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Model laws for the protection of biodiversity knowledge in developing countries

1.1 Title of practice or experience

Model laws for the protection of biodiversity knowledge in developing countries

1.2 Category of practice/experience and brief description

Transnational corporate patenting of biological materials predominantly from the South is taking place on an alarming scale. An urgent response to this biopiracy is greatly needed to arrest the growing Northern control over biological materials from the South.

1.3 Name of person or institution responsible for the practice or experience

Third World Network

1.4 Name and position of key or relevant persons or officials involved

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1.5 Details of institution

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1.6 Name of person and/or institution conducting the research

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1.7 Details of research person/institution

As in 1.5 above

2. THE PROBLEM OR SITUATION BEING ADDRESSED BY THE PRACTICE/INNOVATIVE EXPERIENCE

Value and exploitation of indigenous knowledge

The current value of the world market for medicinal plants, derived from leads given by indigenous and local communities, is estimated to be **US\$43 billion**. Yet only a tiny fraction of the vast assemblage of plants in tropical rainforests has been evaluated for medicinal potential. A larger fraction still remains unexplored. The value of crop varieties improved and developed by traditional farmers to the international seed industry is estimated to be **US\$15 billion**. Other natural products developed from the knowledge of indigenous and local communities (biopesticides, sweeteners, perfumes, fabrics and cosmetics) are expected to be commercially lucrative and worth a world market of several billion dollars.

Biodiversity prospecting

It is reported that **of** recent bioprospecting projects documented by a non-governmental organisation (NGO), Rural Advancement Foundation International (RAFI), 83% were of the South's terrestrial biodiversity.

At the same time, Northern governments and multinational corporations are vigorously seeking to extend their intellectual property rights regimes to plants, animals and micro-organisms through the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement **of** the World Trade Organisation (WTO).

This poses a grave threat to the nurturers of biodiversity – farmers, indigenous peoples and local communities. Their knowledge systems, and traditional cultural, social and economic lifestyle and practices are being usurped and undermined by these processes, by what amounts to biopiracy, as a result of which they have to pay a market price for their return.

UPOV, FAO and farmers' rights

The emergence of property rights for commercial benefits in genetic resources began in the 1960s with the Union for the Protection of New Varieties

of Plant (UPOV). On the rationale that source material formed the common heritage of mankind, the South, wherein the biodiversity was concentrated, was tapped freely by corporate interests, predominantly from the North. Ignoring the innovative knowledge and contribution of local communities to the evolution of seeds and genetic resources, these corporate interests modified the plant variety, thereby claiming property rights on the same basis as for a claim for a patent on an invention of an industrial product (i.e., novelty, industrial application and originality). The germplasm, taken for free from developing countries, was now returned as a commodity at a price.

This inequitable treatment spawned a debate in the Food and Agriculture Organisation (FAO) in the 1970s. This led the FAO, in its 22nd session in 1983, to adopt an undertaking which recognised free access to basic source materials as well as to improved and elite varieties. In the March 1987 meeting of the FAO's Commission on Plant Genetic Resources (CPGR), the South asserted that innovation was an integral part of farmers' breeding of their seed varieties. These debates finally led to the international recognition of both plant breeders' and farmers' rights in 1989 which was unanimously approved by more than 160 countries in the FAO Conference in 1989 and 1991.

The contribution of the traditional farmer in developing the plant was acknowledged. But the right was not vested in the individual farmer. Instead, it accrued to the farmers' governments, which would receive assistance in the maintenance of genetic resources. It is essentially a general obligation of the North to help the South, tied into the context of aid and dependency.

The 1991 revision of UPOV then further restricted farmers' rights. The protected variety may still be used as an initial source of variation for the creation of new varieties but such new varieties cannot be marketed or sold without the plant breeders' right (PBR) holder allowing it. As the PBR holder will want to maximise his sales and profit, his authorisation will almost certainly not be given. Breeders' rights have also been extended to cover not only production for sale, but also reproduction, multiplication, conditioning for the purpose of propagation, and exporting/importing and stocking for these purposes.

The Convention on Biological Diversity

The Convention was signed by 150 States in 1992 and its obligations came into force in 1993. It aims to bring about a locally-based global system of conservation and sustainable use of biological diversity.

The Convention recognises that States have sovereign rights over their natural resources. It is subject to their national legislation. Thus, the "common heritage principle" is abandoned in favour of "sovereignty over natural

resources.” The State thus regulates access and can deny it if it be inimical to its national interest. The Convention obliges States to endeavour to “create conditions to facilitate access for environmentally sound uses” by other States and not to impose restrictions that run counter to the Convention’s objectives. Its objectives declared in Article 1 are:

- (a) the conservation of biological diversity;
- (b) the sustainable use of its components; and
- (c) the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.

