

Communiqué

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Biopiracy+10 Captain Hook Awards - 2002

Issue: On the 10th anniversary of the Convention on Biological Diversity (CBD), ETC group concludes that the CBD has failed to establish meaningful regulations to stop biopiracy. Biopiracy refers to the appropriation of the knowledge and genetic resources of farming and indigenous communities by individuals or institutions seeking exclusive monopoly control (usually patents or plant breeders' rights) over these resources and knowledge. On 11 April 2002 the Coalition Against Biopiracy¹ presented its highly un-coveted Captain Hook Awards – for infamous and outstanding achievements in biopiracy – at the Sixth Conference of the Parties to the Convention on Biological Diversity (COP6) in The Hague, April 8-19. This issue of ETC Communiqué provides background information on the award winners, and additional nominees.

Impact: There are scores of civil society and peoples' organizations around the globe that are actively monitoring and resisting biopiracy. To honour and recognize their efforts, the Coalition Against Biopiracy also presents "Cog Awards" (so-named because Cogs were ships designed to repel pirate attacks) to those institutions, peoples' organizations, and governments that have opposed egregious cases of biopiracy, defeated predatory patents, or defended the intellectual integrity of farmers and indigenous peoples.

Policy: Intellectual property regimes sanction monopoly controls that are predatory on the traditional knowledge and genetic resources of farmers and indigenous people. Despite the efforts of WIPO (World Intellectual Property Organization), UPOV (Union for the Protection of New Varieties of Plants), CBD (The Convention on Biological Diversity), and WTO (World Trade Organization) to disguise and promote intellectual property as "benefit sharing," history shows that intellectual property regimes have no capacity to address biopiracy, and they are not benefit sharing agreements. Proposals for access and benefit sharing in the CBD, The Bonn Guidelines (still being negotiated as we go to press), may actually create *incentives* for biopiracy because they fail to fully recognize Farmers' Rights and collective indigenous rights. Equitable benefit sharing is not achievable in the context of predatory patent regimes.

NOTE: The Captain Hook Awards are made possible by the work and activities of many civil society and peoples' organizations around the globe that actively monitor and oppose biopiracy. The cases cited and the analysis used in selecting the 2002 award winners are by no means limited to the work of ETC group or the Coalition Against Biopiracy. Among many who contributed, ETC group wishes to acknowledge the assistance of the following: SEARICE (Southeast Asia Regional Institute for Community Education), IPBN (Indigenous Peoples Biodiversity Network), BioThai, GRAIN, ActionAid, BioWatch, Greenpeace, COMPITCH, Tonga Human Rights and Democracy Movement, Indigenous Peoples Council on Biocolonialism, Northern Feed & Bean Co., and the Research Foundation for Science, Technology and Ecology, Forum for Biotechnology & Food Security.

¹ The Coalition Against Biopiracy is a group of civil society and peoples' organizations that first came together at the 1995 Conference of the Parties to the Convention on Biological Diversity meeting in Jakarta.



To view the Captain Hook Awards posters, featuring graphics by Eric Drooker, please go to: http://www.etcgroup.org/documents/captain_hook_awards.pdf
http://www.etcgroup.org/documents/cog_awards.pdf

Captain Hook Awards - 2002

Most Offensive: Winner - The United States Patent & Trademark Office

For allowing the most offensive plant patent – not once, but twice! The US Patent & Trademark Office (PTO) has the disgraceful distinction of allowing Loren Miller of California to win a US plant patent on the Ayahuasca vine (*Banisteriopsis caapi*; patent #5751), which he named "Da Vine." After the patent was legally challenged and cancelled, the US PTO re-instated the patent on appeal. Ayahuasca, known for its medicinal and hallucinogenic properties, is native to the Amazon rainforest where it is used in sacred indigenous ceremonies.

