

**THE CONVENTION ON BIOLOGICAL DIVERSITY:  
AN AMBIVALENT ATTEMPT TO RECONCILE COMMUNAL RIGHTS AND  
PRIVATE PROPERTY**

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Biodiversity came out as a global issue from the mid 1980s, under the pressure of converging forces: the threatening increase in species extinction, the changes in the theory as well as in the practice of nature conservation, but also the expansion of genetic engineering and the intrusion of industrial interests into areas from which they had been hitherto excluded. These elements participated in the integration of utilitarian perceptions of nature, reduced to a set of resources thanks to new technologies that enabled its extensive economic exploitation. The Convention on Biological Diversity, adopted in 1992 during the Earth Summit in Rio de Janeiro, is in line with this approach. Indeed, the Convention rests on the notion of sustainable use of biological resources, that is an exploitation that meets the criteria of efficiency and equity and that appears as a means to finance conservation but also to foster development in the South and to benefit pharmaceutical and agricultural industries.

The Convention presents the definition of adequate property rights on biological resources and related knowledge as an essential prerequisite for the institution of the sustainable use — hence of the conservation — of biodiversity. In doing so, the Convention implicitly adheres to the view according to which the erosion of biological diversity would be chiefly due to the failure of the property rights structure that prevailed prior to its adoption. Transnational corporations had then free access to indigenous resources — including knowledge — and after screening they could patent parts of these resources or their applications, depriving their former holders of their traditional use rights, as attested by the examples of *neem* in India or yellow beans in Mexico, both patented by American firms.

The definition of adequate rights aims among other things at bringing this despoiling to an end, in implementing the conditions of a negotiated and mutually profitable access to biological resources. It is also presented as an incentive to implement appropriate conservation actions. To that purpose, the Convention reaffirms the sovereignty of the States on their biological resources (preamble, article 3), it invites to preserve the knowledge, innovation and practices of ‘indigenous and local communities embodying traditional lifestyles’ with appropriate rights (article 8j) and records formally the extension of intellectual property rights to life forms (article 16).

Through the rights it promotes, the Convention explicitly favors a contractual bilateral market form of regulation to achieve its dual purpose of efficiency and equity in the management of biological diversity. The legal regime propounded is presented as the necessary prelude to the introduction of bilateral market-like contracts between the holders of biological resources (States, public organizations or indigenous communities) and their users (firms of the life industry). These contracts would allegedly enable the optimal allocation of genetic resources and contribute to ensure the fair and equitable sharing of the income derived from their sustainable use.

In refusing to answer the problem of biodiversity by the implementation of an international regulation mechanism, the Convention has carried out a radical break. It comes within the framework of the new prevailing approach of conservation, also propounded by other institutions (CITES, World Bank, etc.). This approach is inspired by the theory of property rights (or by new resource economics) that has its foundation in the Coase Theorem and in Garrett Hardin's famous fable, 'The Tragedy of the Commons'. It leads to the promotion of exclusive and transferable rights on genetic resources, species and if possible ecosystems, to allow the creation of markets guaranteeing their efficient allocation.

Besides this ideological and dogmatic inspiration, unquestionable in the Convention, its recommendation of a contractual decentralized management of biodiversity appears as the result of a compromise between contradictory attempts, as we will show it. We will question the relevance of leaving it up to decentralized contractual regulation to achieve the purpose of equity in a context characterized by strong uncertainties and a very unequal balance of power between the parties. We will explore the contradictions of an attempt based on the wish to reconcile private and common property through the building of new commons, aiming at the preservation of the traditional knowledge of indigenous communities and presented as counterparts to the development of intellectual property rights on the products of biotechnologies. We will also stress the difficulty to seek in the same time and with the same types of rights maintenance of traditions and incentives to innovate, or to favor the conservation of cultural differences while advocating market regulation that appears as a vector of homogenization...

### **1. The Convention on biological diversity: a legal regime at the service of an efficient conservation of biodiversity**

The Convention on biological diversity combines the conservation with the use of biological resources for commercial purposes. Therefore, it can be considered as a framework setting

the terms for a sustainable use of biological resources by genetic engineering.<sup>1</sup> This exploitation of genetic resources by life industries is instrumentalised by the Convention that turns it into a financial means and a lever for conservation policies.

