

## Biodiversity, Intellectual Property Rights, and Globalization

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Biodiversity, the diversity of life forms—plants, animals, microbes—is the ecological basis of life. It is also the “natural capital” of the two-thirds of humanity that depends on biodiversity as its means of production—in farming, fisheries, healthcare, and crafts. This survival base of the poor is now being viewed as “raw material” for global business and industry, both because the older chemical technologies in agriculture and in health are failing and because continued capital accumulation is driving the launching of new technologies, like biotechnology, for enlarged control over markets and resources.

The manufacture of Sevin at the Union Carbide Plant in Bhopal led to the Bhopal gas leak disaster, which killed thousands and has disabled more than 400,000 people. Meanwhile, in recognition of the ecological failure of the chemical route to pest control, the use of plant-based pesticides is becoming popular in the industrialized world. Corporations that have promoted the use of chemicals are now looking for biological options. In the search for new markets and control over the biodiversity base for the production of biopesticides and chemicals, multinational corporations (MNCs) are claiming intellectual property rights (IPRs) on *neem*-based biopesticides.

This experience with agrochemicals is replicated in the field of drugs and medicines as well. Ironically, as a result of increasing public awareness of the side effects of hazardous drugs and the rise of strains resistant to antibiotics, the Western pharmaceutical industry is increasingly turning to the plant-based system of Indian and Chinese medicine. Indigenous medical systems are based on over 7000 species of medicinal plants and on 15,000 medicines of herbal formulations in different systems. The Ayurvedic texts refer to 1400 plants, Unani texts to 342, and the Siddha system to 328. Homoeopathy uses 570 plants, of which approximately 100 are Indian. The economic value of medicinal plants to 100 million rural households is immeasurable.

While biodiversity and indigenous systems of knowledge meet the needs of millions of people, new systems of patents and intellectual property rights are threatening to appropriate these vital resources and knowledge systems from the Third World and to convert them into the monopoly of northern corporate interests. Patents are therefore at the heart of the new colonialism.

### PATENTS, TRIPS, AND THE SECOND COMING OF COLUMBUS

“Patents” originally referred to “letters patent” (a literal translation of the Latin *litterae patentes*). *Litterae patentes* began to be issued in Europe in the sixth century. The adjective “patent” means open and originally patents referred to the “letters patent,” or “open letters” that were the official documents by which certain privileges, rights, ranks, or titles were conferred by sovereign rulers. They were “open” because they were publicly announced and had a seal of the sovereign grantor on the inside rather than on the outside. Charters and letters that were given by European monarchs to discover and conquer foreign lands on their behalf were referred to as “letters patent.”

Patents have, through history, been associated with colonization. At the beginning of the colonization of the world by Europe, they were aimed at the conquest of territory; now they are aimed at the conquest of economies. The first such charter was granted on 17 April 1492 by Queen Isabel of Castille and King Ferdinand of Aragon to Christopher Columbus. As Djelal Kadir has stated, this charter was “The literal prototype, the paradigm and locus classicus of its genre. Columbus we might say, holds the patent on new world patents and licenses to conquer.” The charter was finalized on 30 April at Santa Fé de la Vega, and was countersigned by Juan de Coloma, the State Secretary of Aragon, who had, a few days earlier, signed the order for the expulsion of the Jews from Spain. This included his own mother.

Letters, patents and charters created property rights to conquered lands. The most frequent phrase in Columbus’s charter, the *Capitulaciones de Santa Fé*, was the dual verb “to discover and conquer.” It was used seven times to assert the right to all “islands and mainlands” before their discovery. Five hundred years after Columbus, a more secular version of the same project of colonization continues through patents and intellectual property rights. The Trade Related Intellectual Property Rights (TRIPs) agreement of the WTO is a new version of the old patent charters and the Papal Bull. The freedom that TNCs are claiming through TRIPs is the same freedom that European colonies have claimed since 1942 as their natural right to the territories and wealth of non-European peoples. These patents for discovery and conquest provide the background for the contemporary conflicts over patents generated by GATT/WTO, which are often viewed by the Third World as

tools of recolonization, while Western powers view them as a right that is as "natural" as conquest was during colonialism by western powers.