As authority to determine access rests with the State, it is the State’s legislation which will determine what constitutes “environmentally sound uses”.

The Convention stipulates conditions (in addition to those set out by national legislation) for the granting of access to genetic resources. Thus, access shall be:

- (a) on mutually agreed terms (Article 15.4); and
- (b) subject to prior informed consent of the State of the resource (Article 15.5).

With regard to technologies which make use of genetic resources, the Convention obliges States to take legislative, administrative or policy measures to give access to and transfer of technology on mutually agreed terms to other States, especially the developing countries which provide the genetic resources. The technologies include those that are protected by patents and other intellectual property rights (IPRs) (Article 16.3). The whole of Article 16 on the transfer of technology and **IPRs** is unclear. It is therefore open to interpretation and definition.

The Convention calls upon Contracting Parties *to* ensure that such IPRs are supportive of and do not run counter to its objectives. The Convention, recognising the role of indigenous and local communities in conserving and sustainably using biological diversity, states that the benefits arising from their knowledge and innovation should be equitably shared and urges States to initiate methods for the development and use of indigenous and traditional technologies in pursuance of conserving and using biological diversity. It further exhorts Parties to protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable-use requirements.

However, access and benefit sharing (ABS) mechanisms are being negotiated with greater frequency, which is then given added value by the North, complete with being accorded IPRs, and then returned to the South at an inflated price –a repeat, indeed, of the colonial-type pattern of trade in a Third World commodity which has resulted in the present North-South “unbalance” of trade terms, and pauperised large parts of the Third World (Nijar, 1998).

It is often the national governments which enter into these “biotrade” arrangements. Policy-makers, operating within the context of the market economy, often feel that there is little option but to realise the maximum financial benefits for a country tied up to the paradigm of the marketplace. In short, it is no different from the negotiations that Third World countries enter into with the countries of the North to attract investments - in this case, for the bioresources to be exploited. In a sense, perhaps this approach was a response by the Third World countries to rectify the inequity of past practices where the North accessed their resources for free. The emphasis is then on an equitable sharing of the benefits derived from the commercial exploitation of these resources.

Although Article 15 recognises that States have sovereign rights over their natural resources and that national legislation will prevail, there is often no single coherent legislation to govern access in most countries (Nijar (Paper 1), 1996). Instead, it is spread across a diaspora of legislation over different sectors of the bureaucracy. This often makes regulation and management difficult, uncoordinated and cumbersome. Often, the legislation is sector-based: fisheries, wildlife and forests.

As well, sometimes the authority to legislate constitutionally is distributed between the federal (central) authority and the respective states. This creates serious problems, such as the absence of an integrative approach across the sectors due to the limited scope of various enactments in relation to biological-diversity conservation; a lack of comprehensive coverage of biological-diversity issues; and, finally, the constitutional distribution of the legislative process between the state and the federal governments resulting in areas of overlap and non-implementation between states.

Trade-related intellectual property rights

The General Agreement on Tariffs and Trade (GATT) negotiations finally led to the establishment of the WTO in 1995. Included in the final text are provisions which have serious implications for the preservation of biodiversity, sustainable development and for the cultures and lifestyles of indigenous peoples and local communities of the Third World.

In particular, Article 27 of the TRIPS Agreement, which came into force on 1 January 1995, obliges Member States to enact IPR legislation with regard to biological resources and biotechnology within a prescribed time. Through the binding dispute settlement mechanism of the WTO, any party found in breach would face cross-sectoral retaliations by the rest of the world. Prior to this, most agreements governing IPRs were under the purview of the World Intellectual Property Organisation (WIPO), a specialised agency of the

United Nations.

Article 27(3)(b) obliges Members to provide for the protection of plant varieties. This they may do either by patents or by an effective *sui generis* system or any combination of these. Members must provide for patenting of micro-organisms and “modified” life forms but may exclude from patentability plants and animals which are not considered to be technologically-improved varieties. A distinction is drawn between genetic material developed in the North by technologists and that which has been developed in the South by farmers or indigenous populations. The TRIPS Agreement reversed completely the efforts of the developing countries in the 1960s to revise patent regimes. It is widely known that the framework for the Agreement was formulated by transnational corporations (TNCs), working through the Intellectual Property Committee (IPC) of the US, the Japanese Federation of Economic Organisations-Keidanren, and the Union of Industrial and Employees Confederations (UNICE) of Europe.

