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ARTICLE

THE BIODIVERSITY RIGHTS OF DEVELOPING NATIONS: A PERSPECTIVE FROM INDIA

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I. INTRODUCTION*

The journey from the 1992 United Nations Convention on Environment and Development in Rio de Janeiro, Brazil (UNCED or Rio) to the upcoming 2002 World Summit on Sustainable Development Johannesburg, South Africa (WSSD or Johannesburg) has been long and difficult. At this point, it may serve well to catch one's breath to traverse through the decade and capture the milestones and the roadblocks along the way. This assessment provides an opportunity to review the speed of things, as well as to consider whether a change of course to a new direction is required. With this purpose, this article proposes to assess the road traveled from UNCED from the perspective of the biodiversity rights of developing nations, which

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* Authors' Citations in this article do not conform to Blue Book standards.

constitute four-fifths of the world's population.[3] The focus of this article's assessment will be the 1992 United Nations Convention on Biological Diversity (CBD or Biodiversity Convention) that was negotiated at Rio.

Principle 1 of the Declaration on Environment and Development adopted at UNCED (Rio Declaration) provides: "Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature."[4] This article considers these general provisions from the specific viewpoint of India, a megabiodiverse country. The maintenance of the fine balance between conservation and economic development is one of India's major concerns. Like many developing nations, India is home to many diverse ecosystems, species and genes, as well as diverse cultures. With its population having crossed the one billion mark (the second country after China to do so), the country's cultural diversity is stupendous: 4635 distinct ethnic communities, 325 languages belonging to twelve language families, six 'major' religions and dozens of smaller independent faiths, three racially distinct resident populations, and ways of life ranging from ancient hunter-gatherer to modern urbanism.[5] Thereby, in itself, India is representative of the range of diversity, both biological and cultural, found in many developing countries.

In articulating the Indian experience with the implementation of the CBD, this article will document the several changes in law and policy that have been initiated or are in the process of being put in to place at the domestic level since the country ratified the Convention in February 1994, as well as the people's movements for biodiversity rights. It will also review India's positions through the negotiating process of the CBD. At the national level there have been legislative changes including the 1999 Biological Diversity Bill,[6] the 2001 Plant Varieties Protection and Farmers' Rights Act,[7] and the National Biodi-

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[3] *Available at:* http://www.geohive.com/charts/pop_now.php.

[4] 31 ILM 874 (1992).

[5] Singh, K.S., *People of India: An Introduction.* Anthropological Survey of India, Laurens and Co., Calcutta (1992).

[6] Bill No.93 of 2000.

[7] Act 53 of 2001.

versity Strategy and Action Plan[8]. There have been amendments to India's Constitution that seek to decentralize democratic decision-making on biological resources. Through such legislative and constitutional measures India has strengthened the rights of its people and thus asserted its biodiversity rights. All this has run parallel to the structural adjustment programmes and economic reforms initiated in 1991 in response to conditions imposed by the International Monetary Fund (IMF).[9] Post-1995 entry into the World Trade Organization (WTO) has posed newer challenges to India and other developing nations with far-reaching ramifications on their biodiversity rights. The interface of the WTO and CBD, particularly in regard to intellectual property rights, will be examined from the Indian perspective.

At the outset, it may be said that developing nations, typically characterized by their low per capita incomes and defined as those that are attempting to improve their positions by industrialization, may well have chosen an alternative path of development if they perhaps had the right to do so. With freedom to set their own policies and priorities they perhaps would not have hastened themselves into changing their laws and policies and with it the very rubric of their polities in the name of conservation. These are the realities that international law and law-making must acknowledge.

Indian civilization has long recognized the intrinsic right of nature to exist. This recognition and respect is deeply interwoven with the cultural and material dependence of the majority of its people on biodiversity. As such, in India the ethical, economic, social, and cultural aspects of biodiversity are hard to separate.

The Preamble of the CBD explicitly recognizes that "economic and social development and poverty eradication are the first and overriding priorities of developing countries."[10] In developing countries such as India, biodiversity is not simply

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[8] The National Biodiversity Strategy and Action Plan (NBSAP) of India is currently in the process of being formulated. A project of the Union Ministry of Environment and Forest (MOEF), NBSAP aims to produce a series of planning documents dealing with India's biodiversity as per the objectives of the CBD.

[9] *License to Kill? How the Unholy Trinity – the World Bank, the International Monetary Fund and the World Trade Organisation are killing livelihoods, environment and democracy in India*, RFSTE (March 2000).

[10] Preambular paragraph.

about the variability among living organisms, it is about life and livelihoods. In so much as international and national rules and regulations influence that, these rules and regulations are also about life and livelihoods.

Since UNCED in 1992, several legal documents, comprising both soft and hard international law, dealing with biodiversity have been generated. Apart from strictly environmental agreements, trade agreements also have significantly influenced the biodiversity debate. However, in the midst of these multiple legal texts the CBD serves as the umbrella convention for biodiversity issues, as the auspices in and under which biodiversity in all its dimensions is best dealt with and has a central place. Linked with all the thematic work programmes of CBD are other multilateral environmental agreements (MEAs).[11] This article will explore the interface of CBD with other multilateral environmental and also economic agreements in studying the biodiversity rights of developing nations.

What then are the biodiversity rights of developing nations? Over time, how have their rights developed as sovereign states, as source countries of biological resources and local communities/peoples reliant on and with special knowledge of biological resources? As these questions suggest, biodiversity rights in fact comprise a bundle of several rights involving the ability of developing countries to have access to and control biological resources themselves, as well as the finance, science, technology and markets related to these resources. In each of these areas, international law and international politics plays an important role.

The article will flag those provisions of the law that disenfranchise developing nations and their peoples from their rights vis-à-vis biodiversity. While sifting through these provisions, it will also examine how far the developed nations have gone in the "burden-sharing" of conservation of biological resources. Because newer technologies pose newer challenges to biodiversity conservation, the intrinsic link between trade and biodiversity cannot be overstated. It has been a challenge to deal with international trade rules and regulations, especially with non-state entities like the WTO. The WTO's agenda is

[11] The Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar) 1971, XI ILM 963 (1972).

dictated largely by corporate interests in developed countries such as the United States (U.S.), which have not demonstrated a commitment to the conservation of biodiversity. This lack of commitment is similarly reflected in other international agreements such as the CBD's Biosafety Protocol[12] and the United Nations (U.N.) Framework Convention on Climate Change's 1997 Kyoto Protocol.[13]

The WTO trade agenda has only furthered the commodification and privatization of biodiversity resources. Together with this commodification has been espoused the notion that if developing countries do have rights, they can be negotiated and from this premise then the argument proceeds to - on what terms? It is critical then to identify the non-negotiable aspects of biodiversity rights from the perspective of developing countries. This article critiques the notion that these rights too can be bought and sold and brought under the realm of international trade as if nothing is above that. This apparent conflict of perspective between the developed and the developing most visibly manifests itself in the area of intellectual property rights (IPRs). For instance, the 1995 WTO Agreement on Trade Related Aspects of Intellectual Property (TRIPs)[14] provides for the international recognition and enforceability of private patents for micro-organisms and life itself, and legitimises the piracy of indigenous biodiversity-related knowledge of local communities of developing nations.[15] Contrary to the principles suggested in TRIPs, this article maintains that the rights of developing countries should entitle them to decide whether and how they would want to conserve/use their biological resources and not whether and how this conservation guarantees a continued supply of these resources to corporate interests in the developed world.

Inevitably the article embarks on a rights discourse. As provided in the Preamble of the Stockholm Declaration, adopted at the 1972 Stockholm United Nations Conference on

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[12] Cartagena Protocol on Biosafety to the Convention on Biological Diversity *available at:* http://www.biodiv.org/biosafety/protocol.asp.

[13] Kyoto Protocol, United Nations Framework Convention on Climatic Change, 37 ILM 22 (1998) *available at:* http://www.unfccc.de/resource/docs/convkp/kpeng.html.

[14] Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organisation ("Trips"), Annex 1C, 33 I.L.M. 1197 (1994).

[15] Article 27 of TRIPs on *Patentable Subject Matter*. *Id.* at Art. 27.

the Human Environment (UNCHE or Stockholm Convention), the environment is "essential to . . . the enjoyment of human rights."[16] Principle 3 of the Rio Declaration similarly provides that "right to development must be fulfilled so as to suitably meet developmental and environmental needs of present and future generations."[17]

The CBD reiterates the sovereign rights of states on their biological resources. Indeed rights cannot be divorced from their corresponding duties. In the context of international law this raises basic questions about the relationships between nation states. In treaty-making, wherein the express consent of contracting nation states is presumed, at the very source then in acknowledging that a nation has the right to so give consent lies the acknowledgement that the nation has equal rights and is sovereign. But, ironically, this equation changes in the realm of implementation where issues other than international norms of treaty-making take over. Rights of nation states derived from multilateral agreements lie in the supposed consensual nature of those agreements. This also goes to the core of the issue of compliance. If negotiated on seemingly unfair terms, the equal rights of nations would never be realized in practice.

Compliance with international agreements also requires the involvement of the people within the nation state. Although the implementation of international law may seem to be top-down process, at the national level the reverse often holds true. The ability of a national state to comply with international biodiversity agreements depends on how the effectively the domestic government can engage and internalize peoples' participation in biodiversity management.

