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## **TRIPS Traps for Small Farmers** **The Impact of Intellectual Property Rights on Sustainable Food** **Security and Farm Families Remains to be Felt**

**BACKGROUND:** In February 1999, when the patent offices of 16 francophone West African states (OAPI – L'Organisation africaine pour la propriété intellectuelle) agreed to join a Geneva-based intergovernmental convention that would provide intellectual property "protection" for plant varieties, they were convinced they were helping farmers into the high-tech agricultural world of the 21st Century, and they assumed they were also meeting their international treaty obligations under the World Trade Organization (WTO).

**FUROR IN AFRICA:** The rest of Africa disagreed. Before the ink was dry on the OAPI agreement, African delegates to a UN Biodiversity Convention session in Colombia whipped off a fax to their patent people asking them to hold off. Simultaneously, a number of Civil Society Organizations, including RAFI, warned that the OAPI decision could imperil the food security of the more than 20 million subsistence farmers in francophone West Africa. By the time the 16 patent representatives made it home to their capitals, the 62 member Organization of African Unity (OAU) was heavy into damage control - pointing out that the move contravened a Heads of Government decision of January, 1998 that had determined to create an Africa-wide strategy for plant varieties that would merge the interests of plant breeders with the region's political commitment to Farmers' Rights. Even OAPI's anglophone counterpart - the 14 member countries of the African Regional Industrial Property Organization (ARIPO) announced, preemptively, that its Harare meeting in March would stand by the OAU position and not endorse any specific intellectual property regime for plants. Meanwhile, African governments and Civil Society Organizations were asking OAPI country parliaments not to ratify the decision reached by patent

bureaucrats. The OAU would have something more to say about the renegade initiative when leaders gathered in Algiers July 8-14.

**WHY THE FUSS?** At the centre of the storm stands the Union for the Protection of New Varieties of Plants (UPOV) an intergovernmental convention managed by the UN World Intellectual Property Organization (WIPO). In 1991, the European-led UPOV created a harsh new convention covering plant varieties that makes it illegal for farmers to save seed and shifts the burden of proof for intellectual property violations from the complainant to the accused. Although there are mechanisms by which individual governments can continue to permit farmers to save their seeds, it remains to be seen whether the OAPI countries will legislate this option. Around the world, 1.4 billion poor people depend on farmer-saved for their food security. It was direct pressure from UPOV that forced francophone states to adopt their controversial decision.

The acrimonious debate underway in Africa has parallels in Asia and Latin America. Throughout

the South, signatory states to the GATT Uruguay Round (adopted in 1994) are under pressure to comply with Article 27(3)b of the WTO's TRIPS chapter sometime between now and 2006 depending on their economic status. According to the WTO, "compliance" means implementing and enforcing legislation that grants intellectual property rights to plant breeders over plant varieties they develop. The form of intellectual property protection, however, is far from clear. The WTO requires that the protection be "effective" and that it be either a "patent" (implying a reasonably specific and very tough form of industrial property historically meant more for tractors rather than for living plants) or a "sui generis" (uniquely designed) protection. In Geneva, UPOV officials are eagerly pointing the finger at their 1991 Convention, insisting that it meets the WTO's standards. However, in the absence of litigation and arbitration, no one really knows what might be acceptable as "sui generis" legislation. Neither is anyone certain as to whether their country will be forced to comply with the WTO now, or if they can delay compliance until 2006. To top off the confusion, the signatories to the trade treaty agreed to conduct a review of TRIPS Article 27(3)b in 1999. Given that such a review could significantly alter governments' obligations and legislative timetables, many states are reluctant to commit themselves to plant monopoly laws they might otherwise be able to avoid. Indeed, the indications coming from the WTO's intergovernmental TRIPS Council are that all parties are reluctant to go ahead with the scheduled review for a variety of contradictory reasons. Andrew Mushita of COMMUTECH in Zimbabwe, a veteran of patent negotiations says, "We seem to be debating intellectual property without any intellectual thinking. Nothing is clear and no one seems able to offer clarity." Two oceans away in the Philippines, Neth Dano of SEARICE agrees. "The only thing that makes sense, she suggests, "is not to adopt laws that may be inappropriate until the rules of the game become clear." SEARICE, the Southeast Asian Regional Institute for Community Education in Manila, is working with ASEAN Governments to sort out their options.

WHERE ARE THE BENEFITS? What are the benefits for poor farmers and for food security? Despite all the fuss, no one can give a clear answer to this question. UPOV's Convention and plant patents have a very short and limited history in the South. Where there is a track record, in a country such as South Africa for example, its apartheid history and the domination of by just two companies so distort the market as to render it useless as a comparison for other developing countries. In the North, where some countries have had what is usually called "Plant Breeders' Rights" for decades, the lack of data is one of the greatest causes of alarm. "Europe and the USA have had intellectual property for plant varieties for half a century," argues Camila Montecinos of Chile's Centro de Educacion y Tecnologia (CET), "and the seed companies still can't prove that the legislation is beneficial."