It is also generally acknowledged that the Uruguay Round negotiation process was asymmetric and non-transparent, reflecting the reality of the countries’ economic and political power. The differences in expertise between the developing and developed countries were often overwhelming, resulting in the developed countries using their political and economic might to impose their patent regimes on the weaker economies of the world.

The implications of the TRIPS Agreement

(a) The destruction of community rights, knowledge, innovation and traditional lifestyles and the non-recognition of traditional plural knowledge systems, leading ultimately to the destruction of biodiversity and the traditional communities who nurture it.

This comes about because of definitional constructs which selectively favour the North and marginalise the South. Article 27(1) of the TRIPS Agreement states that the criteria for a patent claim for an invention are: it must be new, involve an inventive step, and be capable of industrial application. Implicit in these requirements is that there must be an identifiable inventor. This definition almost immediately dismisses the knowledge systems and the innovations of indigenous peoples and farmers because they innovate communally, accretionally over time, sometimes intergenerationally. Their innovations are for the common social good and are not intended for individual application.

Indigenous knowledge is an organised, dynamic system of investigation

and discovery that is of critical value to the sustainable maintenance of the earth's diversity. The TRIPS definition takes no account of the knowledge systems of the indigenous peoples.

(b) The usurpation in an unfair and inequitable manner of the innovation and knowledge of indigenous peoples and local communities

The TRIPS requirements for patent claims – novelty, utility, and non-obviousness – are a replication of the US patent law. US jurisprudence on when a product or process is a product of nature and therefore not patentable, and when it is an invention, provides no clear guidelines. US court decisions are very fact-specific and general guidelines have been difficult to delineate. This leaves the field wide open to the making of “convenient” decisions.

By conveniently describing the tinkering in the laboratories of the North as creating “non-obvious derivatives” and “a more sophisticated process for extracting, isolating or synthesising the active chemical in the plant or animal extracts or compositions”, the knowledge of indigenous peoples on which these products and processes are based is usurped.

These deft definitional manoeuvres obscure the fact that traditional uses, although based on natural products, are not “found in nature” as such. They are products of human knowledge. To transform a plant into medicine, for example, one has to know the correct species, its location, the proper time of collection (some plants are poisonous in certain seasons), the part to be used, how to prepare it (fresh, dried, cut in small pieces, smashed), the solvent to be used (cold, warm or boiling water, alcohol, the addition of salt, etc.), the way to prepare it (time and conditions to be left in the solvent), and, finally, the posology (route of administration, dosage).

So, by a reductionism which denies recognition to the diverse and varied knowledge systems of indigenous peoples and local communities, the biopiracy of traditional knowledge is justified. Such knowledge and use of biodiversity is then returned to Third World societies for a price they can ill afford to pay.

(c) A new form of technological protectionism

The TRIPS Agreement is part of a broader strategy by the industrialised countries, primarily the US, to restrict access to new technology by developing countries. Environmentally-sound technology may be denied to developing countries or be prohibitively costly. The Third World may lag far behind as the TRIPS Agreement prohibits imitation by reverse engineering and the costs for obtaining licences for the technology are likely to be prohibitive.

(d) Denial of access by developing-country societies to their traditional medical systems and knowledge

In many developing countries, where health services are limited or out of reach of the indigent, a majority of the population relies on traditional medicine which is largely based on medicinal plants. The Chinese *Materia Medica* and the Indian *Ayurveda* are undoubtedly outstanding compilations of medicinal plants used in traditional medical systems and dating back some 5,000 years.

(e) Undermining the ethos of Third World societies

Third World societies freely exchange knowledge, information, materials, seeds, etc. Concepts such as ownership of life, etc. are incompatible with, and often antithetical to, their values and worldview.

(f) The spread of monocultures

This happens as the same crop or animal is promoted by the corporation to maximise its return on its investments in the patent product. This results in the displacement of local varieties and consequent loss of diversity. Monocultures are also ecologically unstable and impair sustainable agriculture and practices.

(g) Other undesirable threats to biodiversity

IPRs in genetically-engineered plants, animals and soil organisms are posing a serious threat to biodiversity. For example, the creation of herbicide-resistant crops will result in the greater use of herbicides. It could also result in the creation of super weeds. Genetically-engineered soil organisms may threaten plant life and whole agricultural fields if unpredictable undesirable consequences occur.

