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Intellectual and Cultural Property Rights of Indigenous and Tribal Peoples in Asia

By Michael A. Bengwayan



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Minority Rights Group International

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Note

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Preface

Indigenous and tribal peoples, worldwide, are facing complex threats to their survival as distinct peoples. Not only are they confronted with dispossession of their lands and resources, and physical persecution, but they are also faced with the appropriation of their collective knowledge developed through the ages. Traditional knowledge of medicinal plants and crops is being taken by multinational companies, while traditional songs and designs are being commercialized for the tourism industry. The issue of indigenous cultural property rights is becoming more and more urgent for indigenous peoples.

On the international front, the Draft Declaration on the Rights of Indigenous Peoples is taking a long time to be adopted by the United Nations (UN), despite it being intended to be the minimum standard for the protection of indigenous peoples' rights. This is unfortunate as other international instruments are in the meantime being ratified and are adversely impacting on indigenous peoples' cultural rights. For instance, under the General Agreement on Tariffs and Trade (GATT), the Trade-Related Aspects of Intellectual Property Rights agreement (TRIPS), puts both indigenous peoples and developing nations at a disadvantage by imposing an intellectual property rights regime that does not take into account the diversity of cultures. Article 8j of the UN Convention on Biological Diversity (CBD), gives minimal recognition of indigenous peoples' rights. It does not protect indigenous peoples from the drive by multinational companies to patent plant and animal materials – resources that are generally found in the biodiverse territories of indigenous peoples – for their potential medicinal and agricultural value, without the knowledge or consent of the peoples who have protected and nurtured such resources.

Due to the active lobbying by indigenous peoples' representatives in various international meetings, there is a growing appreciation by international agencies of the complexity of indigenous peoples' discourse. The World Intellectual Property Organization (WIPO) has begun discussions on the issue of indigenous peoples' intellectual and cultural property rights, although many indigenous peoples are not entirely happy with the process. The UN has also undertaken a study on the heritage of indigenous peoples and put forward several recommendations but these remain recommendations only.

Most of the discussions at the international level on the issue remain elitist – only a very few indigenous individuals are able to participate and information regarding the discussions or outcomes is not extensively disseminated. There is a gap between the international debate and the local realities. Most indigenous communities are faced with life-threatening issues that keep them from actively engaging in international policy advocacy work, and yet many of the issues that indigenous peoples face on the ground are brought about by the implementation of policies crafted at the international level. Clearly there is a need to bridge this gap and bring more information to the people in the communities.

Indigenous and tribal peoples of Asia, comprising about one-third of the global indigenous population, are faced with particular difficulties. Most Asian governments are cash-strapped and therefore need to exploit all resources (including intellectual and cultural resources) in order to generate income.

Indigenous peoples are being dispossessed of their ancestral lands to make way for mines, dams, logging concessions and tourism complexes. In many cases, they do not receive any compensation for lost lands. Additionally, many governments in Asia insist on viewing the indigenous issue as a 'Western' concept that does not apply to the region. This makes it doubly difficult for indigenous peoples in Asia to advocate for the recognition of their rights as distinct peoples. Thus it is no wonder that the survival of Asian indigenous peoples is increasingly in danger.

This MRG report on intellectual and cultural property rights (ICPR) seeks to present a broad overview of the myriad issues related to the cultural rights of indigenous peoples in Asia. The studies of the different countries show how the cultural and intellectual property rights of indigenous peoples are being violated and the responses undertaken by indigenous communities.

It is hoped that the report will stimulate discussion, not only among indigenous peoples and governments in the region, but also among NGOs and other social actors. It is evident that there can be no single solution to the issue owing to the diversity of cultures and realities across Asia. But we need to recognize that the whole world has much to gain from recognizing and protecting the knowledge and cultures of indigenous and tribal peoples.

Mark Lattimer, Director
April 2003

Introduction

‘When the trees are gone, the deer forever lost and the forests are just memories, we will weep. Not for the land that is bare and dead. But for us, our children and their children. When there are no more tears to fall, we will weep with our own blood.’

This is what Salak Dima said to me when I met him in the Palanan Wilderness Area, in the Philippines in June 2001. Salak Dima personifies what journalists call a ‘man of the forest’, with his *kulibew* and *pana* (bow and arrow), and his chest scars – intentional disfigurement which years before tested a young man’s bravery. He stands just over four feet and weighs no more than a hundred pounds. When I first met him, he lived in the most remote tropical jungles of the Palanan Wilderness Area of Isabela, Philippines. That was decades ago. Today, he and his small band of Agta people are moving deeper into the forest which itself may not be around much longer. They are seeking refuge from the invading mainstream population who scorn them, from the military and police authorities who provide them with no justice or protection and from the government authorities who call them ‘animals’.

