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From Global Enclosure to Self Enclosure:
Ten Years After – A Critique of the CBD and the "Bonn Guidelines" on Access and Benefit Sharing (ABS)

Issue: Since 1994, the Convention on Biological Diversity (CBD) has been promising "benefit sharing" to Indigenous Peoples in return for access to biodiversity (i.e., bioprospecting). During these ten years, Indigenous Peoples and farming communities have worked long and hard to realize this goal. Government's response has come in the form of the so-called "Bonn Guidelines." These guidelines turned the CBD into a global enclosure system instead of a benefit-sharing mechanism and they have undermined the historic resilience of Indigenous Peoples by encouraging curtailment of their customary systems of resource-exchange. This *Communiqué* offers a short introduction to biopiracy followed by a critique of the CBD and, specifically, of the *Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization* and the related Cancún Declaration of Like-Minded Megadiverse Countries.[1]

Impact: Although not legally binding, the Bonn Guidelines are meant to "operationalize" the convention's ABS provisions, providing a template for national legislation. The CBD awards sovereignty to the State and offers no legal right to Peoples and communities. The Bonn Guidelines assume ABS can be achieved through contracts and "germplasm ownership." The net effect is to encourage biopiracy and discourage customary forms of knowledge and germplasm exchange. Biodiversity is of primary value to Indigenous Peoples and rural communities. Anything that constrains customary exchange fundamentally harms their wellbeing. If these policies prevail, then ETC believes that all bioprospecting will unavoidably be a form of biopiracy, regardless of its "legal" status or level of compliance with the CBD.

Fora: The Seventh Conference of the Parties (COP 7) to the CBD, February 9-20 (Kuala Lumpur, Malaysia), will be an opportunity for governments to review the history of the CBD and its approach to access and benefit sharing.

Policy: After ten years, it is clear that the CBD is not a magic bullet for the conservation of biological diversity nor does it guarantee the improvement of the rights and roles of Indigenous Peoples and communities. The communities will have to strengthen their own resilience strategies outside the Biodiversity Convention. At COP 7, governments must not undertake work on a legally binding international regime on access and benefit sharing based on the Bonn Guidelines. COP7 should instead reformulate the Bonn Guidelines and focus on ways to help strengthen Peoples' resilience and their resistance to biopiracy. Governments should work to establish non-proprietary systems of benefit sharing, implementing one of the options posed in the Bonn Guidelines, the creation of a fund supporting the conservation and development of biodiversity. With monies from governments, the global biodiversity fund would act as an endowment advancing the interests of Indigenous Peoples and other biodiversity actors without attempting to reduce their contributions to quantifiable commodities.

ETC Group, P.O. Box 68016 RPO Osborne Winnipeg MB R3L 2V9 CANADA
Tel: 204 453-5259 Fax: 204 284-7871 www.etcgroup.org

Introduction: What is Biopiracy? More than ten years have passed since RAFI (now ETC Group) coined the term *biopiracy*. Some understand *biopiracy* to be the act of collecting biological material from a local group of people without the consent of those people or when there is no agreement to share the financial profits that may derive from the collected material. Some of those who share this view of biopiracy see intellectual property (IP) protection as a useful weapon to combat it, with hopes that the appropriating party will be legally-bound to share profits at the local level. This narrow definition of biopiracy – based in the context of Intellectual Property – allows corporations to claim that they, too, are victims of biopiracy. According to the agricultural biotechnology corporations, for example, when farmers save patented seeds from one year's harvest to the next year's planting without paying a royalty to the corporation, that is also an act of biopiracy.

Over ten years have passed, too, since the CBD entered into force (December 1993).[2] The Convention's stated aims are the "conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of benefits arising out of the utilization of genetic resources." Despite these laudable aims and the sincere efforts of Indigenous Peoples, civil society organizations and some government delegates, the Convention is, in fact, less about protecting the wealth of nature and the custodians of biodiversity than it is about protecting the wealth of the few powerful economic actors in the gene business. Rather than safeguarding genetic resources, the Convention's particular notion of "benefit sharing" and the interpretations that have been formulated subsequent to the Convention's adoption have provided a legal framework for plundering resources and knowledge through the legitimization of intellectual property on life forms. As importantly, the CBD's endorsement of bilateralism through contracts has also legitimated and facilitated biopiracy.

For ETC Group, and for many groups in the global South, *biopiracy* refers to the privatization of genetic resources (including those derived from plants, animals, microorganisms, and humans) from those peoples who hold, maintain, embody, develop, breed or otherwise create, foster or nurture those resources. The biopirates' most frequent *modus operandi* is intellectual property (e.g., trademarks, patents, Plant Breeders' Rights), asserted to gain monopoly control over genetic resources that were formerly in the control of farmers and Indigenous Peoples and traditional communities. The resulting privatization of biological resources and related knowledge through intellectual property regimes is biopiracy, even though this process may be legal according to national law and though it may conform to a signed "bioprospecting agreement," and even if it includes a so-called "benefit-sharing" agreement.

"Contractual benefit sharing is like waking up in the middle of the night to find your house being robbed. On the way out the door, the thieves tell you not to worry because they promise to give you a share of whatever profit they make selling what used to belong to you." – Alejandro Argumedo, Quechua activist

Because existing legal frameworks and voluntary guidelines do nothing to prevent IP and other means of privatizing resources, they remain inadequate to protect the integral rights of farmers and indigenous and traditional peoples and, therefore, all bioprospecting unavoidably falls into the category of biopiracy. The ancestral tradition of sharing knowledge and freely exchanging seeds, plants and other resources – which has formed the very basis of diversity – may become a dangerous activity because once Indigenous Peoples share information or genetic resources with bioprospectors, it is possible they will lose control over those resources. Given that the majority of livelihoods in the South are dependent on biodiversity, losing control over their own genetic resources is one of the biggest threats to Indigenous Peoples and traditional communities. If a resource is privatized through the patent system, it is likely that a community that once had access to the resource will no longer have the legal right to use it or may no longer be able to afford to buy it. If privatizing the resource does not limit the community's access to the resource (e.g., because the resource "owner" deems it too difficult or expensive to prosecute the community at the local level), a fundamental change has taken place, nonetheless: what had been a common and routine part of everyday life is now subversive and illegal. In addition,

the privatization of water, services, and other vital resources means that rural communities may find themselves in a situation where all of their everyday actions are illegal and / or possibly subject to fees or prosecution.

