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## Biodiversity: Opportunities and Obligations

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## SYMPOSIUM:

### **Biodiversity: Opportunities and Obligations**

#### **Introduction**

*Jonathan I. Charney\**

This issue of the *Vanderbilt Journal of Transnational Law* is devoted to the Symposium on Biological Diversity that was convened by the *Journal* at the Vanderbilt University School of Law on January 20-21, 1995. The focus of the Symposium was the United Nations Convention on Biological Diversity.<sup>1</sup> Biological diversity is a relatively new term in international law and relations. The Biological Diversity Convention was one of the products of the United Nations Conference on Environment and Development (UNCED) that was held in Rio de Janeiro, Brazil in June of 1992.<sup>2</sup> Since the Convention was a product of UNCED, its substance was influenced by the trends surrounding the entire UNCED process.

The Biological Diversity Convention entered into force on December 29, 1993, after 30 states ratified it.<sup>3</sup> By the time the

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1. *Opened for signature* June 5, 1992, 31 I.L.M. 818 (entered into force Dec. 29, 1993) [hereinafter Biodiversity Convention].

2. For the texts of all the products of UNCED and an overview of the Conference, see United Nations Conference on Environment and Development, 31 I.L.M. 814 (1992).

3. *Biodiversity Treaty Enters Into Force 18 Months After Approval at Earth Summit*, 17 Int'l Env'tl. Rep. (BNA) 3 (Jan. 12, 1994).

first conference of the parties was held a year later,<sup>4</sup> there were 106 parties and 30 observer states.<sup>5</sup> Initially, the United States did not sign the Convention and has not yet become a party. The Bush Administration opposed the Convention,<sup>6</sup> but the Clinton Administration signed the Convention and submitted it to the United States Senate for its advice and consent subject to certain understandings.<sup>7</sup> For some in the United States, the Convention is controversial.

The Symposium examined the Convention and issues raised by it from a global perspective and from a domestic United States perspective. Although this is a law school journal, the Symposium organizers wisely included on the program not only lawyers (from academia and government) but also persons from other disciplines, including economics, statistics, and business. Participants in the audience contributed views from other disciplines.

The Biological Diversity Convention is one of the many new developments in the field of international environmental law. The field is growing rapidly in response to international recognition that industrial development of all states often has some adverse consequences on the human race and the earth's biosphere. As Professor Bodansky explains, the Biological Diversity Convention is linked to and incorporates many of the new legal developments. Thus, the Convention is part of a larger global effort to develop new international law that, in turn, affects the overall relations among states. Of particular importance are the desires of less developed countries (LDC's) to develop economically and the problems associated with population growth and poverty. These issues form the background for understanding the Convention on Biological Diversity.

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4. The Conference was required by the Convention. Biodiversity Convention, *supra* note 1, art. 23.

5. Catherine Tinker, *Responsibility For Biological Diversity Conservation Under International Law*, 28 VAND. J. TRANSNAT'L L. 777 (1995). An up-to-date list of all ratifiers of the Convention can be found on the World-Wide Web at <http://www.unep.ch/bio/ratif.html>.

6. United States: Declaration Made at the United Nations Environment Programme Conference for the Adoption of the Agreed Text of the Convention on Biological Diversity, 31 I.L.M. 848 (1992).

7. Message from the President of the United States Transmitting the Convention on Biological Diversity, with annexes, done at Rio de Janeiro on June 5, 1992, and signed by the United States in New York on June 4, 1993, S. TREATY DOC. NO. 20, 103d Cong., 1st Sess. (1994). See *U.S. Signs Biodiversity Treaty, Urges Global Patent Protection For Biotech*, 16 Int'l Env'tl. Rep. (BNA) 432 (June 16, 1993) (discussing understandings such as patent protection and safety guidelines for biotechnology); *Biodiversity Treaty Unlikely to Get U.S. Senate Nod in 1995, White House Says*, 18 Int'l Env'tl. Rep. (BNA) 172 (March 8, 1995) (discussing the argument over the need for a biosafety protocol).

Perhaps it is first necessary to identify the object of biological diversity. The United States adopted at an early date the Endangered Species Act.<sup>8</sup> At the international level, the international community adopted the Convention on International Trade in Endangered Species.<sup>9</sup> These approaches to the issue focus on the protection of specific species that are apparently going extinct. A related but narrower focus would be one that addresses specific species that are apparently facing extinction and that politically important actors view as valuable for historic or emotional reasons, such as the spotted owl, and, thus, serve as "icons."

