12 April 2000
RAFI Geno-Types

The Spill out from CIMMYT's Revised Patent Policy

Oil on Troubled Waters...or just a Tempest in a Test-tube?

In 1980 the U.S. Supreme Court narrowly voted to allow the patenting of a living microorganism intended to soak up oil spills. The decision ushered in a new era in intellectual property. Suddenly, the products and processes – even the formulae - of life became patentable. From microorganisms, patent offices have soldiered on to grant exclusive monopolies for plants, animals, entire species, human cell lines, and even fragments of human DNA that only Computers have seen and no one has understood.

In 1980, the U.S. Patent and Trademark Office allowed about 60,000 patents. By 1999, the number of annually approved patent claims at the USPTO had more than doubled. But this doubling says more about the strains afflicting overburdened patent examiners than the real surge in the importance of intellectual property in world commerce. It took from U.S. Independence Day more than 200 years ago until December 1999 for the United States to recognize six million inventions.

At this moment, more than three million patents are pending in the USA on human genetic material alone. In the past two decades, the patent system has slid from the "better mousetrap" to the "better mouse" to the "better us"?

Given the omnipresence of the patent system then, it would have seemed hardly newsworthy when CIMMYT, the International Maize and Wheat Improvement Centre (one of the world's most influential Green Revolution institutes under the umbrella of the Consultative Group on International Agricultural Research - CGIAR) let it be known recently that it was amending its policy on intellectual property. The amended policy adopts a case-by-case evaluation that would accept patents (and other intellectual property options) where publication and other contract strategies were deemed nonviable. In a world in which there can be as many patents on a maize variety as on a 747, in a privatized environment wherein the Movers and Shakers in agricultural biotechnologies are a handful of Gene Giants, CIMMYT's decision sounded a "reality check" for all public-spirited research institutions trying to make their way in the midst of a patent pandemic.

RAFI's commentary on CIMMYT's intellectual property (IP) policy is not intended to isolate and attack CIMMYT, which is among the most honourable and transparent of all the CGIAR institutes, but rather it is an opportunity to raise broader issues that are critically important to the entire CGIAR and the future of public sector research.

"Reality Check" or just "Checking Out"? That the CIMMYT board decision was rushed to the pages of Nature (Vol. 404, 594. April 6th 2000) and,

subsequently, ricocheted around the world on Internet list-servers, is testament to the fact that no changes in public sector intellectual property policy these days is taken lightly. Most particularly, not a change at CIMMYT - an organization that has been unhesitating in its criticism of predatory patents and the patent system's threat to scientific exchange. Until the Nature report, most observers, including civil society organizations (CSOs) such as RAFI, would have characterized CIMMYT's position on patents as unreservedly hostile.

Has CIMMYT - sadly - faced up to the "inevitable"? Are CSOs advocating against CIMMYT's policy shift out of touch? CIMMYT, after all, is on the firing line. CSOs (it is often wrongly assumed by industry and scientists) pontificate principles with impunity.

CIMMYT's rationale for its distasteful policy choice is that, by selective patenting (as a last resort), it will be able to ensure that farmers in the South, and their national agricultural researchers, will have free access to CIMMYT's inventions. Preventative patenting, CIMMYT reasons, will keep unscrupulous enterprises (public or private - South or North) from capturing CIMMYT's work in corporate claims. By contracts and licenses, CIMMYT will keep the profiteers at bay while making sure that the South benefits. Although there is no intent to finance CIMMYT's own work through patent royalties (and this would be a pipe dream anyway), presumably CIMMYT will plough whatever royalties it does acquire back into an independent "pro-poor" trust. As a second matter, the cautious adoption of a few intellectual property claims may be necessary for CIMMYT to collaborate with the Gene Giants on cutting-edge biotech research needed by the world's hungry. Thus, according to CIMMYT, it is making the best of a bad situation. According to others, it is opting "to go to hell to fight the devil". Folks going into battle generally prefer higher ground!