Biopiracy opponents worldwide celebrated in November 1999 when the US PTO initially overturned the ayahuasca patent. The decision came in response to a request for re-examination of the patent by the Washington DC-based Center for International Environmental Law (CIEL), on behalf of the Coordinating Body of Indigenous Organizations of the Amazon Basin (COICA) and the Amazon Coalition. The groups requested that the patent be cancelled

because the claimed patent lacks novelty and distinctiveness, is found in an uncultivated state, and as a sacred element of many indigenous cultures of the Amazon should not be subject to private appropriation.¹

Under US law, those who initially (and successfully) challenged the patent were precluded from countering or responding to any of Loren Miller's legal arguments made under appeal. The case illustrates the undemocratic, non-transparent process of the US patent system, which overwhelmingly favors holders of monopoly patents. The system sends a clear message to biopirates that they can lay legal claim to the traditional knowledge and resources of indigenous peoples.

Most Offensive: Runner-Up - Univ. of Toledo

For its monopoly patent on Ethiopia's endod, and for demanding royalty payments from the Ethiopian people who wish to use it. Endod has been cultivated and used by African people for centuries, especially in Ethiopia where it is used as a soap and shampoo as well as a poison to stun fish. Ethiopian scientists first discovered that endod is lethal to snails and may be effective in controlling schistosomiasis, a water-borne disease caused by parasites living in host snails. After an

Ethiopian scientist demonstrated endod's potency to kill zebra mussels to the University of Toledo (Ohio, USA) scientists, they applied for and won US patents 5,252,330 and 5,334,386. When Ethiopian researchers requested access, the University of Toledo advised that their two patents were available for a license fee of \$50,000 (plus 2.5% royalty charges and legal fees) or for outright purchase of \$125,000 plus legal costs.² The endod patents are not new, but these monopoly claims continue to create problems for Ethiopian researchers.

Greediest: Winner - Pod-Ners LLC

For causing economic hardship for Mexican farmers and bean exporters, claiming that yellow beans grown for generations in Mexico infringe the company's monopoly patent and plant breeders' rights claim. In November 2001 Pod-Ners filed lawsuits against 16 small bean seed companies and farmers in the US. Fortunately, the yellow bean patent is being challenged by CIAT the (International Center for Tropical Agriculture), with support from FAO. The patent challenge has been stalled and a decision is long overdue because Pod-Ners' lawyer amended the original patent by filing 43 new claims!

For background information on the yellow bean patent and CIAT's legal challenge, see: *Proctor's Gamble*, 17 Dec. 2001 http://www.etcgroup.org/article.asp?newsid=282 *Enola Bean Patent Challenged* http://www.etcgroup.org/article.asp?newsid=96 *Mexican Bean Biopiracy* – 17 Jan. 2000 http://www.etcgroup.org/article.asp?newsid=31

Worst Anti-Food Security: Winner - Syngenta

For seeking to privatize the rice genome and using intellectual property claims to deny full public access to its rice genome data. Rice is a staple food crop for half the world's population and the primary source of calories for more than a third of the earth's population.

In January 2001 Syngenta, the world's largest agrochemical corporation, announced that it had completed the Rice Genome Map – the genetic blueprint for the world's most important food crop. Given that rice is the primary staple crop, the question of who will own and control rice genome data is paramount to food security. When Syngenta pledged to make its rice sequencing data available to the academic

community through "collaboration agreements," public sector researchers feared the worst, and farmers and civil society organizations warned that privatization of the rice genome was well underway.

In March 2002 twenty genome researchers signed a joint letter protesting the decision of the journal *Science* to allow Syngenta to publish its genome map with proprietary rights attached – rather than following the standard procedure of making all new genome sequences publicly available in public-domain databases.⁴ While Syngenta claims that its genome database will be available to public sector researchers, proprietary rights and contracts will give Syngenta the legal right to determine the terms and conditions for use. For example, researchers who use Syngenta's rice genome data could be bound by contracts that give Syngenta first rights to any commercial results and/or prohibit the sharing of resulting materials with third parties.