The invitation to adopt intellectual property rights formulated in the Convention is in line with this viewpoint. Such rights are mobilized for a dual purpose. On the one hand, their recommendation implies the acceptance of the privatization process and of the extension of market regulation to all life forms. On the other hand, these rights are parts of the prerequisites for the implementation of bilateral contracts for bioprospecting, an activity which can allegedly achieve the dual purpose of efficiency and equity assigned to the Convention.

### **1.1. The instrumentalization of intellectual property rights**

Firstly, the Convention confirms the extension of intellectual property to the products of biotechnologies. This extension of the field of application of patents has been ratified by the WTO — or rather by the GATT — with the passing of the Agreement on Trade-Related Intellectual Property Rights (TRIP) in April 1994. The holders of such rights are imparted with a temporary exploitation monopoly, that confers on them the faculty to be the only ones allowed to product and sale the protected invention.

The Convention is obviously based on two assumptions that can explain the importance attached to intellectual property rights: genetic resources are supposed to be of great value and their virtual value would be revealed and enhanced by their industrial exploitation. Therefore, patents are supposed to incite to the development of the kind of industrial exploitation that makes the value of biodiversity increase. Turning the exploitation of biodiversity into a profitable activity is consequently presented as the surest means to favor the preservation of the ecosystems and of the species they support. The extension of patent protection to all life forms (genes or species) also contributes to make the commoditization commonplace. Therefore, it participates in the development of markets and allows an internalization of biodiversity conservation that becomes a full economic aim.

Secondly, the Convention stresses the essential part played by intellectual property in technology transfers, that are presented as favored means to achieve its purposes of efficiency and equity. The recognition of intellectual property protection, through the passing of appropriate national legislations, is presented as a condition *sine qua non* to guarantee that the sustainable exploitation of biological resources contributes to the economic development of the South while ensuring biodiversity conservation. Indeed, a country that would not pass such a legislation would have no recourse if its resources were patented somewhere else.

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<sup>1</sup> The Convention on biological diversity is focused on the genetic level of biodiversity and tends to ignore the two other levels of organisation of biodiversity, species and ecosystems, which direct profitability is less obvious.

Otherwise, a country that would not recognize patents on the products of biotechnology would not benefit by the transfer of this technology.

Therefore the Convention on biological diversity instrumentalizes intellectual property rights, initially dedicated to the promotion of technical progress, in turning them into tools for biodiversity protection. The article 16-5 of the Convention suggests thus that ‘the Contracting Parties, recognizing that patents and other intellectual property rights may 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.’

The fundamental role attached to intellectual property rights in the Convention evokes the economic theory of property rights and the insistence of the latter on the definition of rights likely to pave the way for market regulation. The economic theory of property rights rests, on the one hand, on the apology of private property and, on the other hand, on the affirmation of the unconditional superiority of market regulation.

For property rights theorists, the superiority of private property as an institutional structure (that would be historically demonstrated) can be explained by the nature of the prerogatives it confers on the holders of such rights [Alchian, Demsetz, 1973]. A structure of private property combines indeed both fundamental attributes of exclusivity and transferability [Randall, 1975].

The **exclusivity** prerogative confers on the holder the exclusive possession of the right at stake. It is supposed to provide a maximal incentive to invest in resource conservation or in the form of use considered. As we have stressed it, this is on the basis of this argument that the extension of the system of patents to the products of biotechnology — ensuring exclusivity for the invention — is legitimated. The exclusivity is indeed supposed to guarantee an efficient investment in research and technical progress in the field of biotechnologies, an activity that contributes to the creation of new values for biodiversity.

The **transferability** attribute entitles the holder to transfer the rights considered at freely agreed price and conditions. Such a prerogative guarantees the conditions of an ‘efficient’ allocation of the right at stake, that is its holding by the economic agent who most values it.

The apology of private property by the theorists of property rights also draws from the condemnation of all alternative forms of property, especially common property [Furubotn, Pejovich, 1972]. Common property institutions are held unable to guarantee an efficient allocation of the resources they are supposed to manage [Demsetz, 1967]. The arguments used to bring discredit on alternative forms of appropriation are in the same vein as Garrett

Hardin's famous thesis of 'The Tragedy of the Commons' [Hardin, 1968] <sup>2</sup>. However it has been demonstrated that this thesis is erroneous and that it is based on a fallacious comparison of common property with situations of free access (where there is no legal regime governing the access to and the uses of the resource) [Ciriacy-Wantrup, Bishop, 1975 ; Berkes, al., 1989 ; Aguilera-Klink, 1994].