These people are one of Asia’s indigenous peoples marginalized by incoming settlers. Indigenous and tribal peoples see themselves as distinct from the mainstream. They speak their own languages, are largely self-sufficient, and their economies are tightly bound to their intimate relationship with their land. Their culture is different from that of the mainstream, inherited from their forebears and adapted to their current situation. They have often lived on their lands for thousands of years.

It is difficult to generalize about Asia’s indigenous and tribal peoples. They encompass a huge variety of peoples, living very different ways of life in a great variety of environments. One thing that they do have in common is the oppression and marginalization they experience. Often they suffer direct violence, for example in Papua New Guinea, in Burma/Myanmar and in the Chittagong Hills of Bangladesh. They also suffer from ‘development’ efforts by their own governments and by multinationals, through the take-over of their lands and resources. In most parts of Asia where indigenous peoples land rights are recognized, the government retains the power to overrule these rights in the ‘economic interest’ of the state. Any development, from logging to dam-building, can be justified in this way, leaving no protection and providing

little compensation for the millions of indigenous people who rely on their land for survival.

The intellectual and cultural property rights (ICPR) of indigenous peoples are also under threat. These include their beliefs, knowledge (agricultural, technical, medicinal, ecological), movable and immovable cultural properties (human remains; sacred burial and prayer grounds), customary laws, traditions, rights to flora, fauna and biodiversity in their midst, arts and artistic works and other forms of cultural expression, handed down through the generations.

These intellectual and cultural properties are living traditions that are vital to the identity and cultural survival of the indigenous peoples. They are holistic and cannot be divided. Given that indigenous knowledge is collectively owned, only the group as a whole may consent to sharing indigenous cultural and intellectual property.

Indigenous peoples are concerned that the outside world has appropriated their arts and cultural expression: performances, musical and artistic works including

Box 1: The indigenous peoples of Asia

It is estimated that there are 190 million indigenous people in Asia. Some 75 million live in India and 30 million in South-East Asia. Among Asian indigenous peoples are:

- Adivasi, Dalits, Assamese, Manipuris and Tamils of India and Sri Lanka
- Jarowa tribes of Andaman Island, India
- Uighurs of Tibet
- Ainus of Japan
- Lisu people of Thailand, India, China and Burma/Myanmar
- Philippine tribes
- Hani and Akha peoples of Yunan, China, Laos, Vietnam, Thailand, Burma/Myanmar and SW China
- Penans of Sarawak, Malaysia
- Karen tribes of Far East Asia
- Sakas of Central Asian Steppes
- Jummas of the Chittagong Hill Tracts of Bangladesh
- Amungme of Papua, Indonesia
- Mongol Uzbeks of Afghanistan, Uzbekistan,
- Papua tribes of Papua New Guinea
- Highland Tajiks of Tajikistan
- Siberian tribes of Russia
- Sindhs and Sindhis of Pakistan
- Udege tribes of Russia
- Punjabis of India
- Khamty tribes of Russia
- Dayaks of Borneo, Malaysia
- Naga natives of Nagaland, India
- Tharus of Nepal and India
- Pangcah People of Taiwan
- Bentions of Indonesia
- Orang Asli of Malaysia
- Hmong of Cambodia, Vietnam and Laos

indigenous words, designs, motifs, symbols, artworks, songs, stories and dances. In many instances, use of indigenous arts and cultural expression takes place without the knowledge or permission of the indigenous artists, or the artists' communities. Sometimes such use is inappropriate, derogatory or culturally offensive.

Indigenous peoples are also concerned about the unauthorized use and reproduction of secret or sacred material and spiritual rituals for commercial purposes. This type of appropriation results in the disclosure of secret/sacred material to those not authorized to know or view such material.

Perhaps the most serious appropriation, however, and one that is taking place in almost all communities of

Box 2: Definitions

The United Nations (UN) has accepted the definition of indigenous peoples put forward by José Martínez-Cobo, the Special Rapporteur to the Subcommission on the Prevention of Discrimination and Protection of Minorities. In his report, entitled *Study of the Problem of Discrimination Against Indigenous Populations*, Cobo states:

*'Indigenous communities, peoples and nations are 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 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

In addition, the definition or 'coverage' used in the International Labour Organization's (ILO) Convention 169, Article 1 is also widely accepted:

a. 'tribal peoples in independent countries whose social, cultural and economic conditions distinguish them from other sections of the national community, and whose status is regulated wholly or partially by their own customs or traditions or by special laws or regulations;
*b. peoples in independent countries who are regarded as indigenous on account of their descent from the populations which inhabited the country, or a geographical region to which the country belongs, at the time of conquest or colonization or the establishment of present state boundaries and who, irrespective of their legal status, retain some or all of their own social, economic, cultural and political institutions.'*²

Moreover, and most importantly, in accordance with indigenous peoples' perspectives, both definitions emphasize *self-identification* as one of the main variables. It should be noted here that, despite common characteristics, no single accepted definition of indigenous peoples that captures their diversity exists. Therefore, self-identification as indigenous or tribal is usually regarded as a fundamental criterion for determining indigenous or tribal groups, sometimes in combination with other variables such as language spoken and geographic location or concentration.

indigenous and tribal peoples in Asia, is the appropriation of indigenous knowledge of biodiversity through 'biopiracy': indigenous peoples' knowledge of plants, animals and the environment is being used by scientists, medical researchers, nutritionists and pharmaceutical companies for commercial gain, often without their informed consent and without any benefits flowing back to them.