What emerges from a brief review of these international developments and debates is that there is an acknowledgement that farmers' and indigenous peoples' rights are essential for the conservation and protection of biological diversity and that this emanates from a recognition of their diverse systems of knowledge and innovation in biological-resource improvement and utilisation; and that equity demands a sharing of benefits. However, what emerges equally clearly is that the existing international mechanisms are not entirely supportive of this understanding.

The Convention is, in actual fact, as legally binding and authoritative as

the TRIPS Agreement. But there is already enormous pressure to make the Convention supportive of IPR regimes rather than the other way around. Within a country, the sovereignty of that State takes precedence, and the framework of the Convention may prevail. However, between a foreign IPR holder and a sovereign State, the State's jurisdiction is limited and cannot countervail the IPR holder (Gaia Foundation and GRAIN, 1998).

The search for a coherent legal framework as an alternative to TNC patenting of biological materials is therefore of crucial importance.

3. DESCRIPTION OF THE PRACTICE/INNOVATIVE EXPERIENCE AND ITS MAIN FEATURES

Sovereign rights in resources accord the right to regulate access. Indeed, Article 15.2 of the Convention obliges the Parties to facilitate access to genetic resources for environmentally sound uses and not to impose restrictions that run counter to the objectives of the Convention. Access is made subject to prior informed consent of the Contracting Party providing such resource unless otherwise determined by that Party (Article 15.5). Access has to be on "mutually agreed terms" (Article 15.4).

The cumulative effect of these provisions appears clearly to be:

- (a) the State may set up legislation regulating access; and
- (b) considerations regulating access can also include:
 - (i) a denial of access if it is inimical to its national interest;
 - (ii) predicating access on "environmentally sound uses" (a term which will need to be defined); and
 - (iii) access on mutually agreed terms should include the right of the State to participate in research and development activities (Article 15.6), and the right to share in a fair and equitable way the benefits arising from their commercial and other utilisation (Article 15.7).

The use of the expression "mutually agreed terms" seems to suggest an *ad hoc* contractual arrangement. But this does not necessarily preclude the enactment of legislation which incorporates the minimum terms and conditions consistent with the Convention and furthering its objectives which must be adhered to by both the provider and the collector of the genetic resources. Such kind of legislation is often promulgated to ensure the orderly development and management of an activity, and to protect a particular class of people, often a weaker party.

The protection of biological diversity is particularly amenable to such legislation. With only *ad hoc* private contractual arrangements, much would depend on the strength of the respective negotiating parties, in this case be-

tween industry (often TNCs) and a Third World State with the biodiversity. Experience has shown that TNCs are more able to assert their terms and with a strong IPR regime favouring industry, “mutually agreed terms” may not necessarily be mutually beneficial in reality. Corporations also often negotiate with little accountability.

Legislation for the protection of biodiversity: A proposed Collector’s Act

What is then suggested is a system of licensing collectors of biological diversity as a means of regulating them under a Collector’s Act. The applicant will be vetted to ensure his ability to fulfill the obligations under the Act. The licence is then given for a prescribed period and subject to conditions. Any contravention of the obligations will expose the offender to penal sanctions and, as well, a withdrawal of the licence. Directors and employees of companies may be liable to imprisonment for any contravention of the Act. Licensed collectors will also be required to sign an agreement with the State that imposes obligations on the collector before, during and after the collection.

Its provisions include obligations of the collector to furnish the State with plans for prospecting, the types of material to be collected in terms of species and quantities, the evaluation, storage and use of the collected material, including the uses to which it would be put, and the benefit the host country or community may derive from the collection of the germplasm. This is a concretisation of “the prior informed consent” of the State to which access is subjected by Article 15.5 of the Convention. By this provision, consent must be given with full knowledge of its implications for the resource as well as for the sovereign rights of the State granting it.

During the collection, the collector is limited to the quantum of the resource collected. He has to keep indigenous peoples and the local community informed of his mission and supply them with duplicate samples if required. Upon collection, he has to record the most complete data as to the plant population, its diversity, habitat and ecology sufficient to provide curators and users of germplasm an understanding of its original content; as well as document methods and technologies of using and preparing the collected material.

After collection, a series of obligations requires processing the plant samples and pathogens for conservation, depositing all collections, associated materials and records of information with the Government, transferring the samples timeously to conditions which optimise their viability, and informing the authorities of any impending threat to plant populations or evidence of accelerated genetic erosion together with recommendations for remedial action. Significantly all prospecting studies and experimentation have to be done

with a collaborator (individual or institution) from the source country, such person/institution to be approved by the State.