There are of course differences in yesterday's colonization and today's recolonization. Religion is not the ultimate justification for today's conquest. Recolonization is a "secular" project, but there is a new religion of the market that drives this so-called secular project. Territory, gold and minerals are no longer the objects of conquest. Markets and economic systems are what have to be controlled. Knowledge itself has to be converted into property, just as land was during colonization. This is why today "patents" have been covered by the broader label of "intellectual property," or property of the "products of the mind." Just as land was claimed to have been "discovered" and was treated as "*Terra Nullius*," or "Empty Land," because it was not inhabited by white Europeans, in spite of its being inhabited by indigenous people, knowledge that is claimed to have been "invented" and hence able to be "patented" and converted into "intellectual property" is often a pre-existing innovation in indigenous knowledge systems.

The claim to invention, like the claim to discovery in the patent charters of colonial conquest, is the justification for the takeover of market systems and economic systems through globalized patent regimes. The cloak of reward to inventiveness hides the real object—the control over the global economy. This secular conquest of diverse knowledge systems and economies is at the heart of the intense conflicts and controversies on patents.

Through patents and genetic engineering, new colonies are being carved out. The land, the forests, the rivers, the oceans, and the atmosphere have all been colonized, eroded, and polluted. Capital now has to look for new colonies to invade and exploit for its further accumulation. These new colonies are, in my view, the interior spaces of the bodies of women, plants, and animals. Resistance to biopiracy is a resistance to the ultimate colonization of life itself—of the future of evolution as well as the future of non-western traditions of relating to and knowing nature. It is a struggle to protect the freedom of diverse species to evolve. It is a struggle to conserve both cultural and animal diversity.

In this new colonization through patents, land has been replaced by life, the church has been replaced by the WTO, and the merchant adventurers like Columbus, Sir John Cabot, Sir Humphrey Gilbert, and Sir Walter Raleigh have been replaced by transnational corporations. In fact, the TRIPs agreement was drafted and introduced in the Uruguay Round of GATT by an industry coalition, the Intellectual Property Committee (IPC).

James Enyart of Monsanto, commenting on the IPC strategy, states:

Since no existing trade group or association really filled the bill, we had to create one [ . . . ]. Once created, the first task of the IPC was to repeat the

missionary work we did in the US in the early days, this time with the industrial associations of Europe and Japan to convince them that a code was possible [ . . . ]. We consulted many interest groups during the whole process. It was not an easy task but our Trilateral Group was able to distill from the laws of the more advanced countries the fundamental principles for protecting all forms of intellectual property [ . . . ]. Besides selling our concepts at home, we went to Geneva where [we] presented [our] document to the staff at the GATT Secretariat. We also took the opportunity to present it to the Geneva based representatives of a large number of countries [ . . . ]. What I have described to you is absolutely unprecedented in GATT. Industry has identified a major problem for international trade. It crafted a solution, reduced it to a concrete proposal and sold it to our own and other governments [ . . . ]. The industries and traders of world commerce have played simultaneously the role of patients, the diagnosticians and the prescribing physicians (Enyart, 1990).

#### BIOPIRACY: COLONIALISM IN AN AGE OF BIOLOGY

Biopiracy is the patenting of biodiversity, its parts and products derived from it on the basis of indigenous knowledge. Patents are a right to exclude others from making, using, offering for sale, selling, or importing the patented product or products made from the patented process. Patents based on biopiracy therefore do not merely negate the collective, cumulative innovations and creativity of Third World societies, they become an instrument of enclosure of the intellectual and biological commons that make survival possible. If biopiracy is not challenged and stopped, Third World communities will have to buy their seeds and medicines at high costs from the global biotechnology and pharmaceutical giants, pushing them further into debt and poverty. The globalization of the seed industry and the spread of non-renewable hybrid seeds have already pushed thousands of Indian farmers to suicide (Shiva *et al.*, 2000).

TRIPs globalizes the IPR regimes of Western industrialized societies and introduces patents and IPRs on seeds and plants, animals and microbes. Prior to the Uruguay Round, IPRs were not covered by GATT. Each country had its own national IPR laws to suit its ethical and socioeconomic conditions. The most significant change in IPRs through TRIPs was the expansion of the domain of the subject matter that is patentable. Article 27.1 of TRIPs on Patentable Subject Matter states that patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step, and are capable of industrial application.