In accordance with this 'property-based approach', to solve the environmental problems (whatever their nature and scale), it is necessary and sufficient to define private property rights on the resources. Such a legal regime incites indeed to an efficient management of the resources and to invest optimally in their conservation [Demsetz, 1964]. Moreover, it ensures that any conflict between antagonistic uses derived from the resources will be spontaneously solved thanks to a decentralized negotiation about the conditions of an appropriate transfer of rights (in other terms, on the conditions of the reallocation of transferable property rights in favour of the most valued use). This viewpoint seems to be stamped with the influence of the Coase theorem.

Ronald Coase shows that a decentralized negotiation between the producers and the receivers of a damage enables to achieve spontaneously a situation corresponding to an efficient allocation of the resources (efficiency thesis of the Coase theorem), provided that there are zero transaction costs <sup>3</sup> and that the property rights are unambiguously defined [Coase, 1960]. This demonstration is formulated by Coase in his paper 'The Problem of Social Cost' and constitutes one of the main line of criticism that the author addresses to the Pigovian approach of environmental problems and its plea for an interventionist resolution. According to Coase, the bilateral negotiation between the producer and the receiver of the damage concerns the amount of a compensatory payment or of a dissuasive premium. He invites to consider these negotiated amounts as the terms of exchange of property rights on resource uses. He also shows that the initial distribution of rights (determined by the prevailing law) is neutral in their final allocation and that it is necessarily 'efficient', on condition that rights can be re-allocated at no cost (neutrality thesis of the theorem).

According to the theorists of property rights, the definition of exclusive and transferable rights is supposed to allow a correlative extension of market regulation (in a contractualist view) guaranteing their efficient allocation. This approach has obviously guided the Convention on biological diversity and the view it conveys of the importance of intellectual property rights. Indeed, the latter are considered as the best incentives to invest in the

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<sup>2</sup> In Hardin's example, the shepherds are incited to put too much cattle on a pasture held in common because the additional benefit that each of them derives from an additional animal is higher than the costs he bears. A part of the costs imposed by additional animals is indeed paid by all the holders of the common pasture. The shepherds are incited to behave as free riders, which leads to the overexploitation of the common resource.

<sup>3</sup> The concept of transaction costs is not steadily defined, it has several meanings. In this paper, R. Coase resorts to that notion to designate the costs (whatever their nature: transport costs, information costs, drafting costs...) induced by the negotiation and the establishment of the contract considered, to which he adds the monitoring and control costs of the agreement once it is concluded.

conservation and the sustainable use of biodiversity because of the exclusivity they confer. Besides, the focus on intellectual property rights proves indissociable from the contractual and decentralized mode of regulation propounded by the Convention in the name of efficiency.

## **1.2. Bilateral private law contracts as the favored mode of regulation**

Within the framework of the Convention on biological diversity, the acknowledgment of the importance of intellectual property rights protecting some applications or products of biotechnologies finds a counterpart in the affirmation of the sovereign rights of the States on their biological resources and with the implementation of rights for local and indigenous communities on their knowledge, innovations and practices. According to the Coase theorem, the definition of such rights is presented as the prelude to the implementation of private law contracts, concluded between the holders of the resources and their potential users, to answer the purpose of an efficient and mutually profitable exploitation of genetic resources.

Bioprospecting contracts including a conservation facet are presented as the very examples of such bilateral agreements (see box below). These trade agreements are held to be mutually profitable and to ensure biodiversity conservation as well as transfer of technology. This financing source is all the more interesting as it is made up of private funds whereas the multilateral funding mechanism established to help the countries of the South to discharge their commitments towards the Convention (the Global Environmental Fund) meets with supplying difficulties.

### **Bioprospecting agreements**

Bioprospecting agreements, concluded between firms or research institutes from the North and communities or public institutions of the South are presented as an efficient and mutually profitable means to promote biodiversity conservation. The firms and research institutes obtain access to genetic resources while the countries and communities providing knowledge and resources benefit from a part of the royalties drawn from their industrial exploitation. Bioprospecting also contributes to increase the value of biological resources, inciting therefore to invest in their conservation and it appears as a source of funds for *in situ* conservation actions.

