# Biodiversity at Rio

by John H. Barton

The Convention on Biological Diversity became one of the most controversial topics at the June United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro. The United States refused to sign this convention, and thus isolated itself. There had been serious negotiations toward interpretations designed to enable the United States to accept the convention, but these efforts failed when a confidential memorandum describing these negotiations was leaked (BNA 1992b, Dolan 1992). In this article, I discuss the new convention and attempt both to evaluate it and to explain the controversy surrounding it.

## Why was there a convention?

Conservation of biodiversity is not a new issue to international law. There have long been a variety of treaties governing, for example, international trade in endangered species; conservation in particular regions such as Europe, the Western Hemisphere, and the Antarctic; and conservation of particular species such as migratory birds, polar bears, and vicuña (OTA 1987, WRI 1992). In fact, one of the great cases of American constitutional law, *Missouri v. Holland*, 252 U.S. 416 (1920), revolved around whether a migratory bird treaty could affect the allocation of powers between the states and the federal government.

Two factors brought the concept of an overall biodiversity agreement to the fore in the late 1980s. One was increased recognition of the need to conserve habitats in developing nations. The other was recognition that these nations would need additional resources to conserve such habitats. Conservation is for the benefit of humanity as a whole; it seems appropriate, then, that humanity as a whole should bear its costs.

At the same time that these understandings were growing, biotechnology was placing greater value on genetic resources, a financial value increasingly recognized through intellectual property rights. Not long ago, these genetic resources had flowed freely and collectors could go through a nation obtaining seeds, soil specimens, or similar genetic resources. They would then use these in breeding programs to produce improved seeds, which would in turn be provided to farmers. But the idea of free access seemed to many increasingly unfair because the developing nations were the major sources of genetic resources—and the developed nations obtained intellectual property protection for their improved materials. Even though these protected materials and freely available materials distributed by the public sector did bring great benefit to the developing world, developing nations came more and more to discuss the possibility of restricting or charging for access to the original resources.

The conservation and access concepts came together most clearly in a 1989 proposal by the International Union for the Conservation of Nature (now the World Conservation Union). This proposal noted that the possibility that developed nations would lose free access to genetic resources might encourage these nations to accept an obligation to pay for conservation of developing-nation genetic resources. The proposal also suggested creation of an international fund to be used for conservation and to be supported, in part, by users of genetic materials (IUCN 1989).

Later in 1989, the United Nations General Assembly voted to convene the United Nations Conference on Environment and Development in Rio de Janeiro. Biodiversity became one of the central foci for substantive agreement. The IUCN draft was one input to preparatory discussions that led to the final version of the Convention on Biological Diversity at a seventh negotiating session in Nairobi in May 1992, in time for the larger Rio meeting.

By this time, the World Conservation Union could elaborate the convention's goals more precisely:

> The Convention on Biological Diversity...should serve as a key coordinating, catalyzing, and monitoring mechanism for international biodiversity conservation. It will also be the primary means of establishing accepted international norms for biodiversity conservation. Although current international agreements cover some elements of biodiversity conservation, taken together they do not cover all the world's threatened biodiversity, and they do not adequately address the closely related issues of use, ownership, funding, and technology transfer (IUCN 1992).

The last point is particularly important: it will be difficult to find continuing support for conservation of biodiversity unless that conservation is accompanied by tangible benefits and uses.

## Commitments

The core of the treaty lies in its conservation commitments, but these commitments have received relatively little publicity. The commitments are sensitive because they infringe on traditional national sovereignty and their fulfillment requires financial resources. From a conservation perspective, for example, one might want Brazil to promise to set aside specific regions of rainforest and to accept the evolving principles of an international scientific committee in managing those regions. From Brazil's perspective, such

an arrangement would be viewed as tantamount to giving up part of its territory.

The central conservation commitments of the treaty are:

- To identify and monitor components of biological diversity, such as specific ecosystems and communities (UNEP 1992a, Article 7).
- To establish a system of protected areas (Article 8).
- To adopt measures for ex situ conservation (i.e., seeds or sperm stored under deep-freeze conditions; Article 9).
- To integrate genetic resource conservation considerations into national decision making and to adopt incentives for the conservation of biological resources (Articles 10 and 11).
- To develop assessment procedures (like the US environmental impact statement process) for ensuring that impacts on biological diversity are taken into account in project design (Article 14).

Each of these commitments is stated generally (although more specifically than in the above listing). Each is also subject to a qualification that it applies "as far as possible and as appropriate."

Moreover, the financial provision states:

> The extent to which developing country Parties will effectively implement their commitments under this Convention will depend on the effective implementation by developed country Parties of their commitments under this Convention related to financial resources and transfer of technology and will take fully into account the fact that economic and social development and eradication of poverty are the first and overriding priorities of the developing country Parties (Article 20).