An equally dangerous impact of biopiracy is that bioprospecting contracts encourage communities, groups or individuals to participate in commodifying and selling the commons and collective heritage, pitting them against the same People or inhabitants of the same region. In this case, the contract not only legitimates the robbery, but also erodes the resilience of communities or peoples. Consider the cultural wealth lost to the market system when members of an indigenous People or a rural community begin to see their traditional knowledge and the nature around them – not as the bases for life and health, but as merchandise to sell before their neighbors get the chance.

"Once we start looking at organisms as bank accounts, then we are missing the entire view of what is in front of us. Curiosity of the living world ends and so does the meaning of being here." – Ricardo Callejas, biology professor, University of Antioqua, Medellin, Columbia[3]

Closing In

National Enclosures: Late 18th century European governments nationalized and sold common land ("the commons") to wealthy landlords. By birthright, the commons had been open to the entire community, which lost access to grazing lands, medicinal plants, non-cultivated foods and fuel wood. This drove millions of Europe's Indigenous Peoples into factory towns or to emigrate overseas. Vast reservoirs of traditional knowledge and biodiversity were lost. In the 19th century Europe's enclosure strategy spread to many of their colonies with the same devastating results.

Corporate Enclosures: Even as land enclosure was taking place in Europe, a new system of knowledge enclosure (intellectual property) was underway. In Britain, between 1770 and 1850 almost 12,000 patented inventions were financed by the wealth stolen through land enclosures. Today the patent enclosure system has spread to all of biological diversity. Through life patenting and nano-scale patents, the material building blocks and processes that make everything in the world, including people and plants, are now being transferred to private hands.

Global Enclosures: The most sweeping biopiracy coup occurred when the CBD set the starting date for national sovereignty over genetic resources at 1993. That meant that all the resources collected and banked in countries in the North (e.g., in botanical gardens, aquariums, zoos, etc.) – regardless of their source – belonged to the countries that housed them. The CBD, by asserting the sovereignty of a State over the genetic resources found within its borders, effectively encloses the genetic "commons" State by State and subverts the human rights of Indigenous Peoples and communities.

Self Enclosures: Although the CBD pays lip-service to the communities' role in access and benefit sharing, this can be negated by national law. The pressure to conclude bilateral contracts with intellectual property provisions means that communities are encouraged to end customary systems of exchange, damaging their own resilience.

Beggar thy neighbour? Last year, an international chemical company informed ETC Group that it was negotiating two bioprospecting contracts with indigenous communities in which the communities themselves had insisted on confidentiality, even though the corporation had preferred a more transparent process (to avoid charges of biopiracy). The wish on the part of the communities to keep the negotiations secret suggests that the communities had no exclusive rights to negotiate access to resources that were also being used and cultivated by other neighbouring communities in the same region or even in other countries.

Access and Benefit Sharing are not new. The flow of exchange of genetic resources is as old as civilization, and it is one of the main contributors to the development of biodiversity and of food, medicines, clothes and many other elements vital to the survival and well-being of humankind. Biopiracy happens when the transfer of these resources is misappropriated, privatized or monopolized. The Dutch, for example, were not concerned about the benefit of humankind, when in 1621 they destroyed every clove and nutmeg tree on all save three (well-guarded) islands in the Moluccas. (As a result, fully three-quarters of the plant diversity were lost on the Moluccas Islands.)[4]

Biodiversity and genetic resources are of primary value to local communities and anything that puts constraints on access and free exchange fundamentally harms their well-being.

Following the trail of conquerors and travelers, plant collectors from industrialized countries ventured southward throughout the twentieth century in search of valuable genetic material for agricultural plant breeding and for medicinal uses.[5] In most cases, no money changed hands, no profits were shared, nor any other kind of acknowledgement given to the farming or indigenous communities that selected, maintained and improved traditional crop varieties or selected and made use of plants with unique properties. In more recent times, the process continued, fueled by the enormous economic value of these resources. For example, urging the US Senate to ratify the CBD back in 1994 (which the US failed to do and still has not done), then-Secretary of State Warren Christopher pointed out that foreign germplasm added over US $10 billion to the (then) $28 billion annual maize and soybean market in the US.[6]

With the evolution of IP, farmers are losing the right to use and develop plant diversity. Patents increase the control that institutional plant breeders have over plants, seeds and genetic resources and they decrease the farmers' control over seeds and local plant breeding. Today, under some national patent laws, it is *illegal* for farmers to save patented seed for replanting the following season. Why does this matter? Farmers have been selecting seeds and adapting their plants for local use for over 200 generations. Up to 1.4 billion people in the developing world depend on farm-saved seeds as their primary seed source. Crop genetic diversity enables farmers to adapt crops suited to their own needs. Communities that lose traditional varieties, developed over centuries, risk losing control of their farming systems and they risk becoming dependent on outside sources of seeds and the chemical inputs needed to grow them. Without an agricultural system adapted to a community and its environment, resilience in agriculture is impossible.[7]

Captain Terminator: Seed sterilization technologies are a jewel in the biopirates' treasure chest. Rather than enforcing monopoly on plant genetic resources through IP, the monopoly can be enforced through biological science. The aim is the same – to increase profits – but the threat to biodiversity and to the survival of rural people is enormous: an end to food sovereignty and locally-adapted agricultural systems.

