

WHO OWNS BIOLOGICAL DIVERSITY?

**A Brief Description of the Debate over the Rights to Biological
Diversity
in the North-South Context**

by

Beatrix Tappeser and Alexandra Baier

Öko-Institut Freiburg

Published by the Heinrich Boell Foundation

Documentations, Papers and Reports of the Heinrich Boell Foundation, No. 3:
Who Owns Biological Diversity? A Brief Description of the Debate over the Rights to
Biological Diversity in the North-South Context. By Beatrix Tappeser and Alexandra
Baier, Öko-Institut Freiburg
Published by the Heinrich Boell Foundation

Printed in Germany
© Heinrich-Böll-Stiftung, Berlin 2000
All Rights reserved
Translation: Agie Reeves
Production: trigger, Berlin

The following paper do not necessarily represent the views of the Heinrich Boell
Foundation.

To order this publication:
Heinrich-Böll-Stiftung, Hackesche Höfe, Rosenthaler Str. 40/41, 10178 Berlin,
Tel. +49-30-285340, Fax: +49-30-28534109, E-mail: info@boell.de
Internet: www.boell.de

Contact:
Dr. Beatrix Tappeser, Öko-Institut Freiburg, Am Binsengrün 34, 79028 Freiburg,
E-mail: tappeser@freiburg.oeko.de

TABLE OF CONTENTS

1.	Introduction	4
2.	The International Undertaking for Plant Genetic Resources	6
3.	The Convention on Biological Diversity	7
	- The Protocol on Biosafety	9
4.	WTO, Patents and Varieties Protection	12
4.1	The Collapse of the Negotiations in Seattle	12
4.2	The TRIPs Agreement	13
4.3	The UPOV Accord	15
4.4	Characterization of the TRIPs Agreement and UPOV Accord	17
4.5	Review of the TRIPs Agreement	18
5.	The Most Important Actors	19
5.1	Non-governmental Organizations	20
5.1.1	Third World Network	20
5.1.2	Rural Advancement fund International	20
5.1.3	Genetic Resources Action International	20
5.1.4	Gaia Foundation	20
5.1.5	Diverse Women for Diversity	21
5.1.6	GENET – European NGO Network on Genetic Engineering	21
5.2	The National States	21
5.2.1	Industrialized Countries	21
5.2.2	G77 and China	22
5.2.3	Eastern Europe	22
5.2.4	Negotiation Groups Formed for the Biosafety Negotiations	22
6.	Important Global Political Events in the Coming Years	23
	Bibliography	25

1. INTRODUCTION

For a long time, the genetic resources and biological diversity of all types of living organisms on the Earth were considered the common heritage of all of humanity. However, there have always been great imbalances in the distribution of this natural wealth. The economically most interesting original regions in terms of agriculturally useful plants are primarily in the countries of the south.

The countries of the north, relatively poor in species variety, exhibited great interest in the acquisition of plant genetic resources as early as the 18th and 19th centuries – for strategic and other reasons. However, until the 20th century, the primary topic of interest was in developing new species rather than varieties within a given species.

By using them throughout the millennia, coupled with targeted selection and adaptation to existent conditions, farmers worldwide have developed a great deal of variety within species. In India, for example, there were more than 30,000 varieties of rice in the mid-20th century. This multitude, developed throughout many years, is of crucial importance for the ability to adapt to future environmental conditions, continued development of varieties, and breeding to resist against disease and pests. Modern, high-technology breeding builds on that gene pool as well. Simultaneously, however, modern breeding and the accompanying varieties protection laws in the Western industrialized countries have led to a decrease in this multitude of agricultural varieties; in some cases drastic. As early as the 1970s, the U.S. Academy of Sciences stated that “the process represents a paradox of social and economic development, in that the product of technology (breeding of high-yield and uniform varieties) destroys the resources upon which technology builds” (1978, cited by Flitner 1995).

Primarily for the colonial powers, botanical gardens played a key role, and served as collection points to transport useful plants between the continents and to build up or break down monopolies on products of plant origin. Until the 1980s in Germany and other countries, large-scale collective imports led to those countries main-tenance of large stocks of potato, carrot and barley varieties; some at private breeding companies and some at state-established gene banks. Now more than ever, these collections are of incalculable value. They represent the current storage of raw materials of the genetic technology industry and of private plant breeders. An added advantage is that profit sharing with the indigenous farmers who have cultivated these varieties and species is normally not necessary, since the varieties were taken to the industrialized countries long before the effective date of the Convention on Biological Diversity.

In 1992 at the environmental summit in Rio de Janeiro, the Convention on Biological Diversity was finally approved to work against the erosion of genetic diversity within species which accompanies the intensification of breeding and the global success of high-yield varieties, as well as the general loss of species occasioned by industrialization and environmental pollution, all of which have taken on dangerous proportions since the 1950s. This was the first internationally binding agreement obligating all member countries to undertake measures to protect bio-logical diversity. By mid-1999, the Convention had been signed by 175 countries. As such, the Convention has more member countries than the World Trade Organi-zation (134). Partially due to intensive lobbying by the American biotechnology industry, the USA have thus far not become a signatory to the Convention.