Indigenous people have long been aware of the medicinal properties of plants in their own areas. Traditional knowledge is regarded as common heritage and not as a commodity to be patented for commercial exploitation, perhaps to the exclusion of traditional owners. As with many other aspects of indigenous culture, knowledge of different plants and their healing properties is restricted to a particular class of people. Knowledge of the therapeutic properties of plants is passed on orally, from generation to generation. Indigenous people gain access to such knowledge when they have attained the appropriate level of initiation.

Indigenous medicinal knowledge is sought after by medical researchers and pharmaceutical companies to save research time and money. When plants are identified as having commercial potential, their active properties are isolated and the pharmaceutical company takes out a patent on inventions relating to those plants, even though their benefits have been known to indigenous people for years.

Indigenous peoples are alarmed that knowledge concerning the nutritional use of indigenous resources is being extensively documented. They are concerned that such information is often given to researchers and others without indigenous people realizing how this information might be exploited. The food industry increasingly recognizes the value of indigenous knowledge concerning the nutritional benefits of particular plants and animals.

As biopiracy has spread, indigenous peoples saw that the quest for plant and animal species necessitates access to their lands. This has led governments to exercise rights over the land, and to the denial of the rights of indigenous people to their traditional lands. The process places indigenous people in positions where they cannot manage and develop their inherited medicinal and agricultural knowledge.

Government conservation authorities and multinational companies are collecting specimens from indigenous lands as part of their programmes to create inventories. The collected species are made available for research without reference to the owners from whom the specimens were collected.

Another issue is the exploitation of indigenous people's genes and tissues through the Human Genome Diversity Project (HGDP). Indigenous people's genes are used for research without their control or ownership, and often

without their knowledge or consent as a group. Under the existing framework of intellectual property rights, indigenous peoples cannot control the use of the genetic material taken from them.

This report begins with a section on the definition of indigenous peoples' intellectual and cultural property rights. A variety of struggles of indigenous peoples are described, followed by an examination of the steps indigenous peoples have taken to assert their intellectual and cultural property rights, through the Mataatua Declaration (1993) and the Charter of the Indigenous-Tribal Peoples of the Tropical Forests (1992).

UN efforts to protect indigenous peoples' intellectual and cultural property rights are set out in the next section,

together with some discussion of their limitations. This is followed by an examination of governments' efforts to protect intellectual and cultural property rights on biodiversity, through law-making; the creation of databases documenting traditional knowledge; and formal research.

A description of the relations between intellectual property regimes and biodiversity, and the effects of the Trade-Related Aspects of Intellectual Property Rights agreement (TRIPS) is followed by a look at the phenomenon of biopiracy, and indigenous peoples' resistance to it, on a country-by-country basis.

The Conclusion discusses strategies for indigenous peoples' continuing struggle for their intellectual and cultural property rights.

Asian indigenous peoples' struggle for ICPR

Indigenous peoples' ICPR defined

Indigenous people view the world they live in as an integrated whole. Their beliefs, knowledge, arts and other forms of cultural expression have been handed down through the generations. Their many stories, songs, dances, paintings and other forms of expression are therefore important aspects of indigenous cultural knowledge, power and identity. The *Study on the Protection of the Cultural and Intellectual Property [Heritage] of Indigenous Peoples*, by UN Special Rapporteur, Erica Irene Daes, of the Economic and Social Council's (ECOSOC) Sub-Commission on the Prevention of Discrimination and Protection of Minorities, confirms this approach.³

According to Daes, a song or story is not a commodity or a form of property 'but one of the manifestations of an ancient and continuing relationship between people and their territory'. So she considers it is more appropriate and simpler to refer to the collective cultural heritage of each indigenous people rather than to make distinctions between indigenous peoples' 'cultural property' and 'intellectual property'. Any attempt 'to try to subdivide the heritage of indigenous peoples into separate legal categories such as "cultural", "artistic" or "intellectual" or into separate elements such as songs, stories, science or sacred sites', would be inappropriate. 'All elements of heritage should be managed and protected as a single, interrelated and integrated whole.'⁴

*'... heritage includes all expressions of the relationship between the people, their land and the other living beings and spirits which share the land, and is the basis for maintaining social, economic and diplomatic relationships – through sharing – with other peoples. All of the aspects of heritage are interrelated and cannot be separated from the traditional Territory of the people concerned. What tangible and intangible items constitute the heritage of a particular indigenous people must be decided by the people themselves.'*⁵

