TRADITIONAL KNOWLEDGE: CHALLENGE TO INTELLECTUAL PROPERTY RIGHTS

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INTRODUCTION

This paper focuses on the challenge posed by the international evolution of intellectual property rights (IPR) to the indigenous peoples of the Philippines. In particular, it looks at the question of how the indigenous knowledge of these peoples and their rights to such knowledge can be protected in the face of IPR trends, particularly the emergence of biotechnology and the extension of property rights to knowledge over genetically modified lifeforms.

The paper is divided into four sections.

The first part deals with the interface of biological diversity, indigenous peoples and traditional knowledge in the Philippines. This section documents the range, breadth and utility of indigenous knowledge. It concludes that what is incompatible about the concept of intellectual property rights with indigenous knowledge is not so much that the latter is freely shared but the fact that "ownership" is claimed over it by human beings. It is this cultural refusal to claim ownership over knowledge - as well as many natural resources - that makes resort to IPR rules, as a means of protecting rights to indigenous knowledge, objectionable to many indigenous peoples.

The second part looks at how existing IPR laws can be used to protect the viability of and the rights of indigenous communities to traditional knowledge. It points out that resorting to the intellectual property rights laws is not, on the whole, a promising

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strategy for indigenous peoples to take. IPR, unfortunately, as conventionally defined, are inappropriate to protecting rights to indigenous knowledge. While small windows of opportunity are available in using IPR laws, applying the conventional IPR approaches to indigenous knowledge is likely to do more harm than good.

The third part explores ways of responding to the IPR challenge. It looks at various international and national strategies that indigenous peoples and the government may use to deal with the challenge.

The paper concludes that the IPR challenge should be seen not just as a threat to indigenous peoples but as an opportunity. The IPR challenge should be integrated into the primary struggle of indigenous peoples to secure territorial integrity and political autonomy. It is also a unique opening for them to work together with others in the national and global community - with farmers, scientists, lawyers, anthropologists and other social scientists, nongovernmental organizations, and perhaps, even the state.

I. BIODIVERSITY, INDIGENOUS PEOPLES, TRADITIONAL KNOWLEDGE: INTERFACES IN THE PHILIPPINES

A. Indigenous Peoples of the Philippines

Indigenous peoples have been defined as:

> Those which, having a historical continuity with pre-invasion and pre-colonial societies that developed on their territories, consider themselves distinct from other sectors of the societies now prevailing in those territories, or parts of them. They form at present non-dominant sectors of society and are determined to preserve, develop and transmit to future generations their ancestral territories, and their ethnic identity, as the basis of their continued existence as peoples, in accordance with their own cultural patterns, social institutions and legal systems.[1]

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[1] *Study of the Problem of Discrimination Against Indigenous Populations: Report of the Sub-Commission on Prevention of Discrimination and Protection of Minorities* ("Cobo Report"), U.N. Doc. E/CN.4/Sub. 2/1983/21/Add.8 379 (1983),

Under this definition, there are millions of indigenous peoples in the Philippines. They constitute nine per cent of the 65 million population of the Philippines.[2] They include the groups discussed below.

The Lumads of Mindanao

The *Lumads* were the original inhabitants of Mindanao, the second largest island in the Philippines. Composed of some eigtheen ethnic groups, the *Lumads* include the Manobos, B'laans, T'bolis, Tirurays, Bagobos, Subanens, Banwaons, Talaindigs and the Mamanwas.[3] Collectively, the *Lumads* account for 17% of Mindanao's population of approximately 16 million people.

Lumad means "born of the earth." For the *Lumads*, land is life and it is land which is the basis of their collective and spiritual life. Most *Lumad* groups are swidden farmers. Many of them also rely on the forests of Mindanao for their sustenance and livelihood. They engage in farming as well as hunting and have their own modes of indigenous resource utilization and natural management practices.[4]

Like all Philippine indigenous groups, the *Lumads* of Mindanao are faced with development aggression coming from both the public and the private sectors. This aggression comes in the form of infrastructure projects such as dams and power plants and forestry programs such as industrial forests.

The Cordillera Peoples of Luzon

The Cordillera peoples occupy the Cordillera mountain range in Luzon spread in five provinces. They include the Ifugaos,

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cited in Raizda Torres, *The Rights of Indigenous Populations: The Emerging International Norm*, 16 YALE J. INT'L. L. 127, 128 (1991).

[2]Media Mindanao News Service Investigative Team, ETHNOCIDE: IS IT REAL? 16 (1993).

[3]Ruffy Manaligod, ed., *Struggle Against Development Aggression*, xviii (1990). Hereinafter referred to as STRUGGLE.

[4]*See* generally, Rene Agbayani, *Biodiversity and Indigenous Resource Utilization and Management Practices in Mindanao*, PHILIPPINE NATURAL RESOURCES L. J., Vol. 6, 47-66 (1993).

Kalingas, Kankanaeys, Isnegs, Tinguian, Yapayao, Ibaloi, and Bontocs numbering about one million.[5] The foundation of their life is the land and the products they derive from it which provide them with sustenance. They engage in hunting, gathering and farming. Under Ifugao law and custom, the land cannot be owned by a single individual. It is viewed as being held in trust and the present holders possess only a transient and fleeting possession of such property. Possession is more in the nature of trust than absolute ownership. Some valuable trees can be sold but the sale does not include the land on which these trees grow. Rice and forest land tenure is considered perpetual.[6]

Colonization and subsequently, the Philippine state, drove them out of their territories. Because of the development of mining camps, recreation centers, military and other govenment facilities, infrastructure projects such as dams and the commercialization of the forests, the lands they have occupied for generations have been taken away from them and up to the present, their claims to these lands have not been legally recognized.

The Lumads of Mindoro

The *Lumads* are found in the island of Mindoro and comprise six ethnolinguistic groups.[7] Like the other indigenous groups, they are dependent on the land for their sustenance and livelihood. They are engaged in farming, gathering and hunting. The idea of owning the land they cultivate does not exist in the mind of the *Mangyan.* It is the product of the land which can be possessed. Hence, whenever the land is no longer considered fertile or others have laid claim to it, they just transfer to other lands and leave the land they had cleared because of their belief that there is an abundance of land available to them.

The *Lumads,* faced with incursions from development projects and land occupation by lowlanders, have continually

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[5]STRUGGLE, *supra* note 3.
[6]Barton, *Ifugao Law,* 32-35 (1969).
[7]STRUGGLE, *supra* note 3.

retreated to the mountains of Mindoro. They are known to be peaceful peoples and are not known to engage in war with others. Coupled with their lack of education and the alienness to them of the legal system, their fears that one day, they can no longer retreat further upland is well-founded.

Indigenous Peoples, the State, and Land

As a result largely of colonization, the above indigenous peoples of the Philippines share similar problems.[8] To effectively control local resources and political power, the colonizers and subsequently, the government which replaced them "took the land away from the natives."[9]

A common colonial history have left indigenous groups with four basic needs: (a) cultural protection; (b) recognition of land claims; (c) recognition of individual, economic and social (welfare) rights; and (d) political autonomy.[10]

All these needs and the rights corresponding to them are, however, intimately interrelated. Demands for cultural protection, which include the preservation of traditional subsistence patterns as well as the protection of indigenous religions and languages, cannot be separated from the recognition of indigenous land rights.[11] Without a secure territorial base, cultural rights become meaningless. The same observation applies to the right to self-determination: political autonomy requires a minimum of control over one's land base. Hence, it can be argued that the most basic right of indigenous peoples is their right to a secure land territory. Without recognition of this right, all other rights cannot be exercised meaningfully.

B. Biodiversity in the Philippines

The Philippines, situated in one of the richest regions of the world in terms of biodiversity, has immensely diverse terrestrial

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[8]*See* Torres, *supra* note 1 at 133.
[9]*Id.*
[10]*Id.*
[11]*Id.* at 159.

ecosystems. Biological resources in these ecosystems consist of 8,000 species of indigenous flowering plants, 3,000 of which are trees. The plants belong to 200 families and 1,500 genera while there are 4,000 species of pteridophytes, bryophytes, fungi, algae and lichens.[12] More than 2,500 species of wild fauna excluding insects and invertebrates can be found in the country's more than 7,000 islands. These include 196 species of mammals, between 950 to 975 species and sub-species of reptiles and between 950 to 975 species and sub-species of birds including migratory ones. Plant endemism is estimated at 44 per cent while that of animals is estimated at 43 per cent of species.[13]

The Philippines, being an archipelago, is home to one of the world's most diverse marine flora and fauna. Out of the 81 species of reef-associated marine gastropod *Conus,* 61 are found in the Philippines. Of the nine species of giant clams, seven are found in Philippine waters. The most diverse assemblage of seagrass in Southeast Asia is likewise located in the Philippines.[14]

Unfortunately, the richness and diversity of these biological resources are now threatened by human activities and the failure to effectively provide protective measures.

Based on the latest report of the Protected Areas and Wildlife Bureau, 125 species of birds, 27 species of mammals and 11 species of reptiles are listed as threatened and endangered. In the island of Cebu alone, nine species of birds are extinct.[15] In Mount Apo, only approximately 300 of the endangered monkey-eating eagles (Pithecaphaga jefferyi) are left in the wild.[16]

The clearest indication, however, of the grave threat to biodiversity is indicated by the less than one million hectares of

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[12]A REPORT ON THE PHILIPPINE ENVIRONMENT, Prepared by the Department of Environment and Natural Resources/Environmental Management Bureau, (1992) 2-30 hereafter referred to as REPORT.