The most famous of these agreements has been concluded in 1991 between the pharmaceutical firm Merck & Co and INBio, a private non-profitable organization of Costa Rica. This agreement is said to have inspired the drafters of the Convention on biological diversity.

INBio was committed to supply samples of plants and insects in exchange for one million dollars. It was planned that Merck would pay royalties for all the products developed from the samples supplied by INBio. About 10 % of the amount paid by Merck was to be devoted to the maintenance of protected areas, 40 % were to be used to start an inventory, a fourth of which was to go to local people who had taken part in the collection. The transfer of technology or at least of skills from Merck to INBio was also planned.

This agreement has been decried essentially for political reasons, related to the refusal to see the country heritage given up to multinational firms. However, though INBio's access to the genetic diversity of the country is exclusive, it is in no way unlimited. National biodiversity is controlled by the ministry of natural resources, mines and extraction (MIRENEM) that issues permits authorizing the genetic prospecting of the resources of the country. The activity of INBio takes place under the control of the ministry, within the scope of a legally binding agreement in compliance with which INBio is committed to pay 10 % of its global budget to national parks and 50 % of the economic benefits drawn from its research activities. A part of the benefits of the project is thus

captured by the government that was however no contracting party in the initial agreement between Merck and INBio.

There is no such thing as a global standard agreement in the Convention that could be used as a guideline when drafting such contracts. The Convention therefore promotes bilateral negotiations between States, or at least public institutions, and private firms or other foreign organizations to define the terms of the contracts of access to and exploitation of biological resources. Such agreements, the terms of which are often kept secret, are subject to no external arbitration. The benefit-sharing measures they provide for strongly depend on the respective powers and negotiating skills of the parties.

These decentralized negotiations to decide both on the access to genetic resources and on the fair and equitable sharing of the benefits derived from the sustainable use of biological resources are legitimated in the same time from an economic viewpoint, by a reference to the theory of property rights, and from a pragmatic viewpoint. In such contracts, all the parties are supposed to win: they are held to ensure the free participation of the actors, they avoid to have a multilateral fund for the conservation of biodiversity instituted (and to have to define allocation rules for the subsidies), the cases of dispute can be brought before existing courts, minimizing the costs of control of the agreement... But such a mode of regulation also echoes the decisions made by the institutions responsible for international trade, especially the request to the countries of the South to develop legislations for the protection of intellectual property made within the scope of the TRIP agreement of the WTO.

The will for blending the legal regime of protection of industrial innovation and the objective of an 'efficient' conservation is manifest in the Convention on biological diversity, but for all that the requirements of sustainable development are not forgotten. A complete privatization of biological resources is never contemplated. The bilateral contracts that govern the access to and the exploitation of biological resources must be established with the aims of benefit sharing and equity in view.

## **2. Equity and recognition of community rights and the sovereignty of the States**

Given the ethical and cultural values that biodiversity represents and the environmental functions it fulfills, the management of biodiversity cannot be completely given up to multinational firms. It is important that the States should have a form of control over biodiversity, because of its being a public good. This is what is achieved in recognizing their sovereignty over the biological resources within the limits of national jurisdiction. Otherwise, it is advisable, if equity is to be considered, to assure those whose ways of life most depend upon the resources of the conditions of a free and continuous access to them. Their role in the

maintenance of biological diversity should also be recognized. That is why the rights of indigenous and local communities embodying traditional lifestyles are established.

Once these rights are established, the Convention on biological diversity appeals, as we have seen it, to a decentralized management of biodiversity, through a direct negotiation between rights holders. The commoditization of biological resources is presented not only as a guarantee of biodiversity conservation but also as a lever for the recognition of the rights of rural communities of the South, by the multinational firms that exploit their resources and knowledge as well as by the Nations-States where they live. The Convention appears as an endeavor to echo the — political — claims of a group of actors: the NGOs speaking on behalf of the farmers and the indigenous communities and some countries of the South.