While measures outside of and beyond law, to conserve biodiversity and biodiversity-related rights and preserve lives and livelihoods linked with them are important, it is crucial that existing spaces in national and international law for these rights are safeguarded and utilized. This article will identify those provisions of the Rio documents, particularly those in the CBD, which can be said as sources or positive rights.

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[16] *Report on the UN Conference on the Human Environment,* UN Doc A/CONF.48/14, ILM 1416 (1972).

[17] The Rio Declaration on Environment and Development, *Principle 3:* The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.

Rules of international law have always been necessary for peaceful co-existence making possible interaction and communication between nation-states. A necessary corollary of that being non-interference in internal affairs of nation states.[18] But on a subject like biodiversity, international law has made significant inroads into the national law-making arena. This also reopens questions of sovereignty and the interrelationships between international and domestic law.

Are the biodiversity rights of developing nations beginning to look like the lesser rights of lesser peoples? Are then the rights of developing countries, designed to be trapped in the constant state of "developing" and never quite getting there?

Is it unrealistic to hope that the principles of equity and environmental justice can breathe life into the letter of the law that endeavors to secure rights to those hitherto marginalized? In maintaining this as the refrain, the article will explore how these principles can lead to creative interpretation and implementation of existing legal provisions, to ensure the rights of developing nations to choose their course of action so as to do justice to their peoples.

The potential of the CBD lies in the space (however limited it may seem) it can provide in the articulation of the concerns of the developing nations. This can then be optimized by so informing all the other multilateral environmental and economic agreements that it is concerned with. This is an ongoing process.

In addition, there are spaces within other international forums that are being increasingly used to further aid this process. The U.N. Sub-Commission on the Protection of Human Rights, for instance, under the general mandate provided by the U.N. Declaration of Human Rights, has raised concern regarding the impacts of IPRs on human rights and biodiversity.[19]

As we look beyond 2002, these are some of the questions that this article raises, for unless we raise the right questions we cannot begin to find the rights answers.

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[18] See J.G.Starke QC *An Introduction to International Law*, Tenth Edition, May, 1989 Butterworth & Co. (Publishers) Ltd. pp 3-18.

[19] *Available at:* http://www.business-humanrights.org/UN-Sub-Commission.htm.

II. BIODIVERSITY NEEDS, PEOPLE'S NEEDS

India is one of the twelve megabiodiversity centres in the world.[20] Its living forms represent two of the major realms and three basic biomes of the world. The country is divided into 10 biogeographic regions: Trans-Himalayan, Himalayan, Indian Desert, Semi-Arid, Western Ghats, Deccan Peninsula, Gangetic Plains, North-East India, Islands and Coasts.[21] As diverse as its biological resources so are its people. As per the Provisional Population Results of the Census of India conducted in 2001 on March 1, 2001 the population of India stood at 1,027,015,247.[22] This makes India only the second country in the world after China to cross the one billion mark. More than half of India's populace is directly dependent on the natural resource base for its needs.

In India, as in many other cultures in Asia, all sentient beings for their living form are revered for the life they manifest. Several rituals of everyday life reflect this respect for other forms of life, for their natural beauty, or for the spiritual link provided between the human species and the natural world. These rituals, be it the worship of certain plants or animals as spiritual ancestors or the setting aside of parts of land, water or forests in the name of local deities, then become important as traditional conservation and management of biological resources. Thus, in countries such as India, conserving biodiversity is about conserving the diverse cultures that define the nation.

This brings us to the often contrasting worldviews of the developing countries and developed countries, which can translate into divergent interests between the two in international law of conservation and use of biological resources. For the developing countries the CBD is viewed primarily as a means to conserve and sustainable use biological resources. For the developed countries, however, the CBD is viewed primarily as a means to access and establish legal rights to biological re-

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[20] *Implementation of Article 6 of the Convention on Biological Diversity in India* – National Report, MOEF (1998), *available at:* http://www.biodiv.org/doc/world/in/in-nr-01-en.pdf.

[21] *Id.*

[22] *Available at:* http://www.censusindia.net.

sources located in resource-rich developing countries.[23] These different views continue to define the debate today over the CBD, a debate that is centered on the issues of the agreement's access and benefit-sharing provisions of the Convention.

III. THE CBD AT 10

UNCED gave the international clarion call for "sustainable development." The purpose of the Conference, was to elaborate strategies and measures to halt and reverse the effects of environmental degradation in the context of strengthened national and international efforts to promote sustainable and environmentally sound development in all countries. Principle 1 of the Rio Declaration placed "human beings . . . at the centre of concerns for sustainable development." [24]

During and since UNCED, however, it has become clear that developed nations (often referred to as the "North") often perceive the issues of environment and development quite differently from developing nations (often referred to as the "South"). While the developed industrialized North came to UNCED to deal with climate, forests and endangered species, the South was still dealing with problems related to poverty and development.

UNCED resulted in the following international environmental agreements: the CBD,[25] the Rio Declaration,[26] the Framework Convention on Climate Change,[27] Agenda 21,[28] and

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[23] The developed countries, particularly those actively involved in the negotiations of international trade rules, like the WTO, would rather have trade in bio-resources not burdened at least on their part by conservation measures, financial support for the same or transfer of technology obligations. The United States is one government that is reflective of this; in its *Declaration* on signature it expressly stated that "issues of serious concern in the United States have not been adequately addressed. . ." U.S. is yet to ratify the CBD.

[24] The Rio Declaration on Environment and Development, *Principle 1: Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.*

[25] The Convention of Biological Diversity, adopted June 5, 1992, A/CONF.151/26, 31 ILM 818 (1992).

[26] Report of the United Nations Conference on Environment and Development Annex I A/CONF.151/26 (Vol. I) Aug. 12 1992.

[27] 31 ILM 848.

[28] The Report of the United Nations Conference on Environment and Development Annex II A/CONF.151/26 (Vol. I-III) Aug. 12, 1992.

the U.N. Statement of Forest Principles.[29] Although each of these agreement contained provisions addressing the particular poverty and development issues facing developing countries, many in the North still do not see the need for an economic and social transformation of how international environmental issues (such as the conservation of biodiversity) are handled. Of all the treaties negotiated at Rio, the CBD holds the greatest promise for ultimately helping to create such a transformation.

In 1997, at the U.N. Special Session of the General Assembly to Review and Appraise the Implementation of Agenda 21, it was acknowledged that five years after the UNCED the state of the global environment had continued to deteriorate and significant environmental problems remain deeply embedded in the socio-economic fabric of countries in all regions.[30] This assessment indicated that, in terms of the condition of the global environment, things were not on course and were in fact worsening. The Review noted:

> Both the Commission on Sustainable Development and the General Assembly have emphasized that in the review of Agenda 21 at the special session of the Assembly, there should be no attempt to renegotiate Agenda 21; rather, discussions should focus on the further implementation of Agenda 21 (General Assembly resolution 51/181). At its fourth session, the Commission on Sustainable Development highlighted a number of objectives for the special session to which the CBD can make a direct contribution. They were that the special session should promote the Rio commitments through concrete proposals for action and revitalize and energize commitments to the concept of sustainable development. It is evident from the present report that the CBD has begun to make a contribution to this by providing a legal basis for many policies of Agenda 21, which hitherto had been expressed only in an exhortatory non-binding fashion.[31]

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[29] Non-legally binding authoritative statement of principles for a global consensus on the management, conservation and sustainable development of all types of forests [The Forest Principles] (1992) A/CONF.151/26 (Vol. III) Aug. 14, 1992.

[30] *See* http://www.un.org/esa/earthsummit.

[31] Preparations For The Special Session Of The General Assembly For The Purpose Of An Overall Review And Appraisal Of The Implementation Of Agenda 21, Implementation Of The Convention On Biological Diversity, Note By The Secretary-General; E/Cn.17/1997/11 dated Feb. 25, 1997

The Resolution adopted by the General Assembly *inter alia* expressly stated with reference to biodiversity:

> There remains an urgent need for the conservation and sustainable use of biological diversity and the fair and equitable sharing ofbenefits arising from the utilization of components of genetic resources. The threat to biodiversity stems mainly from habitat destruction, over-harvesting, pollution and the inappropriate introduction of foreign plants and animals.[32]

The causes for biodiversity loss recognized in the U.N. Resolution are the same causes of the growing crises of India's biodiversity. In its Status Report to the U.N. Commission on Sustainable Development, India stated that:

> . . . national action regarding conservation and sustainable use of biodiversity and equitable sharing of benefits arising out of the utilization of genetic resources demands appropriate actions on the part of international community.[33]

The international community would then have to respond accordingly. The principle of "common and differentiated responsibility" established at UNCED has not yet fully taken hold in the relations between Northern and Southern governments. In the words of the U.N. Secretary General, Mr. Kofi Annan:

> Ten years ago at the "Earth Summit" in Rio de Janeiro, Governments committed themselves to...a transformation, and to Agenda 21 as the comprehensive plan of action for getting there. But commitments alone have proven insufficient to the task. We have not yet fully integrated the economic, social and environmental pillars of development, nor have we made enough of a break with the unsustainable practices that have led to the current predicament.[34]

The Report of the U.N. Secretary General[35] on "Implementing Agenda 21", in its part F, dealing with *Sustainable man-*

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[32] Resolution Adopted By The General Assembly, A/Res/S-19/2 dated Sept. 19, 1997

[33] *Available at:* http://www.un.org/esa/earthsummit/india-cp.htm

[34] *Available at:* http://www.johannesburgsummit.org/html/brochure/brochure12.pdf.