A sum representing not less than a fixed percentage of any income arising from the supply of germplasm extracts to commercial organisations is payable by the collector. An amount is similarly payable for royalties obtained as a result of the creation or invention of a marketable product. Significantly, the collector must obtain his country's endorsement agreeing to indemnify the source country for any losses it sustains by the collector's breach of the agreement, and to deliver the results of any report made up of studies or experimentation made on the collected specimen.

To prevent the usurpation of innovations of communities or indigenous peoples, a comprehensive obligation is imposed on the collector. It reads: "No patent application shall be filed within or outside the country in respect of the collected specimens or any part thereof, its properties or activity or any derivatives which utilise the knowledge of indigenous groups or communities in the commercialisation of any product as well as to a more sophisticated process for extracting, isolating or synthesising the active chemical in the plant extracts or compositions used by indigenous peoples or if the same represents the intellectual right of the indigenous communities".

The agreement covers situations where although the organism is freely available from different countries, the phenotype providing an active agent from a plant is found only in the country from which it is collected.

Obligatory contracts of this kind do not preclude parties from negotiating other terms (not in conflict with these terms) and tailoring them to their specific needs. The advantage of obliging parties to sign contracts with the Government instead of enacting subsidiary legislation to implement the Act, is that contracts are usually more easily enforceable outside the source countries. Many countries customarily have reciprocal enforcement arrangements with other countries. By this, a civil judgement obtained in the source country is enforceable in the reciprocating country upon fulfillment of certain formalities. Legislation of a country, on the other hand, has no extra-territorial effect.

Legislation for the protection of community and indigenous peoples' rights and knowledge

There are now two distinct possibilities on the question of protecting this knowledge of indigenous peoples and local communities. The first is to do nothing, on the premise that to provide any kind of "protection" of rights is to bring indigenous peoples and local communities and their resources into the fold of the market economy, which, with its subversive influences of materi-

alism and consumerism, could overwhelm and ultimately destroy these societies. The second is to formulate a rights regime which reflects the culture and value system of these communities as a device to prevent the usurpation, commoditisation and privatisation of their knowledge and ward off any threats to the integrity of these societies.

Doing nothing in the face of active assaults on the biological resources and the knowledge systems of indigenous societies and local communities by pharmaceutical companies and other sectors of the industrial society, is to perpetuate the continued destruction of these peoples and communities and their natural environment.

This really leaves little option but to consider the formulation of a rights regime which is better able to protect and preserve the fundamental values and the social and cultural cohesiveness and integrity of these societies which are largely responsible for conserving and sustainably using biological diversity.

Conceptual framework

The main elements of such a regime need to be identified. But first, here are some clarificatory remarks on the conceptual framework that informs this rights regime.

To claim “ownership” rights to intellectual knowledge is not to adopt the IPR model of the industrialised North. In particular, clearly rejected is the concept of privatised, individualised or corporatised knowledge or concepts of creativity. Indigenous peoples and local communities create collectively. This necessarily means that the whole community will be deemed the rightful owner of such creativity or innovation.

Further, rejected by this alternative rights regime is the notion of a one-shot concept of innovation which typifies industrial innovations. The knowledge of indigenous people and local communities is continuous as it modifies, adapts and builds upon the existing knowledge. A redefinition of “innovation” would pave the way for the recognition of cumulative innovations and knowledge. The right would therefore inure in perpetuity and cannot be extinguished or have its integrity impaired as this would deny the present and future owners/beneficiaries access to, and use of, the right. Also rejected is the notion that for innovation to be recognised, it must have an industrial use; or that it must be trade-related. Innovations of domestic, common and social value, all hallmarks of community creativity, must be accorded recognition.

This means that creativity in the form, manner and context in which the communities understand this term and practise it, must be accorded formal recognition. Implicit in the rights regime is a recognition that indigenous peo-

ples and local communities have a right to self-determination and to safeguard their culture, lifestyle and practices in the broadest sense. It gives them complete control to regulate access, including the right to deny such access, to their traditional resources.

It is critical to redefine “innovation” in a manner which is protective of the creativity of indigenous peoples. This is crucial to the preservation of biodiversity itself, as recognising and protecting the knowledge systems of indigenous peoples and local communities means, as well, a recognition and preservation of the cultural and social life of traditional societies which embodies knowledge and practices supportive of biodiversity. It is also in accord with social justice as it recognises the true creator and respects diverse cultures and different traditions of knowledge.

Accordingly, it is proposed to define “innovation” to:

... include any collective and cumulative knowledge or technology of the use, properties, values and processes of any biological material or part thereof, rendered of any, or enhanced, use or value as a result of the said cumulative knowledge or technology whether documented, recorded, oral, written or howsoever otherwise existing including any alteration, modification, improvement thereof; and shall also include derivatives which utilise the knowledge of local communities in the commercialisation of any product as well as to a more sophisticated process for extracting, isolating, or synthesising the active chemical in the biological extracts or compositions used by the local communities.