### **2.1. The view of the South and of NGOs: towards an alternative analysis of the biodiversity issue**

The promotion of intellectual property rights on genetic resources and the development of bioprospecting on a contractual basis are not perceived by their opponents as economically efficient solutions but rather as evolutions that favor the interests of the most powerful, whose resources and innovations have attributes that make them patentable. These actors are transnational firms and States that have the means to profit from biotechnology. Of course, whereas the communities that were dispossessed of their resources had no rights and no recourse, they have obtained the possibility of getting compensations, but they are also obliged to recognize the intellectual property rights of the industries, therefore to accept the principle on which they rest and possibly to pay royalties. The rights of the communities, even if they are affirmed by the Convention on biological diversity, do not enjoy a recognition and a protection comparable with that of the intellectual property rights; unlike the rights protected by the rules of the WTO, their transgression cannot entail retaliation. Moreover, the privatization of community resources to the advantage of transnational firms and the exclusivity it confers on them appear as disturbing threats on cultural diversity [IDRC, 1994]. For the opponents of privatization, biological diversity and cultural diversity are indissociable. Globalization and the extension of market to which it gives rise are considered as the major causes of biodiversity erosion and not as the solutions to be promoted.

Even if they do not explicitly refer to it, the positions expressed in opposition to the privatization of life forms recall the neo-institutionalist theory. Refusing to regard privatization as the only and necessary solution for a sustainable management of biodiversity, they endeavor to demonstrate its political biases and to stress that the context within which the biodiversity issue has come out does not lend itself to such a measure.

The Convention on biological diversity recommends the adoption of a property rule [Calabresi, Melamed, 1972; Bromley, 1978]; the transfer and the exploitation of the

resources require the prior consent of the community that holds them and the negotiation of a compensation. However, biological diversity has characteristics that would suggest that other rules might be more appropriate. The debates on biological diversity involve varied actors, whose economic, political and bargaining powers are quite different: multinationals, States, research institutes, United-Nations agencies, NGOs, indigenous peoples and rural communities of the South. These debates take the form of a North-South conflict in which the situations of the protagonists are clearly asymmetrical. The uncertainties regarding the functional role of biodiversity, its value for pharmaceutical and agricultural industries and the value of certain species as heritage let doubts hang over the possibility to determine a fair amount of compensation. The traditional knowledge related to genetic resources is even more difficult to assess, since it is often common to several peoples, so that the identification of the holders is already a problem in itself [Brush, 1993; 1996]. The sometimes vital nature of the access to resources and the relationship towards knowledge, which is an integral part of community identity can make the alienation unthinkable for the latter.

The choice of a property rule is then in no way dictated by the nature of biological diversity. It comes down to confirm a *de facto* situation, that is to turn the privileges of the transnational firms that exploit genetic resources — the biopiracy denounced by NGOs [RAFI, 1994; 1997] — into rights, a transformation that can be explained by the power of these firms. In situations characterized by high transaction costs and income effects, when irreversible destruction can take place and can induce social impacts that are not inconsiderable, other rules must be adopted and the initial allocation of rights plays a decisive part.

Besides, the legal regimes applied to genetic resources before they were challenged by the extension of patents to life forms took this fact into account. The application of the notion of common heritage of humankind to plant genetic resources for food and agriculture, promoted by the FAO in its International Undertaking on plant genetic resources in 1983 established their inalienability to favor their universal availability. When the Undertaking was revised, following fierce criticism and debates, a rule of responsibility was advocated with the proposition of 'farmers' rights'. The principle was to institute a multilateral fund, supplied by industrialized countries that would pay *ex post* compensations to the farmers of the South as an acknowledgment of the past contribution of their resources and related knowledge to the development of agriculture.

In the face of the problems met by these legal regimes, the opponents of privatization adopt a more pragmatic position in the negotiations about biodiversity. Farmers' movements and advocates of indigenous peoples link the conservation of biodiversity with the status and evolution of local and indigenous communities [Escobar, 1998; Shiva, 1996]. According to them, biological diversity recedes before the hegemony of the monopolies of life industry,

threatening the local practices that make conservation possible. The attribution to local and indigenous communities of rights that would enable them to resist this oppression and to protect their biological and intellectual resources could check this phenomenon. While the supporters of privatization, following the theory of property rights, put the stress on the nature of the rights to be promoted, NGOs and farmers' movements emphasize the importance of the identity of right holders. For them, the deciding factor in the choice of the rights that should be instituted is their appropriateness in accounting for the knowledge and practices of the local communities of the South and their capacity for serving the respective interests of farmers and indigenous people, that is to enhance the value of the work of conservation of the former and to give the latter the means to preserve their cultural integrity.