[35] E/CN.17/2002/PC.2/7 dated Dec. 19, 2001.

agement of ecosystems and biodiversity, articulates the range of activities required in the sector:

> The degradation of natural ecosystems may, in some cases, be moving towards critical thresholds beyond which natural resilience is destroyed and recovery becomes difficult or even impossible. A framework of principles for global stewardship is urgently needed to protect the Earth's environment while meeting the social and economic needs and aspirations of all countries and peoples. Commitments should be made and initiatives agreed upon to halt and reverse the current degradation of the natural environment by:
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> • Improving indicators and data on land degradation and and improvement in order to assess and manage those processes and their impacts;
>
> • Defining intellectual property rights relating to biological resources in order to ensure that benefits derived from the use of genetic material are equitably shared;
>
> • Fully implementing the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, which is currently hampered by the lack of funding and the need for large investments to address land-based sources of pollution;
>
> • Improving the management of marine and coastal protected areas and increasing their number since protected reserves (or no-take areas) have been shown to increase the diversity and productivity of marine organisms;
>
> • Integrating agriculture with other aspects of land management and ecosystem conservation in order to promote both environmental sustainability and agricultural production;
>
> • Improving policies and laws to allow for a more systematic approach to sustainable mountain development, addressing such issues as property rights, economic incentives, political empowerment and the preservation of cultural heritage in an integrated manner;
>
> • Resolving issues of illegal, unregulated and unreported fishing and overcapacity of fishing vessels;
>
> • Enhancing cooperation, coordination and synergies among international organizations and instruments related to for-

ests, in the framework of the Collaborative Partnership on Forests;

• Managing man-made and natural disaster risks, with an emphasis on pre-disaster preparedness, mitigation, vulnerability assessments, adaptation strategies and other measures to reduce human and economic losses.[36]

The task ahead at the 2002 WSSD in Johannesburg is to move the protection of developing nations' biodiversity rights beyond the paper protections of the CBD.

IV. BIODIVERSITY RIGHTS

Realizing the biodiversity rights of India and other like developing countries involves, among other things, breathing life into the fundamental principles of the CBD that recognize that states have sovereign control over the biological resources within their territory.[37] And in exercising such control the country and its people ought to have the freedom to decide the how and the why of the management of these very resources. In conjunction there are also other international instruments to be invoked to make real the very basic freedom to make one's own decisions.

This raises the interconnected issue of realization of the Right to Development. It would do well to recall the 1986 United Nations Declaration on the Right to Development (DRD),[38] which proclaims the Right to Development (RTD) as an inalienable human right. It places the human being as the central subject of development and emphasizes that the human person should be the active participant and beneficiary.[39] It stresses the right of peoples to self-determination, by virtue of which they have the right to freely determine their political status and to pursue their economic, social and cultural development. And in doing so, through its ten Articles, the Declaration imposes obligations on the States towards each other and towards their peoples. The Declaration also makes express provision for developing countries, emphasizing that "sustained

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[36] *Id.*
[37] Preamble, Articles 3 & 6.
[38] Adopted by UN General Assembly resolution 41/128 of Dec. 4, 1986.
[39] Preamble Paragraphs and Article.

action is required to promote more rapid development of developing countries. As a complement to the efforts of developing countries, effective international co-operation is essential in providing these countries with appropriate means and facilities to foster their comprehensive development."[40] Similarly, in 1988 the U.N. Economic and Social Council's Commission on Human Rights established an Open-Ended Working Group on the Right to Development[41] to continue to monitor and review progress made in the promotion and implementation of the right to development.

The RTD and its ongoing work finds increasing support from developing countries in a time and age where the international economic order is fast placing limits to how developing countries can manage their biological resources.

As per the 1988 DRD, the promotion of genuine participation in society is an essential part of a rights-based approach to development.[42] Participation is a clear manifestation of the indivisibility of rights. The right to participation is therefore central to the realization of the 'Right to Development.' Without a genuine and meaningful participation of citizens in public decision-making at all levels, the RTD cannot be realized.

By signing the DRD, governments have re-affirmed that despite their diversity and differences, there are certain fundamental and immutable ethical principles that guide the relationship between the state and citizens and between citizens themselves. As Mr. N.K. Singh, a senior Indian official, has articulated in international fora:

> In my country, there is a general consensus on integrated approaches to human rights in the context of the non-justifiable economic, social and cultural rights contained in our Constitution's Chapter on Directive Principles (of State Policy) which are considered fundamental in the Governance of the country. Our Supreme Court has, further, ruled that the right to life includes the right to live with human dignity and all that goes along with it, and incorporated the basic necessities

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[40] Article 4.2.
[41] E/CN.4/RES/1998/72 dated Apr. 22, 1998.
[42] *Id.*

> of life essential for the full development of each individuals potential and personality. . .[43]

There are other instruments in International Law that are relevant to the debate of Biodiversity Rights. For instance, the International Labor Organization's Indigenous and Tribal Peoples Convention provides:

> [Indigenous peoples] shall have the right to decide their own priorities for the process of development as it affects their lives, beliefs, institutions and spiritual well-being and the lands they occupy or otherwise use, and to exercise control . . . over their own economic, social and cultural development . . . They shall participate in the formulation, implementation and evaluation of plans and programmes for national and regional development which may affect them directly . . . The improvement of the conditions of life and work and levels of health and education of the peoples concerned . . . shall be a matter of priority in plans for the overall economic development of areas they inhabit . . . Governments shall take measures . . . to protect and preserve the environment of the territories they inhabit.[44]

The participation of tribal people, and all those directly dependent on the natural resource base, is a crucial element in the biodiversity management in countries such as India. This part of the populace is still a sizeable portion of the population. Agenda 21,[45] one of the main documents that came out of UNCED, recognizes that such peoples have a vital role to play in environmental management and development because of their traditional knowledge and practices.[46] To internalize these *de facto* biodiversity managers is an important aspect in the management of biological resources. To help retain their traditional lifestyles and facilitate community-based rights, it

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[43] Mr. H.K. Singh, Deputy Permanent Representative, Permanent Mission of India to the UNO, Geneva at the 53rd Session of the Commission on Human Rights in Apr., 1997

[44] *ILO Indigenous and Tribal Peoples Convention, (No. 169), Article 7.*

[45] Agenda 21 A/CONF.151/26 (Vol. III) Aug. 14, 1992 Ch 26, Agenda 21 on *Recognizing And Strengthening The Role Of Indigenous People And Their Communities*

[46] Rio Principle 22: Indigenous people and their communities, and other local communities have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture and interest and enable their effective participation in the achievement of sustainable development.

is imperative that law does not lead to the very erosion of the factors that keep a community together. The idea of community control of resources is somewhat alien to the western concept of property, wherein the rights of the individual are supreme. On the contrary, within the concept of community-based rights the rights of the individual are of lesser import than the rights of the collective community. Thus, community rights draw their legitimacy from the very fact of community living and not from the nation-state, which is viewed as the guarantor of such rights rather than the grantor.

There is an urgent need for international law and policy to make provisions for the rights of all peoples for access in perpetuity for everyday living purposes to resources that are naturally produced in their lands, be it public/common in nature. This should be amongst the non-negotiables in any inter-state interaction.

The biodiversity rights of states are ultimately the rights of the peoples constituting these states. The non-recognition of these rights does not extinguish these rights.[47] In a democratic republic such as India, the sovereignty of the state is derived from the sovereignty of the people. The necessary concomitant of sovereignty is to be able to exercise the right to take independent and informed decisions. To be thus informed requires that there be access to information. Thus, another aspect of biodiversity rights is the right to information. Principle 10 of the Rio Declaration reiterates this concept: "Environmental issues are best handled with the participation of all concerned citizens. At the national level, each individual shall have appropriate access to information concerning the environment . . . states shall facilitate and encourage public awareness and participation . . ."[48] There may well be the need for a global counterpart to the 1998 European Convention on Access to Information, Public Participation and Access to Justice in Environ-

[47] See *Mabo & Ors. v. The State of Queensland* (1992) 175 CLR 1(Austl.).

[48] Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

mental Decision Making (Arhus Convention).[49] The Arhus Convention provides the most explicit recognize of the right to information in the environmental context.

In the context of the CBD, the idea of a right to information finds expression in the provision mandating public education and awareness,[50] and exchange of information,[51] and also in more specific requirements for "prior informed consent"[52] of the provider of genetic resources and the "advance informed agreement"[53] when dealing with biotechnology.

Internationally, the CBD alone cannot safeguard the biodiversity rights of developing countries, despite the fact that it gives them the basis for the same. The absence of an enforcement mechanism within the CBD frustrates efforts to ensure compliance. The lack of a means by which countries can be compelled to fulfill their treaty obligations is a fundamental handicap of the treaty.

For a country to be able to assert its sovereign rights over its biodiversity, it must be able to ascribe the biological resources to be those originating from within its territories. There should not be an impediment in international law or policy preventing this assertion. This brings us to the issue of "country of origin." If through modification/alteration of the genetic construct of bioresources from the South, Northern countries can legally claim it originated (or was made in) their land, this claim has serious ramifications for the biodiversity rights of developing countries. There are several cases of biopiracy from Asia that show this happening. The Basmati case most aptly substantiates the problem. In 1997, the U.S. Patent and Trademark Office (USPTO) granted to RiceTec Inc., a Texas-based transnational corporation, a patent[54] for "inventing" Basmati Rice. There were several protests by both peoples and governments across the globe demanding that the patent be revoked *in toto*. The patent was partially revoked by USPTO in August 2001 (only five of the twenty claims made by the

[49] UNECE European Convention on Access to Information, Public Participation and Access to Justice in Environment Decision-Making, 1998.