The participants in the Symposium agreed that the Biological Diversity Convention does not take this approach. Rather, its focus is on maintaining genetic diversity. The purpose of the Convention is to preserve for use by humankind a genetic library that could provide genetic information that can be used, for example, to preserve crops, to develop pharmaceuticals, or to otherwise fight disease. In addition, it is believed that this genetic library will better assure the stability of the earth's ecosystem as a whole. This approach immediately raises the question of how one defines and identifies this genetic diversity and then makes it operational. This issue was addressed by Dr. Solow, who argued that preservation should be based upon the genetic distance between various species. He would exclude, as a goal of the Convention, the saving of specific endangered species for their own sake. Rather, he would focus on saving those species that provide optimal genetic diversity. Admittedly, this approach contains many uncertainties. Science does not have all the data necessary to know the genetic composition of the different species extant today. Nor have scientists systematically measured the distances between the genetic composition of most known species. Nevertheless, the objective is clear, its implementation, however, is more difficult. This approach presents other difficulties. It may conflict with politically powerful icons supported by specific groups and it requires one to make hard triage decisions when species may be facing extinction.

The value of this approach, however, is apparent, especially if one assumes that all species cannot be preserved forever. By preserving the optimal diversity of the genetic library, human

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8. Endangered Species Act of 1973, Pub. L. No. 93-205, 87 Stat. 884 (codified at 7 U.S.C. § 136 (1994); 16 U.S.C. §§ 460k-1, 460l-9, 668dd, 715i, 715s, 1362, 1371, 1372, 1402, 1531-43 (1988)).

9. Convention on International Trade in Endangered Species of Wild Fauna and Flora, *opened for signature* Mar. 3, 1973, 27 U.S.T. 1087, 993 U.N.T.S. 243 (entered into force July 1, 1975).

survival may be best preserved. Not only is it more likely that important crops will be saved through the development of disease resistant strains, but human lives may be saved as well. Genetic harvesting may develop necessary pharmaceutical products and, perhaps, new materials that may be used to genetically engineer new lifesaving treatments for human or animal diseases, and crops upon which human civilization depends.

In pursuing this objective, one must consider the entities that would have to implement this approach. The international community is composed primarily of nation states. They are the principal decision makers in this community, although nongovernmental organizations (NGO's) and transnational corporations (TNC's) play an increasingly important role. The most important development of the Biological Diversity Convention in dealing with the implementation problem stressed by the Symposium participants is that the Convention makes it clear that nation states have intellectual property rights in the genetic material found within their borders.<sup>10</sup> This was the principal focus of the paper presented by Mr. Kushan of the United States Office of Patents and Trademarks. Intellectual property rights provide states with an economic interest in the preservation and commercial development of that material. As Professor Russell emphasizes, it internalizes the value of genetic information and makes it economically valuable for the state to protect and preserve the resource. States have the right to sell that genetic material and the right to condition that sale.

Recognizing the intellectual property rights of nation states also has advantages to the genetic prospector. It enables the genetic prospector to contract with the state for the right to prospect for the genetic material under predictable terms, including security of tenure over the duration of the contract. The prospector also can contract for the exclusive right to the resource and protection against undesired disclosure to competitors. The primary disadvantage to genetic prospectors is that, through this development, they will no longer be able to engage in the practice of unilaterally taking (legally or illegally) for their own use genetic material located in foreign states. While that type of access had its short term advantages to the prospector, its disadvantages were its lack of exclusivity, long term rights, and motivation on the part of the host state to protect and preserve the genetic resources located in its territory (not to speak of the potential illegality of some of these practices).

The advantages of recognizing the intellectual property rights of nation states to genetic resources were made particularly clear

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10. Biodiversity Convention, *supra* note 1, art. 15.1.

by Mr. Asebey, a businessman who is directly involved in harvesting genetic material in Latin America for use in the production of new pharmaceutical products. In his business, the harvesting is painstaking, requiring the gathering and testing of large quantities of materials over a long period of time. Considerable support is required from the local community and the monetary returns, if any, are not expected before the lapse of ten years, or more. The stability of contractual relations, assurance of rights, and local native support help to make the conduct of the enterprise economically viable.

There is, of course, the risk that the host state will overreach by seeking unjustified monetary payments, transfer of technology, premature access to information, or the right to disclose confidential information. While the Convention addresses the transfer of technology and empowers states to seek contracts that maximize their own objectives, nothing in the Convention requires the transfer of any technology. Interested businesses are free to refuse terms or refuse to conclude agreements with states that overreach.<sup>11</sup> The interests of the state in obtaining economic value for its genetic resources and the interests of business persons in harvesting genetic resources found within that state, however, should lead to reasonable negotiations that will be mutually acceptable to both government and industry. Of course, there are risks that a negotiator will seek to overreach and an agreement will not be concluded. While negotiations may fail in the short term, it is likely that the alternatives available to both sides will promote optimal solutions. Furthermore, this route seems to be preferred because it may be the only way to promote the protection of genetic diversity.