[13]*Id.*

[14]Marie Antonette Juinio-Menez, STATUS REPORT ON THE DIVERSITY AND UTILIZATION OF PHILIPPINE MARINE RESOURCES, 1-2.

[15]REPORT, *supra* note 12.

[16]Robin Broad with John Cavanaugh, PLUNDERING PARADISE: THE STRUGGLE FOR THE ENVIRONMENT IN THE PHILIPPINES (1993), 35.

primary forests remaining. While it cannot be established at present how many species can be found in Philippine forests, one survey of just over one hectare of forest reserve has uncovered more than one hundred species of trees.[17]

In sum, it has been observed that the Philippines represents "the single worst case scenario ... of loss of biological biodiversity in tropical Southeast Asia."[18]

Biodiversity Loss and the Indigenous Peoples

Biodiversity and indigenous peoples have a close and intimate link. Aside from the environmental damage that results from the loss of biodiversity, there is another, equally if not graver, tragedy that wide-scale destruction of biodiversity brings in its wake: the dying of indigenous cultures with their largely undocumented knowledge base. The loss of these "vast archives of knowledge and expertise" is "leaving humanity in danger of losing its past and perhaps jeopardizing its future as well."[19] The knowledge base of indigenous peoples is "humanity's lifeline" to a time when human beings accepted nature's authority and learned through trial, error and observation. However, as the world's indigenous peoples vanish and die out - before the onslaught of, among others, the destruction of the forests many of them call home - so does their irreplaceable knowledge.

The specter of cultural extinction hangs over thousands of indigenous peoples who live in the forests. The tragedy is that the people most threatened by biodiversity loss are the very people who know how to live in harmony with nature - knowledge that their fellowmen competing for space in the forests need to learn.[20]

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[17]*Id.*

[18]SUSTAINABLE NATURAL RESOURCES ASSESSMENT - PHILIPPINES : A REVIEW OF THE PRESENT STATUS WITH RECOMMENDATIONS FOR FUTURE DIRECTIONS, Report Prepared for the U.S. Agency for International Development by Louis Berger International and Institute for Development Anthropology, (1989) D-2.

[19]Eugene Linden, *Lost Tribes, Lost Knowledge,* TIME (September 23, 1991), at 46.

[20]Kenton Miller and Laura Tangley, TREES OF LIFE: SAVING TROPICAL FORESTS AND THEIR BIOLOGICAL WEALTH (1992), at 15.

By ignoring the rights of indigenous and other long-term forest dwellers and insisting that forest resources are state-owned, the government has provided the economic and political elites with easy legal access to forest resources and short-term profits shared only by a favored few. The costs, however, in terms of forest degradation, have been staggeringly high.[21] Moreover, these people who live entirely in and off the forest, are the only ones who have mastered the art of exploiting the rainforests on a sustainable basis, due to their enormous amount of practical knowledge. They know everything about food plants, medicinal species, edible insects and their larvae, and the collection of wild honey. [22]

The disappearance of the tribes and their cultures implies one cost that even the most narrowly pecuniary of economic planners should appreciate: the loss of knowledge of how to use the diverse forest species.[23] The medicinal and other properties of the thousands of species present in the forest are prohibitively expensive to assess if done from random samples of vegetation much more so if all the species are tested. A more efficient programme is confirming the activity of species used by tribal peoples. Little of the knowledge of how to use forest species has been recorded. Recording and using the knowledge that is now the near exclusive domain of indigenous tribes should be done with all due haste because of the unique value of the knowledge and because it contributes a strong argument for maintaining intact significant tracts of the forests on which these groups depend for their survival.[24]

Some people, however, fear that passing this knowledge to the dominant society would represent a "last theft" from the tribes.

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[21]Owen J. Lynch, "Community Based Tenurial Strategies For Promoting Forest Conservation and Development In South and Southeast Asia," Paper Presented at the Second Annual International Association For The Study of Common Property (IASCP) Conference, Winnepeg, Canada, 8 (September 28, 1991).

[22]Marius Jacobs, THE TROPICAL RAIN FOREST: A FIRST ENCOUNTER (1988), cited in Miller, *supra* note 20, at 15.

[23]*See* Miller, *supra* note 20, at 16.

[24]*See* Philip M. Fearnside, "Environmental Destruction in the Brazilian Amazon," in THE FUTURE OF AMAZONIA, David Foodman, ed., (1990), at 191-192.

Hence, the tribes' land and right to exist must be guaranteed independent of any economic value that the dominant society may see in preserving these cultures. Once all useful knowledge has been gathered from the tribes, they cannot be destroyed with impunity. At bottom, therefore, their right to existence is not a question of economic value but one of human right.[25]

C. Indigenous Knowledge in the Philippines

The range and breadth of indigenous knowledge in the Philippines is well-recorded. Its utility has also been recognized. Indigenous knowledge include information about natural resource management and utilization systems - particularly on agriculture and the use of forest resources, traditional medicine and pharmaceuticals, and crafts and artistic designs.

The use of medicinal plants have been well-documented.[26] Indigenous communities possess what has been called "an enormous reservoir of cultural information that can provide useful guidance as to which pieces of the natural world are worth a closer look."[27] The implications of this information is described by Kloppenburg:

> Tapping this reservoir of knowledge has already proven effective. Three-quarters of the plants that provide active ingredients for prescription drugs originally came to the attention of researchers because of their uses in traditional medicine. Accordingly, the NCI (National Cancer Institute of the United States) collection strategy involves close attention to indigenous medical practice and especially to the expertise of traditional healers and curanderos. Similarly, the USDA's (U.S. Department of Agriculture) crop germplasm acquisition policy now gives priority to obtaining samples for which the ethnic source of the cultivar is described. [28]

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[25]*Id.*

[26]Jack Kloppenburg, Jr. *No Hunting! Biodiversity, Indigenous Rights, and Scientific Poaching,* Cultural Survival Quarterly (Summer 19910, at 15.

[27]*Id.*

[28]*Id.*

Indigenous knowledge of medicinal plants has been described as priceless information. According to one author:

> As with genetic diversity, once lost, it cannot be recovered. Without it, we must use random screening, which is like searching for a needle in a haystack. Past experience is the best argument here: 74 per cent of chemical compounds used as drugs today have the same or related use in Western medicine as they do in traditional medical systems. It has been estimated that ethnobotanical information might have increased the yield of active plants by 50 to 100 per cent in the National Cancer Institute (NCI) research program in the search for anticancer and anti-AIDS drugs.[29]

Among the *Lumads*, herbal remedies are resorted to in treating diseases. If the illness is not cured, the "balaonan" performs the ritual for the sick known as "marayaw".[30]

In agriculture, the *Lumads* of Mindanao select a site based on a number of factors which include fertility of the soil, nearness to a source of water, topograghy, distance from the settlement as well as the presence of certain types of vegetation. They also consider the "ownership" of the possible site. The forest is seen as a "free good": open for everybody's use. When a family opens a swidden field from the `primary' forest they own it in the sense that as long as they cultivate it, the land belongs to them. When they abandon it and the land reverts back to the forest, it is again open to anybody.[31]

The *Lumads* are also engaged in hunting employing different means. Until the introduction of shotguns, as well as rubber bands and flashlights, most of the paraphernalia for hunting and trapping are taken from their immediate surroundings. The methods of hunting also show the intimate

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[29]Elaine Elisabetsky, *Folklore, Tradition, or Know-How?*, Cultural Survival Quarterly (Summer 1991), at 10.

[30]Lucia Feraro Banta, CHANGES IN THE SOCIO-CULTURAL LIFE OF THE ALANGAN-MANGYANS: A COMPARISON OF THE TRADITIONAL ALANGAN AND THE MARGINAL ALANGAN IN MINDORO ORIENTAL (1985).

[31]*See* Agbayani, *supra* note 4.

knowledge of the *Lumads* of the different habits of the different animal species.[32]

The proximity of the rivers and streams give *Lumads* access to a rich source of fish, crustaceans and other aquatic animals. These form an important part of the diet of the people. The Lumad communities have developed many methods of fishing and gathering aquatic game. These involve the use of poison plants. These methods are used invariably depending on the type of game and the state of the water: whether high or low, fast or slow, or clear or muddy.[33]

At present, Lumad ways and practices are being threatened by the failure to recognize and protect their ancestral lands and domains. Since Lumad culture is rooted in land, there is loss of culture as a consequence of loss of lands.[34]

The Misappropriation of Indigenous Knowledge

The threat to indigenous knowledge comes from three sources. First, the loss of their territorial base - through the destruction of rainforests or through their displacement by government projects or commercial utilization of natural resources - makes it impossible for many indigenous communities to sustain their knowledge as well. Second, indigenous knowledge is also threatened by the introduction of so-called "modern" practices of, among others, agriculture and medicine. These new practices frequently replace or substitute traditional practices which ironically are often more sustainable or effective than the former.[35] Third, indigenous knowledge is increasingly endangered by misappropriation of this knowledge by outside researchers. The

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[32]*Id.*

[33]*Id.*

[34]*Id.*

[35]A new study on indigenous resource utilization and management systems of Mindanao indigenous peoples concludes that traditional practices continue to be sustainable despite the pressures of population and other outside factors. This study conducted by the College of Agriculture of Xavier University looked at the ways and practices of the Subanen, Mamanwa and Higaonon peoples. Interview with Dr. Erlinda Burton, Xavier University, 3 January 1995.

tragedy is that it is the North or the developed countries which often benefit from this misappropriation or intellectual piracy.