This rights regime is in relation to both indigenous communities and farmers. Often, indigenous communities are also farmers. While it is readily acknowledged that indigenous communities have distinctive and unique characteristics, and there is significant cultural, social and political heterogeneity between (and amongst) them such that their interest comes into direct conflict with that of farmers – especially in relation to land – there exist powerful and strong factors unifying the two groups.

Among the unifying factors are **that** indigenous peoples and local (farming) communities are marginalised, are dependent on the ecosystem (in particular local resources), make (and have) common demands and need for self-management and control of their resources, make claims to land rights and collective rights, have in some cultures a strong tradition of free exchange and transmission of knowledge and resources between communities and generations, and, finally, are threatened by the same forces.

More particularly, in relation to the knowledge that is sought to be protected by this rights regime, farmers, other local communities and indigenous

peoples face an identity of interests and face the same challenges. Both have had their interests marginalised by the same forces and in like fashion. The knowledge of generations of farmers in developing, modifying and adapting the seed – their genius in doing so and preserving biodiversity in the process – is denied recognition by restrictions in definitions now being globalised by **GATT**. Similarly eclipsed is the collective, informal and accretional creativity of indigenous peoples and local communities.

In recognition of these strong unifying factors, in the proposed draft of this rights regime, indigenous peoples and local communities are referred to compendiously as “local communities”. The term is defined to refer to:

... a group of people having a long-standing social organisation that binds them together whether in a defined area or howsoever otherwise ...

In short, the entire ethos of the industrial patent regime will be entirely excluded from, and form no part of, the regime establishing indigenous and local community rights. **So**, establishing a community rights regime will be really an attempt at formulating a wholly new *sui generis* regime to reflect the values of the communities and the way they relate to themselves as well as to biodiversity.

The role of the State

The proposed rights regime necessarily follows the route of the State as the central authority through which the rights of indigenous peoples and local communities are established, validated and claimed. This is because the regime is being proposed within the parameters of WTO/TRIPS – which allows for the establishment of a *sui generis* system of protection of plant varieties – and the Convention on Biological Diversity – which establishes the sovereignty of States over the biodiversity within their geographical boundaries. This is also a pragmatic approach as in international law, the enforcement of rights established by international instruments is through nation states.

However, it is acknowledged that many States have been a hindrance to, and have marginalised, indigenous peoples. The State could hardly then be an appropriate channel for the vindication of the rights of indigenous peoples.

The legal framework then has to be adapted. The nation state should be seen as the authority *vis-a-vis* international enforcement only. But the governments claiming sovereign rights are, in fact, holding those rights in trust for the community. They exercise what is described in juridical terms as a “higher trust”. This also means that within the State, the real authority in relation to the control of these rights is accorded to, and vests in, the local community and indigenous peoples. Once the international community formally accepts

indigenous peoples as legal entities in their own right, with a status equivalent to nation states, they will then, of course, claim, enforce and defend their own rights.

The main elements

Ownership rights: Rights of custodianship, inalienable, not subject of exclusive monopoly rights

The community is declared the “owners” of this community knowledge. They exercise complete control over it collectively. They hold it in trust for themselves as well as for the beneficiaries of their ancestors; and they also hold it in trust for future generations. The knowledge, therefore, always remains in the community and its integrity cannot be impaired, extinguished or divested. More particularly, no rights inconsistent with this right can be created or claimed by anyone in relation to it. It is in this sense that the right is referred to as being inalienable. In this way, any permanent impairment, say, by TNCs, is subject to challenge by members of the community.

The proposed rights regime seeks to preserve this crucial facet by:

- (a) declaring communities as custodians of the innovation;
- (b) prohibiting that kind of dealing in the right which will have the effect of impairing its integrity (example: transferring, leasing or assigning the right); and
- (c) declaring as void, as against the community, any transaction which has the effect of destroying the integrity of the right.

The free sharing and transmission of knowledge between communities and generations, a tradition strong amongst some communities, does not amount to an impairing of the right. Nor indeed does any dealing in the knowledge which does not amount to a divesting of the right in effect. So, communities, in their exercise of the right to self-determination, may, if they choose to do so, commercialise the innovation. A legal mechanism for this “ownership” holding will need to be identified: for example, a trust, or the incorporation of a body recognised as representing the collective interest of the community.