In light of Daes's findings and recommendations, this paper adopted the following working definition of 'indigenous cultural and intellectual property' based on the definition of 'heritage' contained in the Report of the seminar on the Draft Principles and Guidelines for the Protection of the Heritage of Indigenous People.⁶

The cultural and intellectual heritage of indigenous peoples comprises the traditional practices, knowledge and ways of life unique to a particular people. The guardians of an indigenous peoples' cultural and intellectual property are determined by the customs, laws and practices of the community, and can be individuals, a clan or the people as a whole. The heritage of indigenous people includes:

- language, art, music, dance, song and ceremony;
- agricultural, medicinal, technical and ecological knowledge and practices;
- spirituality, sacred sites and ancestral human remains;
- documentation of the above.⁷

Included in indigenous peoples' heritage is *intellectual property*, which includes the information, practices, beliefs and philosophy that are unique to each indigenous culture. When traditional knowledge is removed from an indigenous community, the community loses control over the way in which that knowledge is used. In many cases, this system of knowledge evolved over centuries and is uniquely bound up with the indigenous people's customs, traditions, land and resources. Indigenous peoples have the right to protect their intellectual property, including the right to protect that property against its inappropriate use or exploitation.

As science and technology advance while natural resources dwindle, there is increased interest in appropriating indigenous knowledge for scientific and commercial purposes. Some research and pharmaceutical companies are patenting, or claiming ownership of traditional medicinal plants, even though indigenous peoples have used such plants for generations. In many cases, these companies do not recognize indigenous peoples' traditional ownership of such knowledge and deprive indigenous peoples of their fair share in the economic, medical or social benefits that accrue from the use of their traditional knowledge or practices.

Worldwide, despite international recognition of the right of indigenous peoples to preserve and protect their traditional practices, knowledge and ways of life, the cultural heritage of many indigenous peoples is under threat, and many indigenous peoples are prevented from enjoying their human rights and fundamental freedoms.

In some countries, traditional and sacred sites are exploited or destroyed by the tourist industry. Many of these sites of spiritual and cultural significance are also

ecological reserves that have been developed, conserved and managed by indigenous peoples through their traditional knowledge and practices. In other cases, indigenous art and sacred materials are used without the knowledge or permission of the indigenous artist or community. Many cultural artifacts and ancestral human remains that were taken from sites without the permission of indigenous peoples, are held in museums and collecting institutions around the world.

Asian indigenous peoples' struggles

The struggle of Asian indigenous peoples to protect intellectual and cultural rights ranges in form from resisting subjugation, territorial take-over, resources exploitation, the destruction of traditions, and infringement on customs and lifestyles, to fighting inhumane treatment, abuse and deprivation of human rights. The colonization of many Asian countries resulted in oppression of indigenous peoples that continues to this day. In South-East Asia much of the struggle is over land and resources, as mining, timber and oil corporations encroach upon indigenous peoples' lands in search for profit. Indigenous peoples are becoming victims of forced resettlement, toxic pollution, diseases, militarization, starvation, social and cultural destruction, and the ruin of traditional ways of life.

According to some commentators, levels of global consumption are contributing to the threat to indigenous lands and the environment.⁸ Oil and mining companies have turned to indigenous lands to keep up with demand and indigenous peoples are subject to a 'discourse of dominance' by corporations and governments, which leaves them out of decisions affecting their lands.⁹ This process has been exacerbated by a shift in project financing away from shareholders and states and towards multilateral development agencies and regional banks.

An important part of the struggle has been the recognition and elucidation of the connections between environmental destruction and human rights abuses. Asian indigenous peoples' close connection to the land makes them particularly vulnerable to ecological damage. Extractive activities threaten patterns of subsistence, living conditions and cultural practices. In some cases governments deny indigenous peoples' civil and political rights in order to prevent them from resisting the incursions. Some states face challenges in reconciling international human rights commitments to indigenous peoples with the requirements of foreign direct investment.

Since the early 1950s, Asian indigenous groups have sought and exploited pressure points to bolster their fight

for their rights with varying degrees of success. They pursue multilateral strategies that include litigation, mass mobilizations, shareholder resolutions and public education. They have refined their rhetoric, linking environmental concerns to traditional human rights issues. Perhaps the most important innovation has been the increased flow of information through transnational networks and electronic media. Asian indigenous peoples are now often able to wage their local struggles on a global front by working closely with international allies.

A transnational movement of environmentalists, human rights workers, lawyers and indigenous organizations is emerging to defend indigenous rights. The greater international recognition now granted to indigenous rights issues has allowed indigenous organizations to gain legitimacy in their own countries.

Against the odds, indigenous peoples have had some successes. 'Divide and rule' tactics intended to break down their opposition have failed. Often, there are clear connections between resource extraction, human rights abuses and militarization. In some countries, governments have attempted to stifle the growing resistance of their indigenous populations.

