Trademarks, were unsuccessful.

This changed in the early 80's. Not last because of the

growing U.S. trade deficit, demands from U.S. industry to stop the "piracy" of U.S. inventions gained broad support. One number calculated by the International Trade Commission (1988) --(the U.S. Government agency that investigates violations of U.S. trade laws)-- puts the annual loss of royalties from "piracy" at more than \$60 Billions, a number close to the total annual interest obligations of developing countries on their foreign debt, which enforced fears among these countries that protection of intellectual property could only further dim their development prospects.

At the opening of the new GATT trade round in Punta del Este (Uruguay) in September 1986, the U.S. prevailed, with only mild support from other industrial countries, over the strong objections of almost all developing countries, in including intellectual property in the negotiating agenda. A separate negotiating group was set up to deal with trade-related intellectual property rights (in GATT-speak "TRIPS") as one of the "new themes" included in the current trade round. Other "new themes" not previously covered in these multilateral trade negotiations are services and trade-related investment measures.

Why would the industrial countries push the protection of intellectual property in negotiations that aim at liberalizing trade? After all, the freest trade is arguably trade in which intellectual property is not protected. Moreover, there exist already several international conventions with their own institutional support (primarily the world Intellectual Property Organization, WIPO) which have been set up to protect intellectual property.

There are several reasons why industrial countries prefer to deal with intellectual property in the GATT negotiations. First, existing intellectual property conventions only require member states not to discriminate against foreigners. Under this "national treatment" rule, a country that does not protect intellectual property of its own nationals, does not have to protect that of foreigners either. This clearly does not satisfy a U.S. patent owner who may not be necessarily too concerned about his invention being "stolen" by a national of a small developing country that provides no protection. His concern may rather be that a competitor from his own country or another industrial country, take advantage of the developing country having insufficient or no protection, and copy and sell goods incorporating inventions of others not only with impunity, but quite legally, as long as they are not exported to countries where the patent is protected.

The second reason for not handling the issue within the existing intellectual property conventions and institutions is that in WIPO, a specialized agency of the United Nations, each country has one vote, and the industrial countries thus are in a minority, while the GATT votes by trade shares giving them the majority (although GATT generally decides by consensus).

And thirdly, by linking intellectual property protection to trade, the major importing nations can exercise pressure by threatening to restrict imports. The U.S. has previously applied retaliatory import restrictions in response to Brazil's lacking protection of computer software; and that Korea is today one of few developing countries with fairly comprehensive intellectual property protection is largely due to U.S. trade pressure.

What specific goals are being pursued by the industrial countries in the GATT negotiations?

The industrial countries demand specific minimum standards of protection. If they succeed in their demands, it will be a departure from the earlier mentioned principle of "national treatment" which meant that a country had to offer only the protection it grants to its own nationals. Under a future GATT agreement, the country would have to include in its legislation those minimum standards, with the result, unlikely as this may be, that it could only discriminate against its own nationals by offering them lesser protection than foreigners.

There are two very specific demands by industrial countries: a longer protection of patents, and no exclusion from what can be patented. Currently many developing countries protect patents for less than the 20 years for which most developed countries grant protection. And developing countries exclude products such as pharmaceuticals which are particularly sensitive to patent protection because they can be easily copied. They do so on the grounds that if they had to pay royalties on life-saving drugs they could not make them available to the poor. Also they argue, as Indira Gandhi did before the World Health Assembly in 1982 that "the idea of a better-ordered world is one in which medical discoveries will be free of patents, and there will be no profiteering from life and death."

The question of primary concern to this audience is, of course, what is on the GATT agenda with regard to plants and seeds?

In line with current legal practice in the U.S., the U.S. demand that any man-made invention including biotechnologically manipulated plants, be patentable with the exception of inventions that violate the public order. The European Community, would like to continue denying patent protection to plant varieties. The developing countries, in a show of solidarity, insist that plants and other living matters be excluded from patent protection altogether.

The U.S. and the EC have more or less agreed not to resolve their differences on the patentability of plants at this point. Their compromise proposal now provides that countries "shall provide for the protection of all plant varieties either by patents or by an effective sui generis system or by any combination thereof".

This would allow the US, to continue protecting varieties through both patents and plant breeders' rights as it currently does under a special waiver of the UPOV Convention,,

In marked contrast to their initial hostile stance on including intellectual property issues in the trade negotiations, the developing countries have in recent months negotiated in good faith on intellectual property issues. While asking for a grace period before they have to provide full protection -- which they are likely to get -- they seem prepared to bite the bullet.

Whether they will in the end accept a deal on intellectual property and with it the compromise formula on plant protection which would commit them to introducing at least plant variety protection will depend on the results negotiated in other negotiating groups of the Uruguay Round.

The most important issues under negotiations to developing countries are their access to the agriculture and textile markets of the industrial countries. On textiles, agreement appear feasible: it would phase out the infamous Multifibre Arrangement (MFA) which for sixteen years has limited developing country imports into industrial countries through quotas.

The breaking point remains agriculture and market access for their agricultural exports. The negotiations on agriculture pit an alliance of thirteen developing and developed countries led by Australia, together with the U.S. against the European Community which is defending its Common Agricultural Policy with its system of artificially high internal prices resulting in surplus production, declining imports and the need for subsidizing exports. Although it had repeatedly emphasized its willingness to reduce agricultural subsidies including export subsidies, the EC, at the ministerial meeting in Brussels in December 1990 which was to conclude the Uruguay Round could not agree to any substantial concessions on agriculture.

## **IMPLICATIONS FOR INTERNATIONAL AGRICULTURAL RESEARCH CENTERS**

A successful outcome of the Uruguay Round that would commit developing countries to introduce some form of plant variety protection would change the environment in which the IARCs are working. First, we may see in developing countries the emergence of private breeding activity for other than hybrid seeds. This would allow centers greater opportunities for local collaboration which is currently limited to the public sector, particularly in down stream adaptive research. It may also mean that filing for protection will become a more common feature in collaborative research between the Centers, national programs, and in future breeders in developing countries.

But even If the Uruguay Round, eventually fails on account of the current stalemate over agriculture, there are indications

that developing countries are gradually softening their stance on intellectual property protection. The Centers may therefore want to arm themselves with a policy that will allow them to operate in developing countries that adopt patent and plant breeders' rights legislation.

There are other reasons for which the Centers should adopt intellectual property management policies which will be discussed in this workshop. These include the emerging practice of advanced research institutions in industrial countries, including public research institutions, to take recourse to intellectual property protection for innovations including their improved germplasm. To maintain access to such technology and germplasm the Centers ought to define an intellectual property strategy and policy anyway.

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