## **2.2. The collective rights of rural and indigenous communities**

The wish for the institution of an equality of status between the scientific knowledge of the North and the local knowledge of the South, to bring the despoiling to an end, has given rise to many debates and to varied propositions issued by NGOs and a few countries of the South [Posey, 1990; Posey, Dutfield, 1996]. However, the application of rights analogous to intellectual property rights to the knowledge and resources of the South seems difficult [Brush, 1993; 1996]. The characteristics of the latter compromise the possibility for them to be protected using this expedient in a way that would be either efficient or lucrative for their holders. Even if it were technically feasible, such a protection denotes a perception of the relationship to knowledge and resources which is not that of the communities of the South [Shiva, 1996]. Furthermore, the adoption of a property regime favors market exploitation of traditional knowledge rather than its preservation. This knowledge cannot be protected unless it is reified, cut off from the system that gives it meaning and from the tradition from which it stems. This necessary abstraction runs counter to the objectives pursued. Indeed, the importance attached to knowledge, especially by NGOs, is above all a pretext to link their main concerns, namely the autonomy of the farming systems of the South and the cultural survival of indigenous populations to biological diversity. To that purpose, it should be stressed that the local knowledge of the South is deeply rooted in traditional ways of life. Adequate rights should then focus on the maintenance of cultural integrity through the affirmation of the inalienability of the local systems of knowledge.

In the agricultural sphere, the rights to be established are referred to as farmers' rights, in reference to the concept developed by the FAO but with a quite different meaning [Shiva, 1996]. To mark the specificity of these rights, Vandana Shiva invites to proscribe the use of the term 'property', which connotes in her eyes commoditization and the possession by a private holder, mainly with the end of commercial exchange in view. The valuable knowledge under community control would be better described by the terms of 'community intellectual rights' [Shiva, 1996]. These rights should be assigned to the collective interests of

those who have preserved and developed the germplasms of the main crops, to enable them to pursue their practices. They should enable them to have some autonomy towards the world markets of seeds and chemicals. The aspirations for cultural integrity and diversity they convey have nothing to do with the trade protection offered by more conventional intellectual property rights.

Concerning the question of the rights of indigenous peoples, two types of approaches are advocated. The first one, guided by pragmatism, suggests that indigenous people use all the existing laws on intellectual property and all the legal texts that recognize their cultural specificities to protect themselves from the improper exploitation of their knowledge [UNEP, 1996]. A system of *sui generis* rights of that sort has been propounded by Darrell Posey under the name of 'traditional resource rights' [Posey, 1996; Posey, Dutfield, 1996]. These rights do not constitute a legal regime strictly speaking, they rather make up a framework into which the various claims of indigenous communities could be integrated and declined. They refer nonetheless to the adoption of a property rule and are then in line with the Convention. Indeed the advocates of this approach consider that economic globalization and the integration of marginal local communities into market economy are inescapable and that on this account they should not be opposed but used as a lever to assert the political rights of these populations.

The second approach, which is a more radical one, aims at the control of resources and cultural knowledge by indigenous groups and gives rise to varied claims, of which genetic resources and the related knowledge are just one facet [Greaves, 1994; 1996]. This will for control convey a quest for sovereignty and autonomy of decision concerning the use of knowledge that goes far beyond the commercial viewpoint in which the question of intellectual property rights is rooted.

The Convention on biological diversity lays down a general framework for more equitable relationship concerning the access to genetic resources and the benefits drawn from them but it falls to the countries to take the responsibility for the respect of these principles. The sovereignty of the States recognized by the Convention can thus be interpreted not only as a counterpart to the power conferred on multinationals through the recognition of their intellectual property rights but also as a political counterweight and as a necessary condition for the institution of a right for the local components of the national community.

## **2.2. The laws of access to resources: an affirmation of the sovereignty of the States**

The legal framework for the access to biological resources is thus fixed by the States. As most of the signatories of the Convention are also members of the WTO, they must conform to the TRIPs agreement and adopt intellectual property rights, failing which they incur trade sanctions. Some countries of the South have seized the opportunity given by the TRIP to establish a system of *sui generis* rights, different from existing forms of protection of

intellectual property, to fulfill their obligations as parties to the Convention. According to its supporters, this solution would offer the only real guarantee of respect of community right [Dutfield, 1998]. However, it is a considerable challenge: the obligations of recognition and preservation of traditional resources and knowledge have to be integrated into a strictly commercial framework.