For more information: http://www.grain.org/publications/rice-no-patents-en.cfm

Most Dangerous: Winner - The US Patent & Trademark Office

For setting the precedent of granting sweeping monopoly patents on elements. The nanotechnology industry is positioned to control the building blocks of all living and non-living matter.

What is nanotechnology? A nano is a measurement equaling one-billionth of a meter. Nanotechnology is a very broad term referring to an array of technologies encompassing everything from the manufacture of nano-scale materials (the commercial manufacture of bulk sprays, powders, and coatings is already big business), to the fabrication of structures utilizing the quantum physics of nano-scale materials, to the futuristic and hotly debated goal of creating self-replicating nano-robots. Some argue that self-replicating nano-machinery is beyond the realm of possibility while others, including ETC group, believe that the real question is not if, but when. ETC group believes that the impact of nanotechnology will augment or exceed that of biotechnology.

Of the roughly 112 elements known so far (a handful come and go or are in dispute), 22 are human-made. There will be more. Are they patentable? Glenn

Seaborg, the American who won a Nobel Prize for Physics in 1951, couldn't see why not. He "invented" *Americium* #95 and acquired US patent #3,156,523 on November 10th, 1964. Today, with the world's largest corporations gearing up to work down at the nano-level, it is only a matter of time before industry convinces patent examiners that the genetically-engineered microbe of twenty-two years ago is no different from the atomically-engineered elements of today. The danger is that nanotech will follow biotech's passion for sweeping product and process patent claims that could tie up the technologies involved and give a handful of corporate giants monopoly over the tools that will be used to manufacture everything. Everything includes the raw materials essential to life.

For more information: "Patenting Elements of Nature," ETC Genotypes, 25 March 2002. http://www.etcgroup.org/article.asp?newsid=308

Worst International Convention: Winner - World Trade Organization

For failure to amend the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs). Despite the demands of South nations, there has been no substantive review of Article 27.3(b), nor has consideration been given to the option of excluding all biological materials from patentability.

In August 2000 the United Nations Sub-Commission for the Protection of Human Rights recognized that WTO/TRIPs could infringe on the rights of poor people and their access to both seeds and pharmaceuticals.⁵ Last year, the 53rd session of the same sub-commission considered two reports related to intellectual property: one on the relationship between intellectual property and human rights, and the other on the human rights dimensions of the WTO TRIPs Agreement. The subcommission reaffirmed the conflict between TRIPs and basic human rights, stressed the need for adequate protection against biopiracy, and called for more serious attention to human rights in both the implementation and review of TRIPs. The Human Rights Sub-Commission also requested a special study on the impact of TRIPs on the rights of indigenous peoples.⁶

Worst Excuse: Winner - Phytopharm Inc.

For thousands of years the San aboriginal people of southern Africa have chewed on stems from the Hoodia plant to suppress hunger and thirst on hunting trips in the Kalahari Desert. In April 2001 a UK-based biotech company, Phytopharm, announced that it was using the appetite-suppressing ingredient derived from the Hoodia plants, P57, to develop a powerful new drug for treating obesity. South Africa's Council for Scientific Research (CSIR) first isolated and patented Hoodia's active ingredient, P57, which it licensed to Phytopharm in 1997. The following year Phytopharm announced a \$32 million licensing agreement with pharma giant Pfizer for the commercial development of P57.8 Based on early clinical trials, analysts predict that P57 could become a blockbuster anti-obesity drug worth US\$2 billion per year.⁹

But what about the 100,000+ San people from the Kalahari who first discovered the plant and whose traditional knowledge has been usurped by the patent? Phytopharm's chief executive, Richard Dixey, told the *Financial Times*, "We're doing what we can to pay back, but it's a really fraught problem...especially as the people who discovered the plant have disappeared." ¹⁰