From the Philippines, Indonesia and Malaysia to Papua New Guinea, there is a burgeoning indigenous movement against both governments and resource-depleting companies. This movement has brought together concerns about human rights and the environment. It is rural-based, grassroots-initiated and multiracial. The movement also has concerns about globalization and unfair trade.¹⁰

Multinational corporations have sought to undermine opposition to their activities through mass media campaigns, challenges to tribal sovereignty and to local authorities. With their financial resources and political connections, oil, timber and mining companies can sometimes buy off impoverished communities.¹¹ Yet the indigenous opposition remains vibrant and effective. International support has focused on a number of indigenous peoples' initiatives, as discussed below.

Bangladesh. The struggle of the Jummas, the original inhabitants of the Chittagong Hill Tracts (CHT) is primarily to do with rights to land and resources. Many Jummas are losing their lands; they have been forcibly evicted by government military forces. Even when a government decree ordered that land should be returned, only a few were able to reclaim their lands.

The Jummas are also being displaced because of the discovery and development of a gas-field in June 2002. The gas reserve development has affected traditional food sources like home-gardens and age-old community forests, and has caused environmental degradation.

On another front, more than 100,000 Jummas have been uprooted over nearly four decades because of the construction of the Kaptai reservoir. Jummas are Buddhists and they also suffer from religious intolerance and discrimination by the majority Muslim population.

NGOs like the Bangladesh Rural Advancement Committee (BARC), Bengalis' Union Council and the Tracts NGO Forum are leading the struggle for the full recognition of the Jummas' intellectual and cultural property rights as well as the preservation of their ethnic, religious and cultural identity.¹² But there is little chance of success unless the government becomes genuinely concerned.

Nepal. The indigenous people of Nepal are campaigning for the amendment of the present Constitution to give indigenous peoples the right to self-government,¹³ so that they can control their own social, cultural and political development. They also demand equal language rights, inclusion of ethnic identity in the population census and the bill on nationalities (the National Foundation Bill, passed in March 2002, means that 59 indigenous ethnic groups are now recognized),¹⁴ an end to the traffic in women and an end to bonded labour of the indigenous people, the Thamus.

India. Indigenous peoples in India are waging a struggle against the widespread plunder of germplasm (i.e. plant cells) and indigenous knowledge. Already, many plant resources have been lost, without recognition or recompense. Equally, they are campaigning against mega-dams (such as Narmada and Sardar Sarovanh) which have displaced millions of people worldwide and have drowned large tracts of land once occupied by indigenous communities. Not only has their land been lost, but also natural resources, cultural treasures, traditions, lifestyles and customs.¹⁵

Under the government's new industrial policy, indigenous peoples' lands are being transferred to non-indigenous persons and to foreigners with corporate investments in India. The Adivasis, in particular, are trying to restore their rights over forests and to resist mining adventures that have already spoiled much of the land that still remains to indigenous peoples.

Sri Lanka. The Wanniyala-Aetto (forest beings), the Sri Lankan indigenous people, are being uprooted from their forest dwellings, shot at, detained in reservations and sold as slaves or prostitutes. The International Movement Against All Forms of Discrimination and Racism (IMADR), an NGO, campaigns on their behalf.¹⁶ But the government has done little to intervene. The Wanniyala-Aetto women, in particular, bear the brunt of this inhuman treatment.

Tibet. The Tibetans are denied their fundamental right to self-determination and suffer from human rights abuses, underdevelopment, marginalization and repression. The Chinese authorities do not consult with the Tibetans over development processes, and the Tibetans are discriminated against in terms of employment. Their culture is also in danger: many of their schools have been closed, their monasteries destroyed and customary lifestyles repressed. Tibetans in the diaspora continue to put pressure on the Chinese government, but, so far, to no effect.

Taiwan. In 2001, indigenous activists won a victory when the government granted autonomy to indigenous peoples.¹⁷ This has meant that indigenous peoples are now included in parliamentary elections, and they can elect their local chiefs and councillors. The Pangcah people (one of 12 indigenous tribes) were also allowed to elect a chieftain.

Philippines. Many NGOs are working for indigenous peoples' intellectual and cultural property rights in the Philippines and, seemingly, their efforts have paid off, with the passing of Indigenous Peoples' Rights Act (IPRA) in 1997. But the body set up to implement IPRA, the National Commission on Indigenous Peoples (NCIP), suffered from political in-fighting and has yet to be reorganized.

Land ownership remains an issue because of hold-ups in processing the Certificates of Ancestral Domain Titles (CADTs) by the NCIP. CADTs give formal recognition of indigenous peoples' ancestral rights to land. As of June 2002, only one CADT had been completed, of the 100 promised by President Gloria Macapagal Arroyo.¹⁸

The government has also reneged on earlier promises, allowing the construction of two mega-dams, San Roque and Casecnan, despite the protests of indigenous people, and the laying of oil pipelines in Palawan, which is causing tension among indigenous people.