The CIMMYT board's unanimous policy vote garnered extra attention because though the final text was not completed, the board discussed its conclusions with the media. Many observers - seeing CIMMYT negotiate with companies on patents related to apomixis technology (a means of cloning plants through seeds) and collaborate with companies on other research - thought this was CIMMYT's de facto policy already. What was new? Why now?

Distant Drummers or Bad Tuning? To outsiders, the board's timing seemed either to be unfortunate, klutzy, or - for conspiracy theorists - choreographed to the not-so-distant drums of the biotech industry. The timing wasn't in CIMMYT's best interest. This week, Ministers of Agriculture throughout Latin America and the Caribbean convene in Mexico, down the road from CIMMYT's headquarters, for the UN Food and Agriculture Organization's biennial regional conference. With a thin agenda and many farmers' organizations and Civil Society Organizations present, the CIMMYT policy will rekindle corridor controversias about CGIAR legitimacy. Then, in mid-May, the first-ever Global Forum on Agricultural Research will hold court in Dresden, Germany. As a major meeting of CSOs, governments, industry, UN agencies and the CG System, the Forum will inevitably target IP issues and the CIMMYT shift as hot topics.

The Nature news story on CIMMYT's IP policy also capped a week of industry media

hype. The week began with the biotech companies announcing a $50 million (per year) campaign to persuade North Americans that GMOs (genetically modified organisms) are good for them. The next day, Monsanto (now mutating into Pharmacia) announced that it was "donating" its working draft of the rice genome to the public sector. Everyone from CG rice scientists to their donors went orgasmic. Critics pointed out that Monsanto has little interest in rice and likened the PR move as less a "donation" than a "repatriation" that (if the CGIAR thought about it) Monsanto never should have been allowed to control in the first place. Still in the same week, the U.S. National Academy of Sciences released a report, much welcomed by industry, suggesting that GM products were safe. The report recommends pursuing techniques to decrease the potential for the escape of engineered genes into wild populations - in other words, it promotes the "Green," pro-Terminator argument to make what is "safe" (they think) even "safer". Then, along came the CIMMYT advance release of its own IP policy clarification. While not marching to the beat of the industry drummer, the rhythm was painfully well-tuned, if not well-timed.

Wrong Choice: Whatever the timing - and disregarding the conspiracy theories, we strongly disagree with the decision while welcoming the opportunity to address the issues raised by it. First, CIMMYT's goal will not be achieved through this policy. Second, it will find itself propelled to the front of a parade of CG institutes, shielded by its prestige, pushing it in a direction that won't take it where it wants to go. Third, there are two other broad strategies CIMMYT could and should pursue to achieve its goal.

Once patents are obtained, CIMMYT's policy will be politically-painful to review and harder still to reverse. Once personnel rotate off boards and staff change, the temptation to use patents as bargaining chips with the Gene Giants; to pursue strategic profit opportunities that stray from CIMMYT's research mission; to form alliances with industry that blur priorities and principles; will increase and become irresistible in a donor environment where CG Centres are in danger of becoming as malnourished as those they propose to feed. Other CG Centers such as the International Livestock Research Institute (ILRI) in Kenya or ICARDA, the International Centre for Agricultural Research in Dry Areas, in Syria, may well grasp the policy space opened with CIMMYT's decision and adopt the same policy without the same principles.

No Capacity: How will CIMMYT defend its patents? Patents are a private affair. Civil law. The average cost of a patent litigation, per litigant, runs to well over a quarter of a million dollars. Will CIMMYT take from its research budget for the uncertain prospect of battling patent violations in Washington, Munich, and Tokyo? Will donors allow their foreign aid Money to be used to feed lawyers?