The San people filed legal demands for compensation in 2001, and a benefit-sharing agreement is in the process of being negotiated through South Africa's Council for Scientific & Industrial Research, the institute that first patented P57 and licensed it to Phytopharm. Royalty payments to the San will not come from Phytopharm. Late last year, Phytopharm's Dixey told the *Guardian*, "These bushmen are wonderful people and I'm delighted they've got themselves organized." ¹¹

For further background information on Phytopharm and the Hoodia biopiracy case:

 $http://www.actionaid.org/our priorities/food rights/car/robbed. \\ shtml$

Worst Excuse: Honorable Mention International Rice Research Institute (IRRI)

In 1995 the International Rice Research Institute (Los Banos, Philippines) failed to obtain a signed Material Transfer Agreement (MTA) before transferring Thai Jasmine rice germplasm to a US researcher. The MTA obliges the recipient not to patent or otherwise monopolize the donated seed. In 2001, controversy over the transfer of Thai rice germplasm to the US erupted in the streets of Bangkok and beyond when researchers at the University of Florida announced their goal of developing Thai jasmine rice for US growing conditions. Parmers' and peoples' organizations, NGOs and the Thai government actively protested the transfer of Thai germplasm and took action to thwart any future efforts to claim intellectual property on Thai jasmine rice.

If commercially successful, US-bred Jasmine could supplant much of Thailand's \$1 billion export market not only to US gourmets but elsewhere in the world. Thailand is the world's leading rice exporter and its Jasmine aromatic rice commands a premium price. Jasmine was bred and nurtured by Thai farmers from generation to generation and its market has become vital to the well being of many farming communities in that country.

IRRI's failure to obtain signatory agreement not to patent was unintentional, and IRRI has since taken corrective action to make the MTA retroactive. Ultimately however, signing the MTA and agreeing not to patent does not solve the problem. IRRI and US researchers must also explore tougher moral questions about the social and economic impacts of research that threatens to endanger the livelihoods of poor farmers.

For more information:

"US acquisition of aromatic Thai rice breaks trust, tramples farmers, threatens trade and seed treaty talks" 30 October 2001, http://www.etcgroup.org/article.asp?newsid=257 The Thai Network on Community Rights & Biodiversity (BioThai): tel: 6622952-7953 fax: 6622952-7371 biothai@pacific.net.th

Worst Corporate Offender: Winner - Monsanto

For Monsanto's most recent attempt to gain a sweeping patent on soybeans. According to Greenpeace, Monsanto's WIPO application (WO/0018963) claims gene sequences associated with high yielding soybeans, all soybean plants (both wild and domesticated) in which these sequences are found, and the screening methods to identify the marker. If granted the patent, could severely restrict molecular marker-assisted breeding in soybeans for enhanced yield, and restrict the ability of farmers to use, save, and exchange soybean seeds containing the proprietary gene sequences. To add insult to injury, the naturally occurring gene sequence claimed by Monsanto originated from a wild Chinese species of soybean. Monsanto claims that it isolated the sequence from a wild soya plant that it obtained from a US gene bank. China is the genetic homeland of soybeans, and free exchanges of Chinese soya germplasm have enabled plant breeders worldwide to develop one of the world's most commercially valuable food/feed and oilseed crops.

Monsanto's dominance over the soybean crop worldwide is astonishing. The company's GM (genetically modified) seed technology accounted for over 91% of all GM seeds planted worldwide in 2001 – and Monsanto's herbicide tolerant soybean seeds account for the largest share of GM seeds. According to ISAAA (International Service for the Acquisition of Agri-biotech Applications), 33 million hectares planted in GM herbicide tolerant soybeans in 2001, approximately 46% of the total world area devoted to soybeans. ¹³

For more information, see:

Greenpeace Backgrounder: "Monsanto's Biopiracy of the Soybean." October. 2001.

http://www.greenpeace.org/~geneng

For ETC background on Monsanto's first species-wide patent on soybeans:

"RAFI challenges Agracetus' Species-Wide patent on soybeans at EPO," December, 1994. (Note: Monsanto acquired Agracetus in 1996.)

http://www.etcgroup.org/documents/occ_vol1_5.pdf

The 2002 Cog Awards

Cog* Awards recognize those who have opposed egregious cases of biopiracy, defeated predatory patents or defended the intellectual integrity of farmers and indigenous peoples.