[50] Art. 13.

[51] Art. 17.

[52] Art. 15.

[53] Art. 19.

[54] No.5663484, U.S. Patent.

company in the original patent application have been allowed). The title of the "invention" has also been changed from "Basmati Rice Lines and Grains" to "Rice Lines Bas 867, RT1117 and RT1121." Meanwhile, the U.S. Federal Trade Commission (FTC) issued a ruling providing that the word "Basmati" is a generic term and can be used for rice grown anywhere, even in the U.S.[55] This FTC ruling allows the U.S. to stake a claim and market Basmati Rice of India and Pakistan as "made in U.S."[56] The U.S. actions here may not constitute a technical violation of the CBD because the U.S. Congress has yet to ratify the CBD. Nonetheless, situations such as the Basmati Rice dispute contradict the sovereign rights provisions of the CBD.

Some biological resources are found in multiple countries and thus there could arise legitimate counter claims over a particular resource amidst southern countries as well. It has been suggested by Indian law professor Madhav Gadgil that:

> India might propose that the international community agrees to define a country of origin as that country in which a biological resource that has never been domesticated is known to have occurred under natural conditions at a certain cut off date. . .[57]

The recognition of geographical indications to resources originating from the South is also an ongoing struggle by developing countries. India, for instance, has made a submission to this effect in the WTO TRIPs Council, to extend the protection given in Article 23 of TRIPs to products of developing countries as well. The provision is premised on the recognition that the quality, reputation and or other characteristics of a certain product is essentially attributable to their geographical origin. Currently Article 23 only provides protection in the form of geographical indication for wines and spirits, products essentially of developed countries.[58] The TRIPs Council, which operates under the General Council of the WTO and comprises all

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[55] FTC ruling in May 2001 in a Citizens' Petition filed by several NGOs including the Research Foundation for Science, Technology and Ecology form India and International Center for Technology Assessment from the U.S.

[56] Read more on the Basmati and Jasmine cases *available at:* http://www.grain.org/publications/seed-01-12-3-en.cfm.

[57] Prof. Madhav Gadgil, (Oct. 1997) *A Framework for Managing India's Biodiversity Resources in the context of CBD & GATT*, RIS-BDR.

[58] Like Scotch Whiskey.

members, has the overall responsibility for the implementation and review of the TRIPs Agreement. In as much as the Agreement defines the relationship countries can have over biological resources, in terms of IPRs; it as important for developing countries to voice their concern at this forum.

It is crucial for all developing countries to have the principles discussed above infuse not only the functioning of CBD itself, but other institutions involved in the management and recognition of biodiversity rights. The CBD Secretariat has entered into "Memoranda of Cooperation" with several other biodiversity-related conventions, including: the 1971 Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat;[59] the 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora;[60] and the 1972 Convention for the Protection of World Cultural and Natural Heritage.[61] To protect their biodiversity rights, India and other developing nations must also monitor policies and actions undertaken pursuant to these other conventions.

V. INDIA'S EXPERIENCE WITH BIODIVERSITY RIGHTS

The journey for India from Rio has been challenging, and has required significant changes in law and policy. The legal system in India at the time was, and still is, dealing with a mix of the colonial past, the Nehruvian idea of socialism, the Gandhian ideals of village self-rule and the written Constitution of Independent India. The Constitution of India is the fountain of law in the country. As the Supreme Court of India has held: "the Constitution is not only the paramount law of the land, but it is the source and sustenance of all laws. Its provisions are conceived in public interest and are intended to serve a public purpose." [62]

The Directive Principles of State Policy (DPSP) mandate that, pursuant to Part IV of the Constitution, the State must lay down principles fundamental to the governance of the coun-

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[59] 996 UNTS 245.

[60] The Convention on International Trade in Endangered Species of Wild Flora and Fauna, 27 UST 1087, 12 I.L.M. 1085.

[61] 1972 UNJYB 89.

[62] Olga Tellis v. Municipal Corporation of Greater Bombay, AIR 1986 SC 180.

try and to be applied in making laws.[63] One such DPSP is that contained in Article 40, which deals with the organization of village panchayats.[64] The *panchayat*, an institution of self-government for the rural areas, is the rung of power closest to the people. This decentralized unit of decision-making was given Constitutional status by an amendment[65] in 1992 that inserted a whole section on the Panchayat[66] in the text of the Constitution. The Eleventh Schedule appended to the text of the Constitution,[67] lists over a score of subjects on which the local village body may take decisions on, these include agriculture, land reforms, soil conservation, water management and maintenance of community assets. The 1996 Panchayat Act extends this vision of self-government to tribal areas in India.[68] The law has the potential to empower local village communities to make decisions on their biological resources, and to be "consulted" on decisions regarding developments on their lands. Beyond the 1996 Panchayat Act, additional measures are required to provide villages with more substantive input in the decision-making process. Mere consultation is not tantamount to meaningful participation.

Apart from the legal changes in India, local communities have taken other actions to assert their sovereign rights over local biological resources. One such endeavor is that of the *Jaiv Panchayat* – The Living Democracy Movement,[69] wherein villagers have even issued letters in protest to multinational corporations such as Monsanto, RiceTec and W.R. Grace for at-

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[63] Art. 37.

[64] The State shall take steps to organize village panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self-government.

[65] Constitution (Seventy-third Amendment) Act, 1992.

[66] Article 243G of the Constitution: Subject to the provisions of the Constitution, the Legislature of a State may, by law, endow the Panchayats with such powers and authority that may be necessary to enable them to function as institutions of self-government and such law may contain provision for the devolution of powers and responsibilities upon Panchayats at the appropriate level, subject to such conditions as may be specified therein, with respect to
(a)the preparation of plans for economic development and social justice;
(b)the implementation of schemes for economic development and social justices as may be entrusted to them including those in relation to the matters listed in the Eleventh Schedule.

[67] Added by the Constitution (Seventy-third Amendment) Act, 1992.

[68] Panchayat (Extension to Scheduled Areas) Act.

[69] *See* www.vshiva.net.

tempting to pirate their local biodiversity-related knowledge and claiming ownership rights to this knowledge through patents.[70] Also, across many parts of tribal India, there have been movements towards "tribal self-rule," and many villages have simply taken back *de facto* control over forests and waterbodies that had once been usurped by the state or by non-tribals. Then there are the widespread movements against destructive development projects such as major dams, industries, and infrastructure, and against over-exploitation of the seas in the name of export-oriented fisheries development.

There have also been attempts at preparing Community/Peoples Biodiversity Registers (CBRs/PBRs) in several parts of India, a process and product, which is yet to be given formal recognition by the State. The CBRs not only serve as local directories of biological resources but, in their making, a valuable process for community management of biological resources. There are also other several ongoing efforts at community-based conservation (CBC), some of which even find mention in India's submission to the WTO which seek to highlight how trade negatively impacts local control over biological resources and their knowledge.[71] An important process-oriented activity under the CBD is the making of the National Biodiversity and Strategy Action Plan (NBSAP) in which the country's largest ever exercise in environment and development planning is involving tens of thousands of people in making 75 local, state, regional, and thematic action plans.[72]

As far as domestic legislation on biodiversity is concerned, the 1972 Wildlife (Protection) Act[73] is the most noteworthy. This law essentially deals with wild flora and fauna, also providing for national parks and sanctuaries as protected areas. Though several amendments have been made to the legislation since its inception, it still does not deal with the entire range of genetic and biological resources.

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[70] *See* "Biopirates Catalogue" in *Campaign Against Biopiracy* by Dr. Vandana Shiva, Afsar H.Jafri & Shalini Bhutani, 1999 RFSTE, India.

[71] WT/CTE/W/156, IP/C/W/198 dated July 14, 2000.

[72] The National Biodiversity Strategy and Action Plan (NBSAP) of India is currently in the process of being formulated. A project of the Union Ministry of Environment and Forest (MOEF), NBSAP aims to produce a series of planning documents dealing with India's biodiversity as per the objectives of the CBD.

[73] Act 53 of 1972.

After the Constitutional Amendment in 1976 making the administration of forest law a concurrent subject (one that can be regulated by both the Central and State levels of government), the 1980 Forest Conservation Act[74] was enacted. This law's intended objective is to check deforestation and impose restrictions on dereservation of reserved forests or use of forestland for non-forest purposes.

Following the Stockholm Conference, in 1986 Indian enacted general legislation entitled the Environment Protection Act.[75] The Act empowers the Central government to take all such measures as it deems necessary for protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution. [76] It is under this rule-making power that in 1989 the Government issued the Rules for the Manufacture, Use, Import, Export and Storage of Hazardous Microorganisms, Genetically Engineered Organisms or Cells,[77] which to date comprises India's biosafety law. These Rules must be updated pursuant to the Cartagena Protocol on Biosafety to the Convention on Biological Diversity, signed by India on 23 January 2001. There is an urgent need to bring the Rules up to date with the international scientific knowledge, information and experience on biotechnology.

The structural adjustment programmes of the World Bank and the conditionalities imposed on India by the International Monetary Fund ("IMF") sometimes demands changes that are contradictory to the fundamental nature of the Indian polity. For instance, the quasi-federal nature of the Indian polity distributes legislative power between the Centre and the State legislatures. Subjects such as water are currently on the State list.[78] There are currently efforts, however, to place water on the Concurrent List, so as to make it easier for the Central government to adopt uniform laws across the country. This would reduce multiple clearances at various state levels creating a single entry point in the Centre for multinational corpo-

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[74] Act 69 of 1980.