In practical terms, will CIMMYT even know if its patents are being compromised? More than once in recent years, RAFI has had to notify CIMMYT that intellectual property claims violated its Trust Agreement with FAO. Once informed, CIMMYT (unlike some CG Centers) has acted promptly and appropriately but it has no capacity to monitor its existing agreements much less take aboard the burden of patent infringements. Will it now invest scarce resources in new monitoring mechanisms to police its intellectual property? If not, why bother? Corporations routinely circumvent or encompass the patents of others

with tactics difficult to discern and harder to defend against. CIMMYT Could find itself ensconced upon a pile of patents submarined by wider claims they were completely unaware of. Why spend thousands of dollars acquiring patents that can't be protected?

Defence or Offense? Is CIMMYT's IP policy move designed to defend the South against the wiles of the Multinationals or is it, as well, an offensive move to position the Centre to bargain more effectively with the companies? Is the issue piracy or opportunity? The opportunity argument says that Centres need access to patented technologies held by major public and private research institutes (mostly - but not solely - in the North). Unless Centres can enter into IP licensing arrangements, they won't have access to the technologies. This shouldn't be a problem. If you need it you pay for it. But, the logical continuation of the argument is that some of the corporate connections will not merely be contractual but also collaborative. In collaboration, the Gene Giants will want to be sure that the knowledge generated is proprietary. While they may (or may not) be willing to allow CG Centres to give the information away in the South, they will certainly want to sell the information in the North. Hence, CIMMYT needs to be able to enter into patent agreements.

This, however, is not where the "logical extensions" come to an end. Effective collaboration means effective bargaining power. CIMMYT has to have goods to trade. Different enterprises will have markedly different views on what is "South" and who is a "small farmer". For Latin American agriculture ministres meeting this week, the question is: are Mexico, Brazil, Chile, Argentina and Uruguay - and their small farmers - in the "South"? When CIP (the International Potato Centre in Peru) entered into collaboration with Belgium's Plant Genetic Systems (PGS), both parties accepted an appended list of countries that would have free license to use the resulting technologies. When PGS was gobbled up by AgrEvo several mergers back, India was unilaterally cut from the approved list by the new owners.

The CGIAR has never been much for confrontation. Its ability to monitor, lobby, or litigate is legendarily feeble. CIAT, the International Centre for Tropical Agriculture in Colombia, has yet to properly confront those who have abused its trust and its accord with FAO. In Nigeria, the International Institute for Tropical Agriculture (IITA) has steadfastly avoided its commitments to FAO.

Unlike some other Centers, CIMMYT has demonstrated more courage and more bargaining power. It has high-caliber biotech expertise and it has one of the world's most important storehouses for maize and wheat germplasm - two of the world's most important crops. Of equal commercial significance, CIMMYT has an arduously developed cache with South governments that allows it to conduct field research and other experiments in many countries. Any collaboration with CIMMYT unavoidably bestows some of its Good Will - a much-prized commercial tool on any corporate partner wishing to do biotech research or develop markets in the South.

Although there are sound reasons to worry whether or not such collaborations could violate the FAO Trust Agreement - or that the basis under which farmers donated their germplasm

to CIMMYT could be distorted or destroyed - given the current leadership at CIMMYT this is less a danger than that company collaborators will abuse the Centre's good name and ready access to the South's policymakers. (Under the terms of the 1994 Trust agreement between CGIAR institutes and FAO, "in trust" germplasm is maintained in the public domain and is not allowed to be included in any intellectual property claim.)

CIMMYT's policy move raises one of the most enduring issues surrounding the CGIAR. Does CIMMYT have the right to take this risk? Says who? CIMMYT's policy adjustment once again raises the issue of who governs the CGIAR. With a governance structure that would set any Gene Giant a-giggling, the CG Centres need to sort out who they are and to whom they answer before they gamble with the resources others have shared with them. This is also a question for Latin American agriculture ministers this week and for the Global Forum in Dresden in May.