Indonesia. The most significant result of indigenous peoples' struggle for recognition of their rights is the government's granting of decentralized power. It gave 'adat'-based (traditional-based) village powers beyond the standard notions of indigenous rights in international legal discourse. One power transferred is that 'the adat village has the authority to regulate and manage the interests of the local community based on its origins, local customs and traditions that are recognized within the system of national government'.¹⁹ It is important to note that there is explicit reference to indigenous cultural and political traditions. The decentralization law 'recognizes and honors the *adat* communities as well

as their traditional rights as far as these remain a living reality and are in line with the development of the society, as well as the principles of the Republic of Indonesia as a unitary state, and as they are regulated by laws'.²⁰

However, some smaller *adat* communities are oppressed by larger groups and the state is finding it difficult to address this. Examples of these oppressed minorities are the shifting cultivators and hunter gatherer tribes like the Kubu, Orang Rimba, Talak Mamak, Sakai and the Punan.

Malaysia. Encroachment into ancestral lands and intimidation are two of the many problems facing Malaysian indigenous peoples. There is no pause in the exploitation of their resources and appropriation of indigenous territories.

However, two small victories have been won by the indigenous peoples. Four Iban people won their cases against a pulp and paper company that trespassed into their lands. In another victory, a Malaysian court ordered that the Orang Asli have the right to use and derive profit from their customary and ancestral land.

Apart from these victories, however, the struggle to give indigenous peoples the right to their traditional territories has been waged for some time without much success, as the government shows little interest in addressing the problem.

Thailand. In 1997, the Chao-Chaos, a mixed grouping of indigenous tribes in northern Thailand numbering almost a million, were granted a peoples' Constitution which allowed them to participate in the democratic process in the country.²¹ They are led by the Assembly of Indigenous and Tribal peoples of Thailand (AITT).

Together with the Northern Farmers Network, AITT is pressing for the adoption of a community Forest Bill, which will give indigenous peoples recognition of their right to their traditional resources and management practices.

Cambodia. The year 2001 saw positive developments in Cambodia with regard to indigenous peoples' struggle for land rights and the protection of their forests and natural resources. Local activists and NGOs headed the campaign for a new law that gave provision for land tenure for indigenous people. Those who now have ownership and control of their lands are enjoying their rights to their resources, such as in the tapping of resin and development of inland fisheries.

The government created the Department of Ethnic Minorities Development in January 2002, and heeded the complaints of the Khmers against a military general

who almost defrauded the local peoples of their lands and forest resources.²²

Vietnam. Vietnam has a government that is oppressive towards its indigenous population and does not allow advocacy activities. In October 2001, the government's Ministry of Agriculture and Rural Development and the Department for Sedentary Farming announced a campaign to 'wipe out traditional nomadic life and swidden farming' of its indigenous population.²³ The government is attempting to eradicate traditional shifting agriculture, which is the lifeline of most highland indigenous peoples including the Banar, Ehde, Jarai, Koho and Mnong tribes, thousands of whom were imprisoned after calling for independence in February 2001.²⁴ The lifestyles, customs and traditions of these people are affected as the military conduct restrictive campaigns. Many of these indigenous people have fled to Cambodia.

The government has allowed the construction of three mega-dams, which threaten the livelihood of indigenous people living along the banks of the Mekong and Da rivers, and some 100,000 people have already been forcibly evicted.²⁵

Today, social activists working with and for Vietnamese indigenous tribes plan and work covertly, in danger of being imprisoned or put to death as 'traitors' to the new republic.

Laos. Laos has a similar policy to that of Vietnam, which aims to eradicate all traditional forms of agriculture by its indigenous peoples.²⁶ As a result, hundreds of thousands of Hmong are being removed from their ancestral lands and relocated to areas which are not suitable for their lifestyle and cultural practices.

There is little resistance from the Hmong, even as they continue to live under extreme pressure. The government has removed the indigenous populations using military force and allowed gold and copper mining concessions on ancestral lands. There is also a plan to build a mega-dam on the Nakai Plateau, where some 350,000 indigenous people live.

Burma/Myanmar. It is perhaps only in Burma/Myanmar, out of all the states in Asia, that the indigenous peoples form a majority. But under its military rule, political detentions, harassment, militarization, military offensives, forced labour in labour camps and an educational crisis are widespread. Women face rape, 'marriage' to military men and are trafficked by the military as slaves, labourers and prostitutes.

With the popular democratic leader Daw Aung San Suu Kyi still banned from making a political comeback, the future remains uncertain. As many as 2 million inter-

nally displaced persons and refugees have been generated during decades of conflict.