The removal of all limits on patentability was a demand of the MNCs.

This undoes the exclusion in India's patent law, for example, which did not grant patents for food and medicine and allowed only process patents for medicine. The build-up of indigenous capacity, the self-reliance in medicine, the ability to control prices and keep them low, which had been made possible by the 1970 act, are all seen by MNCs as sources of profit loss.

TRIPs has also expanded the scope of patentability to cover life forms. Article 27.53(b) of the TRIPs agreement of the WTO refers to the patenting of life. This article enables the piracy of indigenous knowledge, while the same interests that see process innovation as involving no inventiveness attempt to claim patents on nature's processes and on indigenous knowledge as invention. The article states that

Parties may exclude from patentability plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and micro-biological processes. However, parties shall provide for the protection of plant varieties either by patents or by an effective *sui generis* system or by any combination thereof. This provision shall be reviewed four years after the entry into force of the Agreement.

This article forces countries to change patent laws in order to introduce patents for life forms and introduce plant variety legislation. The first part of the article addresses the patenting of life. On first reading, it appears that the article is about the exclusion of plants and animals from patentability. However, the words "other than micro-organisms" and plants and animals produced by "non-biological" and "micro-biological" processes make patenting of micro-organisms and genetically engineered plants and animals compulsory. Since micro-organisms are living organisms, making their patenting compulsory is the beginning of a journey down what has been called the slippery slope that leads to the patenting of all life.

The movement against biopiracy and against TRIPs has emerged as one of the core components of the anti-globalization struggle. It includes the movements of indigenous communities, movements of farmers, women's movements, health movements, and ecology movements. It is also among the few areas in which Third World states have resisted the hegemony of the North and made the review of TRIPs one of the most significant arenas of North-South conflicts.

Biopiracy and TRIPs have also pitted the WTO against other international agreements such as the Convention on Biological Diversity (CBD) and the International Undertaking on Plant Genetic Resources of the Food and Agriculture Organization. The Convention on Biological Diversity (CBD) is the international treaty that was signed at the first Earth Summit in Rio de

Janeiro, in 1992. Almost 200 countries are party to the CBD, although seven countries, including the US, have not yet ratified it. The TRIPs agreement, which has expanded patents to cover life forms, undermines the potential and promises of the Convention on Biological Diversity. Since individual countries that are members of both treaties have to implement both of them, the conflicts between CBD and TRIPs has serious problems for implementation.

#### TRIPs, PATENTS ON PLANTS, AND SEEDS AND FARMERS' RIGHTS

The entire structure of the patenting of seeds and plants in the US and in TRIPs is based on an arbitrary decision of the US Patent and Trademark Office in the *Hibberd* case in 1985. Prior to this 1985 decision, beginning in 1930, the US Congress had granted carefully crafted intellectual property protection for plants. But these laws included important exemptions for farmers and researchers.

The 1985 decision redefined plants as machines and other manufactures and since then thousands of patents on plants have been given in the US. The US has also pressured the rest of the world into implementing plant patents through TRIPs. The US IPR orthodoxy is based on the fallacious idea that people do not innovate or generate knowledge unless they can derive private profit. However, greed is not a "fundamental act of human nature" but a dominant tendency in societies that reward it. In the area of seeds and plant genetic resources, the innovation of both "formal" and "informal" systems has so far been guided by the larger human good.

#### THE UPOV CONVENTION, BREEDERS' RIGHTS, AND FARMERS' RIGHTS

The existing international agreement that covers plant breeders' rights is the International Convention for the Protection of New Varieties of Plants—the UPOV Convention. The UPOV Convention was adopted initially by five European countries, and membership was restricted to European countries until 1986. At that time the Convention was revised and membership opened to all countries. UPOV was signed in 1961 and came into force in 1968. Earlier, the applied version of this Convention was UPOV 1978. Then, a revised version, UPOV 1991, was negotiated, and it has since come into effect.

UPOV currently has twenty member states, including most EU countries, several European countries, Japan, the US, and some others. It has no developing country members. It has, therefore, evolved as legislation suitable

to the socioeconomic context of industrialized countries where farmers do not form a large part of the population and do not have any control over plant breeding or seed supply. This situation is very different from contexts like ours in India, where the majority of the population continues to be engaged in farming and where farmers' seed production and supply system is still the main source of seed.