The example of misappropriation that has often been cited is that of the neem tree. The neem tree, which is native to Asia, has been utilized by local people for centuries for manifold purposes: pesticide, medicine, antiseptic, contraceptive, building material, fuelwood and agriculture. Recently, however, more than a dozen patents have been granted in developed countries on the medicinal and insecticidal properties of this tree. An example is the patent granted to Agri-Dyne for bio-insecticides derived from this tree.[36] According to GRAIN:

> While Asians consider the neem to be part of a collective heritage, companies in the North are now patenting it. Monopoly rights have been assigned for the use of neem bark against cancer, stable and storable forms of the insecticidal component, neem-based toothpaste, etc. All of these uses derive from centuries of indigenous knowledge and local innovation, as well as Asian people's efforts to nurture and conserve the valuable tree. Patenting of the neem in the North has struck many as a classic case of intellectual piracy, where scientists have added nothing fundamental to the understanding and use of the indigenous neem and yet are granted an intellectual and commercial monopoly over it.[37]

Another example is the use of the rosy periwinkle. Irving S. Johnson, former vice-president for research at Eli Lilly and Co., states that:

> (T)wo different groups were investigating the plant because of folklore suggesting the use of a tea of the leaves for diabetes. These reports were from the Philippine Islands and Jamaica. The plant, however, grows wild or is cultivated in most temperate and semi-tropical parts of the world. At the time it

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[36]Rural Advancement Foundation International (RAFI), CONSERVING INDIGENOUS KNOWLEDGE: INTEGRATING TWO SYSTEMS OF INNOVATION (1994). Hereinafter referred to as CONSERVING INDIGENOUS KNOWLEDGE.

[37]Genetic Resources Action International (GRAIN), *Intellectual Property Rights for Whom?*, GRAIN Biobriefing, No. 4, Part Two (June 1994), at 2.

> could be harvested because of its rampant growth in India and Madagascar, and it was grown commercially in Texas.[38]

Johnson argues that the traditional knowledge as well as the genetic resources leading to the discovery of the vinca alkaloids and their use in the treatment of cancer came from many sources, not just Madagascar. He points out that if one argues that Madagascar's contribution should be compensated, then all the other countries involved should also be paid. Besides, according to Johnson, the traditional use was a remedy for diabetes while the pharmaceutical company ultimately developed a cancer treatment.[39]

Recently, a Japanese pharmaceutical firm has filed a patent application for a drug derived from the *banaba* tree traditionally used in the Philippines for stomachache.[40]

RAFI lists the following as examples of contributions of Asian genetic resources or traditional knowledge to agriculture in the developed countries: (1) algae and (2) tomato. Algae from Southeast Asia has spawned a whole new industry on the Carolina shores of the United States. Tomato collection in the Philippine uplands has been used to breed cold tolerance in U.S. tomatoes.[41]

In pharmaceuticals, the derris trifoliate, a climbing vine found in the mangrove forests of Asia, Africa and the Pacific islands containing rotenone is used to eliminate competitors in fish ponds. The plant is now also being studied by the biotechnology industry for other uses.[42]

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[38]Josephine Axt et al, *Biodiversity, Indigenous Peoples, and Intellectual Property Rights*, A Report by the Congressional Research Service to Congress (1993), at 35-36.

[39]*Id.*

[40]Southeast Asia Regional Institute for Community Education, *Intellectual Property Rights and the Indigenous Peoples* (1993), hereafter referred to as SEARICE, 9.

[41]CONSERVING INDIGENOUS KNOWLEDGE, *supra* note 36.

[42]*Id.*

An example of how the misappropriation of indigenous knowledge may happen is through bioprospecting being conducted by both public and private institutions.

The National Cancer Institute of the United States, for example, is actively undertaking plant collection in different parts of the world.[43] It can be presumed that many of these collection efforts are premised on existing research which may include documentation of indigenous knowledge.

NCI collections are undertaken in accordance with the following procedures and principles:[44]

> (1) The NCI contractors generally work closely with source country organizations possessing expertise in plant collection and taxonomy, such as botanical institutions, universities, pharmaceutical research institutes, and appropriate goverment agencies.
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> (2) Scientists from these organizations collaborate in field collection activities and taxonomic identifications, and their knowledge of local species and conditions is indispensable to the success of NCI collection operations.
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> (3) The organizations also provide facilities for the preparation, packaging, and shipment of the samples to the NCI, and the organizations' staff provide invaluable assistance to the NCI contractors in obtaining the necessary collection and export permits.
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> (4) The collaboration between the source country organizations and the NCI collection contractors has, in turn, provided support for research activities by source country scientists in expanding the inventory of local species and the documentation of their uses. Voucher specimens of each species collected are deposited in the relevant source country national herbariums, thereby expanding the holding of their flora. In addition, the

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[43]Gordon M. Cragg et al, *Policies for International Collaboration and Compensation in Drug Discovery and Development at the United States National Cancer Institute, the NCI Letter of Collection,* in INTELLECTUAL PROPERTY RIGHTS FOR INDIGENOUS PEOPLES: A SOURCEBOOK, hereafter referred to as SOURCEBOOK, Tom Greaves ed., 83, 87-88.

[44]*Id.*

> NCI contractors provide training opportunities for source country personnel through conducting of workshops and presentation of lectures.
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> (5) The present contracts involve the collection of 1,200 samples of 0.3 - 1.0 kg. (dry weight) each per year, including different plant parts (e.g. bark, leaves, roots, stem, flowers, etc.). The contracts specify that collections should include numerous different species but that emphasis should be given to the collection of medicinal plants when reliable information on their identity and use is available. Detailed documentation of each sample is required, including taxonomy, plant part, date and site of collection, habitat, and when available, medicinal uses and methods of preparation used by the traditional healers.
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> (6) The priority given to the collection of medicinal plants and their uses by traditional healers is regarded as important, and collaborations have been established with several organizations involved in the study of traditional medicines. Agreements have been signed between the NCI and some organizations.

Customary Norms on Indigenous Knowledge

The accepted view on how indigenous peoples perceive indigenous knowledge is that such knowledge cannot be owned and is to be freely shared.[45] This cultural refusal to claim ownership is a major obstacle preventing the use of intellectual property laws by indigenous communities seeking to protect their rights to their traditional knowledge. As RAFI observes:

> There are approximately 15,000 culturally-distinct ethnic communities in the world today and, while the diversity to be found among these cultures is both marvelous and extra-ordinary, most indigenous peoples share a sense of communal responsibility for their land and its living resources. It is rare to find a deeply rooted culture that permits a patent-like monopoly over the products and processes of life. It is largely because of this communal tradition that many indigenous peoples look

[45] *See* SEARICE, *supra* note 40 at 4.

> upon intellectual property -- especially related to life forms -- as a kind of blasphemy.[46]

However, this view of "communal ownership" should be qualified. While indigenous peoples generally do not claim to "own", in a western sense, their knowledge, this refusal does not mean that there are no rights attached to such knowledge.

There is enough anthropological data to support the conclusion that such rights exist, that, in fact, much of the information and knowledge considered indigenous and traditional are not really freely shared with just any person within or outside particular communities. Instead, indigenous knowledge is classified into different categories according to the nature, characteristics, utility and even form of the particular information. The rights of the members of the community as well as those outside of the community, to share particular knowledge is dependent on these categories. Thus, the knowledge of the medicine man or shaman[47] as well as that of religious and political leaders is usually restricted to those called or chosen to this position. On the other hand, information concerning seed varieties and agricultural practices are more freely shared.

The error in concluding that there are no rights over indigenous knowledge because they are communally held is similar to the mistake of those who assert that indigenous peoples "communally own" their lands. The fact is that "communal ownership" does not exclude private rights (the community can exclude others outside) as well as individual rights (some forms of property are exclusively utilized by members of the community who may exclude even other members).[48] Among the Kalingas, for example, specific fields belong to specific clans.[49]

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[46]CONSERVING INDIGENOUS KNOWLEDGE, *supra* note 36 at 3.

[47]RAFI observes that there is an argument over whether the ritual used by traditional healers is intended to allow the healer exclusive monopoly over the use of medicinal plants and soils or whether such rituals are for the purpose of strengthening the psychological capacity of the patient to surmount illness. *Id.*

[48]*See* Antonio La Vina and Prima Liza Tumbukon, *Recognition of Communal Title: A Legal Imperative,* PHIL. L. J. (1992).

[49]*See* Roy Franklin Barton THE KALINGAS (1969).

In the same way that "communal ownership" of lands has been misunderstood, the perception that indigenous communities do not recognize private and individual rights over knowledge and information is based on a lack of documented data over such rights. Indeed, several anthropologists interviewed unanimously said that (1) the issue of rights over knowledge has rarely been looked at by anthropologists and that this probably explains why very little documentation exists, and (2) in their own experience, they can cite many examples of community as well as individual rights over knowledge and information, which in fact frequently includes the right to exclude others within and outside the community.