*(So-named because Cogs were ships designed to repel pirate attacks.)

Best [we can get] International Treaty: Winner - FAO

In November 2001 the FAO approved an International Treaty on Plant Genetic Resources for Food and Agriculture, a legally-binding, multilateral agreement to govern access to and exchange of vital crop germplasm. The treaty covers 64 food crops accounting for about 85% of global human nutrition. Some constraints are placed on intellectual property over the seeds in the multilateral system and obligations are imposed for benefit sharing when accessed seed is commercialized. Farmers' Rights are encouraged, though not guaranteed. Though provisions for equity and benefit sharing must be strengthened and improved, the treaty offers a platform for building food sovereignty and improving seed conservation. ETC group and other civil society organizations are promoting ratification of the Treaty prior to the World Food Summit Five Years Later meeting in June, 2002.

ETC group's in-depth analysis of the Treaty is available at: http://www.etcgroup.org/article.asp?newsid=276



Graphic by Eric Drooker, www.drooker.com

Best Legal Defense: Winner - International Center for Tropical Agriculture (CIAT)

For legally challenging US patent 5,894,079 on a yellow bean of Mexican origin, and for upholding the FAO/CGIAR Trust Agreement on behalf of the world's farmers. Under the terms of the 1994 agreement between the Consultative Group on International Agricultural Research and the UN Food and Agriculture Organization, "in trust" germplasm is maintained in the public domain and is not allowed to be included in any intellectual property claim. CIAT's gene bank holds more than 27,000 samples of *Phaseolus* (dry bean) seeds, and some 260 samples of yellow bean seeds. Although Larry Proctor, the so-called "inventor" of the Enola yellow bean did not obtain bean seed from the Colombian gene bank, CIAT's legal challenge notes that six bean accessions found in its gene bank are "substantially identical" to claims made in Proctor's patent. CIAT and FAO are concerned that the Enola bean patent could obstruct CIAT's mission to freely distribute vellow beans and to keep these seeds in the public domain.

For background information on the patent and legal challenge:

Proctor's Gamble, 17 Dec. 2001

http://www.etcgroup.org/article.asp?newsid=282

Enola Bean Patent Challenged

http://www.etcgroup.org/article.asp?newsid=96

Best Peoples' Defense: Winner - Human rights organizations and churches in Tonga & the South Pacific

For excellence in opposing Autogen's plans to profit from the genetic information of the Tongan people.

Autogen Ltd., a genomics company based in Australia, announced in November 2000 that it had signed an agreement with the Tongan Ministry of Health that would give the company exclusive access to a genetic database of the Tongan people. With a population of approximately 110,000 people, Tonga spans 170 tiny islands in the South Pacific.

Autogen's negotiations with the Tongan Ministry of Health were not made public before the announcement, nor were the Tongan people given an opportunity to comment. Under the terms of the agreement, Tonga would retain property rights over the DNA samples collected, but Autogen would be given exclusive access to the genetic database. According to Autogen, "...any serum or DNA samples collected in Tonga shall remain the property of Tonga and Autogen will provide the resources to establish a health database and create a major research facility in Tonga...in return for access to these samples and data, Autogen will provide annual research funding to Tonga's Ministry of Health in addition to paying net royalties on revenues generated from any discoveries that are commercialised." 14

As of February 2002 Autogen held patents on 41 human genes related to obesity and diabetes that the company's chief officer refers to as "the pick of the crop." ¹⁵Autogen's interest in disease-causing genes stems from its alliance with Merck Lipha, a subsidiary of pharma giant Merck KgaA. (Merck owns a 15% stake in Autogen, and has a US\$13.5 million strategic alliance with the Australian company until 2005.)