As many of the participants in the Symposium made clear, not only was the Biological Diversity Convention associated with the UNCED process but it must be viewed in the context of current developments in international environmental law. We find within the Convention concepts and approaches that are pervasive in modern international environmental law. In fact, they might be viewed as the *sine qua non* of modern international environmental law. The Convention promotes the objectives of monitoring<sup>12</sup> and sustainable development<sup>13</sup> that will provide the optimal production of natural resources for human consumption in the context of a holistic approach to the environment. Its objective is to assure resources are available that are necessary to

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11. *Id.* arts. 16, 19.

12. *Id.* art. 7.

13. *Id.* art. 6.

maintain the biosystem as a whole. The Convention also includes concepts such as the precautionary principle<sup>14</sup> and equity for future generations.<sup>15</sup> Additionally, environmental impact assessments are required.<sup>16</sup> While states are the primary actors, participation by other actors such as NGO's and TNC's is permitted,<sup>17</sup> as Professor Tinker and Ms. Kimball emphasized. In general, states are obligated to cooperate and coordinate their actions to promote the objectives of the Convention.<sup>18</sup> Sharing of information and technology is often critical in this regard.<sup>19</sup> Implementation is to be accomplished not only through the universal approach of the Convention but through regional and local organizations, which are crucial to effective accomplishment of its goals.<sup>20</sup>

Not only does the Convention track many of the concepts used in other areas of international environmental law, but the Convention's objectives are promoted separately through other international agreements that share its objectives. Ms. Kimball and Professor Joyner especially stressed the critical role that the 1982 Convention on the Law of the Sea<sup>21</sup> plays in this regard. Support is also found in the Madrid Protocol,<sup>22</sup> the London Dumping Convention,<sup>23</sup> Marpol,<sup>24</sup> the United Nations Framework Convention on Climate Change,<sup>25</sup> the Ozone Convention and its protocols,<sup>26</sup> the Basel Convention,<sup>27</sup> and a large number of

14. *Id.* pmbl., para. 9.

15. *Id.* pmbl., para. 23.

16. *Id.* art. 14.

17. *Id.* pmbl., para. 14, arts. 13, 25.

18. *Id.* arts. 17, 18.

19. *Id.* arts. 17, 18.

20. *Id.* pmbl., para. 14.

21. United Nations Convention on the Law of the Sea, *opened for signature* Dec. 10, 1982, pmbl., U.N. Doc. A/CONF.62/122, 21 I.L.M. 1261 (entered into force Nov. 16, 1994). For a list of parties to the Convention as of November 16, 1994, see UNITED NATIONS DIVISION FOR OCEAN AFFAIRS AND THE LAW OF THE SEA, OFFICE OF LEGAL AFFAIRS, LAW OF THE SEA BULLETIN: SPECIAL ISSUE IV 29-39 (Nov. 16, 1994). By the end of 1994 there were seventy-one parties. 36 LIMITS IN THE SEAS 171-80 (1995). An up to date listing is available on the internet at [gopher.vn.org](http://gopher.vn.org).

22. Protocol on Environmental Protection to the Antarctic Treaty, Oct. 4, 1991, 30 I.L.M. 1461.

23. Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, *opened for signature* Dec. 29, 1972, 26 U.S.T. 2403, 1046 U.N.T.S. 120.

24. International Convention for the Prevention of Pollution from Ships, Nov. 2, 1973, 12 I.L.M. 1319, as modified by the Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, *opened for signature* June 1, 1978, 17 I.L.M. 546.

25. May 9, 1992, 31 I.L.M. 851.

26. Vienna Convention for the Protection of the Ozone Layer, March 22, 1985, 26 I.L.M. 1529; Montreal Protocol on Substances that Deplete the Ozone

regional environmental and fisheries agreements identified by Professor Joyner. As a consequence, many of the environmental objectives of the Biological Diversity Convention also are promoted by various international agreements designed to protect and preserve the global environment.

Unfortunately, the Biological Diversity Convention itself does not contain many hard law rules. It is primarily a framework convention, as are the other products of UNCED. In the future, however, more specific agreements are likely to evolve that implement the broad soft law goals set out in the Convention. It may also mean that, as Mr. Ward predicted, being a new frontier in international law, some controversy and changes in direction can be expected before all of the details of the Convention are fully resolved by the international community. This will be particularly true in the context of fully defining the nature of the intellectual property rights held by states in genetic resources within their territories and the relationship of that right to the general and conventional international law of intellectual property.