The objective of UPOV is to grant certain exclusive rights to plant breeders who develop new varieties of plants. Normally, farmers provide the source material to the breeders for the development of new varieties. They are also the users of the new varieties developed by the breeders. There is a need for a balance between breeders' rights and what has been called the farmer's privilege.

However, the UPOV Convention is rigid, requiring that members adopt its standards and scope of protection as national law. It has resulted in a high degree of standardization and goes against the reality of biological diversity and the socioeconomic diversity of different countries. It is therefore inappropriate as a *sui generis* system evolved to protect plants, people, and creativity in diverse realities.

The standardization is built into the manner in which plant varieties are defined. To be eligible for protection, a variety must be:

*New*—the variety must not have been exploited commercially.

*Distinct*—it must be clearly distinguishable from all other varieties known at the date of the application for protection.

*Uniform*—all plants of that particular variety must be sufficiently uniform in order to allow it to be distinguished from other varieties, taking into account the method of reproduction of the species.

*Stable*—it must be possible for the variety to be reproduced unchanged.

This definition by its very nature rules out farmers' varieties and destroys biodiversity while producing uniformity as a necessity. The reward under such a system of Plant Breeders' Rights (PBR) does not go towards breeding to maintain and enhance diversity and sustainability, but towards the destruction of biodiversity and the creation of a uniform and hence ecologically vulnerable agricultural system. Therefore, PBR legislation, like UPOV, is inherently incapable of protecting farmers' rights arising from the role of farmers as breeders who innovate and produce diverse farmers' varieties, which forms the basis for all other breeding systems.

Movements for farmers' rights have been based on the inalienable right of

farmers to save and exchange seed freely and the recognition of farmers' breeding. In India, the farmers' rights movement has taken the shape of the *Bija Satyagraha*. This massive movement—the Seed *Satyagraha*—has emerged over the past few years in response to the threats of recolonization through GATT, especially its intellectual property rights clauses. According to Gandhi, no tyranny can enslave a people who consider it immoral to obey laws that are unjust. As he stated in *Hind Swaraj*: "As long as the superstition that people should obey unjust laws exists, so long will slavery exist. And a passive resister alone can remove such a superstition."

*Satyagraha* is the key to self-rule, or *swaraj*. The phrase that echoed most during India's freedom movement was "*Swaraj hamara janmasidh adhikar hai*" ("self-rule is our birthright"). For self-rule did not imply governance by a centralized state but by decentralized communities. "*Nate ne raj*" ("our rule in our village") is one slogan from India's grassroots environmental movement.

At a massive rally in Delhi in March 1993, a charter of farmers' rights was developed. One of the rights is local sovereignty. Local resources have to be managed on the principle of local sovereignty, wherein the natural resources of the village belong to that village. A farmer's right to produce, exchange, modify, and sell seed is also an expression of *swaraj*. Farmers' movements in India have declared they will violate the GATT treaty, if it is implemented, since it violates their birthright. The positive assertion of local control over local resources has emerged as the Jaiv Panchayat (Living Democracy) Movement.

The biodiversity movements are as diverse as the cultures and domains from which they emerge. However, beyond diversity and pluralism, two major strands can be observed. One strand is committed to challenging the commodification of life intrinsic to TRIPs and WTO and the erosion of cultural and biological diversity intrinsic to biopiracy. In this strand of the biodiversity movement, resistance to biopiracy is a resistance to the ultimate colonization of life itself—of the future of evolution as well as of the future of non-Western traditions of relating to and knowing nature. It is a struggle to protect the freedom of diverse species to evolve. It is a struggle to protect the freedom of diverse cultures to evolve. It is a struggle to conserve both cultural and biological diversity. The biodiversity movement is therefore a struggle over worldviews.

The second strand is more technocratic and seeks amelioration within the commercial and legal logic that seeks to rule the commoditization of life and monopolies on knowledge. The code words for this strand are "bio-prospecting" and "benefit-sharing."

A common proposal offered as a solution to biopiracy is that of bio-prospecting and benefit-sharing, i.e., those who claim patents on indigenous

knowledge should share benefits from the profits of their commercial monopolies with the original innovators. Bio-prospecting is being promoted as the model for relationships between corporations that commercialize indigenous knowledge and indigenous communities that have collectively innovated and evolved the knowledge.