Is contamination by genetically modified (GM) DNA a kind of "biopiracy by occupation?" While we most often think of biopiracy as a theft of peoples' or communities' genetic resources that are then privatized through intellectual property regimes, there is another kind of biopiracy-by-occupation where patented genetic material contaminates genetic material held by peoples and communities, with somewhat similar results. In the case of GM maize contamination in Mexico, for example, farmers' varieties have been altered by genetically modified DNA and could be subject to "patent infringement" litigation. In the case of canola in Canada, not only has the plant been altered by genetically modified DNA, but also – in the absence of a Supreme Court reversal of two lower court decisions – legal control of the plant variety is transferred from the farmer to the corporation.[8] Meanwhile, the burden of liability for contamination rests with the farmer rather than with the Gene Giant whose product caused the contamination.

TK or TKO? Valuable chemical compounds collected from plants, animals and microorganisms can be more easily identified when accompanied with indigenous knowledge. Biopirates use indigenous knowledge (often referred to as Traditional Knowledge [TK]) to increase their chances of finding active properties or 'hits' in the search for biologically active compounds. In a recent example, a researcher at the University of Bonn (Germany) attempted to treat diabetic rats using a medicinal plant that shamans in the highlands of Mexico use to treat 'sweet blood.' Initially, the "scientific" research produced unpromising results. Then the researcher studied the shaman's preparation of the plant and learned that its efficacy depends on its proper preparation. When the medicinal plant is mixed with maize and allowed to stand for a

period of time, it becomes an effective drug against diabetes.[9]

Pharmaceutical companies have profited enormously from natural product drug research.[10] A recent study demonstrated that the base compound in most of the top 150 commercial pharmaceuticals is also known and used in a comparable way by traditional healers.[11] It is estimated that the annual market for products derived from genetic resources in the pharmaceutical industry alone is between US $75 and 100 billion. [12] A 1999 study revealed that, for every one of the top ten pharmaceutical companies, natural products contributed at least 10 percent and, in some cases, more than 50 percent to total sales.[13] Zocor, a cholesterol-lowering drug derived from a genus of fungi, for example, made Merck & Co $6.7 billion in 2001, over 50% of the company's total sales.[14]

Is Biopiracy still an issue? The strategy of relying on natural products and indigenous knowledge in drug-discovery research ebbs and flows. Natural product research is often seen as slow and costly and advanced technologies such as combinatorial chemistry (the synthesis of chemical compounds as ensembles known as 'libraries' and the screening of those libraries for desirable properties) offer alternatives that can provide unprecedented numbers of compounds that are potentially biologically active. Beginning in the early 1990s, some companies scaled down or closed natural products research programmes, though all of the top pharmaceutical companies continued to engage in some natural-products discovery in-house or through subsidiaries.[15] This is because natural products have yet to be surpassed in efficacy or profitability. A recent survey conducted by the (US) National Cancer Institute revealed that 61% of the 877 small-molecule new chemical entities introduced as drugs worldwide during the period from 1981 to 2002 can be traced to natural products.[16] On the other hand, for the same time period, not a single *de novo* combinatorial compound was approved as a drug.[17] Even while the US Federal Drug Administration (FDA) reforms the drug-approval process to help speed-up drug development and though advances in proteomics (the study of proteins), genomics and combinatorial chemistry raised hopes that more drugs would be developed more quickly. So far, the hope has not been borne out.[18] According to FDA Commissioner Mark McClellan, new chemical entities approved by the FDA reached an all-time low of 21 in 2002 (42 were registered in 1996).[19] Some speculate that the recent dearth of new drugs may be a reflection of the diminished interest in natural-products drug discovery of the last decade…so it looks like we're going back to the rain forest.[20]

HapMap: Biopiracy is not limited to the appropriation and privatization of plant genetic resources. Biopiracy also includes the collection of genetic material taken from the bodies of Indigenous Peoples. Because these communities are often insular and therefore more genetically homogenous than are members of less insular communities, pharmaceutical researchers have found Indigenous Peoples' DNA to be invaluable in the investigation of genetic predisposition to disease and, hence, in the process of drug discovery.

The International HapMap Project attests to the ongoing demand for research samples of human genetic material.[21] The $100 million, three-year project is intended to map blocks of variation in the human genome that are unique to distinct populations (the variant blocks are called haplotypes). These genetic variations are believed to determine how people differ in their risk of disease or their response to drugs. The Project is funded by both the public and private sectors and, at present, involves DNA samples from the Yoruba people in Ibadan, Nigeria, Japanese in Tokyo, Han Chinese in Beijing and US residents with ancestry from northern and western Europe and Mexico.

Currently, there is only a 30-40% chance that a drug will be effective for a particular patient and possible adverse reactions such as allergies have kept some potential blockbuster drugs from getting regulatory approval. Drug efficacy and tolerance are largely determined by a person's genetic make-up. If the HapMap Project succeeds in mapping the world's genetic variance by population, it will be a major boon to the pharmaceutical industry. Drugs previously shelved due to risk of allergic reactions can be resuscitated. "Personalized medicine" – for those affluent enough to afford it, of course – will bring tremendous profits to drug companies, but the HapMap Project also raises serious unresolved issues concerning intellectual property, genetic discrimination, the threat to privacy, and even the possibility of genetically-targeted bioterrorism.

IP vs. IP (Indigenous People vs. Intellectual Property): Patents purport to provide legal protection for inventions that have met the criteria of novelty, utility, and non-obviousness, judged against everything known before the invention, as documented in earlier patents or other published material (known as "prior art"). However, the distinction between invention and discovery is, and always has been, a murky one.