Traditional Healers: Monopoly of Information

Ritual and magic are essential elements in traditional healing practices of many indigenous communities. Their presence is probably the nearest thing to intellectual property rights (IPR). Through ritual, the traditional healer controls the use of knowledge "by connecting the use of a particular treatment with rituals and magic" which he or she alone can perform.[50] Thus, another member of the community would believe that a treatment would not be effective unless accompanied by the healer's ritual.[51]

The Babaylans of the Manobos, for example, clearly restrict information and knowledge on healing rituals to themselves. Violating this exclusionary norm subjects the infringer to social ostracism as well as a threat that the *Diwatas* (spirits) will punish him or her.[52]

To become a healer or priest is a calling that not all persons within the indigenous community are called to or are qualified. In Kalinga society, for example, the priesthood is almost entirely in the hands of women whose entry is always referred to as a "call" shown by signs like sleeping badly, dreaming, growing thin, lack of

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[50]Axt *et al*, *supra* note 38, at 34.

[51]*Id.*

[52]Interview with Dr. Erlinda Burton, *supra* note 35. *See* also Erlinda Burton, THE IMPACT OF MODERN MEDICAL INTERVENTION IN THE AGUSAN MANOBO MEDICAL SYSTEM OF THE PHILIPPINES (1983).

appetite and other signs. The rituals are said to be taught to the priestess by the gods themselves.[53]

D. Indigenous Knowledge and Intellectual Property Rights

What is incompatible about the concept of IPR with indigenous knowledge is not so much that the latter is freely shared but the very fact that "ownership" is claimed over it by human beings. It is this cultural refusal to claim ownership over knowledge - as well as many natural resources - that makes resort to IPR rules, as a means of protecting rights to indigenous knowledge, objectionable to many Asian indigenous peoples.

On the other hand, even in cases where information and knowledge is usually shared, many indigenous peoples rightly look with suspicion at efforts by outsiders to document such knowledge and information. Their historical experience - of their lands and minerals taken away from them - justifies this skepticism. As McGowan and Udeinya observe:

> The resources of indigenous peoples have long been a target of state governments and commercial enterprises. Gold, timber, crops, land, oil, minerals, water, fisheries and art have all been sought or taken from native peoples. Now indigenous knowledge - of complex healing systems combining plant medicines, local ecology and spiritual care - is yet another resource being taken and used by others. For many indigenous peoples, it looks like more of the same. Many indigenous peoples and healers refuse to share their cultural knowledge with outsiders, viewing this use of their cultural knowledge as yet another resource appropriation withous permission, payment, recognition or proper respect.[54]

This skepticism is reflected, for example, in knowledge about agriculture - particularly folk seed varieties. Most indigenous peoples as well as farmers have traditionally shared seeds freely with each other and with their neighbors. However, the increasing private control and manipulation of seeds by private

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[53]Barton, *supra* note 49.

[54]Janet McGowan and Iroka Udeinya, *Collecting Traditional Medicines in Nigeria: A Proposal for IPR Compensation*, in SOURCEBOOK, *supra* note 43, at 57, 60.

companies for commercial gain is beginning to change this. The result is that many indigenous communities are now reluctant to share their folk varieties freely. While this may be a sad development, it is also necessary. Indeed, the starting point for protecting indigenous knowledge is simply by refusing to share information with outsiders.

Indigenous peoples throughout the world are beginning to see that the protection of indigenous knowledge is intimately linked with the concept of IPR. In the Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples, the indigenous peoples present declared that:

> cultural and intellectual property are central to the right of determination and that, although the knowledge of indigenous peoples is of benefit to all humanity, the first beneficiaries of indigenous knowledge must be the direct indigenous descendants of such knowledge.[55]

The Declaration recognizes that:

> Indigenous Peoples are capable of managing their traditional knowledge themselves, but are willing to offer it to all humanity provided that their fundamental rights to define and control this knowledge are protected by the international community.[56]

In sum, as a Maori leader articulated it, the most fundamental intellectual property right of the indigenous peoples is the "right to define what their intellectual property is: the right to determine the extent and the meaning of the body of knowledge which shapes, and is in turn shaped, by their cultural heritage."[57]

Whether the existing Philippine IPR laws conform to this fundamental right is the subject of the next section of this Research Report.

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[55]Darrell A. Posey, *International Agreements and Intellectual Property Right Protection for Indigenous Peoples,* in SOURCEBOOK, *supra* note 43, at 223, 237.

[56]*Id.*

[57]SEARICE, *supra* note 40, at 23.

II. INDIGENOUS KNOWLEDGE AND PHILIPPINE IPR REGIME

Because of the colonial history of the Philippines, the prevailing intellectual property rights (IPR) regime traces its roots from the western model of intellectual property rights. The only significant difference between the IPR systems of the North and those of Asia is the treatment of national interest. Asian IPR systems sometimes exclude or restrict the recognition of IPR where fundamental national interests are involved.[58] In the Philippines, for example, the law provides for compulsory licensing of certain intellectual properties.[59]

The emphasis of these IPR systems has always been individual interest and national interest and not the interest of specific communities in the state. Unfortunately, national interest - often linked to the interests of elite economic classes - is not equivalent to the interest of communities. Indeed, historically, national interest has often collided with the interests of local communities, particularly indigenous peoples.

The IPR laws relevant to the question of indigenous knowledge and the challenges posed by biotechnology are the laws on patents, copyright, trade secrets and trade marks.

Characteristics of Philippine IPR Laws

Given this original intent, the IPR system in the Philippines is characterized by an emphasis on individualism on the one hand and by statism, *i.e.*, the primacy of state interest, on the other.

Philippine IPR laws are individualistic, designed to recognize and reward individual inventors. Like western IPR systems, their major objective is to ensure that the rights of inventors and those who support them are protected.

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[58]*See* generally Gunda Schumann, *Economic Development and Intellectual Property Protection in Southeast Asia*, in INTELLECTUAL PROPERTY RIGHTS IN SCIENCE, TECHNOLOGY AND ECONOMIC PERFORMANCE, Frances M. Rushung & Carol Brown eds., (1991), at 157.

[59]REP. ACT NO. 165 (1947), secs. 34 - 36 as amended, hereinafter referred to as REP. ACT NO. 165 and PRES. DECREE NO. 285 (1973) as amended by PRES. DECREE NO. 400 (1974).

The IPR laws emphasize national and state interest founded on the belief that IPR systems must serve the interest of the nation state.

Like many developing countries, the Philippines maintains generally a less extensive system of intellectual property protection. Most Asian countries insist on the right to design IPR systems to specific national circumstances. This differential treatment has created friction under international trade laws. The Philippines has been repeatedly listed by the United States as a violator of IPR and economic pressures have been exerted to make the Philippines comply with a stricter enforcement of IPR norms. This is also one reason why developed countries insisted on the TRIPS Agreement under GATT.

In general, developing countries have seen IPR as a barrier to development, restricting the ability of industry to innovate and imitate.[60]

"Compulsory licensing" laws usually require that inventors make their invention available to all those prepared to pay. In some cases, compulsory licenses may be awarded if the inventor fails to make the invention adequately available to society. Under this system, the right of the patent holder to charge royalties for the use of the invention and, presumably, allow inventors to seek a fair return on the research investment, is respected.

A. The Patent System in the Philippines

The patent system in the Philippines, as a result of its colonial history, traces its origins to American law.

Definition of a Patent

A patent is considered a form of industrial property right designed to legally protect the invention which must generally be new, non-obvious and commercially useful. The granting of a patent results in the patentee having a monopoly right over the

[60]Schumann, *supra* note 58.

invention. With such right, the holder of the patent can exclude others from making, using or selling the invention for a period of seventeen years from the time it was granted.[61]

What is Patentable?

For an invention to be patentable, Philippine law requires, like western IPR systems, that: the invention must be useful and novel (not publicly known or used by others), and must satisfy the standard of inventiveness or "non-obviousness". Patentable subject matter may include any new and useful process, machine, or composition of matter. In this context, mere discoveries are not patentable.

New and useful machines, manufactured products or substances, processes or improvements thereon are patentable while the following are not: processes not directed to the making or improving of a commercial product; mere ideas; scientific principles or abstract theorems; those contrary to public order, morals, public health, or welfare; inventions known or used by others in the Philippines or published and patented in the Philippines or in another country for more than a year prior to the application for patent; useless devices; methods of doing business, an improvement in a device resulting from mere mechanical skill.[62] The above enumeration reveals the following conclusions: (a) on the basis of the texts of the legal provisions alone, life forms are not patentable, and (b) the works which are patentable remain principally industrial in nature.

The widening of the scope of patent protection in the North have implications for developing countries like the Philippines:

First, even if the Philippines continues to exclude genetically engineered life forms from the scope of patent protection, this restriction may be meaningless in the international and global context. Indeed, an exclusionary rule may work against

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[61]REP. ACT NO. 165, *supra* note 59, sec. 21.

[62]*Id.*, secs. 7-9.

the interest of countries like the Philippines which are investing heavily on biotechnology as a future industry.[63]

Second, the internationalization of IPR standards mandated by TRIPS may pressure the Philippines and other developing countries to recognize patents from the developed countries even when these patents cover subject matter not patentable in their respective IPR systems.

Third, the present text of the patent law is not - as the experiences of the United States and Europe have shown - an absolute barrier to the widening of the scope of patent protection.