[75] Act 29 of 1986.

[76] *Id.* Section 3.

[77] Framed under Sections 6,8 and 25 of the Environment Protection Act, (1986) Act and issued on December 5, 1989.

[78] Entry 17 of List II – State List in the Seventh Schedule of the Constitution of India.

rations seeking to enter the country to exploit what are coming to be known as the water markets. This is something that is mandated by the WTO's General Agreement on Trade in Services (GATS),[79] which treats water as a service, which may be traded. The groundwork for the entry of the private sector into the water sector has already been done by World Bank projects in India mandating the same.[80] There has been no public debate in India on whether that would be the appropriate policy option for the country and its people.

Since 1991, economic reforms have been initiated in India that have changed most sectors of the Indian economy. The most visible changes in Indian law and policy, which have far-reaching ramifications on biodiversity, have been those ushered in post-1995 after completion of the GATT Uruguay Round negotiations resulting in the creation of the WTO. Particularly after the Third Ministerial Conference of WTO at Seattle in 1999, where the proceedings were disrupted by widespread protests, there has been a flurry of legal changes in India. The changes include amendments in the Patent Law[81] and the passage of the 2001 Plant Varieties Protection (PVP) and Farmers Rights Act.[82] Serious concern has been expressed about the potential negative impacts of these legal measures, especially on local communities. The amendments in the domestic patent law, also discussed later in the article, open up the domestic health and agriculture sector to foreign multinationals and seek to introduce product patents in these sectors, hitherto not allowed in order to keep prices under control and also to safeguard the domestic producers. As regards the PVP Act, the criticism is that it is too closely modeled on the UPOV and merely pays lip service to farmers' rights. A UPOV-styled

[79] The application of GATS rules, together with the general GATT principles of Most Favoured Nation and National Treatment, would imply that governments in developing countries would not be able to keep water services in the public sector and would have to give the same subsidies and funding support to private service providers as it would to non-profit institutions in the public sector.

[80] See the World Bank report on India on http://www.indiaonestop.com/general.htm "In the urban sector, the World Bank is working with a number of state governments and municipalities to make the urban water sector financially viable, to help water utilities become commercially-oriented . . . "

[81] Two amendments in the Indian Patents Act, of 1970 have been sought; these are later discussed in pages 36-38 below.

[82] Act 53 0f 2001.

law, which at most would grant a "farmers' privilege" to save seeds, does not recognise the positive rights of farmers.

These legislative changes show how in the midst of all dynamic internal processes, the legal structure has had to also deal with external pressures for legal change to confront with emerging international law and institutions.

VI. NEW THREATS TO BIODIVERSITY AND RELATED RIGHTS

In the new economic order, there are two nascent developments, interconnected as they are, which are of serious concern to biodiversity and related rights in India. These are intellectual property rights relating to biological resources and the impact of genetic engineering on agriculture.

On January 1, 1995, the WTO was established and the TRIPs agreement came into force.[83] TRIPs specifically requires all governments to provide for patents for all inventions.[84] The WTO is backed by economically strong developed countries. Most of the multilateral trade agreements within the WTO have been negotiated at the urging and for the benefit of corporate interests in developed countries. For instance, the TRIPs Agreement was drafted with significant input from Intellectual Property Committee (a coalition of twelve major U.S. corporations), Keidanren (a federation of economic organizations in Japan) and the Union of Industrial and Employees Confederation (the official spokesperson for European Business and Industry).[85] As such, the agreement was basically fashioned to meet the commercial interests of multinational companies based in these countries. Most of the economically strong developed countries have a vested interest in keeping in line with the WTO provisions, primarily to retain market access to and control over bio-resources of the developing countries that these set of rules provides. The negotiations were a package deal, wherein the developing countries had little space to pick and choose elements that would be acceptable. And neither

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[83] Agreement on Trade Related Aspects of Intellectual Property Rights, Marrakesh Agreement Establishing the World Trade Agreement, Annex 1C, 33 I.L.M.81.

[84] Article 27.1: . . .*patents shall be available for any inventions, whether products or processes, in all fields of technology . . . available at:* http://www.wto.org /english/docs_e/legal_e/27-trips.pdf.

[85] Dr.Shiva, Afsar A.Jafri, Shalini Bhutani, (1999) *Campaign Against Biopiracy,* Research Foundation for Science, Technology and Ecology.

does the WTO allow for any reservations. Nelson Mandela, former President of South Africa, commenting on the results of the GATT Uruguay Round, said: "The developing countries were not able to ensure that the rules accommodated their realities... it was mainly the preoccupations and problems of the advanced industrial economies that shaped the agreement."[86] Mandela added that rules applied uniformly are not necessarily fair because of the different circumstances of members.[87]

The TRIPs agreement of the WTO requires member states to accept IPRs over micro-organisms, micro-biological processes and plant varieties.[88] This core requirement and provision is antithetical to India's cultural and economic interests. It also puts at risk the community-based public domain knowledge of biological resources. Article 27.3(b) of TRIPs is of particular concern to developing countries, in as much as it to mandatorily requires for the protection of plant varieties either by patents or by an effective *sui generis* system or by any combination thereof. This article was a major coup for biotechnology and agrotech corporations in that it provides broad international patent protection for engineered bioresources.

The other agreement that is closely related to WTO TRIPs Agreement Article 27.3(b) is the International Convention For the Protection of New Plant Varieties ("UPOV").[89] UPOV is primarily designed to protect the patent rights of agrotech companies and disallows farmers to save seeds at the farm level. The "protected variety" may still be used as an initial source of variation for the creation of new varieties but such "new varieties" increasingly under the control of corporate breeders cannot be marketed or sold without the plant breeders' rights' holder allowing it. This undercuts the rights and welfare of the majority of the farming population in India. Provisions of international trade law, such as those in the TRIPs and UPOV, serve to disenfranchise local communities and contradict the biodiversity rights recognized in the CBD. More specifically, these trade law provisions are not compatible

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[86] As quoted in *WTO & Developing Countries,* Volume 3, Number 37, Nov. 1998 by Aileen Kwa, Focus on the Global South, Bangkok, eds: Tom Barry (IRC) and Martha Honey (IPS).

[87] *Id.*

[88] Vide Article 27.3(b).

[89] See http://www.upov.org/eng/index.htm.

with the CBD's protection of the biodiversity rights of indigenous and local communities.[90]

The biodiversity crisis in India and other developing countries is heightened by the fact that the international trade agreements are being implemented at a much faster pace than can be matched by any possible safeguards in domestic law and policy for biodiversity and related rights of the people. Since 1995 (post-WTO) several IPR-related legislation have been enacted in India, most of which bolster the interests of multinational biotech/agrotech corporations. The 1999 Geographical Indications Act[91] is one statute that was legislated with haste in that period. However, since no rules have been issued under the said statute, the Act is not yet operational and as such so far has not provided protection to local biological resources, or related knowledge.

The most controversial legislative development, however, has been the amendments to the 1970 India Patent Act.[92] By an amendment enacted in 1999,[93] provision was made for grant of exclusive marketing rights on drugs and agrichemicals, a sector hitherto reserved for government in the interest of keeping pricing and supply in check. In an era of biotechnology where drugs, pharmaceuticals and agrichemicals are derived

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[90] Supra note 25 at Art. 8.

[91] Legislation for the protection of geographical indications called the Geographical Indications of Goods (Registration & Protection) Bill, 1999 was approved by both houses of the Indian Parliament on Dec. 23, 1999. Sec 2(e) of the Act defines "geographical indication" in relation to goods as agricultural goods, natural goods, manufactured goods originated or manufactured in the territory of country or a region or locality in that territory where a given quality reputation or other characteristic of such goods are attributable to its geographical origin and in case such goods are manufactured goods one of the activities of either the production or of processing or of preparation of the goods concerned takes place in such a place, region or locality. The object of the Act is to prevent misuse and misrepresentation of true place of origin of goods. The Act seeks to ensure that India gets reciprocal protection, which it has to provide to indications of other countries. It was passed on the premise that unless a Geographical Indication ("GI") had been protected in the country of its origin, there would be no obligation under the WTO for other countries to extend reciprocal protection. GIs are dealt with in Article 22 of WTO TRIPs.

[92] The Patents (Amendment) Act, 1999 passed by the Indian Parliament on Mar. 10, 1999 received the assent of the President of India on Mar. 26, 1999. It provides for establishment of a mailbox system to file patents and introduces Chapter IV A on Exclusive Marketing Rights in the Indian Patents Act, 1970. See the text of the Amendment on http://www.indianembassy.org./policy/Commerce/patent_amendment_ 1999. htm.

[93] *Id*; The purpose of the Amendment was to put in place machinery for implementation of Articles 70.8 and 70.9 of TRIPs.

from biological sources, patent issues in medicine and agriculture necessarily involve issues of biodiversity.