As early as 1983, an international agreement was reached under the leadership of FAO (Food and Agriculture Organization of the United Nations), which specifically addresses the conservation of plant genetic resources. However, the “International Undertaking for Plant Genetic Resources” is thus far not yet legally binding. It was decided in 1993 to revise the document. The technology conference, which took place in Leipzig in 1996 and was organized within the scope of the “Undertaking,” represented an important step toward integrating these two international agree-ments. The revisions are due to be completed by the end of 2000, and will lead to a legally binding agreement which will possibly become a part of the Convention on Biological Diversity.

The adoption of the Biosafety Protocol in January 2000, which regulates the inter-national trade in genetically modified organisms, for the first time clarified the relationship between an agreement under the Convention on Biological Diversity and the WTO and GATT agreements. It was agreed that the two agreements would stand alongside one another and be given equal weight.

The agreements discussed briefly herein represent the primary international instruments and forums which address and debate the status of biological diversity and appropriate ways to deal with it. The interests of the industrialized and developing countries clash sharply in this respect, and non-governmental organi-zations worldwide are fighting for effective preservation endeavors, and for a sustainable use of biological diversity which deserves description with that adjective.

In the following, these various agreements will be introduced briefly and their most important statements will be summarized. This will make clear which contra-dictions and discordant aspects exist between the various agreements as well as the focus of the current political debate.

We conclude with a short introduction of selected actors among the non-governmental organizations, some of which have had great success in their yearlong work for the preservation of biological diversity, against patents on life, and for self-determined and sustainable use of these valuable resources.

2. THE INTERNATIONAL UNDERTAKING FOR PLANT GENETIC RESOURCES

The International Undertaking was adopted in 1983 at a conference of the FAO; in the meantime, 113 countries have joined the Undertaking. Its development was a reaction to the dangerously progressing erosion of plant genetic resources, and was undertaken against the will of the industrialized countries. Thus far, it is not binding as a matter of international law. The agreement defines plant genetic resources as the heritage of humanity, whose preservation and study is to be fostered by the Undertaking. The choice of the term “heritage of humanity” was the subject of some controversy, since the Undertaking called for unrestricted access to all plant genetic resources, including industrially-produced seed. This provoked the resistance of the industrialized countries, who believed that it endangered their varieties protection policies. But the developing countries likewise had problems with the term, since it does not encompass any sovereign use rights for countries where the plant genetic resources originate. In the end, the developing countries introduced the concept of “Farmers’ Rights” into the negotiations on the Undertaking – as a complementary instrument to the varieties protection laws and similar demands on the part of the industrialized countries.

The concept of Farmer’s Rights expresses formal recognition of the achievements of farmers throughout the millennia in preserving, developing and improving plant genetic resources. This formal recognition is to simultaneously form the corner-stone for demanding of the international community to provide future financial support for these activities, since the work of local communities and indigenous groups should be considered an investment in the preservation and future use of biological resources.

The Convention on Biological Diversity put to rest the debate regarding the various interpretations of the status of plant genetic resources. For the first time, it asserted as a matter of binding international law that a given country must have the right of disposal over its own biological diversity. This may be interpreted as a major success of the developing countries. The concept of Farmers’ Rights, however, remains contested within the framework of the Convention.

The technology conference on plant genetic resources, held in Leipzig in 1996 and organized within the scope of the Undertaking approved two resolutions, the “Global Plan of Action for Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture,” and the “Leipzig Declaration.” The FAO and the participating international community of nations thus came closer to the spirit of the Convention on Biological Diversity, and achieved greater consistency among these two agreements. As such, both the “Global Plan of Action” and the Convention now underscore as an important element the linkage between preservation and use, and highlight the special role of local communities and indigenous groups, with particular emphasis on the role of women.

The revision of the Undertaking, begun in 1994 and scheduled for completion in the year 2000, will result in a legally binding document. To date, a draft text regarding Farmers’ Rights has been completed, which strives to secure these rights by way of national legislative initiatives. At the moment, a point of discussion is whether the revised Undertaking should be a text which stands for itself, or whether it should form a protocol within the scope of the Convention on Biological Diversity.

3. THE CONVENTION ON BIOLOGICAL DIVERSITY

The adoption of the Convention on Biological Diversity marks an important juncture in the debate on the disposition rights to genetic and biological resources, since it for the first time specifies in a legally binding document that biological diversity of each and every country is the possession of that country (Art. 3 and 10). As such, the national states for the first time receive all rights of disposition over their biological resources. However, Art. 15 of the Convention provides that regulated access to these resources should be ensured. As a counter-measure, an appropriate share of potential profits ensuing from the use of these resources is to be assured. What remains unregulated is how those varieties and samples collected before the adoption of the Convention, which are being stored in large quantities in gene banks or can be found in botanical gardens, are to be treated in terms of ownership rights and “benefit sharing.”

Article 8j of the Convention focuses on the special role of indigenous peoples and their knowledge, both in the creation of and the future preservation and use of genetic resources. Simultaneously, the article specifies that, when such knowledge is used, the indigenous peoples and local communities how have brought forth this knowledge are to share in the profits and benefits attained from such use.

Article 10c of the Convention also calls upon the signatory countries to protect and support the utilization of traditional methods in harmony with the preservation and sustainable use of biological diversity.