The convention can thus be read as little more than a framework for later deals balancing finances and conservation. Although the convention also creates a scientific advisory committee, which might help strengthen the treaty, the basic conservation obligations are clearly weak. They reflect not only the generality of such a broad convention but also an unwillingness to accept stronger commitments. The final negotiations at Nairobi eliminated references to global lists that would have been annexed to the treaty and would have effectively strengthened and prioritized the various national commitments. An April 1991 draft, for example, in a provision that had not yet been discussed, called for a "Global List for Biological Diversity" and a "Global List of Species Threatened with Extinction on Global Level" (UNEP 1991). This removal was strongly contested by many, and led the leader of the French delegation at Nairobi to refuse to sign the final act (BNA 1992a).

## Finances

With respect to financing of conservation, there are two interrelated questions: how much money will the developed nations contribute, and who will control the use of the funds? The developed nations are, understandably, less willing to contribute to funds that they cannot control. Thus, the Food and Agricultural Organization of the United Nations, which is subject to majority rule and therefore developing-nation control, organized a "Fund for Conservation of Plant Genetic Resources" in the early 1980s, but it has never been successful in raising significant sums. In contrast, in 1990, the World Bank, a donor-controlled entity that cooperates with the United Nations Environment Programme and the United Nations Development Programme, created the Global Environment Facility (GEF). This donor-controlled program began with $1.3 billion, and it was expanded at Rio.

The basic funding debate at Nairobi was whether GEF should be the biodiversity funding mechanism, as sought by the developed nations, or a new funding mechanism should be created, as desired by the developing nations. The compromise was for GEF to be the interim mechanism until the regular conference of the parties creates a new mechanism (Article 39). Such a conference is to be held within one year of the time the treaty enters into force and is to define a funding mechanism (Article 21). In the absence of any other understanding, the conference can act by majority vote. Such an understanding might be created at the conference, however, because procedures at the conference are to be adopted by consensus (Article 23). In any event, the participants will be wise to recognize that they will probably receive little funding unless they organize a system that is reasonably accountable to donors.

The funding commitment of the developed nations is "to meet the agreed full incremental costs to [developing nations] of implementing measures which fulfil the obligations of [the] Convention." In a sense, this commitment is open-ended, and it has given rise to some of the developed-nation doubts about the convention. The use of the word *agreed*, however, provides some protection for donors. Moreover, industrialized nations issued a declaration in late May at which they spelled out their interpretation of this provision to avoid its appearing to be a blank check (Lascelles and Martin 1992). One of the proposals contained in the leaked memorandum in Rio was an interpretation that there would have to be unanimous agreement on financial decisions (BNA 1992c).

In the broader Rio context, the developed nations prevailed in these debates. An overall aid goal (of transferring 0.7% of a developed country's gross domestic product) to the developing nations is to be met "as soon as possible," which may well mean never. Progress toward meeting this goal is to be monitored by a new United Nations Sustainable Development Commission. The environmental funds (only part of the development funds) can go through a restructured GEF (BNA 1992d). Such restructuring has been under way for some time, to be based on a weighted voting process under which developing nations will have some say, but not control (BNA 1992e). The result is almost certain to be that GEF, rather than a new institution, will be the preferred approach for any new multilateral funding under the biodiversity convention.

## Access, intellectual property, and technology

The final set of issues—the primary basis for the United States' rejection of the treaty—are those associated with the economic aspects of genetic resources. The evolution of these economic questions was one of the rea-

sons for negotiating a treaty in the first place. These questions are the most contentious between developed and developing nations. And at least the access questions are unavoidable: it is impossible to imagine that the developed nations would assist in funding the conservation of biological resources without also achieving an understanding on access to these resources.

The convention takes important positions on all three economic questions, although it is clearest on the access question. Nations are to have sovereign rights over their genetic resources; access, "where granted" is to be on mutually agreed terms and conditions and subject to the "prior informed consent" of the nation involved (Article 15). Any concept of free scientific access (as distinguished from commercial access) is excluded. The April 1991 draft, for example, would have required parties to provide access "for purposes of scientific research, training, surveying and monitoring" (UNEP 1991). Nothing in the final convention is anywhere near as strong.

The access provisions are not retroactive and do not apply to resources already removed from a nation (e.g., material already in international gene banks or in collections for use in developed world breeding programs). But, looking ahead, the era of free scientific access to biological resources is over. It is hard to imagine that there will ever again be an expedition to collect biological materials that does not have to accept an agreement to contribute to the source nation a portion of any profits that may be made from the genetic information contained in the materials. Central America is already moving toward laws regulating extraction of genetic resources (BNA 1992f).

The provision governing patents and general transfer of technology is somewhat ambiguous, almost as if some paragraphs were inserted to satisfy the developed nations and some to satisfy the developing nations. The developed nations agree to provide technologies relevant to conserving and using genetic resources, on "fair and most favourable terms, including on concessional and preferential terms where mutually agreed." These terms, however, are to be consistent with intellectual property legislation, but the parties are to cooperate "to ensure that such rights are supportive of and do not run counter to [the convention's] objectives" (Article 16).

Finally, there is a special provision on biotechnology, which requires, as appropriate, that countries that provide genetic resources be given the opportunity to participate in biotechnological research. It also encourages access to the results and benefits of biotechnologies based on genetic resources provided by the parties. This provision goes on to deal with environmental biosafety questions (Article 19).