Real Alternatives: What were the alternatives? They are of two kinds. First, CIMMYT can utilize two legal mechanisms - either or both as the situation requires. In the world's premiere patent office, the USA, it could obtain "non-patent patents" which legally entrench the invention in the public domain so that patent examiners and applicants must take its claims into account when considering new claims. Less aggressively, CIMMYT can simply publish its research and work with other public institutes to make sure that the option of "prior publication" is effective. This, theoretically, prohibits others from making patent claims on the same information. It is true, of course, that dishonest claimants try to circumvent this. Just as they do with patents.

The important difference is that it costs nothing to publish while it costs considerable to patent. CIMMYT, if it wishes, can as readily challenge a patent based upon its published research as it can if it has paid for its own patent. The other difference is that, by publication, CIMMYT is not participating in the system it insists it despises. It is "fighting the devil" from higher ground. If the publication option needs strengthening, then work with other public institutes to have it strengthened.

But, CIMMYT's best weapon against predatory patenters is the one that has already worked for it. Publicity. The Australian States of Queensland and Western Australia, a number of U.S. Universities, the U.S. government, and others, have dropped intellectual property claims in recent years because their abuse of the system simply got too obvious and too embarrassing. There were no legal fees. No courts. All that is needed is the guts to cry foul, maybe a news release or two, and some phone calls and (on rare occasions) plane tickets to take the issue to the country where the wrongful claims are being made. If CIMMYT is not prepared to aggressively and publicly fight abuses this way; it certainly won't win in court.

This is not merely a strategy to fend off fly-by-night biopirates. Aided by CSO's, the CGIAR, FAO, the Rockefeller Foundation, and numerous governments have used publicity to great effect in fighting Terminator Technology. The war is very far from over, but the first battles against a whole technology have been won by the little guys.

Call for Codes: There is a second policy front that CIMMYT and other public institutes should explore. In 1980, when RAFI was fighting patents and plant breeders' rights, there were about 7,000 public and private seed enterprises that we had to monitor. False or usurious claims could come from almost any quarter. While many of these enterprises still survive, the control of agricultural biotechnology rests with a handful of commercial companies. These few companies are relatively easy to monitor and they are universally anxious to avoid a bad rep for patent piracy. Similarly, as publicly funded research crumbles away around us, the number of public enterprises that need to be watched - or partnered with - is also diminishing. More importantly, most of them are tied to governments that are members of the CGIAR. By and large, they can be made to behave.

Rather than opt for the one policy choice that puts CIMMYT in combinations with the Gene Giants, CIMMYT and CGIAR should be forging new public sector alliances or even "trade unions" that establish norms of conduct and collaboration that predators would be loath to transgress. The Rockefeller Foundation, among others, has been talking about dialogues related to intellectual property that could still create such Codes or Trade Union Movements. Such options should be explored and their possibilities exhausted before setting on a course so injurious. CIMMYT is grappling with real problems needing real solutions. Unimaginatively, it has chosen the well-trod path of intellectual property that has led nowhere (but down) for public scientists. Did the board seriously consider other options? Were studies commissioned? Was board time devoted to a thorough evaluation of choices like those suggested here? We think not.

The CIMMYT policy was struck by a well intentioned and well informed board. It is nevertheless the wrong decision. Too narrow, too shortsighted, and Licking in intellectual innovation. RAFI nevertheless is convinced that the need for dialogue and honest discourse is greater now than ever before and we will work with CIMMYT, the CGIAR, and others to evolve better choices. In 1980, some in the environmental movement reluctantly endorsed the patenting of the gas-guzzling microbe that opened the way to the patenting of all life. The microorganism never worked. Environmentalists are still cleaning up oil spills. But that first fateful patent could still be in force. And the force of that wrong decision remains with us for the rest of our lives.

RAFI, the Rural Advancement Foundation International, is an International civil society organization headquartered in Canada. RAFI is dedicated to the conservation and sustainable use of biodiversity, and to the socially responsible development of technologies useful to rural societies. RAFI is concerned about the loss of agricultural biodiversity, and the impact of intellectual property on farmers and food security.