The most important principles of the Convention may be summarized as follows:

- The contribution of the peoples of developing countries to the entire world's biodiversity is of great importance.
- Biodiversity is not a "gift of nature," but the result of community activities where women in particular have always played a vital role.
- Biodiversity is intrinsically co-dependent with diverse cultures, knowledge systems, and lifestyles which generate and maintain it.
- *In situ* (local) conservation of biological resources is more sustainable than *ex situ* (gene bank conservation).
- Rights for local communities, as well as states, are necessary to protect biological resources and to encourage preservation.
- Programs and policies must be implemented to promote conservation and sustainable use, as well as the sharing of benefits arising from the use of biological resources.

The following points may be identified as the most important obligations arising on the part of the signatory nations to the Convention:

- Recognition of the sovereign rights of states over their biological resources.
- The stipulation that access to biological resources of a given state can only occur with the "prior and informed consent" of that state.
- The requirement that signatories protect and promote the rights of communities, farmers and the indigenous peoples vis-a-vis their biological resources and knowledge systems.
- The establishment of access to the biological resources of developing countries on a quid pro quo basis with technology transfer from the industrialized countries.

- The requirement of an equitable sharing of benefits arising from the commercial use of communities' biological resources and local knowledge.
- The assurance that intellectual property rights do not conflict with the conservation and sustainable use of biodiversity.

(taken from Global Trade and Biodiversity in Conflict, published by GAIA and GRAIN 1998).

As a whole, the Convention is viewed by local communities and indigenous peoples as the long-overdue recognition of their accomplishments in creating and pre-serving existing biological diversity. However, traditional local practices in dealing with genetic resources – for example the automatic exchange of seed and products, and the passing on of knowledge regarding special properties of plants, funguses, and animal products – are sometimes in direct conflict with developments in the industrialized countries, which strive for a complete privatization of commercially exploitable genetic resources. Important steps in this direction have already been taken with the creation of the World Trade Organization (WTO) and the agreement on Trade-Related Property Rights (TRIPs). As such, some organizations sharply criticize the increasing trend toward reducing benefit sharing exclusively to the commercial approach (see the discussion below of the TRIPs Agreement).

The Protocol on Biosafety

Following five years of negotiations, the so-called Cartagena Protocol on Biosafety was adopted in January 2000 in Montreal; this may be classified as part of the Convention on Biological Diversity. It regulates international trade in living genetically modified organisms. During the negotiations, the countries divided up into five bargaining delegations, which will be presented in more detail later.

The negotiations in Montreal were primarily characterized by severe differences of opinion between the Miami Group and the Like-minded Group. The former group, which to some extent is already involved in large-scale production of genetically altered plants, assumed a stance basically against the Protocol. The Like-minded Group had far-reaching ideas, it feared negative consequences to the diversity of agricultural useful plants and to biological diversity in the affected countries.

In the opinion of various observers, the successful conclusion of the negotiations were thanks to the excellent leading of the negotiations by Colombia's Environment Minister, Juan Mayr Maldonado, as well as the committed involvement of the EU environment

and health ministers and the EU Commissioner for the Environment, Margot Wallström. Finally, public pressure at the site of the negotiations likely played a role which is not to be underestimated, especially in light of the debacle of the WTO negotiations in Seattle.

The Protocol was presented for signature to the member states at the 5th states' conference of the Convention for Biological Diversity in Nairobi in May 2000, and was signed there by 68 countries. It will remain available for signature at the United Nations in New York until March 2001. The Protocol will take effect 90 days after being ratified by 50 countries.

The most important points of the Protocol may be summarized as follows:

- The effective scope of the Protocol includes all LMOs (living modified organisms). Pharmaceutical products which are LMOs, however, are largely excluded from additional regulation. LMOs for use in closed facilities, and those which merely pass through a country in transit, must be registered, but are not subject to the AIA (Advance Informed Agreement) regulations. LMOs for use as food or animal feed (LMO-FFP – LMOs for food and feed production), are subject to a significantly diluted version of the AIA.
- The preservation principle is anchored in a total of five places in the Protocol: in the preamble, in Article 1 under Objectives, in Article 10 covering AIA Procedures, in Article 11 dealing with LMO-FFPs, and in Annex II on Risk Assessment. The Protocol allows the countries to impose import prohibitions even if no conclusive evidence of negative effects of genetically modified substances on the environment and health can be presented.
- The relationship of the Biosafety Protocol to the WTO agreements is not specifically regulated in a separate article; however, the preamble contains a paragraph which underscores the equal nature of the two agreements. In the opinion of several legal experts, the arbitration provisions of the WTO would apply in the case of a conflict between the two. The EU and non-governmental organizations are of the opinion that the WTO must heed the provisions of the Protocol.
- According to the regulations of the AIA (Advance Informed Agreement) countries, exporters must provide advance notice to and receive approval from countries to which they wish to import genetically modified seed, genetically modified live fish, or other living genetically modified organisms. The goal is that the importing countries have the opportunity and capacity to carry out a risk assessment.

- National market approval must be registered with the Biosafety Clearing House. Member states may request more detailed documents and make import decisions based on national laws which are consistent with the provisions of the Protocol.
- The member states are permitted, consistent with existing international obligations, to take socio-economic aspects into consideration in their decision-making on imports.
- All non-FFP-LMOs must be clearly labeled as such. For the food and feed area, a “may contain” labeling was negotiated. This regulation is to be assessed in two years and replaced by a more specific provision.
- During the next member states’ conference on the Biosafety Protocol, a process is to be initiated whereby internationally binding rules of liability in connection with LMOs are to be developed. This text of such an agreement is to be completed within four years.