The Latin verb, *invenire* – from which the English words *invent* and *invention* derive – means simply to come upon, to find. Biopirates claim to have 'invented' new pharmaceuticals or the plants they breed or genetically engineer. The reality, most often, is that they have come across their "inventions" by strategic looking rather than through their own contrivances. Often, they make modifications to plants that were developed by farmers and Indigenous Peoples and "improved" by institutional breeders or they simply isolate a compound that is well-known or known to traditional healers (though perhaps not documented in conventionally Western media, which would establish the knowledge as prior art).[22] If companies and individuals simply find their products more often than they "invent" them, how are they able to acquire legal protection for products that belong to or were developed by others? The answers are in the ways that biopirates have found to distort the concepts of "science" and "invention."

Biopirates claim that most of their inventions come from labour-intensive, lab-based screening, research and development, where screening of up to 10,000 chemical compounds is necessary to yield a single potentially profitable drug.[23] Companies claim that indigenous knowledge – while possibly ingenious and creative – is not 'true' science, belonging to a different sphere of cognition from evidence-based, empirical science in both its methodology and outcomes and it is inferior to science. This *a priori* distinction helps justify the dismissal of indigenous knowledge as irrelevant when it comes to seeking legal protection for specific processes or substances used by Indigenous Peoples. Those individuals and organizations practicing biopiracy and using their booty in financially profitable applications attempt to erase the historical reality of how they came across (i.e., "invented") their discoveries.

How, specifically, is Western science different from indigenous knowledge according to the biopirates? The distinctions include the assertion that Western science is less mired in the community and local concerns because it devises universal explanations to phenomena, which result in insights that can be used for problem-solving in many different contexts. Also, it is argued that Western knowledge is different from indigenous knowledge in its methodology. Theoretically, what scientists do is transparent, empirical, provable by experiment, systematic, objective, analytical and reproducible; science advances by building rigourously on previous achievements. In contrast, indigenous knowledge is portrayed as no more than common sense or fraught with the unscientific notion of "belief." It is seen as closed, non-systematic, not empirical and lacking a conceptual framework that conforms to ideas of objectivity and rigourous analysis. Despite the insistence by biopirates that indigenous knowledge is inferior to Western knowledge, it may be, in fact, that no meaningful distinction can be made between the two.

There is a body of literature demonstrating that the methodology of indigenous knowledge resembles Western notions of scientific investigation and that it, too, is systematic and analytical and explains larger phenomena.[24] There is no doubt that indigenous knowledge advances by building on previous knowledge. The attempts to demonstrate that indigenous knowledge is "like" Western science, however, lets Western science maintain its privileged position as paradigm, model, and truth so that even those analyses attempting to demonstrate the value of indigenous and traditional knowledge do so by affirming the supremacy of Western science. Although indigenous knowledge has proved itself commercially valuable to biopirates, it is not recognized by the current system. As Vandana Shiva has pointed out, "the notion of what is scientific to explain modern systems of knowledge and 'unscientific' to explain traditional knowledge systems has less to do with knowledge and more to do with power."[25]

A Tale of Two Systems ***Indigenous Knowledge is intuitive and imaginative, but it is not "science" according to some. It is based on luck, and desperation and it is sustained by myth and mystery. Western science is systematic, evidence-based, collegial, merit-driven and, well, "scientific," damn it!***	
What's in a name?	
"Western" Science "Newtonian" Science "Peer-Reviewed" Science "Micro-Macro" Science "Evidence-Based Practice" "Science-based Reasoning"	"Indigenous Knowledge" "Traditional Knowledge" "Goethe" Science "Cooperative Innovation Systems" "Macro-Micro" Science
Systematic Experimentation and Cumulative Experience	
What they say: The Western scientific model stands on systematic experimentation and documentation that allows scientists to build upon one another's research speedily and efficiently. Intellectual property is an inexpensive mechanism for stimulating public and private innovation.	The annals of Indigenous Knowledge are filled with experimentation and testing. Knowledge is transferred from researcher to researcher in a multi-disciplinary network and from generation to generation through both oral and written traditions. Science is not solely a matter of bigger notebooks or faster internet servers!
Peer Review, Competition and Cooperation	
What they say: Western Science is merit driven, protected by peer-review processes that ensure high standards and thrives on a balanced combination of competition in excellence and cooperation in the cause of knowledge. The Precautionary Principle is accepted in theory.	The community's peer-review process is very efficient. If the innovation has merit, it will be used. If it doesn't – it won't be. Each innovation stimulates collective improvement and competition arises only when surplus benefits reach the marketplace. The Precautionary Principle is accepted in practice, within a system able to evaluate, prevent, and withdraw a new technology.
Publish or Perish/Produce or Perish	
What they say: Stimulated by academic competition and the need to demonstrate worth among peers, scientists are driven to develop and disclose new ideas as quickly as prudence allows. This leads to a free exchange of the latest information for the benefit of society.	Resilience requires experimentation and the results are easily visible to – and traditionally shared with – the community most able to utilize the new technology.
Of Macros and Micros	
What they say: Western science specializes in micro-technological innovations that have macro-applications.	Indigenous and other rural communities specialize in macro- or multi-technological advances that tend to have micro- or eco-specific functions.

Oiling the Monopoly Machinery: Of course, companies plundered genetic resources before IP systems, bioprospecting contracts and benefit-sharing agreements existed. Of course, they have the power to continue doing it. But instruments of legalizing biopiracy are important, not only as moral legitimization, but

also because they serve as "traffic lights" in the network of corporate competition by providing some kind of barrier to the claims of other companies or even countries. And last but not least, the legalized instruments of biopiracy help convince victims that they, too, will gain. If a signed contract promises that they'll get a share of the profits, then everyone can feel like "a winner."