The Tonga Human Rights & Democracy Movement (THRDM) condemned the Autogen agreement shortly after learning about it from press reports. According to Lopeti Senituli, director of THRDM, "The Minister of Health's intentions may be noble, but the main reason for our condemnation is the fact that the implications of the agreement have never been discussed publicly either in the media or in Tonga's Legislative Assembly... What is involved is the sanctified blood of human beings and...so there should have been prior public discussions before the Minister signed." ¹⁶

In March 2001, the Tongan National Council of Churches, supported by the Geneva-based World Council of Churches, convened a meeting of church and community leaders from throughout the Pacific region to discuss the social and ethical implications of genomics research. A statement released following the consultation included the following statements:

 The peoples of the Pacific are the guardians of their heritage and have the right to protect and control dissemination of the heritage;

- The peoples of the Pacific have the right to manage their own biological resources, to preserve their traditional knowledge and to protect these from expropriation and exploitation by scientific, corporate, or governmental interests;
- The conversion of lifeforms, their molecules or parts, into corporate property through patent monopolies is counter-productive to the interests of the Pacific.¹⁷

Autogen's plan to gain exclusive access to Tongan DNA may have been squelched by local opposition, but the company is now prospecting for human disease genes on islands closer to home. The Chief Scientific Officer of Autogen, Greg Collier, told Inter Press Service in February 2002: "We are not actually doing anything in Tonga. What we have decided to do...is to concentrate our resources into investigating more into the Tasmanian population (in Australia)."

Best Peoples' Defense: Winner - COMPITCH and Indigenous Peoples' organizations in Chiapas, Mexico

For successfully defeating the US-government's \$2.5 million bioprospecting project. After two years of intense local opposition from indigenous peoples' organizations in Chiapas, Mexico, the US government-funded ICBG-Maya project aimed at the bioprospecting of Mayan medicinal plants and traditional knowledge was cancelled in November, 2001. According to Antonio Perez Mendez, indigenous doctor and secretary of the Council of Traditional Indigenous Doctors and Midwives from Chiapas (Consejo de Médicos y Parteras Indígenas Tradicionales de Chiapas - COMPITCH):

"The definitive cancellation of the ICBG-Maya project is important for all indigenous peoples in Mexico. Indigenous communities are asking for a moratorium on all biopiracy projects in Mexico, so that we can discuss, understand and propose our own alternative approaches to using our resources and knowledge. We want to insure that no one can patent these resources and that the benefits are shared by all."

For more background:

"Mexican Biopiracy Project Cancelled," 9 Nov 2001 http://www.etcgroup.org/article.asp?newsid=279 "Call to Dialogue, or Call to 911?" 2 Nov. 2000 http://www.etcgroup.org/article.asp?newsid=17 Stop Biopiracy in Mexico! 23 October 2000 http://www.etcgroup.org/article.asp?newsid=17 Biopiracy Project in Chiapas, Mexico Denounced by Mayan Indigenous Groups 1 Dec 1999 http://www.etcgroup.org/article.asp?newsid=110

Best National Defense: Winner - Indian Government and the People of India

For challenging the Basmati patent at the US Patent & Trademark Office. As a result of popular protests worldwide and legal action by the Indian government, the US PTO ultimately struck down 15 of the 20 original claims made in RiceTec's monopoly patent.

Readers of *ETC/RAFI Communique* will recall the audacious US patent on Basmati rice given to a Texas-based firm, RiceTec, Inc. (headed by Prince Hans Adam II of Liechtenstein) in 1997. The patent blatantly usurped the Basmati name and farmers' traditional varieties from India and Pakistan.