The conferences of the signatory countries will serve to implement the Protocol. They will be organized by the Intergovernmental Committee for the Cartagena Protocol on Biosafety (ICCP). A work timetable for this endeavor was developed at the 5th member states’ conference in Kenya. The first meeting of ICCP will take place from 11-15 December 2000 in Montpellier, France. The chairperson of the Committee will be Philemon Yang from Cameroon; additional members of the Committee will represent Denmark, India, Iran, Peru, Poland, Saint Kitts and Nevis, South Africa, Switzerland, and the Ukraine.

4. WTO, PATENTS AND VARIETIES PROTECTION

Since the end of the second world war, there have been far-reaching transformations in the global economy on the international level; these began in 1947 with the adoption of the first GATT agreement (General Agreement on Tariffs and Trade). The liberalization of world trade initiated with that first agreement has been continually intensified since that time. Patents and intellectual property rights have been viewed from the outset as important political instruments in connection with the market economy and its liberalization.

In the 8th round of GATT negotiations, which lasted from 1986-94 and went down in history as the Uruguay Round, important aspects of this trade agreement were newly regulated. The second part of the three-part final declaration negotiated at the Uruguay Round, termed the “Agreement to Create the World Trade Organization (WTO),” took effect on 1 January 1995. Among the duties of the WTO is the implementation and administration of the WTO agreement and the multilateral GATT trade agreement of 1947, as well as the 1994 agreement.

An additional result of the Uruguay Round is particularly important in terms of the debate over disposition rights: the “Agreement on Trade-Related Aspects of Intellectual Property Rights” (TRIPs). The TRIPs Agreement provides that all signatory states to the GATT/WTO Agreement must integrate the provisions of the TRIPs agreement into their national legislation. In the case of disputes regarding the appropriate implementation of the TRIPs Agreement, it enables the WTO to apply the same system of conflict resolution as used in other disputes regarding WTO provisions. A WTO court of arbitration decides whether a complaint regarding inadequate, improper or lacking implementation is justified. The agreement allows trade restrictions as the final consequence of a violation of the provisions.

The yearlong negotiations in the European Parliament regarding the passage of a patent regulation are one direct consequence of the calls to implement the TRIPs Agreement.

4.1 The Collapse of the Negotiations in Seattle

The endeavors for rapid progress in the liberalization of global trade suffered a crushing defeat in December 1999. The third WTO ministers’ conference in Seattle ended in disaster. The conference was supposed to introduce a comprehensive, three-year millennium round and specify negotiation procedures. But no resolution on a concluding declaration was agreed to in Seattle.

Even before the negotiations, it was feared that the talks might collapse. The preliminary negotiations in Geneva, the headquarters of WTO, on the approval of the upcoming concluding declaration proved confusing; the primary areas of contention were those of agriculture and implementation. The revision of the TRIPs Agreement was the subject of controversial discussion as well. Due to these events, only those matters will be negotiated in the year 2000 which must, according to the existing WTO agreement and its established timetable, be re-negotiated; concrete examples include the areas of agriculture and the service industry. Also, revision of the TRIPs Agreement, a portion of which should have been completed in 1999, will be continued.

Several reasons are discernible for the failure of the negotiations. First of all, the contradictions between the interests of the most important trade nations were too vast, and their willingness to compromise was inadequate. Another crucial role was played by the developing countries. They made it be known clearly that they will no longer tolerate being ignored in the most important decisions, which thus far had often been made without their participation in so-called informal “Green Room Meetings” outside of the official working groups. Some commentators have accused the USA of having precipitated the failure by insisting on positions which from the outset were known to lack majority support. However, the public protests against the WTO negotiations surely played a major role as well. In the meantime, the World Trade Organization is familiar not only to experts in the field; rather, the population at large now understands the influence that decisions by the WTO can have on everyday life. Thus, as stated by the environmental protection organization Greenpeace, “After Seattle, the WTO will never be the same.”

4.2 The TRIPs Agreement

Like the WTO Agreement, the TRIPs Agreement took effect on 1 January 1995. The most important points of the agreement provide that all member states of the WTO must develop a patent regime or a patent-similar system (*sui generis* system) for the protection of biological resources. Developing countries must integrate the provisions of the TRIPs agreement into their national law by the year 2000. The least-developed countries have until the year 2005 to do this. Article 27.3b of the agreement is especially important in terms of genetic resources and biological diversity. On the one hand, the TRIPs agreement is designed to ensure that all technologies and their products may be patented, including those formerly considered unsuitable for patent. These include pharmaceutical and medical processes and their products, as well as biological material, primarily plants and microorganisms. On the other hand, Article 27.3b allows for certain exceptions as well.

Article 27.3b of the TRIPs Agreement

“Members may also exclude from patentability: plants and animals other than micro-organisms, and essentially biological processes for the production of plants and animals other than non-biological and micro-biological processes. However, members shall provide for the protection of plant varieties either by patents or by an effective sui generis system...”

The sui generis system is interpreted in widely varying manners. Some view it as an opportunity to at least except plants and animals from the patent demands, while recognizing that other protection systems, such as a comprehensive varieties protection, must be initiated and/or developed; others believe that sui generis systems do not represent much progress, because in the area of varieties protection, there has already been large-scale adoption of patent-similar regimes. It is clear that patent laws and currently applicable plant varieties protection regulations either completely or largely exclude the applicability of the concepts of plant breeders’ rights and farmers’ privilege.