It remains to be seen how the Philippines will respond to this development. What is certain is that in the near future, if it is not happening now, patent applications for genetically modified life forms will be filed.

Procedure for Filing and Enforcement

An application for a patent may be filed for any of the following matters: (a) inventions, (b) industrial designs; and (c) utility models.[64]

The process for obtaining a patent is very complex and cumbersome. It involves filing, acceptance, opposition, grant and maintenance. The application requires compulsory substantive examination and it must comply with the rules on application, petition for invention patent, specification, oath of inventorship, drawings, model and specimen. Publication is essential. Other extensive requirements must be complied with.[65]

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[63]The Philippines is committed to develop biotechnology as a "leap-frog" strategy, i.e. some policy makers believe that there is no need to go through the industrialization phase but that the national economy should concentrate on developing knowledge industries as the cornerstone of economic development. *See* PROCEEDINGS: WORKSHOP ON STRENGTHENING KNOWLEDGE INDUSTRIES/ INFRASTRUCTURES IN THE THE PHILIPPINES, sponsored by the National Security Council, 2-6 November 1993.

[64]Rules of Practice in Patent Cases, Rule 30.

[65]REP. ACT. NO. 165, *supra* note 59 and Rules of Practice in Patent Cases.

Enforcing the rights to a patent when violated is even more difficult. Weaving through the patent system involves engaging in administrative and judicial litigation. Enforcement of the patentee's rights could range from defending one's patent from cancellation to civil and criminal actions for infringement.[66]

In sum, the filing and registration of a patent as well as enforcing rights when it is granted will require substantial financial, administrative and legal resources on the part of the patent applicant or holder.

B. Philippine Copyright Law

Copyrights were traditionally designed to protect works of art and literature. Copyright as a form of intellectual property is unlike patents in that it does not protect ideas but rather their expression.[67]

The following works are protected by the copyrights law: books; periodicals; lectures, sermons, addresses, dissertations prepared for oral delivery; letters; dramatic, dramatico-musical, and choreographic works; musical compositions; artistic works and their models or designs; reproductions of a work of art; works of applied art whether patentable or not; maps, plans, sketches, and charts; drawings and plastic works of a scientific or technical character; cinematographic or photographic works; computer programs; other literary, scholarly, or artistic works considered as intellectual creations by reason of their selection and arrangement. To qualify for copyright, the work must satisfy the requirement of originality of the idea expressed. The copyright subsists during the lifetime of the creator and for fifty years after his death. The copyright owner is entitled to protection from unauthorized use, reproduction, distribution, sale, and adaptation.[68]

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[66]*Id.*

[67]*See* Michael A. Gollin, *An Intellectual Property Rights Framework for Biodiversity Prospecting,* in BIODIVERSITY PROSPECTING, Walter V. Reid *et. al.* (1993), at 159, 175.

[68]PRES. DECREE NO. 49 (1972).

Enforcing Copyrights

Copyright is obtained from the moment of creation and no formal requirement is necessary to acquire the rights recognized by law. However, the right to ask for damages in case of infringement is not available to the copyright owner if the registration and deposit requirements are not complied with.[69]

Copyright infringement results in liability for the violator who may be ordered to stop the acts of infringement, pay damages, and deliver for confiscation and destruction the infringing texts, materials or devices. Criminal remedies may also be resorted to. However, all these remedies, as in enforcing patent rights, require substantial financial and legal resources.

C. *The Law on Trademarks and Trade Secrets*

Trade secrets serve as an alternative to patent protection. Trade secrets can be availed of to protect valuable knowledge which does not meet the requirements of patentability. A trade secret can continue perpetually so long as the formula, information, or device remains secret. In plant breeding, for example, the lines used to produce a hybrid may be defended as secrets indefinitely. The owner of a trade secret may license, disclose, or assign the right to use the trade secret, subject to an agreement to hold the information in confidence.[70]

However, the law on trade secrets in the Philippines is largely undeveloped. Trade secrets are not encouraged because monopoly of knowledge and information is perceived as a barrier to national development. Furthermore, criminal sanctions are available only in a limited manner - if the person who revealed the secret is an employee or worker of the manufacturer.[71]

A trademark is any name, symbol, or label adopted and used by manufacturers to identify their goods and distinguish them from

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[69]*Id.*

[70]Gollin, *supra* note 67, at 163-165.

[71]THE REVISED PENAL CODE, art. 292.

others.[72] It subsists for twenty years from registration with an option for renewal.[73]

Trademark law can be useful in cases where ecolabelling is appropriate. Trademarks can protect the competitive advantage of the company providing the green product, and the revenues can be returned to the source of the product through licensing and other contractual arrangements. Indeed, a product that is perceived to have been derived in a sustainable way can enjoy a competitive advantage among consumers around the world simply because it is perceived as "green". One example where the approach has worked is in Brazil where indigenous peoples raised funds by sustainably producing nuts and materials for cosmetic products.[74]

In sum, a trademark attesting to the authenticity of indigenous peoples' work would be useful if the trademark were widely known among consumers.

D. Using IPR Laws to Protect Indigenous Knowledge: Limitations and Possibilities

This survey of intellectual property rights laws clearly shows that using IPR laws to protect the rights of indigenous peoples to their traditional knowledge will at best be very limited. Indeed, they were clearly not conceived to recognize the intellectual contribution of indigenous peoples.

The Patent Law and Indigenous Knowledge

There are three classes of problems that must be confronted in using the patent law to protect the rights of indigenous peoples. First, and probably most important, is the cultural obstacle to the claiming of ownership over knowledge of genetic and biological resources. Second, the incompatibility of the forms and expression of indigenous knowledge with the requirements of patentability. Third, the practical problems of applying for a patent as well as protecting and enforcing rights once granted.

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[72]REP. ACT NO. 166 (1947), sec. 38.

[73]*Id.*, sec. 12.

[74]Gollin, *supra* note 67, at 173-174.

Ownership By Indigenous Peoples Over Life-forms

Most indigenous peoples reject the proposition that knowledge of life-forms, whether natural or altered, can be owned. They share this belief with others who oppose such claims on ethical, political or economic grounds.[75]

The rejection of claims of ownership over knowledge of living matter flows logically from the refusal of many indigenous peoples to claim, at least in the western sense, ownership over natural, genetic and biological resources themselves. If even ownership over living things is not accepted, the more so with the concept of ownership over living products and life processes including the regeneration of life.

Unless indigenous peoples change their cultural worldview with respect to what can and what cannot be owned, it would be very difficult for indigenous communities to even make the first step of all IPR mechanisms - the filing of a claim of ownership. To some extent, this change is happening in the area of land claims where many indigenous communities are now pressing claims of ownership as against the state as well as private persons.[76]

The Patentability of Indigenous Knowledge

Another obstacle to using IPR laws to protect the rights of indigenous peoples is the issue of whether or not indigenous knowledge fulfills the criteria of patentability - novelness, utility and inventiveness. One view is that since patents (and copyrights as well) are available only for new knowledge, these mechanisms cannot be used to protect traditional knowledge which is already existing knowledge.[77]

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[75]*See* The Crucible Group, PEOPLE, PLANTS, AND PATENTS (1994), 56-57.

[76]In some cases, indigenous peoples even see ownership claims over their territory or ancestral domains as taboo. In one case handled by the Legal Rights and Natural Resources Center, a Philippine nongovernmental organization, a ritual of cleansing had to be undertaken by the indigenous community after they made such a claim. Interview with Atty. Augusto Gatmaytan, 15 February 1995, Manila, Philippines.

[77]*See* Tom Greaves, *IPR, A Current Survey,* in SOURCEBOOK, *supra* note 43, at 1, 8-9.

From a purely legal point of view, however, this is not an insurmountable obstacle. An argument could be made that indigenous knowledge - at least in certain cases - fulfills the criteria of patentability. Besides the conflict between international trends in IPR and the rights of indigenous peoples has emerged precisely because there is still a substantial amount of knowledge and information which remains within the limited confines of indigenous communities - and not shared by others.

A related problem is that patents (and copyrights) are conferred on individuals (or corporations). Patents and other IPR laws are biased toward individual and not community ownership.[78] Indeed, the traditional conception of IPR is that they grant private rights to individuals to the exclusion of others within a society. Indeed, under IPR laws, the concept of community invention is not recognized.[79] What is usually required is that an inventor be an individual or a group of named individuals.

This bias for individual ownership is also not an insurmountable obstacle to patenting indigenous knowledge. Fundamentally, patents (and other IPR laws) grant private rights and not necessarily individual rights. As in the case of land, there is nothing in IPR laws which prohibits communities from claiming ownership over ideas.

Communities must, however, resort to conventional legal means to acquire juridical personality. Assuming that they find an acceptable mode (such as incorporation), they would still have to contend with the issue of how to hold the IPR rights granted. This is especially problematic if the knowledge patented is shared by different communities.

These questions indicate not so much the impossibility of patenting indigenous knowledge but emphasizes the practical difficulties of resorting to patent law as a mode of protecting rights to this knowledge.

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[78]*Id.*

[79]*See* Gurdial Singh Nijar, *A Conceptual Framework and Essential Elements of a Rights Regime for the Protection of Indigenous Rights and Biodiversity,* Biodiversity Convention Briefings, Third World Network (1994), at 2-3.