For advocates of Farmers' Rights and biodiversity, the Basmati patent battle is a partial and bittersweet victory. As a result of the challenge, RiceTec was forced to drop its offensive title "Basmati rice lines and grains," and only three of the company's original claims survived intact under scrutiny (15 were thrown out, two were amended). But Indian activists have criticized the Government of India for challenging only three of RiceTec's claims (those related to Basmati grain that most threatened Indian exports) rather than demanding a rejection of the entire patent and the most egregious claims on farmers' traditional knowledge and germplasm. It was the work of Indian activists and popular campaigns against biopiracy that ultimately pressured the US PTO to conduct a more thorough reexamination of the Basmati patent. Though substantially pruned, the surviving claims allow RiceTec to monopolize "novel rice lines" derived from Basmati varieties developed by Indian and Pakistani farmers.

For further analysis of the Basmati patent challenge:

Vandana Shiva, "The Basmati Battle and its Implications for Biopiracy and TRIPs,"August 2001.

Devinder Sharma, "Let Us Accept It, India has Lost the Battle" *Deccan Herald*, Bangalore, India, Sept 1, 2001.

Background materials from ETC group:
"The Basmati Patent: The (Merchant) Prince and the (Punjabi) Paupers," 1 April 1998,
http://www.etcgroup.org/article.asp?newsid=62
"RAFI launches postcard campaign to oppose Basmati patent," 22 May 1998,
http://www.etcgroup.org/article.asp?newsid=60
"Controversy Still Steaming Over Basmati Patent," 4

January 2000. http://www.etcgroup.org/article.asp?newsid=34

Best Whistle-Blower: Winner - Gwendolyn Zahner

For filing an official complaint that led the US Office for Human Research Protection to issue a "stinging rebuke" of Harvard University for improper genetic research involving collection of DNA from poor people in rural China. ¹⁹ Harvard has been forced to suspend its genetic research in China.

In September 1999 epidemiologist Gwendolyn Zahner filed a complaint requesting that the US government's Office for Human Research Protections (OHRP) launch a formal investigation of Harvard University's genetics studies involving rural people in some of China's poorest communities. Harvard's China-based genetic studies are funded by US government grants and by the pharmaceutical industry, principally Millennium Pharmaceuticals.

In March, 2002 the US Office for Human Research Protection (OHRP) concluded that 15 Harvard-affiliated genetic studies in China were not properly monitored to ensure the safety of the Chinese people who participated and who may have been put at risk. Among 38 specific problems, the OHRP found that Harvard's China-based research did not have necessary ethics review, used misleading consent forms, and failed to inform participants of the possible risks and drawbacks of their participation. Harvard's genetic research in China included studies of obesity, asthma, pulmonary disease, colon cancer, atherosclerosis and schizophrenia, but offered no treatment to impoverished participants. In many cases, China was selected as the research site

specifically because the population lacks access to modern medicine and because "China offers a low-cost research venue." 20

In response to the OHRP rebuke, the Harvard School of Public Health has reprimanded two researchers, suspended its China studies and is changing its procedures for reviewing research. The OHRP investigation is ongoing, but it has not gone far enough. Drug companies like Millennium and many others collecting human DNA in China (involving as many as 200 million Chinese citizens) are not directly affected by the OHRP review. Gwendolyn Zahner told the *Boston Globe* that much more needs to be done to protect the rural population of China from the threat of unethical genetic research and exploitation: "With no independent monitoring of what is happening on the ground in China, it's reckless endangerment." ²¹

For more information:

http://ohrp.osophs.dhhs.gov/detrm_letrs/YR02/mar02b.pdf (Harvard School of Public Health)

 $http://ohrp.osophs.dhhs.gov/detrm_letrs/YR02/mar02a.pdf \\ (Brigham \& Women's Hospital)*$

 $http://ohrp.osophs.dhhs.gov/detrm_letrs/YR02/mar02c.pdf \\ (Mass.\ Mental\ Health\ Center)*$

*Harvard-affiliating teaching hospitals.