The plant breeders’ rights contained within the former plant varieties protection laws enabled commercial breeders to continue breeding recognized varieties and develop new varieties from them. This did not result in the requirement of paying any licensing fees or compensation to the original breeder of the variety.

The farmers’ privilege provided that each farmer could use portions of his harvest for subsequent cultivation. It also enabled small-scale commercial trading among neighbors. With the new plant varieties protection laws, these privileges and exceptions are largely excluded. For example, as of recently, farmers in Germany must pay over subsequent cultivation fees to the plant breeders’ association if they use more than a certain percentage of seed stemming from a certified variety for subsequent cultivation. This is a direct consequence of the change in the Union for the Protection of New Varieties of Plants Agreement, adopted in 1991 and to which Germany is also a signatory.

The review process for Article 27.3b, scheduled for the year 1999, has not yet been concluded. As such, the comprehensive review of the agreement will have to wait, and it is questionable whether a new version of the TRIPs Agreement will be approved this year.

In the meantime, not only non-governmental organizations are calling into question how intellectual property rights are dealt with; in its human development report of 1999, the development organization of the United Nations also takes a critical stance: “The

unrelenting advancement of rights to intellectual property must be halted and questioned.” (UNDP 1999, p. 89).

4.3 The UPOV Accord

The UPOV Accord (Union for the Protection of New Varieties of Plants) is a multilateral agreement by plant breeders to mutually recognize rules and protect property rights to plant varieties on the national level.

The first version of the UPOV Accord was adopted in 1961. To a large extent, it was consistent with the then-existing seed laws of the Federal Republic of Germany, which played a major role in negotiating the text of the agreement. Initially, only six European countries were member states to the accord. By the beginning of the 1990s, this number had grown to approximately 20 countries worldwide. Until then, developing countries were virtually unrepresented; not until the beginning of the 1990s did several countries from the south, primarily from Latin America, become member states to the accord. In the meantime, 44 states have adopted the UPOV Accord.

The original accord has been revised several times since 1961. The most recent revision was adopted in 1991. The various member states have formally adopted one of two separate agreements: either the version negotiated in 1978, or the revised accord approved in 1991. Until the end of April 1999, member countries had the choice of whether to sign the 1978 or the 1991 version of the agreement. Since then, their only option is to sign the 1991 agreement.

The accord provides that, in the signatory countries, varieties protection laws must be adopted which are consistent with certain criteria and assign far-reaching rights to breeders for the varieties developed by them. Pursuant thereto, varieties must be homogeneous, distinguishable, and stable before they are approved for the market. Mixed varieties are not permitted. Farmers are prohibited from selling seed derived from their own harvest and from certified varieties. Multiplication of seed may occur only with a license from the original owner of the variety. With every seed purchase, farmers must pay a type of patent fee. Fees are charged for subsequent cultivation as well.

The text of the 1978 accord contains two important exceptions to the commercial monopoly of breeders; namely, plant breeders’ rights and farmers’ privilege (see above). These exceptions were largely excluded in the 1991 text.

The 1991 revision also became necessary because conventional breeders' existence was being threatened by developments in genetic technology. Plant breeders' rights seemed a way to ensure that, with the introduction of an individual gene into a recognized variety and the patent protection which would normally apply to such a gene, exclusive ownership rights to the variety would pass to the patent holder. It was thus provided that greater changes in the genetic composition are necessary before a given variety may be classified as a new variety. Otherwise, the new variety is classified as a significantly derivative variety, whose ownership rights remain with the original breeder. As such, an established variety which has experienced only a single change in terms of genetic technology may be brought onto the market as a new variety, but the original owner of the variety has the right to participate in the profits.

This new version may also be interpreted to have provided breeders and the genetic technology industry with a method of dividing up among themselves the future profits to be expected from the linkage of breeding and genetic technology. The revision was also used as a means to strengthen the position of commercial breeders who, after all, are in the meantime virtually indistinguishable from the genetic technology industry, and to create framework conditions which leave virtually no possibility of survival for small-scale or regionally active breeders. Breeding activities by farmers are made virtually impossible.

With the revision of 1991, it was also established that breeders have rights to the harvest yield of the farmer if he has not paid a licensing fee (for example in the case of subsequent cultivation). This prolongs the control of breeders over the fields and harvest yields of farmers, and is reminiscent of the Middle Ages, where a tithe was due the feudal lord. This regulation effectively requires paying over a "tithe" to the breeders. As a matter of principle, farmers no longer have the right to use a portion of their harvest for subsequent cultivation. Indeed, any subsequent cultivation at all is permissible only if countries introduce special regulations within the framework of their seed laws.

The UPOV Accord also provides that patenting of varieties is permissible and does not violate varieties protection laws.

With these provisions, the international laws on varieties protection have been largely made consistent with comprehensive patent protection regulations. However, the countries of the south – with exceptions which include Argentina, Chile, Colombia, Ecuador, Mexico, Paraguay, and Trinidad & Tobago, all of whom signed the agreement of 1978 – have thus far refused to recognize the regulations imposed by the industrialized countries, since they are often diametrically opposed to the practices fostered in those countries.