If more than one community owns this knowledge, then it is deemed to be vested in both, or all, of the communities.

Commercial utilisation

But if there is any commercial utilisation intended of the knowledge, then the provisions of free exchange would not apply. No use can be made of the knowledge save and except with the consent of the community which has the

custodianship of this knowledge. If the knowledge belongs to more than one community, then the consent of all the communities must necessarily be obtained.

If any commercial use is made of this knowledge without any such consent, then, without prejudice to the right of the community to stop the use of the knowledge, a certain fixed percentage (representing the profits made or that could be made by the use of that knowledge) is payable by the user, whether demanded or not. The right arises upon its commercial use. This right can be enforced by the community whose knowledge is *so* used; in certain prescribed circumstances, for example, where the community is unable to act on its own initiative, the Government or any NGO group may act on its behalf, provided that the community has the first and prior right of enforcement.

Proof of claim

To facilitate evidentiary proof, any declaration by the elders, or other duly recognised members, of the community in a manner and form accepted by the cultural practices of that community, will be sufficient evidence of the existence of the right to that knowledge. The onus will then be on the person/corporation contending otherwise to prove its claim.

Right to an innovation

There will be no need to file a patent application to establish the right to the innovation. Protection arises once the innovation exists. The existence itself is established by the norms and practices of the particular community. A “Registry of Invention” is set up purely to facilitate registration by the community of their invention by the simple expedient of declaring to the Registry the existence of the invention. Failure to register does not defeat the rights to the innovation. Protection of the innovation covers any use or any product made of the knowledge of indigenous peoples. This will encompass processes such as extraction, purification or synthesis.

The onus would be on those seeking to defeat the innovation of indigenous peoples to establish that their invention is in no way derived from the knowledge of indigenous peoples and local communities. Proof of the existence of their innovation shall be in a manner acceptable by their cultural and traditional practices. This could include proof by folklore, oral accounts, or any other mode.

All elements of culture, system and practices of communities formally recognised

The rights regime formally incorporates and recognises all the elements of the culture, system and practices of local communities. It bestows on them the status of “rights” which then become enforceable. The right is recognised in the form and manner in which it is recognised by the local community itself. It goes beyond the mere utilitarian. The entire identity and integrity of the knowledge system, replete with its values, rituals and sacredness, is accorded recognition. In respect of genetic resources and local seeds, for example, recognition extends to the whole livelihood system and the system of production by which marginalised communities make a living. One such specific value relates to the cultural practices whereby communities freely exchange knowledge or products incorporating this knowledge amongst themselves. This is expressly preserved and recognised in this rights regime.

4. DESCRIPTION OF THE INSTITUTION RESPONSIBLE AND ITS ORGANISATIONAL ASPECTS

Third World Network (TWN) is an independent non-profit international network of organisations and individuals involved in issues relating to development, Third World and North-South affairs. The aim of the Network is to co-ordinate and consolidate co-operation among development groups in the South as well as in the North. Its objectives are to conduct research on economic, social and environmental issues pertaining to the South; to publish books and magazines; to organise and participate in seminars; and to provide a platform representing broadly Southern interests and perspectives at international fora such as the United Nations Conferences and processes.

TWN was formed during an international conference on “The Third World: Development or Crisis?” organised by the Consumers’ Association of Penang (CAP) in November 1984. CAP is the Secretariat and the clearing-house of the Network.

TWN’s International Secretariat is based in Penang, Malaysia. It has offices in Montevideo, Uruguay (for South America); Geneva; London; and Accra, Ghana. TWN has affiliated organisations in several Third World countries, including India, the Philippines, Thailand, Brazil, Bangladesh, Malaysia, Peru, Ethiopia, Uruguay, Mexico, Ghana, South Africa and Senegal. It also co-operates with several organisations in the North.

5. PROBLEMS OR OBSTACLES ENCOUNTERED AND HOW THEY WERE OVERCOME

The Convention excludes from its scope and ambit genetic resources obtained from source countries before the Convention came into force. This has major implications for biodiversity, especially for food and agriculture. World-wide holdings of crop germplasm in *ex situ* collections (including wild relatives) amount to about 4.2 million accessions. The number of unique accessions is thought to be about 50% of the total number.

In fact, for certain major crops, they may represent, for practical purposes, nearly all of the world's remaining diversity. Furthermore, the actual and potential value of these collections is generally considered to be superior to that of most of the diversity not yet collected for the crops concerned. In addition, the North effectively controls 85% of all fetal populations of domesticated livestock and 86% of global microbial culture collections - the bulk of which originates from the South.