It is apparently these provisions, particularly the patent provisions, that, along with the financial provisions, led the United States to reject the treaty. There is no question that the language of the convention is ambiguous in the intellectual property area. The actual relation of intellectual property to the other goals of the treaty appears never to have been thought out. The ambiguity is unlikely to be a problem because courts will rarely, if ever, interpret the treaty itself; rather, they interpret implementing legislation, which can be drafted more precisely.

Nevertheless, the convention's critics emphasized the convention's provisions on intellectual property, particularly a provision that states:

> The Contracting Parties, recognizing that patents and other intellectual property rights have an influence on the implementation of this Convention, shall cooperate in this regard subject to national legislation and international law in order to ensure that such rights are supportive of and do not run counter to its objectives (Article 16, part 5).

One Patent and Trademark Office official, Jeff Kushan, who was part of the US negotiating team in Nairobi, is said to read this provision as a rejection of reliance on the free market (BNA 1992c). The Association of Biotechnology Companies opposed the treaty because it opposed any elimination or dilution of intellectual property rights or any provision that would compel the transfer of technology save in certain narrow circumstances (ABC 1992). And the Industrial Biotechnology Association took a similar position (IBA 1992).

What appears to have happened is that the intellectual property provisions ran headlong into a US policy of promoting intellectual property rights globally. Kushan noted that the treaty might interfere with US efforts at the General Agreement on Tariffs and Trade meetings to negotiate a stronger global standard for intellectual property. These negotiations are part of a global US effort in which, for example, trade sanctions have been threatened against a variety of nations that lack strong intellectual property protection. Stronger protection for the biotechnology area has been an important goal of this diplomatic thrust. The idea, strongly supported by a number of US trade associations and a significant portion of Congress, is that stronger foreign protection for intellectual property will permit US firms to obtain greater royalties abroad and thus fare better in international competition.

## Implications

The most significant implication of the convention is that, in spite of the United States' absence, restrictions on access to genetic resources are now legitimized. Short of a new negotiation (which may well be worth the effort), material transfer agreements are likely to soon be required by essentially all sources of genetic materials.

It may not have been possible to avoid these restrictions in an era of biotechnology. Thus, the Southern African Development Coordinating Conference proposed comparable restrictions in 1990 (Botswana 1990) and the UN Economic Commission for Latin America urged pricing of biodiversity in a 1991 report (ECLA 1991).

Nevertheless, the restrictions are likely to be harmful, more to science than to industry. Business is likely to be quite comfortable with paying for access to genetic resources, so long as all competitors face similar requirements. For scientists, however, the forthcoming access rules may well be nightmares. They will involve increased paperwork in any expedition, they may sometimes involve front-end payments, and, worst of all, they may involve a responsibility to track the

use of research materials from one's own laboratory to a commercial application several research institutions and research generations away.

There may emerge an era of bitterness in this area. The negotiations will leave a negative taste for both the developed and developing nations. And the chances are good that the total amount of royalties available to the developing world will be disappointingly small. The treaty applies only to what is taken out in the future, so that researchers have an incentive to use materials not subject to royalties. Smuggling may be impossible to control. And the royalties are likely to be substantial only in the case of a few spectacular pharmaceuticals. It is hard to imagine enormous profits in the agricultural sector or in some medical areas, and gross profits must be divided among the costs of regulatory compliance as well as a variety of research contributors in a variety of research laboratories.

At the same time, it is necessary to remember that this convention is, in large part, a framework for more specific transactions. The convention is meaningless unless the framework is used. Moreover, there is nothing to keep the United States, and its peoples and companies, from actually conserving developing world genetic resources in the absence of US acceptance of the framework. Chapter 15 of the nonbinding "Agenda 21" as drafted for Rio also calls for a variety of actions to conserve biodiversity (UNEP 1992b).

Indeed, the United States has been conserving genetic resources for some time, and the reality is that it and its citizens have been recognizing some of the developing nation concerns in specific contexts. Consider, for example:

- The Merck–Costa Rica agreement providing profit sharing in addition to a lump-sum payment for screening rights for material from Costa Rica's National Biodiversity Institute (Jukofsky and Wille 1992).
- The National Cancer Institute's insistence on recognition of the rights of nations of origin in any products derived from a nation's biomaterials (Pollack 1992).
- The various debt-for-nature swaps.
- President Bush's Enterprise for the Americas Initiative, under which certain international debts are forgiven, on condition that the beneficiaries use a portion of the funds for environmental conservation.
- The Consultative Group on International Agricultural Research, which supports a major portion of the world's ex situ agricultural genetic conservation facilities.
- The Global Environment Facility, which will be able to support a variety of developing nation conservation projects and has defined biological resources as one of its priority areas.

The Rio biodiversity convention is flawed, but for far more reasons than those that led the United States to reject it. The most important next steps are to expand working diversity-conservation programs and, in these more specific and less politicized contexts, to develop resolutions for the variety of economic disputes that marked the Rio convention negotiations. After a few years of experience, it may be possible to amend the convention or negotiate a better one.

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