However, bio-prospecting is merely a sophisticated form of biopiracy. There are two basic problems with this model. First, if knowledge already exists, a patent based on it is totally unjustified since it violates the principles of novelty and non-obviousness. Granting patents for indigenous knowledge amounts to stating that the patent system is about power and control, not inventiveness and novelty. Second, the appropriation of indigenous knowledge vital for food and medicine, its conversion into an exclusive right through patents, and the establishment of an economic system in which people have to buy what they had produced for themselves is a system that denies benefits and creates impoverishment; it is not a process that promotes "benefit-sharing." It is the equivalent of stealing a loaf of bread and then sharing the crumbs.

#### THE VICTORY OF THE NEEM TREE

On 10 May 2000, the anniversary of the launching of the first Indian movement for independence, a major milestone was crossed in the contemporary movement for freedom from biocolonialism and biopiracy. The European Patent Office (EPO) struck down Patent No. 0436257 B1, jointly held by the US Government and the multinational W. R. Grace, finding that it was based on the pirating of existing knowledge and was lacking in novelty and inventiveness.

The patent had been filed by the USDA and W. R. Grace on 12 December 1990. On 14 September 1994, the European Patent Office granted a patent for "A method for controlling fungi on plants comprising contacting the fungi with a *neem* oil formulation containing 0.1 to 10 of a hydrophobic extracted *neem* oil which is substantially free of azadirachtin, 0.005 to 50% of emulsifying surfactant, and 0 to 99% water."

A patent challenge was filed on 5 June 1995 by me, as Director of the Research Foundation for Science, Technology and Ecology, along with Linda Bullard, President of the International Federation of Organic Agriculture Movements, and Magda Alvoet, currently Health and Environment Minister of Belgium. We filed a legal opposition because the use of *neem* extracts for fungicide and pesticide has been practiced for centuries and investigated scientifically and commercially for decades prior to the claim to invention in the USDA-Grace patent. Over five years, we brought every possible piece of evidence to bear on the case through affidavits from farmers

and scientists, including Dr. Vijayalakshmi, Dr. Jyotsna, Dr. Phadke, and Dr. U. P. Singh. We also took Dr. Phadke and Dr. U.P. Singh as expert witnesses for the oral hearing on 9 and 10 March of 2000. Two days of very detailed cross-examination proved beyond any doubt to the Opposition Division bench chaired by Mr. D. Tzschoppe, and with Mr. A. Schmid and Dr. Rakshanda Faizi, that the patent was based on pirated knowledge. On the afternoon of May 10, Mr. Tzschoppe ruled that the "Patent is revoked."

The USDA and Grace attorneys tried every argument under the sun to dismiss the case and block the proceedings, including procedural arguments that as an Indian I could not bring a case to the EPO and that the Research Foundation had not separately paid a \$2000 fee. However, our excellent lawyer, Dr. Dolder, who teaches IPR law at the University of Basel in Switzerland, pointed out to the bench that USDA and Grace were not European entities either, and had also not separately paid patent fees for their joint claim. In any case, the part of Indian systems and therefore Indians had a right to challenge the biopiracy-based European patent in European courts.

The work for the *neem* challenge started in 1994 when I first read about the *neem* patents in a journal. We launched the "Neem Campaign" in India, and formed the "Neem Team"—an international network of patent warriors to support our national campaign. For a decade before that, beginning after the Bhopal disaster in 1984, we had been advocating the use of *neem* in agriculture as an alternative to hazardous pesticides through a campaign—"No more Bhopals, plant a *neem*."

The *neem* tree, or *Azadirachta indica*, has been used for diverse purposes for centuries in India. It has been used in medicine and in agriculture. The *neem* is mentioned in Indian texts written over 2000 years ago as an air purifier and as a cure for almost all types of human and animal diseases because of its insect- and pest-repellent properties. It is used almost daily on every farm and in every house in India. Research has shown that *neem* extracts can influence nearly 200 species of insects, many of which are resistant to pesticides. A number of *neem*-based commercial products, including pesticides, medicines, and cosmetics have come on the Indian market in recent years, some of them produced in the small-scale sector, others by medium-sized laboratories. However, there has been no attempt to acquire proprietary ownership of the chemical formula since, under the 1970 Patent Act of India, agricultural and medicinal products are not patentable.