CBD: Good COP or Bad COP? The Convention on Biological Diversity, which entered into force at the end of 1993, has been hailed for having established in international law the need for a "fair and equitable sharing of benefits arising out of the utilization of genetic resources." The reality, however, is that the text of the CBD and later interpretations of the text formulated at subsequent Conference of the Parties (COP) negotiations have upended the CBD's stated aim. The CBD is not about equity but about facilitating *legal* access – mainly by corporations from the North – to the genetic resources and knowledge of indigenous and other traditional peoples, mainly in the South. The facilitation is furthered by the fact that the CBD, although a multilateral agreement, strongly encourages bilateral deal-making and commercial exploitation of biodiversity.

The implications of the concept of "benefit sharing" within the CBD cannot be fully appreciated if separated from this emphasis on bilateralism. The CBD states that access to genetic resources "shall be facilitated" (art. 15.2) and that States are the designated entity authorized to determine the conditions for this access (art. 15.1) under an over-reaching claim that a State has sovereignty over the genetic resources found within Its border.

The apparently reasonable statement that States have sovereign authority over their own genetic resources ignores the pre-CBD reality. The majority of the known genetic resources and associated knowledge originated and is still present *in-situ* in the political South (roughly 83% of the world's *in-situ* genetic resources and *in-situ* technologies). However, thanks to the march of conquerors and diverse "scientific" expeditions, more than 75% of all *ex-situ* resources (resources that have been collected and banked) are present in institutions such as botanical gardens, aquariums, zoos and microbial collections in industrialized countries of the North.[26] All resources that were collected prior to the ratification of the CBD are included in this "sovereignty" statement: sovereignty, according to the CBD, began in 1993. In other words, if a resource was taken from the Malaysian rainforest in 1983 and is now happily ensconced in a botanical garden in the Netherlands, the Netherlands owns the resource to the same degree that Malaysia does. Because Malaysia has no legal standing as the original "provider" of the resource, there will be no benefits coming South if the plant turns out to cure cancer and if scientists in the Netherlands develop it into the blockbuster drug-of-the-century before Malaysian scientists do. The botanical chess game that colonial powers have played since the time of Columbus has finally been formalized, legalized and legitimated through the CBD.

But beyond that, these genetic resources were not in the State's domain previously, and most importantly, they were not for sale. They were public and collective goods, exchanged and shared, developed and nurtured by farmers and Indigenous Peoples over thousands of years for the welfare of their own communities and, as a consequence, the welfare of communities throughout the world. Furthermore, the same knowledge and resources may be present in more than one State, as eco-regions and traditional cultures do not necessarily coincide with modern geopolitical divisions. Modern States are often hostile to the Indigenous Peoples, farmers, fishing and other local communities living within their borders. States have a poor record for respecting the rights of indigenous cultures so that further plundering will likely be perpetrated by Indigenous Peoples' "own" States.

It is commonly believed that the CBD would help prevent these abuses by recognizing the rights of traditional people who will be consulted on the use of their resources and knowledge, mainly through Article 8(j). Article 8(j) states that: "Each Contracting Party shall, as far as possible and as appropriate, subject to its national legislation, respect, preserve, and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the

holders of such knowledge, innovations and practices, and encourage the equitable sharing of benefits arising from the utilization of such knowledge, innovations and practices."

In fact, 8(j) could be a good article, but it has serious flaws. The most obvious is the inclusion of the clause "subject to national legislation," which appears throughout the text of the CBD (as well as other multilateral agricultural and environmental agreements). The clause leaves it up to each State to enforce the article, which, in many cases, renders it useless in its entirety.

Another shortcoming is that by apparently recognizing "communities," it denies at the same time the wider concept of "Peoples" preferred by many First Nations groups. The term "communities" suggests that there is one easily identifiable actor (e.g., the representative of a "community") who is authorized to negotiate on that community's behalf. In fact, the strategy of many bioprospectors – companies or intermediaries such as universities, international conservation NGOs, etc. – has been to look for "cooperative" communities willing to enter into contracts to sell their resources and/or knowledge, despite the fact that the same resources and knowledge may be historically present and shared by many other communities and peoples within the same culture and/or region. Those other communities may not want to sell their resources. Identifying "communities" as opposed to "Peoples" is a very useful tool to facilitate the privatization of resources, and it has been used not only in relation to genetic resources, but also to obtain "consent" for mega-projects with negative impacts, such as the sale of shared land and exploitation of other natural resources.

Bon-Bonn or Bonn-Bomb? The "Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising Out of their Utilization" were adopted, after several years of negotiations, at the VI Conference of the Parties of the CBD in The Hague in April 2002. Although the Bonn Guidelines are not revolutionary in their content – as the main points were defined in the CBD – they do, in some cases, introduce alarming elements that will further facilitate and mainstream biopiracy. As the name indicates, they are a set of recommendations that provide a framework for bioprospecting contracts on genetic material (excluding human genetic material). Although they are "voluntary," they will very likely become a powerful document used to justify and promote bioprospecting – the Secretariat of the CBD has stated that the Guidelines' unanimous adoption by180 countries "gives them a clear and indisputable authority."[27] Many transnational companies already claim compliance with the CBD in order to justify their resource privatization. These guidelines will make their work much easier. Despite the fact that they are not legally binding, the Guidelines will be seen by governments as a template for national legislation, which is the final step in the process of legalizing biopiracy.