The Mataatua Declaration

One initiative by indigenous peoples' representatives and advocates was the First International Conference on the Cultural and Intellectual Property Rights of Indigenous Peoples held in Aotearoa/New Zealand on 12–18 June 1993. It declared that 'Indigenous peoples of the world have the right to self-determination and in exercising that right must be recognized as the exclusive owners of their cultural and intellectual property.'²⁷

The conference was held at a time when, as its way of recognizing the role of indigenous peoples in biodiversity protection and conservation, the UN had declared 1993 the International Year for the World's Indigenous Peoples. Over 150 delegates from 14 countries attended the historic conference, including indigenous representatives from Aotearoa/New Zealand, Australia, the Cook Islands, Fiji, Japan, Panama, Peru, the Philippines, Surinam and the USA.

The representatives met over six days to discuss a range of issues – the value of indigenous knowledge, biodiversity and biotechnology, customary environmental arts, music, language and other physical and spiritual cultural forms. The conference resulted in what is now referred to as the Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples.

The Mataatua Declaration reaffirms a call put forward in Rio de Janeiro, Brazil, a year earlier. In its Preamble, the Declaration reaffirms the efforts of the UN Member States to adopt Agenda 21 (see section on the Rio Earth Summit, below), particularly Chapter 26, Section 4b. The section states: 'Adopt or strengthen appropriate policies and/or legal instruments that will protect indigenous intellectual and cultural property and the right to preserve customary and administrative systems and practices.'²⁸

The Mataatua Declaration also listed various recommendations. Among them was the recommendation that states, and national and international agencies, must recognize that indigenous peoples are the exclusive owners of their cultural and intellectual property rights. On biodiversity, the Declaration affirms that states, and national and international agencies, must recognize the 'traditional guardianship' of indigenous flora and fauna. The Declaration also provides that indigenous peoples should manage the commercialization of any traditional plants and medicines.

The Declaration includes a set of recommendations for indigenous peoples themselves; for states and national and international agencies; and for the UN.

Charter of the Indigenous-Tribal Peoples of the Tropical Forests

Indigenous peoples' organizations were also responsible for another similar initiative. This is the Charter of the Indigenous-Tribal Peoples of the Tropical Forests, a federation of organizations of indigenous peoples in tropical forest countries in Africa, Asia and the Americas. Particularly emphasizing indigenous peoples' forest communities, the Charter seeks to reverse the 'hundreds of years of continual encroachment and colonization of our territories and the undermining of our lives, livelihoods and cultures'²⁹ because of destructive industries such as logging and mining.

Formulated on 15 February 1992 in Penang, Malaysia, the Charter also makes bold pronouncements on indigenous peoples' ownership of the tropical forests of the world. Article 2 states: 'We declare that we are the original peoples, the rightful owners and the cultures that defend the tropical forests of the world.'³⁰ In declaring ownership over the tropical forests of the world, indigenous and tribal peoples have asserted their right to control, use and manage their own ancestral territories, which include tropical forests and all their wildlife and biodiversity resources.

The Charter also challenges the precept that forests and their resources are simply economic commodities with price tags. 'Our territories and forests are to us more than an economic resource', states Article 3. 'For us, they are life itself and have an integral and spiritual value for our communities. They are fundamental to our social, cultural, spiritual, economic and political survival as distinct peoples.'³¹

Under a section on 'Respect for Our Rights,' the Charter contains provisions which call for other peoples to respect indigenous and tribal peoples' 'human, political, social, economic and cultural rights ... and right to self-determination'. Incorporated in this section is a call to approve and apply the Draft Declaration on the Rights of Indigenous Peoples, which 'must affirm and guarantee our right to self-determination'. The same section stresses the need for 'an effective international mechanism and tribunal to protect us against the violation of our rights ...'³²

The call of the federation for other peoples to respect indigenous and tribal peoples' right to self-determination also includes indigenous peoples' right to have full control over their biodiversity resources and intellectual and cultural knowledge. But the Charter has separate sections on Biodiversity and Conservation and on Intellectual Property. Article 40 specifically provides:

'Programs related to biodiversity must respect the collective rights of our peoples to cultural and

*intellectual property, genetic resources, gene banks, biotechnology and knowledge of biological diversity; this should include our participation in the management of any such project in our territories, as well as control of any benefits that derive from them.*³³

Another important provision is Article 44: ‘Since we highly value our traditional technologies and believe that our biotechnologies can make important contributions to humanity, including developed countries, we demand

guaranteed rights to our intellectual property, and control over the development and manipulation of this knowledge.’³⁴

In summary, the Charter, like the Mataatua Declaration, has strong provisions on indigenous and tribal peoples’ sole control over their ancestral territories and over their natural and biodiversity resources. The Charter is also strong in calling for international recognition of indigenous and tribal peoples’ right to their cultural and intellectual property and knowledge.