The 1999 amendment to the Patent Act was pushed through despite protests from citizens and non-governmental organization (NGOs) who pointed out that the rush to make domestic legislation TRIPs-compliant jeopardized the health and agriculture sectors of the country, and was unwarranted particularly when there is a review provision in TRIPs that countries like India must avail of to highlight the problems faced in implementation. This resulted in NGOs filing a writ petition[94] in public interest in the Supreme Court of India, challenging the amendment as unconstitutional and against national interest. There is also a second amendment, which seeks to introduce product patents in India, which is poised for clearance by the Parliament.[95] The Court has allowed the petitioners to withdraw the abovementioned case with the liberty to file a fresh writ petition, if necessary, after this subsequent second amendment is made.[96]

As far as the actual experience with application of product patents is concerned there are lessons for India to learn from the African experience with prices of anti-AIDS drugs reaching unaffordable levels and the Thai experience wherein the Government has been hindered from using price control mechanisms and other safeguards under threat of trade sanctions from the U.S. or other such like pressures.[97] It has been argued even in the case mentioned above that the U.S. Uruguay Round Agreement Act[98] gives primacy to domestic legislation and so should likewise India, whereby if a provision of international law is at odds with national law and the former would be

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[94] RFSTE & Others v. Union of India, Writ Petition (Civil) 322 of 1999.

[95] The Patents (Second Amendment) Bill, 1999 to further amend the Patents Act, 1970 and make it TRIPS compliant was introduced in the Upper House of the Indian Parliament on December 20, 1999. A Joint Parliamentary Committee is considering the Bill and as of date the Bill it is yet to be reintroduced in the Parliament.

[96] Order of the Court dated Jan. 8, 2002 IN Writ Petition Civil No.322 of 1999.

[97] The petitioners in their submissions to the Supreme Court of India in Writ Petition 322 of 1999 cite examples of external pressure on Govt. of Thailand hindering them to use the price control mechanism and other safeguards that lead to the dismantling of the Thai Pharmaceutical Board and likewise, examples of South Africa where compulsory licensing when proposed to be used as a safeguards, the country was threatened by trade sanctions by the U.S.

[98] On December 8, 1994, President Clinton signed the "Uruguay Round Agreements Act" (URAA), which implements the Uruguay Round General Agreement on Tariffs and Trade (GATT) in the U.S.

either against the Constitutional mandate of the nation or its public interest then the domestic law would prevail.

Another sector of biodiversity that has been vulnerable to the change in patent law and policy is that of agricultural biodiversity. The Indian agriculture sector has been opened up to international trade as per the dictates of the WTO. This has meant, among other things, reorientation of cropping patterns for export markets, entry of global corporations in the seed, food processing and packaging sectors and industrialization of agriculture with the introduction of potentially hazardous technologies, such as genetic engineering.

India issued its first ever National Agriculture Policy in 2000.[99] On the one hand, the policy expressly remarks how the situation for Indian farmers would deteriorate in the wake of integration of agricultural trade in the global system.[100] On the other hand, however, it continues to focus on promoting "value addition" and accelerating the growth of agrobusiness.[101] This policy also does little to address the problem of the economic marginalization of small-scale, diverse food production systems that conserve farmers' varieties of crops, which form the genetic pool for food and agriculture in the future. On the contrary the policy *inter alia* seeks to give special attention ". . . to development of new crop varieties, particularly of food crops, with higher nutritional value through adoption of biotechnology particularly, genetic modification . . .[102]

There are legitimate biosafety concerns arising from this focus on the development of new crop varieties. As the Government of India itself admits in the second report to the CBD, there are not adequate mechanisms in the country to deal with this potentially hazardous technology.[103] For instance, open field trials of Monsanto's transgenic cotton have been allowed by the Government of India's Department of Biotechnology without proper approval of the Genetic Engineering Approval Committee of the Ministry of Environment and Forests. As per

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[99] The text of the Policy may be downloaded from the official website of the Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India http://agricoop.nic.in/agbud.htm.

[100] Indian Natural Agricultural Policy (2000) at Paragraph 3.

[101] *Id.* at Paragraph 5.

[102] *Id.* at Paragraph 13.

[103] *Available at:* http://www.biodiv.org/doc/world/in/in-nr-02-en.doc, pp. 79-80.

scientific fundamentals, in an ecosystem you can always intervene and change something, but there is no way of knowing what all the downstream effects will be or how it might effect the environment. The risks associated with open field trials involving transgenic material are those arising from the understanding of reproduction and multiplication inherent to living organisms. Releases of genetically engineered organisms may trigger irreversible changes with the elements of the natural environment that they come in contact with, as against when they are kept in closed containment whereby such an interaction is not possible. Highlighting the possible risks to human and ecological health, as well as the need of clear jurisdiction in the biotechnology and regulatory system a writ petition was filed in the Indian Supreme Court challenging these open field trials.[104] The matter is still pending before the apex court. In the meanwhile, transgenic Bt cotton was found to be growing in the Western State of Gujarat late last year without the Centre or the State governments having given permission for the same. With such an apparent by-pass of the regulatory system, posing risks to the natural environment and divided Centre and State opinions on the manner in which it should be dealt with, the debate on whether India should adopt transgenics in agriculture has been rekindled anew. There has been an aggressive propaganda by multinational agribusiness corporations and government circles selling genetically-engineered (GE) crops/products in India. In the midst of this propaganda effort, several NGOs have together continually stressed for biosafety concerns to be addressed foremost.[105]

Principle 15 of the Rio Declaration provides that when there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for proposing cost-effective measures to prevent environmental degradation.[106] This approach is commonly referred to as the precautionary principle. Because of the reproduction and multiplica-

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[104] *RFSTE v.Union of India*, Writ Petition Civil No.71 (1999).

[105] Press Release issued by NGOs at the time of the Gujarat controversy is attached as Annex I.

[106] Principle 15 of Rio: *In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.*

tion inherent to living organisms, releases of genetically engineered organisms can have an irreversible negative impact on the environment. As reiterated by Justice M.J. Rao of the India Supreme Court: ". . . there is nothing to prevent decision makers from assessing the record and concluding there is inadequate information on which to reach a determination. If it is not possible to make a decision with some confidence, then it makes sense to err on the side of caution and prevent activities that may cause serious or irreparable harm. An informed decision can be made at a later stage when additional data is available or resources permit further research."[107]

As early as the time of adoption of the CBD, India had taken the position that the "focus of studies . . . relating to liability and compensation should be on subjects as biotechnology products, the environmental aspects of genetically modified organisms . . ."[108] These issues remain unresolved. Also, the issue of a ban on Genetic Use Restriction Technologies (GURTs),[109] more commonly known as Terminator and Traitor technologies has often been raised in the CBD. However, many have been left disappointed with the outcome of the Conference of Parties, which did not take a strong stand on this issue.[110]

Genetically modified organisms and intellectual property go together. The law of patents allows private ownership at the level of the gene. In other words, IPR law under TRIPs legitimises the patenting of life forms and biodiversity. Today transgenic crops are the "intellectual property" of the multinational corporations, such as Monsanto, which are marketing the technology to countries in the Third World. Monsanto has been very loud and public in its claims against farmers who used its patented seeds, even if this use was accidental.[111] Multinational agrobusiness firms such as Monsanto have been aggres-

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[107] AIR 1999 SC 812.

[108] Declaration made by India on Adoption of CBD.

[109] GURTS is a genetic engineering technique, developed by "life sciences" corporations to be able to control the very genetic traits of the seed, making it either sterile or requiring proprietary chemical inducers. The use of such techniques in Third World agriculture would compel the millions of farmers around the world who traditionally save their seed for replanting to turn to these transnational corporations for the seed and other inputs.

[110] The Conference of Parties (COP) is the governing body of the Convention, established under Article 23 which has the key responsibility of keeping implementation under review.

[111] *Available at:* http://www.percyschmeiser.com.

sively pushing their products into India not only through the regular trade route, but by dumping food and seeds with GMOs as food aid in disaster areas,[112] as well as in nutritional programmes.[113]

Meanwhile there has been as increase in the spending in developed countries on research and development in crop biotechnologies for application in agricultural practices in the developing countries. [114]

In terms of products, several Indian public sector institutions have sponsored or are conducting transgenic research in rice, tobacco, mustard, potato, tomato, brinjal, cauliflower and cabbage.[115] The Central Tobacco Research Institute in Rajahmundri, is doing research[116] with Bt toxin. Jawaharlal Nehru University is doing transgenic research on potato with seed protein containing lysine, obtained from seeds of Amaranthus plants.[117] The Indian Agricultural Research Institute in New Delhi is in a very advanced stage of research and application of Bt gene in vegetables such as brinjal, tomato and cauliflower.[118] The institute also has completed the transformation and greenhouse trials of mustard, modified with arabidopsis annexin gene. The Chennai-based MS Swaminathan Research Foundation is developing salt-resistant paddy, with a gene obtained from a mangrove plant in the coastal belt of Tamil Nadu.[119] The Department of Biotechnology of the Government of India and Swiss researchers have reached an agreement, that would allow Indian agriculture scientists to insert the "golden rice" gene sequences into popular Indian varieties of rice.[120]

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[112] GE corn soya blend was distributed in the relief package to victims of the Orissa cyclone.

[113] Integrated Child Development Scheme.

[114] *Agricultural Biotechnology and Food Security: Exploring the Debate* Ian Scoones, Institute of Development Studies, University of Sussex July 2001 http://www.ids.ac.uk/ids/env/agbio3.pdf.

[115] *Background Document for Workshop on Biosafety Issues emanating from use of GMOs*, Prepared jointly by Biotech Consortium India Limited, New Delhi and DBT, Ministry of Sc. & Tech, GOI, (Sept. 1998).