Ms. Kimball, however, provides us with an agenda for the future. She recommends that the Convention parties first concentrate on developing guidelines and practices along with data gathering and analyses. These will be critical to developing an effective system for preserving biological diversity and will provide guidance for states and other actors with limited resources at their command. Complementing these developments must be the development of local and regional organizations with linkages to the global system. The Convention can be most effective in creating linkages among these organizations, serving as a clearinghouse for information and expertise.

At the end of the Symposium an open roundtable discussion was held. This discussion focused specifically on the interests of the United States in regard to the Convention on Biological Diversity. Some have charged that the Convention is antihuman because it preferences the protection and preservation of nonhuman living organisms to the detriment of humans. Others fear that the Convention promotes the interests of the LDC's to the detriment of the developed countries (DC's), such as the United States. This is said to be accomplished especially by recognizing intellectual property rights for the LDC's in genetic

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Layer, Sept. 16, 1987, 26 I.L.M. 1550; Adjustments and Amendments to the Montreal Protocol on Substances that Deplete the Ozone Layer, June 29, 1990, 30 I.L.M. 539.

27. Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Mar. 22, 1989, 28 I.L.M. 657.



resources within their territories when, previously, DC industries did not have to recognize these claims. Still, it is not clear how the Convention will be implemented, and whether it will be fair and provide optimal protection for biological diversity. Furthermore, costs to the United States may include required payments to maintain biological diversity and the transfer of technology.

The participants in the roundtable generally agreed that the Convention was in the best interest of the United States and that the negative arguments described above were either incorrect or unimportant. The participants expressed the view that the United States has a long term interest in preserving biological diversity through genetic diversity and that the Convention makes a positive contribution towards that objective. For the most part, the LDC's do hold the storehouse of genetic material that the United States and the rest of the world need to preserve. By providing states with an economic interest in the form of an intellectual property right, they will be economically motivated to make optimal use of those resources by protecting them and marketing them wisely. In turn, the Convention, gives DC industry, which is interested in harvesting those resources, a legal structure within which to negotiate business arrangements. It also places an economic value on their handling those resources pursuant to wise economic practices. This market-based approach was considered by the participants to be the most effective way of protecting the genetic resources that human civilization requires. Thus, the system is designed for the optimal benefit of human civilization; other living species are not preferred over the interests of the human race.

United States party status was considered necessary to maximize its own interests. As was discussed previously, the Convention is merely a framework convention and will evolve in the future. Only if the United States is a party and actively participates in future negotiations will it be able to exert its full influence on this evolution and produce solutions it prefers. Furthermore, modern international environmental law often enforces its rules against nonparticipants by exclusion. The United States nonparty status therefore may preclude it and its companies from gaining access to genetic resources found in other nation states. As a consequence, U.S. industry will be disadvantaged economically and technologically because foreign companies will have that access. While U.S. companies can establish foreign subsidiaries that can gain access under the flags of other countries, disadvantages to the United States will be realized in the loss of domestic profits, taxes, jobs, and industry leadership. Finally, although the Biological Diversity Convention calls for the exchange of information, technical and scientific

cooperation, as well as access to and transfer of technology, it contains no compulsory transfer of technology.<sup>28</sup> Nor is there any requirement that proprietary information be divulged to other states. The Convention also includes general obligations to provide financial resources to LDC's to promote biological diversity, but the requirements are unspecified and soft.<sup>29</sup>

The Convention takes a free market, human-based approach to the optimal protection of the earth's genetic resources for the benefit of all humankind. Before the objectives of this framework convention are fully realized, much work will be required for the Convention regime to evolve. There is much uncertainty in this area, especially due to the lack of complete information on the world's genetic resources and the best ways to preserve them. The Convention, however, presents a positive development that should benefit the world as a whole, including the United States. The United States, therefore, should become a party to this Convention and actively participate in its evolution and implementation.

Even if the United States does not become a party, the Convention will remain in force and will evolve. Not only may the United States lose some of the benefits of participation, but it is also likely that the Convention will produce new general international law to which the United States will nevertheless be required to abide.<sup>30</sup> Thus, it is hard to imagine that a dispassionate analysis of the Convention will support any conclusion other than that the United States ought to become a party to the Biological Diversity Convention at an early date.

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28. Biodiversity Convention, *supra* note 1, arts. 16, 17, 18.

29. *Id.* arts. 20, 21.

30. See Jonathan I. Charney, *Universal International Law*, 87 AM. J. INT'L L. 529, 543-50 (1993) (discussing a theory for creating general international law).