RAFI is just completing the third in a trilogy of empirical studies of the three U.S. intellectual property laws that relate to plants. The oldest, passed in 1930, covers asexually propagated fruits and ornamentals. Despite almost seventy years of data, the survey shows: (1) that unlike the claims of the legislation's original backers, plant breeding in new or minor species has not increased substantially (and, in fact, has been declining in recent decades); (2) that the number of breeders has not even kept pace with U.S. population or crop acreage trends and; (3) that there is growing concentration in the hands of fewer and fewer companies. RAFI also examined U.S.

plant patents under that country's industrial patent regime. Plant patents of this kind in the USA have only been permitted since the mid-eighties but RAFI could see no indication of beneficial increases in the numbers of breeders, species bred, or research investment.

RAFI's latest study of the U.S. Plant Variety Protection Act of 1970 has identified tremendous concentration in ownership of the 9,000 plant varieties that have been monopolized. The top dozen corporations rule the roost for all the major crop species. Almost all the research investment has focused on soybeans, cotton, wheat, maize, and barley - where, in every case, fewer than half a dozen firms dominate the claims. As with the other two forms of U.S. legislation, there is no evidence of sustained new breeding activity or of real diversification into other species as a result of intellectual property rights. The scattered evidence from European countries (specifically the UK, Germany, and The Netherlands) suggests a similar track record. Indeed, there has been increased plant breeding over the past half century, but the reasons for this have nothing to do with the opportunity for intellectual property. They have everything to do with world population growth, the expansion of agricultural lands, the strong base of germplasm support from public breeding initiatives such as the Consultative Group on International Agricultural Research (CGIAR), and the advent of jumbo jet aircraft and laptop computers that allow breeding enterprises to conduct their breeding work year-round (moving from the Tropic of Cancer to the Tropic of Capricorn with the growing seasons) and manage a vastly greater number of breeding experiments simultaneously. On this basis, corporate breeders should surrender their patents to Boeing, Apple, and the CGIAR.

If granting monopoly protection over seeds - the first link in the food chain, can't be proven unequivocally to be beneficial to industrialized countries, why on earth would the South want to adopt any of these models? Why would the OAPI states not protect their national food security and delay legislation until the results are in from the TRIPS Review (if it ever happens)? Why would the South not explore Farmers' Rights and other forms of "sui generis" legislation not dictated by UPOV or the WTO?

What is clear from the U.S. experience is that agricultural input costs have risen more than 85% in the past decade. It is also clear that a handful of multinational Gene Giants have almost total control over both seeds and chemicals. Indeed, the Gene Giants who, in 1998, shared the entire genetically modified food crop among only four corporations, expect to control well over 80% of the global seed market and almost 100% of the pesticides market within another ten years.

**FIGHTING PATENTED BIOPIRACY:** Some patent offices in Africa have been offended by the many predatory patent claims made on their plants and animals by foreign enterprises. The University of Toledo (USA), for example, has two patents on an endod (soapberry) compound bred and nurtured by Ethiopian women and further developed by Ethiopian scientists to control schistosomiasis or snail-fever - a debilitating disease in much of Africa. More recently, ForBio Company of Australia, together with the University of Hawaii has claimed a zero-caffeine coffee tree whose critical genes came from the island of Reunion where the quality was long known by local people. Vital compounds from a medicinal plant in Madagascar, the Rosy Periwinkle, were patented by a U.S. pharmaceutical company and are now making it hundreds of millions of dollars each year in sales as cancer drugs. University researchers from Australia obtained a rare and drought-hardy breed of cattle from Zimbabwe early in this decade and now the Tuli breed is

being incorporated into the tropical livestock herd of Australia and has also been marketed to the USA and Canada. A well-known and well-protected rice species that serves as a "famine food" and is seen commonly in West African markets was collected in Mali and sent for study to the International Rice Research Institute in the Philippines. IRRI identified an important disease resistance trait in the West African rice but allowed visiting scientists from the University of California (at Davis) to patent the gene in the USA. The American university has offered scholarships to West African researchers as a form of recognition of Africa's contribution. West African farmers might well consider offering training to U.S. scientists instead. OAPI member states have also donated brazzein, a super-sweet protein isolated from the berry of a plant from Gabon, where its qualities are well known to local people. The University of Wisconsin has received four patents on brazzein, which they have licensed to US biotech companies who are now genetically engineering corn to produce the protein, with a potential market for the super-sweet sweetener of \$1.4 billion worldwide, which Gabon will never see. OAPI has the pleasure of knowing it will contribute to obesity in the United States.

The patented biopiracy of Africa's innovations and resources is becoming endless. An Idaho researcher has claimed a variety of Ethiopian teff, which he is now selling to restaurants in North America. A California scientist who crossed a cowpea in Kenya while working for the International Institute for Tropical Agriculture in Nigeria has claimed "Kunde Zulu" for marketing in the United States. Commercially important forage species have been plucked from farmers' fields from Morocco and Libya to South Africa and Tanzania and placed under Plant Breeders' Rights claims in Australia or New Zealand.

Will joining UPOV's 1991 Convention allow African states to reclaim their rights? Not at all. In every case cited above, African countries have as much right and opportunity to challenge false intellectual property claims outside of UPOV as they do inside UPOV. There are no mechanisms within UPOV to make such challenges. Worse still, though each of the examples of biopiracy has been made known to the governments concerned - and many have expressed anger and indignation - not one has taken the biopirate to court. Unless and until OAPI states show that they are willing to fight for their rights, there is no reason whatsoever to believe they will improve their bargaining position by surrendering to European-biased intellectual property regimes.