[116] *Id.*

[117] *Id.*

[118] *Id.*

[119] *Id.*

[120] *Id.*

In the private sector, Mahyco, Rallis India and Proagro PGS (India) Ltd. are engaged in the development of transgenic crops.[121] Novartis is expected to join them very soon.[122] Mumbai-based MAHYCO, in collaboration with Monsanto, has completed multicentric field trials of Bt cotton in over 40 locations and field trials in over 10 agricultural states are in progress.[123] Rallis India Ltd. is doing researches into the introduction of lectin gene in chilli, bell pepper and tomato. Proagro is working on mustard, tomato and brinjal. [124]

The national agricultural research systems (NARS) of developing countries like India have much less research and development spending than the International Agricultural Research Centres of the Consultative Group on International Agricultural Research (CGIAR).[125] The lack of technical knowledge in developing countries is a matter of grave concern when dealing with potentially hazardous technologies. The most pressing concern, however, is the imbalance of negotiating strength between the corporations that pioneered transgenic crops on the one hand, and farmers, scientists and governments in poor countries on the other.

There is the concern that wide use of transgenics in agriculture would reduce the diversity of crop species grown and so reduce the gene pool. The gene pool has already been reduced to some extent by modern farming techniques and it is feared that the availability of GE crops would aggravate the problem. Citizens' Juries, wherein the issues are presented before a peoples' gathering, with farmers in states like Karnataka and Andhra Pradesh[126] have unequivocally brought to the fore these concerns. There is very little public debate encouraged by government and industry on this issue in India.

There are broader fears that are being expressed that widespread adoption of transgenic seeds could add to the risks

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[121] *Id.*

[122] *Id.*

[123] *Id.*

[124] *Id.*

[125] The CGIAR system with its 16 International Agricultural Research Centres holds the world's largest *ex situ* collections of plant genetic resources. The CGIAR was established in 1971 as an association of public and private research members, with the sponsorship of the FAO, UNDP and the World Bank. See www.cgiar.org.

[126] Michael Pimbert, Tom Wakeford & P.V. Satheesh, *Citizens' Juries on GMOs and Farming Futures in India,* http://www.ids.ac.uk/ids/env/GMOsIndia.pdf.

faced by India's most vulnerable farmers. Many Indian farmers—generally the small and marginal—never adopted the intensive practices used in many developed nations, such as heavy reliance on pesticides and chemical fertilizers. These farmers still use traditional seeds that can be saved from one crop to plant the next. Those farmers may get smaller yields and profits than their corporate counterpart, but because they use free seeds—and, often, little or no chemical fertilizers or pesticides—they rarely take on debt. If GE seeds become the norm traditional seeds might become hard to find, or the latter could get contaminated by GE crops in neighboring fields due to possible cross-pollination. Then the big multinationals would control the market for seeds—the most basic source of a farmer's livelihood and, indeed, his/her life. In this scenario, Indian agriculture would increasingly become a subsidiary of agrobusiness corporations in the North.

Another dimension of the debate on GE products is multinational corporations' control and influence over science. The approval of a hitherto untried technology should involve independent risk assessment in which the science and scientists are objective. Epitomizing the problems of "corporate" science, the GE issue reveals how the problems are political and sociological as well as scientific. These issues have profound ethical implications, e.g., those associated with gene manipulation and modification of life forms. Scientific activity is not isolated but takes place within a larger social, economic and political matrix. The concern in India, and shared by many other developing countries, is that science today (and particularly risk assessment related to GE products) is too heavily controlled by international corporate interests in the developed world.

In this context, the U.N.'s embrace and promotion of GE patent protection has raised considerable alarm among environmental groups and civil society organizations. The Human Development Report of 2001 issued by the U.N. Development Programme ("UNDP") had a special focus on "making new technologies work for Human Development," and predicted that, although controversial, genetic modification should be encouraged because of its potential to develop GE products to help feed the developing world.[127]

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[127] *Available at:* http://www.undp.org/hdr2001/chapterfive.pdf.

Food and agriculture systems are going through major transformations worldwide with serious ramifications on biodiversity. If the CBD is to check this, it must strengthen its programme work[128] on agricultural biodiversity, a task begun at the COP3. The CBD has asked with reference to the WTO Committee on Trade and Environment ("CTE") to develop better appreciation of the relationship between trade and agricultural biodiversity. [129]

Per the 1994 WTO Agreement on Agriculture (AOA), the member countries – both developed and developing – are obliged to gradually open up their agricultural sectors to world trade by removing all the trade distortions.[130] For instance, India was compelled to remove quantitative restrictions on imports of several agricultural goods with effect from April 1, 2001.[131] Previously, imports have been restricted by countries on various grounds for environmental and ethical reasons and reasons of public order – so as also to protect the small and unorganized sector that would be adversely affected by an influx of imports. India, as a member of WTO, is now required to implement various agreements and provisions pertaining to agriculture. These include commitments on reduce domestic support, increase market access, reduce export subsidies and comply with the 1994 WTO Agreement on Sanitary and Phytosanitary Measures. [132]

At the WTO's Committee on Agriculture, India has often articulated its legitimate concerns.[133] For developing countries like India, agricultural biodiversity is an area of particular concern in the context of food security. While several developing countries have made a proposal for a "Development Box" to be

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[128] The CBD COP has developed five thematic work programmes including that on agricultural biodiversity.

[129] See WT/CTE/W/125; UNEP/CBD/COP/3/23 dated Oct. 5, 1996 and Recommendations to the Third Meeting of the SBSSTA in UNEP/CBD/SBSTTA/3/Inf. 10 dated Aug. 18, 1997.

[130] Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, Apr. 15, 1994, [in] *The Legal Texts: The Results of the Uruguay Round of Multilateral Trade Negotiations*, 33 I.L.M. 1125 Annex I (1999).

[131] This was the result of a U.S. initiated dispute against India in the WTO DSM, which culminated in the Appellate Body Report WT/DS90/AB/R dated Aug. 23, 1999. Read the details in the Booklet on Quantitative Restrictions downloadable from www.vshiva.net Campaigns' section.

[132] Agreement on the Application of Sanitary and Phytosanitary Measures http://www.wto.org/english/docs_e/legal_e/15-sps.pdf.

[133] G/AG/NG/W/102 dated Jan. 15, 2001 and G/AG/NG/W/176 dated Apr. 11, 2001.

set up under the WTO, India has demanded for a "Food Security Box" to be so set.[134] The Like-Minded Group (a collective of 13 WTO member developing countries) and India, in particular, are expected to rehash the development debate in agriculture.

A major area of concern is the impact of the western-styled IPR system promoted by the WTO. CBD's COP has also sought cooperation from the WTO in the context of IPRs and particularly in the context of benefit sharing.[135] This cooperation is routed through the CTE for possible linkages between Article 15 of CBD and TRIPs.[136] In its submissions to CTE, India has proposed that under its terms of reference the CTE should deal with: (a) the relationship between the provisions of the CBD and those of the TRIPs Agreement; and (b) suggestions on reconciliation of any contradictions therein, in line with the CBD provisions or within the same overall objective of conservation of biological resources with sustainable development.[137] India has also offered some suggestions to reconcile the contradictions here above-mentioned. For instance, at the CTE in 2000, India raised the issue of biopiracy of traditional knowledge, reiterating "patent applicants should be required to disclose the source of origin of the biological material utilized in their invention under the TRIPS Agreement and should also be required to obtain prior informed consent (PIC) of the country of origin."[138]

The WTO has not yet responded to these demands, and there here is no visible attempt by the WTO to re-orient the IPR regime accordingly. On the contrary, recent decisions by WTO dispute panels (such those initiated by the U.S. against India[139] and Brazil[140]) has insisted on TRIPs compliance by de-

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[134] As explained by the WTO: In WTO terminology, subsidies in general are identified by "boxes" which are given the colours of traffic lights: green (permitted), amber (slow down — i.e. be reduced), red (forbidden). The Agriculture Agreement has no red box, although domestic support exceeding the reduction commitment levels in the amber box is prohibited; and there is a blue box for subsidies that are tied to programmes that limit production. There are also exemptions for developing countries (sometimes called an "S&D box"). *See* http://www.wto.org/english/tratop_e/agric_e/negs_ bkgrnd08_ domestic_e.htm.

[135] COP 3 Decision III/17, paragraph 8; Decision IV/15, paragraph 10.

[136] Decision III/15, paragraph 8.

[137] WT/CTE/W/65 dated Sept. 29, 1997.

[138] WT/CTE/W/156 and IP/C/W/198 dated July 14, 2000.

[139] See the Report of the Panel. India – Patent Protection for Pharmaceutical and Agricultural Chemical Products, WT/DS50/R, Bernan's Annotated Rep., vol 4 and Report of the Appellate Body, India - Patent Protection for Pharmaceutical and Agricul-

veloping countries. Similarly, there is also no indication that reviews of the TRIPs Agreement are giving consideration to any fundamental change in the international IPR regime.

At the U.N. Food and Agriculture Organization (FAO), however, the CBD has had some influence on the international debate on plant genetic resources. The International Treaty on Plant Genetic Resources[141], negotiated under the auspices of the FAO in November 2001, is a result of the revision on the International Undertaking to reconcile it with the principles of CBD. The Treaty establishes a multilateral system for the genetic material of plants used for food and agriculture. The compromised position that developing countries had to agree to includes an Article 12.3(d). The Treaty envisages the creation of an MLS that would provide for access to a negotiated list of plant genetic resources and for the fair and equitable sharing of the benefits arising from their use. The Article states recipients will be provided access to the plant genetic resources "...if they shall not claim any intellectual property or other rights that limit the facilitated access to the...resources for food and agriculture, or their genetic parts or components, in the form received from the MLS." The words "in the form received" suggest that modifications would be eligible for patentability. The Article may be interpreted to allow IPRs on genetic resources that are accessed from the multilateral system (MLS). The Treaty's provisions must be used as an opportunity to insist on changes to the IPR regime that give due regard to the interests of developing countries, and to restrain the inequities in the current TRIPs and UPOV agreements.