The crop germplasm collections have been established in about 130 countries. Over half (53%) of the accessions are located in developed countries, and one-third (36%) in developing countries. According to one estimate based upon UN data, although the North has only 22% of gene banks, 55% of all seed accessions and 62% of all crop species are in the North's collections. However, the UN data includes holdings in the International Centres of the Consultative Group on International Agricultural Research (CGIAR). These may be located in the South, but are controlled by Northern boards and funders. It is estimated that about 30-40% of the unique samples constituting probably the world's most important seed stocks are held in the CGIAR centres. These probably comprise the most significant collection.

The FAO's Legal Office opinion given in 1987 was that irregardless of where the material may have been collected from, ownership of genetic material held in government gene banks or held in public institutions was, in most cases, for practical purposes considered to be vested in the State in which these gene banks are located. For material held in the International Agricultural Research Centres (IARCs), the legal position was unclear.

Since 1988, the IARCs have jointly stated that they do not regard themselves as owners of the germplasm but consider that they hold them in trust for the benefit of the international community, in particular the developing countries. This formalises the status of the arrangement under which the IARCs received the genetic material. The CGIAR, under which the IARCs are run, states that as they hold the collections in trust, they have a duty to distribute the germplasm for these collections to any researcher who demonstrates a legitimate interest. The IARCs make no attempt at controlling subsequent

commercial uses (and claiming of IPRs) of germplasms.

The Commission on Plant Genetic Resources, finding this position unsatisfactory, has called for the setting up of an International Network of base collections in gene banks under the auspices or jurisdiction of the FAO, thereby implementing the FAO's International Undertaking [Article 7.1(a)]. Countries and institutions which voluntarily decide to place collections in their gene banks within this Network agree to ensure that the genetic material is safely conserved and will be made available for plant breeding and research purposes, while respecting the rights of the providers of the germplasm.

Thirty-two countries and the IARCs, collectively holding 46% of the world's germplasm, have indicated their willingness to make their gene banks part of this International Network. The FAO's International Plant Genetic Resources Institute (IPGRI) has also signed agreements with those national and international institutions registered with it to conserve specified germplasm and make it available to the international community. The IPGRI has agreed to merge its register with the International Network. The combined Network will cover about 70% of global accessions. The IARCs' collections have now been placed under the IPGRI.

It is crucial to understand that the granting of sovereign rights to States in their biological resources by the Convention could be effectively undermined if they are not accorded the same rights to the crop genetic resources collected from their territory and now located in these gene banks. The FAO has undertaken a major revision of the International Undertaking on Plant Genetic Resources (IUPGR) to make it more compatible with the Convention on Biological Diversity. This was presented in Germany in 1996 at the 4th International Conference on Plant Genetic Resources.

Ex situ collections ought to be brought within the Convention and countries and communities originally providing the germplasm accorded sovereign rights which should entitle them to regulate access and obtain benefits on the same basis as for *in situ* collections.

6. EFFECTS OF THE PRACTICE/INNOVATIVE EXPERIENCE

As these are draft model laws, the effects of the actual implementation of these laws still remain to be seen.

7. SUITABILITY AND POSSIBILITY FOR UPSCALING

The whole intention of these laws is to bring community and indigenous peoples' rights within the ambit and protection of national legislation. These laws are already intended to be models for application in any developing coun-

try where transnational corporate patenting is robbing communities and indigenous peoples of their biological resources.

8. SIGNIFICANCE FOR (AND IMPACT ON) POLICY-MAKING

The protection of the traditional knowledge of indigenous peoples moves one step closer in the right direction towards the full recognition of community and indigenous peoples' rights. As these laws bring the rights of community and indigenous people into the spotlight, a much broader-based regime for the total recognition of their rights becomes a more urgent priority.

Initially, as challenges are made to this rights regime, the cost of defending the system or particular innovations may well be high. But as the main elements of this rights regime are understood and established, and an increasing number of countries of the South accept it as a desirable and effective way of protecting the knowledge systems of their indigenous peoples and local communities, the cost should be minimal. Industry will then have to take the existence of this regime into account prior to embarking on research or production of anything based on the knowledge of indigenous peoples.

9. POSSIBILITY AND SCOPE OF TRANSFERRING TO OTHER COMMUNITIES OR COUNTRIES

The model legislation is being studied as one of the inputs to be included in biodiversity laws in Laos, Zimbabwe and Malaysia.

This alternative rights regime can be suitably used and adapted in any developing country that is faced with the threats of depleting biodiversity and the biopiracy of both its biodiversity and the knowledge and expertise of community and indigenous people.

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