Without subsequent cultivation and free exchange of seed, a subsistence agri-cultural economy would not be possible, and food production to satisfy the basic needs in many countries would be endangered. However, the provisions of the TRIPs Agreement have increased the pressure on the developing countries to become signatories to the UPOV Agreement, since this is characterized as an adequate form of a *sui generis* system.

4.4 Characterization of the TRIPs Agreement and UPOV Accord

The negotiation of the TRIPs Agreement and the 1991 revision of the UPOV Accord may be characterized as the (relatively) successful attempt to spur on the interests in the privatization of biological resources by imposing a double safety net. The language and demands of the two agreements are comprehensible only when the ever-progressing development of genetic technology is taken into account. The possibilities of making genetic-technological changes to living organisms, far transcending all boundaries seemingly unattainable until the 1970s, has afforded new industrial value to genetic resources as raw materials, and has thus opened up new opportunities for their appropriation. Simultaneously, these opportunities were used as a vehicle to integrate a previously inaccessible area of human use of natural resources into the system of intellectual property right protection. Plants, animals, microorganisms or portions thereof (including genes) were not and are not inventions of humankind, and were thus previously *per se* not considered subject to patent protection. There were also ethical, social and cultural reasons not to allow something equally available to all people, and further developed throughout the course of countless generations, upon whom all of humanity is dependent for its material survival, to become the private property of individuals or large companies. At least to some extent, varieties protection in its early form reflected this understanding.

This common understanding was renounced at the beginning of the 1980s, with the first decision of an American court on the patenting of a microorganism. Since that time, the western industrialized countries, led by the American genetic technology industry – which enjoys the support of the American government – have worked ceaselessly to anchor patent regimes worldwide and make them obligatory. The UPOV Accord may be interpreted as an additional back-up measure, which would, in the case of the failure of the TRIPs Agreement, at least secure rights analogous to patents within the framework of varieties protection.

At the Uruguay Round, the developing countries signed the TRIPs Agreement, bowing to the great pressure exerted on them. The principal argument of the industrialized countries was that weak protection of intellectual property rights would constitute a

barrier to free trade. As a counter-measure, subsidies in the industrialized countries were to be phased out.

With their economic dominance, the industrialized countries have provisionally attained their goal of widespread privatization of the last remaining community possessions. However, the review process planned in the year 2000, both of the agreement as a whole and specifically of Article 27.3b, could prove to be a stumbling block, since resistance worldwide is increasing, and this date could be taken by some countries of the south as an opportunity to again call into question the entire TRIPs Agreement.

The Convention on Biological Diversity constitutes a certain counter-weight to the WTO agreements, motivated by trade policy considerations. As such, the fact that the two legally binding agreements are for the first time considered on equal weight in the Biosafety Protocol is of particular significance. In this context, it is interesting to note how specific provisions of the respective agreements are interpreted. The review process provided for thus attains exceptional significance in terms of global policy in dealing with biological resources.

4.5 Review of the TRIPs Agreement

Great importance has been attached to this review process. It is considered to be an opportunity to sustainably turn back endeavors to patent all life forms, or at least demand sovereign rights of disposition, including the possibility of affording special protection to national resources and the collective knowledge of local communities.

Many developing countries are concerned that the control over the development and distribution of new life forms could restrict their developmental potential and securing a basic food supply. This year, a panel of the Convention on Biological Diversity has begun to discuss a report on the potential conflict between the Convention and the TRIPs Agreement. To some extent, the sustainable use of biological resources called for by the Convention is considered to be in direct conflict with the privatization demands specified in the TRIPs Agreement. Irreconcilable aspects include the following:

- On the one hand, national states are afforded sovereign rights of disposition over their biological resources (CBD); while on the other hand, patenting of biological resources is called for, and rights by individual states to them are largely restricted (TRIPs).

- The CBD provides that appropriate benefit-sharing is to occur when bio-logical resources are utilized, while TRIPs does not call for any appropriate allocation of benefits between the provider of materials and the holder of the patent.
- The CBD calls for prior informed consent before receiving access to the biological resources of a given state, while TRIPs does not recognize such a necessity of consent.
- The CBD gives greater weight to public interest and community possessions than private property and private interests, while TRIPs does exactly the opposite.

The patent guidelines adopted by the European Union have shifted the international balance in favor of the position taken by the industrialized countries for comprehensive ownership rights, including biological resources and portions thereof. Despite a lawsuit filed in Holland against the patent guidelines, supported by Italy and Norway, the European Patent Office has been applying the guidelines in this controversial manner and has issued patents on microorganisms, plants, animals, as well as on gene sequences and portions of human organs.

5. THE MOST IMPORTANT ACTORS

The following selection of internationally active environmental organizations represents only a small portion of the organizations active in this area. However, in the authors' opinion, they do particularly important work on the specific topic. Large western organizations such as Greenpeace, Friends of the Earth and World Wide Fund for Nature (WWF), also active in the area, are not specifically highlighted here since their familiarity is taken for granted.

5.1 Non-governmental Organizations

5.1.1 Third World Network

The Third World Network is an umbrella organization of environmental and consumer organizations from the countries of the south, primarily in Asia and Africa. Work focuses on world trade policy, patents, preservation of biological diversity, and biosafety. The Third World Network has played an exemplary role within the scope of

the WTO negotiations and those on a Biosafety Protocol, which is currently being negotiated under the auspices of the Convention on Biological Diversity.

The organization can be found on the Internet at <http://www.twinside.org.sg>.