The combination of the *neem*'s cultural, medicinal, and agricultural values has contributed to its widespread distribution and propagation. More than 50,000 *neem* trees shelter pilgrims on the way to Mecca. Indians have given knowledge about *neem* to the entire world. The existence of diverse species and the freedom with which knowledge can be exchanged is best symbolized by the *neem*.

The *neem* is therefore referred to as the "free tree" of India. For centuries the Western world ignored the *neem* tree and its properties; the practices of Indian peasants and doctors were not deemed worthy of attention by the majority of British, French, and Portuguese colonialists. However, in the last few years, growing opposition to chemical products in the West, in particular to pesticides, has led to a sudden enthusiasm for the pharmaceutical properties of *neem*. In 1971, US timber importer Robert Larson observed the tree's usefulness in India and began importing *neem* seed to his company headquarters in Wisconsin. Over the next decade, he conducted safety and performance tests upon a pesticidal *neem* extract called Margosan-O, and in 1985 received clearance for the product from the US Environmental Protection Agency (EPA). Three years later, he sold the patent for the product to the multinational chemical corporation W. R. Grace. Since 1985, over a dozen US patents have been taken out by US and Japanese firms on formulae for stable *neem*-based solutions and emulsions, and even for a *neem*-based toothpaste.

Having garnered their patents, and with the prospect of a license from the EPA, Grace has set about manufacturing and commercializing their product by establishing a base in India. The company approached several Indian manufacturers with proposals to buy up their technology or to convince them to stop producing value-added products and to instead supply the company with raw material. In many cases, W. R. Grace met with a rebuff. Eventually, it managed to arrange a joint venture with a firm called PJ Margo Pvt. Ltd. They have set up a plant in India that processes up to 20 tonnes of seed a day. They are also setting up a network of *neem* seed suppliers in order to ensure a constant supply of the seeds at a reliable price. Grace is likely to be followed by other patent-holding companies.

The company's demand for seed had had three primary effects:

1. The price of *neem* seed has risen beyond the reach of ordinary people; in fact, *neem* oil itself, used by local people to light lamps, is practically unavailable any more because local oil millers are not able to access the seed.
2. Almost all of the seed has been collected, which was freely available to the farmer and the company, because of its economic power.
3. Poor people have lost access to a resource vital for their survival—a resource that was once widely and cheaply available to them.

The victory of the *Neem* tree is a landmark victory that will arrest the flow of the rich biodiversity of the Third World to the rich of the North. It is a victory of people against power, of commons against monopolies, of freedom against slavery. It is significant that the *Neem-Azad-Darakt*, the "Free Tree," should be a symbol of this significant victory of the people.

## THE TRIPS REVIEW

When TRIPs was forced on countries during the Uruguay Round, many issues of public concern were totally bypassed and the full ethical, ecological, and economic implications of patenting life were not discussed. Third World countries were coerced into accepting the Western-style IPR system. However, public interest groups showed that these systems were strong in establishing corporate monopolies globally but were weak in protecting indigenous knowledge and preventing biopiracy. Such systems were "advanced" means for taking away the resources of the poor and for stealing the knowledge of our grandmothers. But they were primitive when viewed from the perspective of justice, equality, and cross-cultural respect. As a result of sustained public pressure after the agreement came into force in 1995, many Third World countries made recommendations for changes in Article 27.3(b) to prevent biopiracy.

On the subject of patenting of life forms, India, in its discussion paper submitted to the TRIPs Council in Geneva prior to the WTO's Third Ministerial Conference in Seattle, stated:

Patenting of life forms may have at least two dimensions. Firstly, there is the ethical question of the extent of private ownership that could be extended to life forms. The second dimension relates to the use of IPR's concept as understood in the industrialized world and its appropriateness in the face of the larger dimension of rights on knowledge, their ownership, use, transfer and dissemination. Informal systems, e.g. the "shrutis" and "smritis" in the Indian tradition and grandmother's potions all over the world, get scant recognition. To create systems that fail to address this issue can have severe adverse consequences on mankind, some say even leading to extinction.