Issues of traditional knowledge are discussed in a number of international fora including the CBD, the FAO and the U.N. Economic Social and Cultural Organization (UNESCO), the World Intellectual Property Organization (WIPO), the WTO's TRIPS Council and the CTE. Herein it is crucial to keep

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tural Chemical Products, WT/DS50AB/R.Bernan's Annotated Rep., vol 4.

[140] On February 1, 2001 the United States filed a complaint with the World Trade Organization contending that Brazil's patent law discriminates against drug imports in violation of the rights of drug companies. *See also* in the WTO, DS224 United States: U.S. Patents Code (Brought by Brazil): Feb. 7, 2001 and DS199 Brazil: Measures affecting patent protection (Brought by U.S.): June 8, 2000.

[141] See http://www.fao.org/ag/cgrfa/News.htm and text of the Treaty on ftp://ext-ftp.fao.org/waicent/pub/cgrfa8/iu/ITPGRe.pdf.

the CBD central, for the opportunities that it provides to developing countries.

In the present trade dominant paradigm, there is also the risk of the CBD being invoked by corporate interests to bolster their IPR claims, and developing world governments need to be wary of such attempts. Mere utilization and value addition to indigenous bioresources cannot be considered a vehicle for economic growth of developing countries, which possess the larger portion of the world's bio-assets.

This is manifested in the debate on access and benefit-sharing (ABS) in the CBD. Currently, under the auspices of the CBD, a Working Group is discussing the development of Draft International Guidelines on Access and Benefit-Sharing.[142] In India, a national regime to manage these access issues has been proposed in the Biological Diversity Bill.[143] The Bill envisages the setting up of a National Biodiversity Authority, which would process access and also effect the sharing of benefits arising from such access granted.[144] Importantly, this national access legislation recognizes the rights, customary laws, and practices of indigenous peoples and local communities.[145] So far, the Indian test case on benefit sharing has been that of the Kani Tribe in South India. A benefit sharing arrangement was concluded between Tropical Botanical Garden and Research Institute (TBGRI) and the Kani tribals of Kerala for the development of a drug called 'Jeevani' based on the knowledge of the Kani tribe. Jeevani is a restorative, immuno-enhancing, anti-stress and anti-fatigue agent derived from the medicinal plant *arogyapaacha*, which is used by the Kani tribals in their traditional medicine. The formulation of this drug was then licensed to the Arya Vaidya Pharmacy Ltd., an Indian pharmaceutical manufacturer pursuing the commercialization of Ayurvedic herbal formulations. A Trust Fund was established to share the benefits arising from the commercialization of the TK-based drug 'Jeevani'. However the arrangement ran into some prob-

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[142] UNEP/CBD/WG-ABS/1/3 dated Aug. 11, 2001.

[143] Bill No.23 of 2000.

[144] *Id.*

[145] Also reiterated in the NGO – Statement at the Ad Hoc Open-Ended Working Group on Access and Benefit Sharing, Bonn, Oct. 26, 2001.

lems with the exploitative extraction of the plant, bringing in conflict commercial and conservation objectives.[146]

VII. INTERNATIONAL LAW VS. NATIONAL LAW

The new threats to biodiversity ushered in by changes in international law also pose problems in the interface of international and national law. It is not coincidental that, in India today, the crisis of biodiversity is also the crisis of democracy. Bad government may only aggravate what is perpetrated by corporate dominance of the free market. In as much as international trade law is beginning to dictate how things would be done intra-state rather than merely inter-state, it impinges on the sovereign right of a nation state and its people to make decisions. This is especially relevant in the context of decision-making on the biological resources within the state's territorial jurisdiction. Governments tend to tailor their domestic policies so as to avoid conflicts with international trade law. This puts a new onus on NGOs, civil society organizations and citizens themselves. If the World Bank, IMF and the WTO are to determine which model of development the country is to pursue, then it leaves very little space for the exercise of democracy. The current model is not only leading to the erosion of the right to choose from options, but the erosion of options itself.

The pressures from outside have been increasingly pronounced in the past decade and lawmaking in India and other developing countries has come to be reflective of these pressures.

The IPR regimes established by the WTO and TRIPs, and the CBD, are two international legal regimes with apparently conflicting objectives. The WTO/TRIPs objective is to create and support the expansion of patents and intellectual property rights over life forms. This has serious negative implications for the biodiversity rights of developing countries that are recognized under the CBD. To date, it appears that the WTO/TRIPs agenda or corporatization and privatization of biological resources is winning out.

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[146] Anuradha, R.V. Kalpavriksh, *Sharing the Benefits of Biodiversity: The Kanis-TBGRI Deal*, Delhi/Pune (2000).

VIII. EQUITY AND JUSTICE

The controversy over IPRs and biological diversity raises complex question concerning equity and justice. More specifically, from the perspective of India and other developing countries, the WTO/TRIPs regime appears to legitimize and promote a form or biopiracy, in which the control over and value of biological assets are in essence stolen. Countering this biopiracy will require breathing new life in to the human rights debate, particularly within U.N. forums. The Universal Declaration of Human Rights (UDHR) provides that the "ideal of human freedom can be realized only if conditions are created whereby everyone may enjoy his economic, social and cultural rights, as well as his civil and political rights." In bio-rich developing countries such as India, this necessitates protecting the biodiversity and the traditional lifestyles that nurture the knowledge that keeps it alive. This would translate as a non-negotiable title on biological resources.

It is recommended that the Commission on Human Rights must continue to support and encourage the work of the Sub-Commission on the Protection and Promotion of Human Rights in relation to globalization and its impacts on the ability of States to fulfill their obligations under the Covenant on Economic, Social and Cultural Rights.[147] The Covenant seeks the holistic development of all human beings and requires states to undertake steps to progressively achieve the full realization of the rights that it recognizes. These rights include the right to self-determination,[148] the right to social security,[149] and the right to take part in cultural life.[150] The UN Economic and Social Council (ECOSOC), in its statement to the Third Ministerial Conference of WTO,[151] had urged that the WTO undertake a review of the full range of international trade and investment policies and rules in order to ensure that these are consistent with existing treaties, legislation and policies designed to protect and promote all human rights.[152]

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[147] U.N.T.S. No. 14531, vol. 993 (1976), p. 3.
[148] *Id.* Art. 1.
[149] *Id.* Art. 9.
[150] *Id.* Art. 15.
[151] E/C.12/1999/9 dated Nov. 26, 1999.
[152] *Id.* Para 2.

The principle of the right to development, and the related principle of the right to participation, is grounded in the concept of equity; that development benefits be shared equitably among citizens. These principles - participation and equity - are at the heart of bio-justice. The realization of these rights is the *sine qua non* for the realization of justice.[153]

IX. CONCLUSION

It is crucial that developing countries not perceive the CBD merely as a trade pact. This perception reduces the inherent value of this multilateral space created by the CBD as a potential counter to purely corporate-driven policies. The governments of developing countries have a vital stake in the implementation of the CBD. The CBD is at a soft stage of development. It is a weak agreement in the sense that there is no mechanism to ensure that member countries put in place national policies and laws in order to implement the treaty's various provisions. There is a danger that the WTO and related trade agreements and institutions may overwhelm the CBD and the national law making space on biological resources.

Trade negotiations are based on the principle of reciprocity or trade-offs. That is, one country gives a concession in an area, such as the lowering of tariffs for a certain product, in return for another country acceding to a certain agreement. For the most part, negotiations and trade-offs take place among the developed countries and some of the richer or larger developing countries. The CBD stands for the premise, however, that there are fundamental conservation concerns regarding biological diversity that are too important to be traded away. The CBD suggests, rightly, that these biodiversity concerns should be non-negotiable.

Promoting and protecting biodiversity rights are a necessary precondition to sustainable development. As the Commission on Human Rights has stated: "effective popular participation is an essential component of successful and lasting development" and "the human person is the central subject of development and that development policy should therefore make the

[153] Chhatrapati Singh, *Common Property and Common Poverty,* India's Forest, Forest Dwellers and the Law, Oxford University Press (1986).

human being the main participant and beneficiary of development."[154] It is in this context that efforts at genuine decentralisation of decision-making power, and the mobilisation of civil society towards issues of ecological sanity and social justice, assume great significance. Such initiatives are taking place in many countries like India, and it would be critical to link them up to the implementation of the CBD.

As countries look back on the decade after Rio, there is a need for a creative reinterpretation of biodiversity rights. In India, the decade of economic reforms has run parallel to the decade after Rio. In areas where biodiversity and economics have crossed paths, it has been to the detriment of the former. Going forward, there needs to be a more equitable mix of rights pertaining to biodiversity, human rights and development. The strict division between environmental law conceived as a rather technical branch of the law which does not include individual rights, and human rights which include the core fundamental rights which guide all other action, needs to be erased. As Hamurabi noted: "Law is for society. So the law will change as and when society changes; changes in the society will not be determined by law."[155]

[154] CHR Resolution 1998/72.

[155] As quoted in Bibek Debroy, *In the Dock - Absurdities of Indian Law,* Konark Publishers Pvt. Ltd, Delhi, (2000).