5.1.2 Rural Advancement Fund International

Rural Advancement Fund International (RAFI) is a small environmental organization with very successful actions, headquartered in Canada, but with activities throughout the world. Its well-known director, Pat Mooney, enjoys an excellent reputation worldwide. RAFI's activities focus on the development of sustainable agriculture and the recognition of the special role played by indigenous peoples and local communities in the development and preservation of agricultural biological diversity, primarily in the countries of the south. Most recently, the organization's work has focused on the rejection of patents and information campaigns on bio-piracy. The Internet address of the organization is: <http://www.rafi.org>.

5.1.3 Genetic Resources Action International

Genetic Resources Action International (GRAIN) has been working for many years on the connections between biological diversity, plant genetic diversity, and agriculture, with a special focus on the countries of the south. GRAIN's Internet pages may be found at: <http://www.grain.org>.

5.1.4 Gaia Foundation

The Gaia Foundation is headquartered in England and focuses its activities on development policy, human rights, and the environment. As such, the organization has many-faceted contacts to the so-called developing countries. In the past few years, a specific focus of its work has been the patent issue. In this area, the group cooperates particularly closely with GRAIN. More information is available on the Internet at <http://www.gaiafoundation.co.uk>.

5.1.5 Diverse Women for Diversity

This network was founded in Bratislava in 1998 on the occasion of the signatory states' conference on the Convention on Biological Diversity. It is a network of women in the north-south context. Issues of focus include a secure food supply, biological diversity and cultural diversity, biotechnology and biosafety, intellectual property rights, and globalization. The secretariat is located at the Research Foundation on Science and

Technology in New Delhi. Detailed information on the network may be found at <http://www.vshiva.org/invite2.htm>.

5.1.6 GENET

GENET – the European NGO Network on Genetic Engineering – is an association of European initiatives working on the large issue complex of genetic technology / patents / agriculture / food / medicine. The network includes groups from almost all western European countries (current exceptions: Denmark and Finland). Membership is growing among organizations from Eastern European countries.

More on GENET can be found at <http://www.gene.ch>.

As a general rule, these organizations follow similar goals. They share a common commitment against the patenting of life, work to promote biological and cultural diversity, call for new directions in agricultural policies, toward biologically-oriented farming; and the majority reject genetically modified foods. They have a critical attitude toward globalization processes.

5.2 The National States

5.2.1 Industrialized Countries

Within the scope of international negotiations, the industrialized countries constitute a thoroughly heterogeneous bloc. The USA, Japan, Australia, New Zealand, and a portion of the EU (led by Germany before the change in government) follow a relatively rigorous course, including a complete opening of the markets in the area of agriculture, comprehensive patent rights, and active promotion of mere non-binding biosafety guidelines, as well as the superiority of GATT/WTO agreements over relevant environmental agreements. Within the EU, Austria, Sweden, and to some extent Finland and Denmark, tend to advocate a course which has a more balanced goal, giving much more weight to aspects of environmental protection, and paying more attention to the interests of the developing countries.

5.2.2 G 77 and China

Although the bloc of the so-called developing countries meanwhile includes many more than 77 states and China, this term has attained popularity on the inter-national stage. Within this group, the differences on specific issues are surely greater than among the industrialized countries; however, there are also areas where broad consensus exists. To

some extent, the countries form regional blocs. The African group (often without the agreement of South Africa) has espoused the most consistent position against patent rights and in favor of a comprehensive biosafety protocol.

5.2.3 Eastern Europe

To some extent, the countries of eastern Europe form a discrete group; however, thus far the structures are very loose and, for example in the area of biosafety negotiations, no unified policy line is discernible.

5.2.4 Negotiation Groups During the Biosafety Negotiations

During the course of the biosafety negotiations in Cartagena and Montreal, some new groups were formed which can be differentiated from the groups described above and are composed as follows:

5.2.4.1 The Miami Group

This group includes the most important exporters of genetically modified organisms; it is comprised on the USA, Canada, Australia, Argentina, Chile and Uruguay. Among other things, it has declared itself opposed to anchoring the preservation principle; due to this blockade, the negotiations were long on the verge of collapse. Canada served as the group's spokesperson during the negotiations in Montreal. The massive protest by the Canadian population, and the attendant reporting in the media, surely caused the group to modify its position and led to the unanimous approval of the protocol; initially, the group had been largely dominated by the USA, but by the end of the negotiations, the group had ceased presenting a completely unified front.

5.2.4.2 The Like-minded Group

This group is composed of most of the developing countries and China. As such, it is largely consistent with the G77 + China group. Ethiopia acted as the group's spokesperson during the negotiations.

5.2.4.3 The Compromise Group

Japan, Korea, Singapore, Mexico, Switzerland and Norway have united to form this group. Switzerland served as the group's spokesperson during the negotiations.