10 Wrong Things in the Bonn Guidelines on Benefit Sharing and 1 Good Idea

Text of the Bonn Guidelines	ETC Critique
1. "The present Guidelines are voluntary and were prepared with a view to ensuring their…voluntary nature" (I.A.7.a.)	1. The Guidelines are not legally binding. In the present context, this is just as well. But a by-product of their voluntary nature is that anything in them that could potentially promote fairness and equity – such as the statement that the "…use of genetic resources should not prevent traditional use of genetic resources" – can be ignored, while the Guidelines' position on allowing (and even encouraging) intellectual property on genetic resources will be enthusiastically endorsed.
2. "Nothing in these Guidelines is intended to substitute for relevant national legislation." (I.A.3) "Nothing in these Guidelines should be interpreted to affect the sovereign rights of States over their	2. The Guidelines reaffirm the CBD's declaration that the authority to negotiate the commercialization of resources lies in the hands of the State. State sovereignty establishes the enclosure of resources at the national level, giving biodiversity actors only a

natural resources." (I.A.4) "Competent national authorities…may, in accordance with applicable national legislative, administrative or policy measures be responsible for granting access…"(II.B.14) "Relevant stakeholders should be consulted and their views taken into consideration in each step of the process…" (III.18)	"consultative status." In reality, these actors are dispossessed of their effective right to say no. Governments can either look for other willing communities or choose to ignore their wishes after 'consultation.' Often, national governments are hostile to the interests of the Indigenous Peoples living within their borders. (See discussion of national sovereignty, above.)
3. "Restrictions on access to genetic resources should be transparent, based on legal grounds, and not run counter to the objectives of the Convention" (IV.C.26.c.) "Providers should…strive to avoid imposition of arbitrary restrictions on access to genetic resources." (II.C.16.c.ii)	3. The Guidelines fail to acknowledge that there may be other kinds of grounds – such as ethical and cultural grounds that are probably not recognized by national legislation – on which it would be legitimate for Indigenous Peoples or others to restrict access to genetic resources. The State is being warned here that it must make its resources available and respect IP and contract law in the spirit of trade liberalization. Referring to biodiversity actors (or even States) as "providers" implies, grotesquely, that biodiversity's function is to supply "users" in a commercial transaction.
4. "Recognizing that Parties and stakeholders may be both users and providers…" (II.C.16) "Relevant stakeholders should be consulted and their views taken into consideration in each step of the process…" (III.18)	4. The Guidelines use the term "stakeholders" to define the involved parties, which circumscribes – and fails to differentiate between – multinational corporations, NGOs, universities, governments and farmers/indigenous communities. Distinctions are made only in terms of "users" and "providers." This dichotomy promotes bilateral contracts though the reality of genetic resource use and exchange is infinitely more complex than a "provider" on one side relating to a "user" on the other.
5. "Material transfer agreements may contain wording on…whether intellectual property rights may be sought and if so under what condition" (Appendix I.B.4)	5. While the Guidelines leave open the possibility of barring IP, the clear bias is in favor of IP. The text considers IP a benefit-producing mechanism, which can then be shared. The IP agreements themselves are seen as both a "monetary benefit" (as the "providers" would receive a percentage of the royalties collected by the owner of the patent), as well as a "non-monetary benefit" (as the providers may be offered joint-ownership of patents).
6. "The involvement of relevant stakeholders should be promoted by…providing support for capacity-building, in order for them to be actively engaged in various stages of access and benefit-sharing arrangements, such as in the development and implementation of mutually agreed terms and contractual arrangements." (III.20.B)	6. While privatization and commercial overexploitation of the resources are the real problem, Indigenous Peoples, farmers, etc. are offered "capacity-building" to facilitate their own participation in the process that devastates their livelihoods and cultures.
7. The objectives of the Guidelines are…to contribute to the development by Parties of mechanisms and access and benefit-sharing regimes that recognize the protection of traditional knowledge, innovations and practices of indigenous and local communities, in accordance with domestic laws and relevant international instruments."(I.E.11.j)	7. The use of the term "communities" denies the broader concept of "Peoples" defended by many Indigenous Peoples. Like "stakeholder" and "provider," "community" is a label that suggests there is one actor empowered to negotiate. (See discussion, p. 9, above.)

8. Regarding Distribution of benefits: "benefits should be shared fairly and equitably with all those who have been identified as having contributed to the resource management, scientific and/or commercial process." (IV.D.48)	8. Should the State be authorized to identify those who contributed to resource management? In cultures where knowledge is collective, shared and cumulative and the notion of invention is foreign, how will the contributors be rightly identified?
9. "Monetary benefits may include…salaries and preferential terms where mutually agreed" (Appendix II.1.g)	9. The Guidelines define salaries as benefit sharing, while salaries are actually payment for labour – not "benefits."
10. "The work of the World Intellectual Property Organization (WIPO) should be taken into account." (I.D.10)	10. As the United Nations agency responsible for the promotion of intellectual property, it is not surprising that WIPO promotes the enforcement of intellectual property as an effective means to protect, respect, enhance and conserve indigenous and local knowledge.[28]
1 Good Idea. "Monetary benefits may include…special fees to be paid to trust funds supporting conservation and sustainable use of biodiversity" (Appendix II.1.f)	ETC Group believes that an initiative like this one should be the focus for benefit sharing. Though there is no evidence that the CBD is facilitating the establishment of this kind of fund, there exists a template in the Global Conservation Trust, although its provision for a private sector board member is inappropriate. The Global Conservation Trust is an endowment to conserve the world's crop diversity collections, none of which is linked to intellectual property rights.