RAFI has identified the following as obstacles in using patent laws for protecting rights to indigenous knowledge:

> (a) Preparing the Application includes the work of isolation, urification and description of the biomaterial. Because of the level of technology required, indigenous peoples would probably have to trust or hire experts to do the work.
>
> (b) Access to and cost of highly specialized legal advice from patent lawyers on biomaterial are expensive.
>
> (c) The forms to be filled up are complex and fees range from a few hundred to a few thousand dollars which must be paid in advance of any anticipated royalties.
>
> (d) Communities will probably find it too expensive to apply and protect patents in different countries.
>
> (e) Indigenous communities may find the cost of depositing biomaterial to be too high or may be concerned that such deposit could lead to misuse.
>
> (f) Annual maintenance fees generally increase as the patent wears on. Patents of communities could lapse easily for nonpayment.
>
> (g) Strategies for licensing patents to others are central to the effective maximization of benefits from a patent. However, most likely, the communities will find it difficult to judge the fairness of licensing proposals and will not be able to offer "trades" with prospective partners.
>
> (h) Since IP falls under civil, not criminal law, it is up to the patent holder to police and defend the patents. This can be extremely expensive and time consuming.[80]

Practical Difficulties of Using Patents

The more difficult set of obstacles to using patent laws to protect rights to indigenous knowledge are the practical problems

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[80]RAFI, THE IMPACT OF A WESTERN MODEL OF INTELLECTUAL PROPERTY (1994).

associated with the procedures of (1) filing and registering the patent claim, and (2) when granted, protecting the rights conferred.

As noted above, the process of filing, registration and enforcement is complex, cumbersome and expensive.

In sum, using the patent system will demand unreasonably high technical, financial, administrative and legal resources on the part of indigenous peoples. Clearly, by themselves, most indigenous peoples do not have these resources. The only way that they may successfully use the patent system is if they link up and collaborate with individuals or groups with these resources. Indeed, even if they have the necessary resources, it is probably not advisable from a cost-benefit point of view to use these resources for IPR protection.

Other IPR Laws and Indigenous Knowledge

The difficulties and obstacles to using patent laws to protect the rights of indigenous peoples to their traditional knowledge also applies to other IPR laws such as copyrights, trade secrets and trade marks. In particular, the cultural barrier of refusal or reluctance to claim ownership over knowledge of living things will be a formidable obstacle.

Theoretically, communities can document their indigenous knowledge in some tangible medium and obtain a copyright. Ethnobotanists may also write and publish articles or books on traditional knowledge and share the copyright with indigenous peoples.[81]

In copyright law, as in the case of patents, the same problem of individual vs. community claim of ownership is present. The "author" of traditional knowledge is rarely an individual but a community.[82] Moreover, the period of protection, if indigenous knowledge is to be fully protected, should continue as long as the community survives. This kind of "perpetual" protection would be incompatible with the copyright system. Furthermore, the

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[81]Axt *et. al., supra* note 38, at 47.

[82]*See* SEARICE, *supra* note 40, at 21-22.

copyright would only protect the specific expression, not the knowledge expressed. Under copyright laws, others could still use the knowledge they discover or learn from books, articles, films, etc.[83]

The law on trade secrets may also be resorted to by indigenous peoples. Among others, a traditional healer's knowledge of the medicinal use of a plant or of a method passed down over generations might be protected as a trade secret. However, the utility of trade secrets is limited because of difficulty in establishing, protecting, and enforcing.[84]

Theoretically, indigenous knowledge could be considered as a trade secret if others within and outside the community are excluded. However, once this knowledge is shared or documented and published, by an anthropologist, for example, trade secret rights are extinguished.[85]

Finally, utilizing the law on trademarks is also not a promising mode of protection. First, they do not meet the needs of communities to protect works that have already been widely copied. Second, trademarks do not protect indigenous knowledge related to biological products or processes but protect only non-living works.[86]

Recapitulation: Using IPR Laws

Resorting to the prevailing IPR laws is not, on the whole, a promising strategy for indigenous peoples to take. IPR, unfortunately, as conventionally defined, is inappropriate to protect indigenous knowledge. While small windows of opportunity are available in using IPR laws, applying the conventional approaches to indigenous knowledge is likely to do more harm than good.

On the theoretical plane, however, there is nothing inherent in IPR laws which prevents their use by indigenous groups.

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[83]Axt et. al., *supra* note 38, at 47.
[84]Gollin, *supra* note 67, at 163.
[85]*Id.*
[86]Axt *et. al.*, *supra* note 38, at 47.

Working with other sectors - such as public agencies, academic institutions, or nongovernmental organizations, indigenous peoples might succeed in using IPR mechanisms to protect indigenous knowledge.

However, to successfully weave through the IPR system, indigenous peoples might be compelled to make fundamental changes in their worldview. Moreover, the costs of engaging in the system would probably outweigh the potential economic benefits. In this sense, the decision to pursue IPR rights could distract attention and energy from more useful initiatives.

The next section will deal with these possibly more promising initiatives and strategies.

III. THE INDIGENOUS PEOPLES AND THE IPR CHALLENGE: RESPONSE STRATEGIES

The IPR challenge to the indigenous peoples is not for indigenous peoples to assert ownership over knowledge of living things. The challenge is how, under the shadow of the widening and strengthening of IPR on the international as well as the national level, they can best nurture and protect indigenous knowledge.

At its core, the response to the IPR challenge must consist of efforts to affirm responsibility and control over traditional knowledge and to things produced through its application. The ultimate objective of these efforts is "to preserve meaning and due honor for elements of cultural knowledge and to insure that these traditional universes, and their peoples, maintain their vitality."[87] Other objectives are "to manage the degree and process by which parts of that cultural knowledge are shared with outsiders and, in some instances, to be justly compensated for it."[88]

Towards this end, the response framework to the IPR challenge should be one that allows indigenous peoples "to ensure

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[87]*See* Tom Greaves, Introduction, in SOURCEBOOK, *supra* note 43 at, ix.
[88]*Id.*

the intellectual integrity of their on-going innovations rather than to obtain intellectual property."[89] According to RAFI,

> Ultimately, a combination of initiatives, that could collectively be termed the "intellectual integrity framework" may prove most appropriate.[90]

RAFI proposes a spectrum of initiatives to realize this, including[91]:

> (a) Intellectual Protection - The rights of indigenous peoples to their traditional knowledge should be protected through different mechanisms within and outside the IPR system. Indigenous peoples should not be compelled to endorse nor support IPR systems in order to have their intellectual integrity protected.
>
> (b) Intellectual Recognition - The utility of indigenous knowledge should be recognized. Indigenous peoples must work with other sectors to ensure that credit, and compensation where appropriate, is given to indigenous communities for their contribution to the conservation and development of biodiversity.
>
> (c) Intellectual Development - Indigenous peoples must be supported so that they can extend their existing systems of information-exchange and cooperation. Linkages between indigenous peoples, among themselves, and with other sectors - such as farmers, scientists and anthropologists - are essential to attain this objective.
>
> (d) Intellectual Exchange - Indigenous peoples should actively participate in the social decision-making process that characterizes the IPR debate. They should discuss the issue among themselves and with others, at the community, national, regional and international level.

Territorial Integrity and Intellectual Integrity

The lynchpin, the starting point and premise, of all IPR-related initiatives must be the recognition of the integrity of the

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[89] *See* RAFI, *supra* note 36, at 36.

[90] *Id.*

[91] *Id.*

territory of indigenous peoples. Without a comprehensive and effective recognition of the rights of indigenous peoples to control access and utilization of their ancestral lands amd domains, all efforts to realize the intellectual integrity framework is irrelevant and bound to fail. Moreover, if not linked to the struggle to gain territorial integrity, all initiatives to respond to the IPR challenge would ultimately be diversionary.

The primary strugle then of indigenous peoples continues to be their struggle for territorial integrity. Indeed, the IPR challenge must always be seen in this context for it to be meaningful for indigenous peoples. Initiatives to deal with this challenge must support the primary struggle. The fora provided by the IPR debate should therefore be seen as additional and new opportunities for insisting on territorial recognition.

Territorial integrity includes the following elements: (1) the delineation of ancestral lands and domains; (2) the recognition that indigenous peoples communally hold and control (not necessarily "own") these lands as against the state and other private persons; (3) the acknowledgement that within indigenous territory, the customary law of the indigenous community must generally be followed; and (4) in cases where history justifies it, the recognition of political autonomy.

The ultimate success of an intellectual integrity framework, as a response to the IPR challenge, is dependent on the degree of success that indigenous peoples attain in realizing these elements of territorial integrity. At the same time, the IPR challenge provides new venues and fora for their realization.

A look at specific national and international response strategies reveals how the IPR challenge presents new opportunities for indigenous peoples to assert their claim for territorial integrity.

A. National Response Strategies

Response strategies to the IPR challenge at the national level may include: (1) the enactment and enforcement of regulations to govern bioprospecting and access to genetic resource;

(2) using existing IPR laws, limited as they are; and (3) legislating new IPR norms and mechanisms such as inventor's certificate, a law protecting folklore, and recognizing community intellectual property rights.

1. Access Regulations and Bioprospecting

One immediate response of indigenous peoples to the IPR challenge is to lobby and work for the immediate formulation, enactment and enforcement of regulations governing access to the genetic resources within their territory. It is politically possible to achieve this because it is also in the interest of the state that these resources be protected from both destruction as well as piracy that may result from bioprospecting.