Article 71.1 requires that in the year 2000 the implementation of TRIPs be reviewed and, if necessary, the TRIPs Agreement itself be amended in the light of any relevant new developments that might warrant its modification or amendment. African and Central American countries are consistently demanding a TRIPs review, a demand that is being delayed and denied by the US, which is instead putting pressure on the countries for the implementation of TRIPs. The African and Central American countries have also demanded, in their position paper to the WTO, a five-year delay in the implementation of TRIPs. In early 1999, the Research Foundation for Science, Technology and Ecology, a leading research group in India, has also demanded a five-year freeze of the TRIPs Agreement.

As a Third World country, India's interest lies in working with other developing countries to change the IPR systems being globalized through

TRIPs, which is biased in favor of the rich industrialized countries and global corporations. Since changing TRIPs is part of our right, there is absolutely no justification for implementing it in its present form.

#### TRIPs ADOPTS PATENTS ON LIFE AND MONOPOLIZES COMMUNITIES' KNOWLEDGE

A next major flaw with TRIPs, which is also rooted in using US Patent Law as its model, is the introduction of patents on life forms through Article 27.3(b). This article was supposed to be reviewed during the WTO Seattle Ministerial Conference.

Bolivia, Colombia, Ecuador, Nicaragua, and Peru have made a proposal regarding the protection of intellectual property rights relating to the traditional knowledge of local and indigenous communities. This paper states: "The entire modern evolution of intellectual property has been framed by principles and systems that have tended to leave aside a large sector of human creativity, namely the traditional knowledge possessed by local and indigenous communities." The group proposed that negotiations be initiated at the WTO Conference at Seattle, with the view to establishing a multilateral legal framework that will grant effective protection to the expressions and manifestations of tradition knowledge. The entire African group has also called for systems to protect traditional knowledge.

The African group, represented through the Organization of African Unity (OAU), has also proposed that a footnote be inserted in Article 27.3(b), stating that any *sui generis* law for plant variety protection can provide for the protection of the innovations of indigenous and local farming communities in developing countries, consistent with the Convention on Biological Diversity and the International Undertaking on Plant Genetic Resources.

Despite the fact that all of the countries of Africa, five countries in Central and Latin America as well as India have called for changes in 27.3(b) on the basis of their right to a review as built into the agreement, the US and Europe are determined to block the reform of TRIPs and any attempt to stop biopiracy. In a "green room" consultation (the undemocratic structure of decision-making in the WTO) the powerful industrialized countries told Mike Moore, the Director-General, that they rejected all the proposals for the reform of TRIPs.

The African group and India have also called for the exclusion of life forms from patentability and for the WTO to be subordinate to the Convention on Biological Diversity (CBD). In fact, India has pleaded in its discussion paper that neither the implementation of current obligations under the CBD nor a system that ensures the protection of the environment, promotes food and

health security and also farmers' rights should be considered as a dilution of obligations under TRIPs.

The US and Europe have rejected the developing countries' proposals related to 27.3(b) on the grounds that the WTO cannot be subordinated to other international agreements, which confirms the belief of the environmental movement that in the WTO environmental issues are always sacrificed for trade. Northern countries have, however, been put on the defensive in TRIPs as a result of the health movement against patents.

Brazil is the country that has made the most progress in producing low-cost AIDS medicines, providing AIDS therapy for US\$192 per month. Starting in 1994, the Brazilian government urged local companies to start making drugs to treat AIDS. The government invoked "national emergency" provisions in its patent laws to start manufacturing low-cost anti-retrovirals such as AZT. Brazil makes eight of the twelve drugs used in the so-called AIDS cocktail. As a result, prices have gone down by more than 70 per cent. The availability of cheaper drugs enabled the Brazilian government to provide anti-retrovirals to more than 80,000 citizens by the end of 1999, which has led to a more than 50 per cent drop in AIDS related mortality between 1996 and 1999. This has also allowed the government to save US\$472 million in hospitalizations.

However, instead of applauding Brazil for its success in fighting AIDS through generic drug production supported under the 1997 Patent Law and making this kind of law a model, the US has taken Brazil to the WTO dispute panel in order to force Brazil to undo its patent laws. If as a result US patent monopolies are globalized through TRIPs, then millions of AIDS victims in the Third World will be denied affordable treatment and thus their right to life. Pressure from social movements and resistance from Third World governments forced the US to withdraw its dispute against Brazil.