Biodiversity "Cartel:" The Like-Minded Megadiverse Countries Another relatively recent biodiversity initiative of the same ilk as the Bonn Guidelines, the Cancún Declaration of Like-Minded Megadiverse Countries, is often misinterpreted as a pro-South initiative that will conserve and utilize biodiversity and stop biopiracy. The Cancún Declaration was issued by environment ministers and delegates of Brazil, China, Colombia, Costa Rica, Ecuador, India, Indonesia, Kenya, Mexico, Peru, South Africa and Venezuela in Cancún, Mexico on February 18, 2002. Unfortunately, the Mexican-led initiative – which covers 70% of the world's biodiversity, according to the Declaration – does not defend the interests of the participating countries' own populations or Indigenous Peoples or local communities. This is particularly clear in the case of Mexico, where a law on indigenous rights failed to pass into legislation in the form that had been agreed upon by the National Indigenous Congress and other indigenous groups. Instead of recognizing the interdependency of cultural and biological diversity and seeking to protect them, the Group of Like-Minded Megadiverse Countries can be seen as a front for selling off biological resources to the highest bidder. According to the Cancún Declaration, the participating nations seek to introduce and/or harmonize intellectual property systems and increase the use of biotechnology as a means of conserving diversity. Like the Bonn Guidelines, the Cancún Declaration pays lip-service to the need to take into account the concerns of indigenous communities and to share benefits equitably, but the initiative works to facilitate (legalize) biopiracy rather than to stop it.

Conclusion: The practice of biopiracy will not ebb as long as genetic resources are a feedstock for industry profits, nor while those resources can be legally monopolized. Tragically, the *moral* legitimization of monopolies has been provided in a presumed "neutral" forum, the CBD, transforming the offense into a virtue. The underlying message is: "Robbery of resources is a fact of life, like progress and science; it can't be stopped, so lets face the inevitable and try to get something out of it. Let's become merchants instead of victims, and do it before our neighbors do." The Bonn Guidelines say, "Beggar thy neighbour." The Megadiverse Countries initiative says, "Beggar thy bio."

Looking back over the past decade, the Convention has been toothless in halting the plundering of resources and knowledge from Indigenous Peoples, farmers and traditional communities, but it has become a powerful tool to condone it. The Convention's particular notion of "benefit sharing" has become more akin to "compensation for damages" accrued by the crime of biopiracy. By connecting "benefits" to intellectual property systems, biopiracy has been legitimated, some companies have been able to increase their competitiveness in the marketplace, and the community partners have sometimes become unhappy pawns in harming the interests of others.

No one refutes that benefit sharing is needed. The issue is that the real "benefit sharing" – to the benefit of humankind – has been practiced for millennia by the "biodiversity actors:" Indigenous Peoples, peasants, small farmers, fisherfolks, forest dwellers, pastoralists and other traditional communities. All agriculture and health care systems are based on their past and present contributions, which, in turn, have been based on reciprocity, on free flows of exchange of resources and knowledge among Peoples, between communities, regions and across the world. The process is not comparable to a commercial transaction. Rather, it is based on the collective and intergenerational nurturing and development of biodiversity. This is what has to be protected and maintained along with Peoples' social, economic, cultural and political rights. Protection is not about paying fees as compensation, but about respecting and restoring the right to land, territory, resources, identity, and diversity and about ending the privatization and monopoly of resources through IPs, new technologies or other enclosures.

After ten years, it has become clear that the CBD is not a silver bullet for the sustainable use and conservation of biodiversity nor has it strengthened the roles and rights of Indigenous Peoples and communities. Communities will have to strengthen their own resilience strategies outside the Biodiversity Convention. At COP7, governments must not undertake work on a legally-binding international regime on access and benefit sharing based on the Bonn Guidelines. COP7 should instead reformulate the Bonn Guidelines. ETC believes that, in addition, a public, international fund (a Global Biodiversity Fund) should be established through compulsory "taxes" paid by benefiting governments. The fund should be managed by the United Nations but it should also directly involve the biodiversity actors (identified above). The fund's explicit purpose should be to sustain cultural and natural biodiversity, with monies made directly available to Indigenous Peoples organizations, small farmers organizations and the like.

ENDNOTES:

[1] Article 15 of the CBD: "Access to Genetic Resources." The text of the Bonn Guidelines is available at http://www.biodiv.org/decisions/default.aspx?m=cop-06&d=24. The text of the Cancún Declaration is available at www.megadiverse.org

[2] The text of the Convention is available at www.biodiv.org.

[3] Quoted in Ted Agres, "When Sharing Means Less for All:New rules on biodiversity prompt frustration with treaty," *The Scientist*, October 20, 2003. Available on the Internet: http://www.the-scientist/yr2003/oct/prof4_031020.html|

[4] Lucile Brockway, *Science and Colonial Expansion: The Role of the British Botanic Gardens*, Yale University Press, 1979.

[5] Sarah A. Laird and Larry ten Kate, "Biodiversity prospecting: the commercial use of genetic resources and best practice in benefit-sharing," *Biodiversity and Traditional Knowledge: Equitable Partnerships in Practice*, London and Sterling, VA: Earthscan Publishing, 2002, p. 241.

[6] Letter from Secretary of State Warren Christopher, 16 August 1994. The United States' failure to ratify the CBD should not be taken as a sign that the Convention is a "good" treaty for Indigenous Peoples and traditional communities of the developing world with the legal force to extract compensation from an industrialized superpower such as the US. The reasons for the US failure to ratify the treaty largely stem from a general

wariness of all multilateral treaties that might imply a threat to the intellectual property rights of US corporations.

[7] This is the concern of the legally-binding Treaty on Plant Genetic Resources, adopted in November 2001 after seven years of negotiations. The Treaty seeks to insure the future international cooperation and open exchange of "any genetic material of plant origin of actual or potential value for food and agriculture," which farmers all over the world have developed and exchanged over 10,000 years. Through the Treaty, countries agree to establish "an efficient, effective and transparent Multilateral System to facilitate access to plant genetic resources for food and agriculture, and to share the benefits in a fair and equitable way." The Multilateral System applies to over 64 major crops and forages. Although the spirit of the Treaty is to safeguard Farmers' Rights, just as with the CBD, governments have left the implementation of the Rights subject to national legislation. Further, ambiguous clauses on IP and benefit sharing could subvert the value of the Treaty. It remains to be seen whether or not the treaty, in practice, will be a betrayal of farmers and the public interest.