At present, bioprospecting - defined as the research, collection and utilization of biological and genetic resources for purposes of applying the knowledge derived therefrom to scientific and/or commercial purposes - is being undertaken by both foreign and local collectors.

A welcome development is the approval of Executive Order No. 247, Series of 1995 which regulates bioprospecting. The Order is far from perfect. Indeed, some have criticized it for even allowing bioprospecting at all. Unfortunately, the reality is that bioprospecting is happening and it is being done by Filipinos themselves - usually for and in behalf of a foreign company. A major goal, therefore, of the regulation is to ensure that all information about bioprospecting be made available to the public, that before the activity is undertaken, indigenous and local communities have given their prior informed consent, and that both the state and the communities benefit from its result. Above all, what the draft Executive Order does is to make the activity of bioprospecting transparent so that interested parties may make decisions and act on them with the proper information.

Some of the important provisions of the Order are the following:

DEFINITIONS

"INDIGENOUS CULTURAL COMMUNITIES" refers to a group of people sharing common bonds of language, customs, traditions and other distinctive cultural traits, and who have, since time immemorial, occupied, possessed and utilized a territory except when such possession is either prevented or interrupted by war, force majeure, displacement by force, deceit or stealth, or other usurpation.

"ANCESTRAL DOMAINS" are all lands and natural resources occupied or possessed by indigenous cultural communities, by themselves or through their ancestors, communally or individually, in accordance with their customs and traditions since time immemorial, continuously to the present except when prevented or interrupted by war, force majeure, displacement by force, deceit or stealth, or other usurpation. It includes all adjacent areas generally belonging to them and which are necessary to ensure their economic, social and cultural welfare.

"LOCAL COMMUNITIES" refers to the basic political unit wherein the biological and genetic resources are located.

PROVISIONS ON CONSENT

INDIGENOUS COMMUNITIES: No prospecting of biological and genetic resources shall be allowed within the ancestral lands and domains of indigenous cultural communities without the prior informed consent of such communities. For purposes of this Executive Order, this consent must be obtained in accordance with the customary laws of the concerned community.

LOCAL COMMUNITIES: No prospecting of biological and genetic resources shall be allowed without obtaining the prior informed consent of the affected local communities.

PROCEDURE: A copy of the proposal must be submitted to the recognized head of the local or indigenous cultural community or communities that may be affected. No action on the proposal shall be made until after 60 days has lapsed after a copy of the proposal is received by the persons concerned. The purpose of this period is to give the local or indigenous cultural community an opportunity to oppose such application on the basis of possible harm that the collection or the research or its results may do to the ecological balance of the area or to the culture and way of life

of the community. Written and other positive proof of consent must be likewise presented to the Inter-Agency Committee before such proposal is acted upon. The Inter-Agency Committee shall prescribe guidelines to facilitate this process.

RESPONSIBILITY OF GOVERNMENT AGENCY: The Inter-Agency Committee, mandated to regulate bioprospecting, shall insure that the rights of the indigenous and local communities wherein the collection or the research is being conducted are protected, including the verification that the consent requirements-sections are complied with. The Inter-Agency Committee, after consultations with the affected sectors, shall formulate and issue guidelines implementing the provisions on prior-informed consent.

OTHER RELEVANT PROVISIONS

COMPENSATION: There must be an agreement on royalties to be paid to the national government and local or indigenous cultural community in case commercial use is derived from the biological and genetic resources taken. Where appropriate and applicable, other forms of compensation may be negotiated. In cases where the product is derived from biological and genetic resources endemic to the Philippines, a stipulation requiring compulsory licensing of the patent in the Philippines shall be required.

INTELLECTUAL PROPERTY RIGHTS: There must be a statement to the effect that the parties shall respect and acknowledge the rights of indigenous cultural communities and other Philippine communities to their traditional knowledge and practices. Such rights shall be respected and rewarded when this information is directly or indirectly put to commercial use.

REPRESENTATION: Among others, the regulatory body shall include the following members: (a) A representative from a People's Organization (PO) with membership consisting of indigenous cultural communities and/or their organizations to be appointed by the POs through a process agreed among themselves and through the endorsement of the Philippine Council for Sustainable Development, and (b) A representative from a Non-government Organization (NGO) to be appointed by NGOs active in the protection of biological diversity and/or the issue of biotechnology. Such representative shall be chosen through a process agreed upon by the concerned NGOs and

> through the endorsement of the Philippine Council for Sustainable Development.

The Order requires collectors to enter into a contract with an inter-agency governmental body which includes representation from non-governmental and indigenous peoples' organizations. However, as part of the process of giving consent, indigenous communities can compel the collector to enter into a Materials Transfer Agreement - containing provisions on compensation, capacity building, technology transfer, etc. - with them.

It should be noted that there are companies who specialize in using indigenous knowledge to facilitate prospecting. Shaman Pharmaceuticals, for example, explicitly states that:

> it is committed to developing new therapeutic agents by working with indigenous and local people of tropical forests and in the process contributing to the conservation of bio-cultural diversity.[92]

Shaman is also on record that it is directly acknowledging ethically and financially the intellectual property rights of indigenous peoples with whom it works. Their strategy is to immediately compensate indigenous peoples for their contribution.[93]

Whether Shaman will live up to its commitments is a question that remains to be seen. Whether the advantages of entering into an agreement with a company such as Shaman outweigh the dangers is a question every indigenous community must confront.

The point, however, is that the national legal system must provide for minimum rules by which these contractual arrangements can be made. Regulation of access and bioprospecting is one way this can be provided for.

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[92]Steven R. King and Thomas J. Carlson, *Biological Diversity, Indigenous Knowledge, Drug Discovery and Intellectual Property Rights: Creating Reciprocity and Maintaining Relationships* (1993), at 2.

[93]*Id.*

Rules on access to genetic resources and bioprospecting is not THE ANSWER to the IPR challenge. It has, however, immediate utility. It can, if properly formulated and enforced, slow down the process of genetic and intellectual piracy. And it can give indigenous peoples some breathing space to acquire the needed capacity to make the right decisions.

The Case of Human Genetic Material

Collecting genetic materials from indigenous peoples, as is being done under the Human Genome Project[94], should be completely excluded from rules regulating access to genetic resources. Collecting and patenting human cell lines are entirely a different issue - ethically and politically.

With respect to any activity under this project that is presently being carried on in developing countries indigenous peoples must lobby and work hard for an absolute prohibition on such activity at least until they can make a more informed stand about the activity.

2. Using IPR Laws

In Part II, it was pointed out that using the IPR laws to protect the rights of indigenous peoples to their traditional knowledge is at best limited. Existing IPR laws are not only incompatible with the worldview of most indigenous peoples but also engaging in them requires legal, financial and administrative resources which most indigenous peoples do not have. Furthermore, if they do have such resources, it is better to spend them on the primary struggle of attaining recognition of territorial integrity.

The only way that existing IPR laws can be used by indigenous peoples is if they work together with public or private institutions, such as government agencies and non-governmental organizations, to acquire and defend patents, copyrights, trade secrets and trade marks. In any case, even in this instance,

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[94]*See Patents, Indigenous Peoples and Human Genetic Diversity*, RAFI Communique, May 1993.

indigenous communities who choose to engage in the IPR system must be willing to conform to the market and commercial premises of the system. This could include setting aside fundamental cultural and ethical beliefs.

However, one way of using the existing IPR laws - in a negative sense - is to lobby for the non-recognition of patents over lifeforms. A coherent argument for delaying such recognition is, as the Crucible Group pointed out:

> No country should be coerced into adopting an IP system for living materials. There are valid ethical and practical reasons why each country should be allowed to reach its own position and either adopt an existing mechanism for protection, create a new mechanism better suited to national interests, or encourage innovation by other means altogether.[95]

Indigenous peoples should also monitor developments in the national and international arenas, making sure that no patents, copyrights or trade marks are granted for knowledge which is based on indigenous innovation.

3. New IPR Laws

Another strategy in answer to the IPR challenge is to lobby and work for new laws on IPR, laws which provide for norms and mechanisms more compatible with the nature and characteristics of indigenous knowledge. Examples of these include the recognition of Inventor's Certificates and community intellectual property rights and the UNESCO Model Law on Folklore.

Inventors' Certificates

The Inventors' Certificate is an IPR option which, unlike other IPR laws, is not based on exclusive monopoly. It discards financial compensation altogether in favor of non-monetary awards and non-exclusive licensing arrangements. According to RAFI:

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[95]*See* The Crucible Group, *supra* note 76, at 54.

> Governments can establish Inventors' Certificates through incomplicated national legislation; they need only notify WIPO and GATT that this legislation exists. Forms of recognition or compensation can be determined either through legislation or through regulation, can vary by category or by case. Governments can adjust the terms of compensation to promote local innovations in domestic or export markets or to attract a foreign invention where access to that invention is deemed to be in the national interest.[96]

Inventors' Certificates permit the government the flexibility to: (a) vary the methods of recognition; (b) permit or exclude monetary compensation; (c) grant exclusive or non-exclusive licenses; (d) ensure that the patented technology be applied or manufactured nationally; (e) establish other transfer of technology conditions beneficial to the importing country;
(f) vary the period of protection; and (g) attach any other contractual provisions deemed beneficial.[97]

Model Law on Folklore

Another option is to lobby for the enactment of the Model Law on Folklore adopted in 1985 by UNESCO and WIPO (World Intellectual Property Organization). According to RAFI:

> This model law affords indigenous communities three unique elements that are especially appropriate to the protection of biological products and processes.
>
> First, "communities" (rather than specific individuals) can be legally registered as innovators; they can either act on their own behalf or as represented by the State.
>
> Second, community innovations are not necessarily fixed or finalized but can be ongoing or evolutionary and still be protected by intellectual property law.