6. IMPORTANT GLOBAL POLITICAL EVENTS IN THE COMING YEARS

The following events and/or negotiation rounds are considered to be particularly important for the issue complex:

2000

- Renewed negotiations on the “Agreement on Agriculture” within the scope of the 1994 GATT Agreements; Geneva, Switzerland
- Review of the TRIPs Agreement as a whole
- 5-6 July: WTO Committee on Trade and Environment; Geneva, Switzerland
- 21-22 September: WTO Council for Trade-related Aspects of Intellectual Property Rights; Geneva, Switzerland
- 28-29 September: WTO Committee on Agriculture; Geneva, Switzerland
- 14-15 October: NGO meeting on TRIPs Art. 27.3b – The Way to Move On; Switzerland (Bern Declaration)
- 24-25 October: WTO Committee on Trade and Environment; Geneva
- 16-17 November: WTO Committee on Agriculture; Geneva, Switzerland
- 20-25 November: Decision on the revised International Undertaking on Plant Genetic Resources within the scope of the FAO Council; Rome, Italy
- 27 November-1 December: WTO Council for Trade-related Aspects of Intellectual Property Rights; Geneva, Switzerland
- 11-15 December: first meeting of the Intergovernmental Committee for the Cartagena Protocol on Biosafety (ICCP); Montpellier, France

The TRIPs negotiations and the new round of negotiations on the agricultural agreement will likely last for several years. Many participants take for granted that the negotiations will be very difficult and protracted.

2001

- Council of Europe Conference on Agriculture and Environment; Strasbourg, France
- 5-9 February: 21st Session of the UNEP Governing Council; Nairobi, Kenya
- 24-27 April: FAO Commission on Genetic Resources for Food and Agriculture; Rome, Italy
- April/May: 9th Session of the UN Commission for Sustainable Development
- 28-29 June: Codex Alimentarius Commission; Geneva, Switzerland

2002

- 6th Member States' Conference on the Convention on Biological Diversity; The Hague

This list does not claim to be complete or comprehensive.

A list of events on the issue of biodiversity can be downloaded from the Internet at <http://www.biodiv.org/conv/bio-calendar.html>.

BIBLIOGRAPHY

CBD (2000) Quarterly report on the Administration of the Convention on Biological Diversity, UNEP/CBD/QR/8, 24.04.2000

CBD-COP5 Decisions V/1. Work plan of the Intergovernmental Committee for the Cartagena Protocol on Biosafety, <http://www.biodiv.org/Decisions/COP5/html/COP-5-Dec-01-e.htm>, cited on 19 June 2000

Center for International Environmental Law (1998) The 1999 WTO Review of Life Patenting Under TRIPs

COP 5 Press Release Information Kit Nairobi 2000 Fifth Meeting of the Conference of the Parties Convention on Biological Diversity, <http://www.biodiv.org/press/pr-2000-04-13.html>, cited on 17 May 2000

Flitner, M (1995) Sammler, Räuber und Gelehrte: Die politischen Interessen an pflanzengenetischen Ressourcen 1895-1995. Campus Verlag, Frankfurt/ M.

Gaia Foundation (1998) Strategic Recommendations for the Review of TRIPS [1] Article 27.3 (B), Dealing with Intellectual Property Rights over Biological Resources

Genetic Resources Action International (1998) Intellectual Property Rights and Biodiversity: The Economic Myths. Global Trade and Biodiversity in Conflict, Issue no. 3

Genetic Resources Action International (1998) Ten Reasons not to join UPOV. Global Trade and Biodiversity in Conflict, Issue no. 2

Genetic Resources Action International (1998) TRIPS versus CBD. Global Trade and Biodiversity in Conflict, Issue no. 1

Pat Roy Mooney (1998) The Parts of Life - Agricultural Biodiversity, Indigenous Knowledge and the Role of the Third System, Development Dialogue, Special Issue, Dag Hammarskjöld Foundation

World Trade Organization – Council for Trade-Related Aspects of Intellectual Property Rights (2000) The Relationship between the Convention on Biological Diversity (CBD) and the Agreement on the Trade-Related Aspects of Intellectual Property Rights (TRIPS); with a focus on Article 27.3 (b), IP/C/W/175

The Heinrich Boell Foundation

The Heinrich Boell Foundation, affiliated with the Green Party, is a legally independent political foundation whose work is characterized by a spirit of intellectual openness. It is a federally-structured national foundation, cooperating with its 16 state affiliates which implement regional educational activities.

The Foundation's primary objective is to support civic education both within Germany and abroad, thus promoting the formation of democratic will, sociopolitical activism, and cross-cultural understanding. Its activities are oriented to the fundamental political values of ecology, democracy, solidarity, and non-violence.

By way of its international collaboration with a large number of project partners - currently numbering about 130 projects in 56 countries and four continents - the Foundation aims to strengthen ecological and civil activism on a global level, to intensify the exchange of ideas and experiences, and to keep our sensibilities alert for change.

The Study Program of the Heinrich Boell Foundation awards approximately 90 fellowships annually to students and doctoral candidates.

The Heinrich Boell Foundation includes about 150 full-time employees as well as approximately 300 supporting members who provide both financial and non-material assistance. The membership meeting, comprised of 49 persons, is the Foundation's foremost decision-making organ; its responsibilities include electing the Executive Board. Ralf Fücks, Dr. Claudia Neusüß, and Petra Streit comprise the current full-time Executive Board.

The Foundation's by-laws provide for a quota of women and immigrants for all Foundation organs and its full-time staff.

The Foundation currently maintains foreign and/or project offices at the EU in Brussels, in the USA, the Czech Republic, South Africa, Ethiopia, Israel, El Salvador, Pakistan, Cambodia, Bosnia-Herzegovina, the Arab Middle East, and Turkey. Offices in Brazil and Thailand are currently being established.

In 2000, the Foundation has approximately DM 70 million of public funds at its disposal.