[8] Paul Elias, "Small Canadian Farmer Fights Monsanto," *Associated Press*, January 20, 2004. Available on the Internet: http://www.washingtonpost.com/wp-dyn/articles/A32976-2004Jan20.html

[9] Anon. University of Bonn news release, "Shaman Medicine Antidote to 'Sweet Blood,'" available on the Internet: www.uni-bonn.de/en/News/29_2003.html. Although this seems to be a case of biopiracy, a patent database search (December 2003) did not reveal patent applications or patents on this treatment for diabetes.

[10] Natural product drugs are those that may occasionally be manufactured by semi-synthesis or even total synthesis but which are chemically identical to a naturally-occurring genetic resource. From Sarah A. Laird and Larry ten Kate, "Biodiversity prospecting: the commercial use of genetic resources and best practice in benefit-sharing" in Sarah A. Laird, ed., *Biodiversity and Traditional Knowledge: Equitable Partnerships in Practice*, London and Sterling, VA: Earthscan Publishing, 2002, p. 250. The task of drug discovery and development is substantial and this accounts for turning to indigenous knowledge. An oft-quoted figure is that the price of developing one new drug is $802 million (in 2000 dollars). The figure comes from Joseph A. DiMasi, Ronald W. Hansen, Henry G. Grabowski, "The price of innovation: new estimates of drug development costs," *Journal of Health Economics* 22 (2003), pp. 151–185. The quote often forms part of an *apologia* justifying the high cost of drugs.

[11] The study was made by F. Grifo *et al*. and is cited in Sarah A. Laird and Larry ten Kate, "Biodiversity prospecting: the commercial use of genetic resources and best practice in benefit-sharing," in Sarah A. Laird, ed., *Biodiversity and Traditional Knowledge: Equitable Partnerships in Practice*, London and Sterling, VA: Earthscan Publishing, 2002, p. 270.

[12] Kerry ten Kate and Sarah A Laird. 1999, *The Commercial Use of Biodiversity: Access to genetic resources and benefit-sharing*. London: Earthscan, p. 2.

[13] Sarah A. Laird and Larry ten Kate, "Biodiversity prospecting: the commercial use of genetic resources and best practice in benefit-sharing," *Biodiversity and Traditional Knowledge: Equitable Partnerships in Practice*, London and Sterling, VA: Earthscan Publishing, 2002, pp. 249.

[14] *Ibid*., pp. 249-50. The 2001 sales figure for Zocor comes from Anon., "Zocor patent extended," February 27, 2002. Available on the Internet: http://money.cnn.com/2002/02/27companies/merck

[15] Sarah A. Laird and Larry ten Kate, "Biodiversity prospecting: the commercial use of genetic resources and best practice in benefit-sharing," in Sarah A. Laird, ed., *Biodiversity and Traditional Knowledge: Equitable Partnerships in Practice*, London and Sterling, VA: Earthscan Publishing, 2002.

[16] Cited in Maureen Rouhi, "Rediscovering Natural Products," *Chemical & Engineering News*, October 13, 2003, p. 78.

[17] *Ibid.*

[18] 12 biopharmaceuticals were approved in 2002 (27 were approved in 1998). Rick Mullin, "Drug Discovery Perspectives," *Chemical & Engineering News*, Aug. 18, 2003, p. 14.

[19] *Ibid.*

[20] Maureen Rouhi, "Rediscovering Natural Products," *Chemical & Engineering News*, October 13, 2003, p. 77.

[21] See www.hapmap.org

[22] Recently there have been attempts to compile databases of traditional knowledge on the Internet so that knowledge will be documented in a Western medium in order to be considered prior art. According to Ragunath

Mashelkar, director-general of the Council of Scientific and Industrial Research in New Delhi, which compiled a database of plants used in India for medicinal purposes: 'This is the only permanent solution to prevent patents from being issued for non-original inventions in our traditional system." Quoted in K. S. Jarayaman, "...as India pushes ahead with plant database," *Nature*, vol. 405, May 18, 2000, p. 267. For the database, see www.wipo.org/globalissues/databases/tk/

[23] Anon., *New Medicines. New Hope*. Pharmaceutical Research and Manufacturers of America, Summer 2003. Available on the Internet: http://www.phrma.org/publications/twopager/2003-06-24.752.pdf

[24] See, for example, The Crucible II Group, *Seedling Solutions, Volume 1. Policy options for genetic resources: People, Plants, and Patents revisited*, pp. 73-75.

[25] Vandana Shiva, *Monocultures of the Mind: Perspectives on Biodiversity and Biotechnology*, Zed Books, 1993, p. 10. Excerpt available on the Internet: http://www.komito.com/nativeeyes/knowledge/readings/rr5know_Shiva.htm.

[26] RAFI *Communiqué*, "Geopolitics of Biodiversity," Issue #46, 1996. Available on the Internet: http://www.etcgroup.org/article.asp?newsid=203

[27] Hamdallah Zedan, Introduction to the "Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization," Secretariat of the Convention on Biological Diversity, 2002, p. IV.

[28] See GRAIN, "The great protection racket, Imposing IPRs on traditional knowledge," *Seedling*, January 2004, pp. 13-17.

The Action Group on Erosion, Technology and Concentration, formerly RAFI, is an international civil society organization headquartered in Canada. The ETC group is dedicated to the advancement of cultural and ecological diversity and human rights. www.etcgroup.org. The ETC group is also a member of the Community Biodiversity Development and Conservation Programme (CBDC). The CBDC is a collaborative experimental initiative involving civil society organizations and public research institutions in 14 countries. The CBDC is dedicated to the exploration of community-directed programmes to strengthen the conservation and enhancement of agricultural biodiversity. The CBDC website is www.cbdcprogram.org. The views expressed in this *Communiqué* are not necessarily those of our CBDC partners.