ETC group, "The New Genomics Agenda" *ETC Communiqué*, September/October 2001, http://www.etcgroup.org/article.asp?newsid=250

http://www.unhchr.ch/Huridocda/Huridoca.nsf/(Symbol)/E.CN.4.SUB.2.RES.2001.21.En?Opendocument

The Action Group on Erosion, Technology and Concentration, formerly RAFI, is an international civil society organization headquartered in Canada. The ETC group (pronounced Etcetera) is dedicated to the advancement of cultural and ecological diversity and human rights. All our publications are available at: www.etcgroup.org

¹ Letter from David R. Downes, Senior Attorney, Center for International Environmental Law, to Todd Dickinson, Acting Assistant Secretary of Commerce and Acting Commissioner of Patents and Trademarks, March 30, 1999.

² Letter from John M. Kane, Technology Transfer Specialist, University of Toledo, to Dr. Aklilu Lemma, President, Endod Products, Inc., 9 March 1995.

³ Syngenta News Release, "Researchers complete rice genome map," January 26, 2001. http://www.syngenta.com/en/media/article.asp?article_id=126

⁴ Butler, Declan. "Geneticists get steamed up over public access to rice genome." Nature, Vol. 416, pp. 111-112.

⁵ Sub-Commission on Intellectual Property Rights and Human Rights, Commission on Human Rights, United Nations,

[&]quot;Resolution on Intellectual Property Rights and Human Rights," E/CN.4/Sub.2/2000/7, 17 August 2000.

⁶United Nations Sub-Commission on the Promotion and Protection of Human Rights, "Intellectual Property Rights and Human Rights," E/CN.4/Sub.2/2001/21.

⁷ Madeley, John. "Living off the fat of the land," Financial Times, December 1, 2001.

⁸ Phytopharm website, http://www.phytopharm.co.uk/

⁹ Jenkins, Patrick. "Phytopharm hails trial success of obesity drug pharmaceuticals group in licensing talks with Pfizer," *Financial Times*, December 6, 2001, p. 27.

¹⁰ Firn, David. "African cactus could help fight obesity," Financial Times, April 11, 2001, p. 2.

¹¹ Clark, Andrew. Phytopharm hails bushmen's fatbuster *The Guardian*, December 6, 2001, p. 26.

¹² Kimpel, P. "Gourmet-Style Jasmine Rice may be Future US Crop," University of Florida News, Belle Glade, Florida, September 11, 2001. http://www.napa.ufl.edu/2001news/jasmine.htm

¹³ Statistics on area devoted to GM soybean crop comes from: James, C. 2001. Global Review of Commercial Transgenic Crops: 2001. ISAAA Briefs No. 24: Preview. ISAAA: Ithaca, NY.

¹⁴J.I. Gutnick, Chairman & Managing Director, Manager Announcements, "Autogen Announces new gene discovery initiative in the South Pacific islands of Tonga," 17 November 2000, available on the company website: http://www.autogenlimited.com.au/f_ir_announcements.html

¹⁵ Manager Announcements, "Autogen files a patent application in the USA for five new genes," 22 February 2002, on the company's website: http://www.autogenlimited.com.au/f_ir_announcements.html

¹⁶ The Tonga Human Rights & Democracy Movement, *Media Release*, "THRDM Condemns Agreement for Genetic Research on Tongans," 24 November 2000, available on the International Public Health Watch site, http://www.ldb.org/iphw/index.htm

¹⁷ Statement of bio-ethics consultation, Tonga National Council of Churches' Center Nuku'alofa, Tonga 12-14 Marc 2001.

¹⁸ Burton, Bob. Inter Press Service, "Opposition Stalls Genetic Profiling Plan for Tonga," 18 Feb. 2002.

¹⁹ Zitner, A. "Harvard Gene Study in China is Questioned," *Los Angeles Times*, 30 March 2002 http://www.latimes.com/la-033002harvard.story

²⁰ "Harvard and China Probe Disease Genes," *Science*. Vol. 273, 19 July 1996, p. 315.

²¹ Dembner, A. "Review cites risks to Chinese studied," *Boston Globe*, 30 March 2002, p. A5.