India, the Organization of African Unity and Brazil had drafted bills of access to genetic resources that endeavored to limit the taking over of their resources by foreigners. These countries have in common experiences of biopiracy that have stood out in their history or that have more recently upset their public opinion. They have followed different options in their attempt to prevent a new pillaging: reinforcing the control over national collections, purely and simply forbid bioprospecting or punishing harshly any illicit exploitation of genetic materials and make the participation of national researchers compulsory in any research led by foreigners. These solutions have shown their limits. The measures to limit bioprospecting probably create more problems than they provide benefits. Preventing bioprospecting at all costs might expose countries to retaliation and to isolation as regards the research and technology related to genetic diversity.

The countries that have already adopted a legislation of access to their biological resources have consequently chosen pragmatic approaches, seeing to it that bioprospecting benefits to the domestic economy and brings income to the State and possibly to local communities. This is for example the case of the Philippines and of the countries of the Andean Pact. Their laws of access accept the principle of an appropriation and a commoditization of genetic resources, provided that they do not hamper the customary rights of the populations. The latter must give their prior informed consent; they must be consulted and informed of the destination and purpose of the resources and knowledge they supply. This is anyway the State, by virtue of its sovereignty, that reserves the right to issue permits of access.

The laws adopted illustrate the obstacles met by the States when they have to reconcile the respect of their commitments as parties to the Convention on biological diversity with their obligation as members of the WTO to adopt intellectual property rights. They cannot possibly free themselves from a commercial framework; the principle of the commoditization of life forms must be accepted, even if it is accompanied with exceptions and if the agreements often include provisions relating to cooperation. From a practical point of view, there is a hierarchy of norms. The sovereignty of the States and the rights of local and indigenous communities appear as political counterparts to the extension of patentability to life forms, intended to make it acceptable. Only the latter is actually perceived as a new means to favor the conservation of biological resources through the development of the market. In other terms, even if the text of the Convention seems to pave the way for the claims for autonomy of the South and of its rural and indigenous communities, the prevailing context does not

allow to define really innovative solutions. In spite of their strong opposition to the commoditization of life forms and related knowledge, the NGOs and countries of the South intending to promote community rights are constrained to formulate their propositions within a market framework.

## **Conclusion**

The Convention on biological diversity reflects two positions defended concerning the exploitation of genetic resources. On the one hand, it considers, in line with the Coase theorem, that biodiversity erosion is due to the lack of adequate rights on the resources, that do not incite their holders to invest in their conservation. On the other hand, it aims at remedying a situation considered iniquitous: the asymmetry between 'wild' genetic resources, exposed to any attempted privatization, and the biotechnology products, that can be protected by patents following an extension of the field of application of the latter.

In conformity with the Coase theorem, the Convention appeals to a decentralized regulation of resource exploitation. It suggests that once the rights of the protagonists of bioprospecting are established, this activity can develop on a contractual basis, so as to benefit all the parties, to raise funds for the implementation of conservation measures and to incite the resource holders to exploit it in a sustainable way.

The Convention appears as an endeavor to reconcile the requirements of equity and efficiency within a market framework. However, the position in favor of privatization and that in favor of community rights appear difficult to combine, insofar as they are based on opposite analyses of biodiversity erosion. They attribute indeed the responsibility for this erosion respectively to the negligence of the populations of the South and to the greed of the firms of the North.

Otherwise, the decision to associate the issue of biodiversity conservation to that of commoditization and institution of rights on genetic resources can appear as paradoxical. The TRIP agreement is intended to develop life forms commoditization and privatization, not to prevent them and using this framework implies the acceptance of its basic assumptions. It might seem amazing to refer to this framework to define common rights for communities whose problems precisely stem from the threats of commoditization of their biological and intellectual resources [Dove, 1996].

The endeavor to build up commons out of cultural knowledge, that is sometimes denied the status of resource by its very holders, is controversial. Moreover, technical obstacles, the imbalance of power and legal status make it difficult for local and indigenous communities to sign contracts on their own terms with transnational corporations. Similarly, international competition for the supply of resources and world trade regulations do not leave the

governments of developing countries much room for maneuver in the definition of laws of access to their biological heritage so that they cannot reckon on large benefits from bioprospecting. The project to establish commons is finally limited to marginal dispositions concerning the access to resources.

On the plea of defending at the same time the varied interests of the parties, the Convention on biological diversity has resulted in favoring the *status quo*. Bioprospecting has acquired legitimacy though its benefits are dubious and its impact on biodiversity conservation though postulated have never been assessed.

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