For the first time, a number of developing countries, including the African Group, Barbados, Bolivia, Brazil, the Dominican Republic, Ecuador, Honduras, India, Indonesia, Jamaica, Pakistan, Paraguay, the Philippines, Peru, Sri Lanka, Thailand, and Venezuela, submitted a joint paper to the TRIPs Council on TRIPs and Health. TRIPs, which was aimed at undoing the sovereign national legislation of countries in order to create corporate monopolies over seeds and medicines, was now being jointly challenged. TRIPs had put profits before survival, corporations before citizens.

The citizens' movements against TRIPs empowered Third World governments to demand that the WTO take such action as would ensure that the TRIPs agreement did not in any way undermine the legitimate right of WTO members to formulate their own public health policies and implement them by adopting measures to protect public health (see the TRIPs Council discussion on access to medicines, IP/C/W/296 WTO). Where TRIPs



interferes in ensuring public health, the developing country members have called for changes in the provisions. The reform and review of TRIPs can no longer be scuttled by the powerful.

#### THE EMANCIPATORY POTENTIAL OF THE STRUGGLES TO DEFEND BIODIVERSITY

Food and health are basic to survival, and biodiversity and knowledge are central to both. The globalization agenda, driven solely by corporate interests, had attempted to use the TRIPs agreement of the WTO and Western-style IPR regimes to appropriate the vital biodiversity resources of the poor and to transform seeds, plants, and medicines from sources of sustenance for people into sources of limitless profits for global corporations.

However, a decade of movements and struggles against biopiracy and TRIPs have now begun to have an impact. These movements are about both the rights of communities to be producers of knowledge, food, and medicine, and the rights of citizens to have access to basic needs. They are, by their very nature, pluralistic in content and form, but they share some basic principles, which include:

1. The natural right of farmers to save and exchange seeds.
2. The right of Third World communities to use their resources and knowledge freely to meet their needs.
3. The right of diverse cultures to the integrity of their knowledge systems and cultural diversity.
4. The right of all peoples to affordable food and medicine.

The struggles over biodiversity and IPRs thus cut across issue-based movements and provide an integrating perspective for people's rights. These struggles also open a space in which to define a post-globalization agenda. Globalization was in effect a takeover of people's spaces by corporations with the participation of states.

The anti-biopiracy and anti-TRIPs movements have problematized the role of the state and destabilized the power of corporations. Through the right to seed and the right to medicine, the popular movements have forced states to push back the power of both the biotechnological agribusiness and pharmaceutical giants and the G-8 countries. The withdrawal of the case by pharmaceutical corporations against South Africa and the withdrawal of the US dispute against Brazil in the case of producing affordable AIDS medicines are new directions in the politics of IPRs.

The movements against biopiracy and against TRIPs have also shaped a new pluralistic politics, a rainbow politics, which has the generosity and

inclusivity of place for indigenous struggles and the defense of local sovereignty as well as for movements for basic needs and the defense of national sovereignty. Where people can meet their own needs using local resources and indigenous resources, neither states nor corporations should interfere in their autonomy and freedom. Where people's capacity for the self-provisioning of food and medicine has been undermined by historical processes, national systems have an obligation to ensure that the rights to basic needs are protected and that access to affordable food and medicine is guaranteed. Global corporations and global institutions like the WTO cannot have the right to prevent states from fulfilling their obligations to their citizens or of recognizing the sovereignty of their local communities. National sovereignty is thus a derived concept and rests on local sovereignty. It does not give the national state the power to undermine local structures but only the duty to defend the freedom of peoples and the obligation to meet peoples' basic needs.

This pluralistic politics also implies that the diversity of species, the diversity of knowledge systems, and the diversity of economic systems can flourish side by side. In place of the hegemonic relationship of the North with the South, corporations with citizens, humans with other species, the global with the local, and the modern with the traditional, a politics emerging from the struggles over biodiversity creates a context of cooperation and mutuality, equality and ecological sustainability. In the final analysis, the biodiversity movement is a movement that recognizes the value of every species, every person, every culture, every community, and every country on its own terms, rather than on the hegemonic calculus of piracy, profits, and predation.

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