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[96]RAFI, *supra* note 36, at 32.
[97]*Id.*

> Third, communities retain exclusive monopoly control over their folklore innovations as long as the community continues to innovate. [98]

The Model Law, however, has been interpreted to exclude scientific inventions. Based on the experience of the application of conventional patent laws, this is not an insurmountable objection. RAFI points out that existing IPR laws

> expressly excludes protection for plants, animals, pharmaceuticals, and chemicals, but many national patent offices have interpreted the law to permit the patenting of such innovations on the assumption that if legislators had known "then" what they know "now", they would not have made these exclusions.[99]

A similar argument could apply to the case of indigenous knowledge.[100]

Community Intellectual Property Rights

Another legislation that could be enacted is a law recognizing an alternative rights regime for indigenous knowledge.[101] In such a case, the claim of indigenous communities would differ from standard IPR claims which are characterized by individualism and commercialization. It is based on the premise that indigenous communities create collectively, thus, the whole community will be deemed the rightful owner of such creativity or innovation. Nijar points out that this alternative rights regime rejects "the notion of a one-shot concept of innovation which typifies industrial innovations."[102] It recognizes that:

> The creation of indigenous communities is often accretional, informal, and over time. The knowledge is continuous as it modifies, adapts and builds upon the existing knowledge. This wouldpave the way for the recognition of cumulative innovations

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[98] *Id.*, at 32-33.
[99] *Id.*
[100] *Id.*
[101] *See* generally Nijar, *supra* note 80.
[102] *Id.*, at 2-3.

> and knowledge. This will also mean that the innovation cannot be dealt with without regard to the past, present and future 'owners' and beneficiaries of the knowledge.[103]

Enacting New Laws: A Word of Caution

While the three alternative legal approaches discussed above hold promise for the protection of rights to indigenous knowledge, indigenous peoples must seriously weigh the consequences of supporting the adoption of any or all of them. Progressive as they appear, these alternative approaches are still, at their cores, IPR mechanisms. As such, they all require registration procedures as well as elaborate administrative arrangements. Moreover, even if rights to indigenous knowledge were granted under these alternative approaches, enforcing and defending these rights would still require substantial resources from communities. The option of course is to rely on the state for protection and enforcement. Given, however, the political economy of the Philippines, and the extent of the marginalization of indigenous peoples, it is probably not realistic to rely on such an option.

An additional factor to be considered is the fact that, as the Crucible Group observes, IPR policy and practice is in such a state of flux: "not only the rules of the game but the game itself may be changing as science and society grapple with the marketing of new biomaterials."[104] Given this state of IPR, governments as well as indigenous peoples should not enact policies or legislation that cannot be changed rapidly if new circumstances demand. Indeed,

> If governments are unable or unwilling to rescind or revise legislation, they would be ill-advised to look into new legislation now. If institutes or people's organizations find it difficult to review and revise policy, they should be equally cautious.[105]

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[103] *Id.*

[104] The Crucible Group, *supra* note 76, at 11.

[105] *Id.*, at 1.

B. International Response Strategies

The national strategies discussed in the preceding section must be accompanied by a coherent international plan of action. A regional response to the IPR challenge would be an essential step to formulate and implement such a plan.

RAFI has proposed different initiatives that may be valuable for indigenous peoples to support. Some of these initiatives are relevant only in the international arena. Others may also be applicable at the national level. These strategies are:

> FARMERS' RIGHTS: Farmers are understood to be the past, present and future generations of in situs agricultural innovators who have conserved and developed plant genetic resources around the world. In accepting this concept of Farmers' Rights, the Food and Agricultural Organization recognizes that "Farmers" are innovators entitled to intellectual integrity and to compensation whenever their innovations are commercialized. Although not explicitly addressing indigenous communities, Farmers' Rights clearly include indigenous peoples, and create an opening similar to that offered by UNESCO for the entrenchment of an IP system for indigenous peoples.
>
> NEW DEPOSIT RULES: National regulations, and, where appropriate, international conventions, could be altered to ensure that all inventions deposited for the legal record in gene banks or cell libraries must include passport data identifying all available information about the origin of the material including, where appropriate, the names of individuals and of communities that have contributed material (or information related to material) on deposit. The same information should be attached to all patent applications. Failure to disclose such information or any bad faith effort in disclosing information should lead to forfeiture of any patents emanating from the material.
>
> GENE BANKS ACCESSIONS: Material held in gene banks and cell libraries whose passport data indicates that it has been collected from indigenous communities should be regarded as forming part of the intellectual integrity of indigenous peoples; no part of that material should be subject to patent claims by others. Effectively, this material should be regarded as "published" information precluding patent applications.

> IPR OMBUDSPERSONS: Recognizing that the existing intellectual property system could contribute to the piracy of innovations by indigenous communities, each national patent office and the secretariat for each IPR convention, especially UPOV and patent conventions, should create the post of ombudsperson whose task it would be to investigate complaints from indigenous communities, and governments and organizations acting in consultation with indigenous organizations; the person should provide an annual report on her/his activities. The ombudsperson should have the authority to delay patent approvals and to require the review of specific patents or patent applications.
>
> TRIBUNALS: Where indigenous communities challenge a patent claim through the ombudsperson or by other available means, a tribunal or patent court should be held to resolve the dispute. The annual report of the office or convention acting on the dispute should provide full information on the status of the dispute.[106]

Finally, another important avenue for protecting rights to indigenous knowledge at the international level is by resorting to the emerging international law of the human rights of indigenous peoples. Indeed, this may prove to be a more effective legal mechanism for protecting indigenous cultural knowledge than the international law of intellectual property rights.[107] By linking the IPR issue to the primary struggle of indigenous peoples for recognition of territorial integrity as well as political autonomy, a more coherent, relevant and effective response to the IPR challenge will be possible.

IV. CONCLUSION: THE URGENT TASKS

Responding to the IPR challenge demands three urgent tasks from indigenous peoples: (a) unity within communities; (b) unity among peoples; and (c) unity with other sectors.

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[106]CONSERVING INDIGENOUS KNOWLEDGE, *supra* note 36 at 30 and 35.

[107]Dean B. Suagee, *Human Rights and Cultural Heritage, Developments in the United Nations Working Group on Indigenous Populations,* in SOURCEBOOK, *supra* note 43, at 204.

A significant consequence of the IPR challenge is that it could be divisive of indigenous communities and peoples. Because access to indigenous knowledge could translate into commercial gain for outsiders, indigenous communities or persons within such communities will be tempted to enter into contractual arrangements with bioprospectors or gene collectors. So long as there is prior informed consent and so long as the social decision process of the community, in particular its customary law, is followed, there should be no objection to decisions to enter into these arrangements. The problem arises when it is given outside community processes. To deal with the IPR challenge, an indigenous community must be united.

The IPR challenge could also result in divisions among peoples. Indigenous peoples in one country and within a region could be pitted against each other and end up competing with each other over contractual arrangements. Real disputes over who has the prior right over knowledge, once freely shared, could erupt. Again, indigenous peoples in the Philippines and elsewhere must be united if they are to effectively deal with the IPR challenge.

Finally, the IPR challenge demands that indigenous peoples examine closely the need to collaborate with other sectors of their respective societies as well as the international community.

The IPR challenge cuts across sectors. In many ways, the predicament and problems it brings to indigenous peoples is similar to what confronts most farmers of the South. They are, in a real sense, "in the same boat". Indeed, in the IPR issue, an alliance with farmers is justified and essential.

Local scientists from developing countries are confronted with analogous, if not similar, dilemmas as indigenous peoples. The need to conserve genetic resources while local capacity is being built and developed is a common concern shared by both scientists and communities. An alliance between both sectors is therefore desirable for an effective response to the IPR challenge.

Indigenous peoples must also be willing to work with lawyers, anthropologists and other social scientists. The nature of the IPR challenge is that it can only be understood and responded to in a multidisciplinary context.

Working with nongovernmental organizations - ranging from environmental organizations to groups especializing in genetic resources and intellectual property - will also be useful. Resort to such organizations would particularly be important for monitoring the dizzying pace of change in IPR policy and practice.

Finally, the State. The Philippines, with its colonial past, historically has been at odds with its indigenous peoples. It was often seen to be in the national interest, i.e. the interest of national elites, to disregard the rights of indigenous peoples. Depriving indigenous peoples of their territory was seen as necessary to expand state power and control.

In the IPR issue, however, national interest and the interest of indigenous peoples may coincide. For it is in the national interest - in an economic and political sense - to restrict the scope of patentability and other IPR protection. It is also in the national interest to ensure the conservation of genetic resources as well as the protection of indigenous knowledge.

Perhaps, finally, as a common response to the IPR challenge, indigenous peoples and the government can be allies.

In sum, the IPR challenge is not just a threat to indigenous peoples. Above all, it should be seen as an opportunity, as another approach to securing territorial integrity - and as a unique opening to working together with others in the national and global community.

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