UN efforts to protect indigenous peoples' ICPR

As indigenous peoples in Asia strengthen their effort to win recognition of their rights, a number of international instruments have been initiated by the UN to support the rights of indigenous peoples to protect and enjoy their cultural heritage. One was the Draft Principles and Guidelines for the Protection of the Heritage of Indigenous People, which recommends standards for governments to ensure that the heritage of indigenous peoples survives for future generations and continues to enrich the common heritage of humanity.³⁵

The UN Educational, Scientific and Cultural Organization (UNESCO) also co-established the Model Treaty on the Protection of Expressions of Folklore against Illicit Exploitation. The Treaty recognizes indigenous peoples as the traditional owners of artistic heritage, including folklore, music and dance, created within indigenous territories and passed down through the generations.³⁶

Yet these international enactments have failed to provide a working system and applicable standards that could ensure the implementation and enforcement of the instruments. In particular, the nature of indigenous peoples' intellectual property, which is often inseparable from spiritual, cultural, social and economic aspects of indigenous life, and the notion of collective ownership of such property, are not adequately addressed in existing international intellectual property law.

This is not to say that there have been no international efforts to address the problem of indigenous peoples' resources. The most widespread and fundamental threat to indigenous peoples' resources is the failure (often by states) to respect and protect the right of indigenous peoples to control their own territories under their customary forms of ownership. Recognizing this, the UN has sponsored several initiatives to resolve the problem.

The Stockholm Conference

The 1972 UN Conference on Human Environment in Stockholm was the first major international discussion on environmental issues.³⁷ The conference started the process of investigating the contradictions between the priorities of economic growth and environmental protection. The governments of some Northern countries, which have used up their own resources and appropriated the resources of the South through colonization, have

begun to push for environmental protection. In contrast, governments of Southern countries have sought to exploit whatever is left of their natural resources to bring about more economic growth. Since the Stockholm Conference, the debate on how to balance environmental concerns and economic development has continued. Also, the issue of biodiversity has gained legal and political prominence.

The World Commission on Environment and Development

Taking off from the Stockholm Conference, the UN General Assembly created the World Commission on Environment and Development (WCED), which issued its report, *Our Common Future*, popularly known as the Brundtland Report, in 1987. The report introduced the concept of 'sustainable development', which attempts to make economic growth and environmental protection complementary and mutually dependent. The Brundtland Report also emphasized the role of indigenous peoples in preserving biodiversity.

'The isolation of many such people [i.e. indigenous peoples] has meant the preservation of a traditional way of life in close harmony with the natural environment. Their very survival has depended on their ecological awareness and adaptation.... These communities are the repositories of vast accumulations of traditional knowledge and experience that links humanity with its ancient origins.'

'Their disappearance is a loss for the larger society, which could learn a great deal from their traditional skills in sustainably managing very complex ecological systems. It is a terrible irony that as formal development reaches more deeply into rainforest, deserts, and other isolated environments, it tends to destroy the only cultures that have proved able to thrive in these environments.'

The Brundtland Report recommended:

'The starting point for a just and humane society for such groups [i.e. indigenous peoples] is the recognition and protection of their traditional rights to land and the other resources that sustain their way of life – rights they may define in terms that do not

*fit into the standard legal systems. These groups' own institutions to regulate rights and obligations are crucial for maintaining the harmony with nature and environmental awareness characteristic of the traditional way of life. Hence the recognition of traditional rights must go hand in hand with measures to protect the local institutions that enforce responsibility in resource use. The recognition must also give local communities a decisive voice in the decisions about resource use in their area.'*³⁸

The Rio Earth Summit

The concept of 'sustainable development', introduced in the Brundtland Report, became the theme of the June 1992 UN Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil, also known as the Rio Earth Summit. The Earth Summit was a watershed, and led to the production of vital documents, including Agenda 21 and the Convention on Biological Diversity (CBD).

Despite their limitations, Agenda 21 and the CBD can help advance the struggle of indigenous peoples in protecting their intellectual and cultural property rights. Agenda 21, particularly Chapter 26, recognizes and seeks to strengthen the role of indigenous peoples and local communities in 'sustainable development'. Chapter 26, Section 3 provides that in 'full partnership' with indigenous peoples and their communities, governments and, where appropriate, intergovernmental organizations should aim to set in motion 'a process to empower indigenous peoples'.³⁹

Convention on Biological Diversity

Critics say the Convention on Biological Diversity (1992) was produced at the 'behest of interests mostly from the North (governments, corporations and NGOs)'.⁴⁰ As one critic noted, the CBD actually evolved from the initiatives of Northern groups such as the IUCN (World Conservation Union), which led to the exploration of the possibility of negotiating an international treaty on bio-diversity. The IUCN prepared various drafts on *in situ* conservation within and outside protected areas.

It is not surprising that the initial driving force for Northern groups such as the IUCN was the issue of conservation, because Northern governments were concerned and continue to be concerned about how to access the South's biodiversity. Before the 1972 Stockholm Conference, genetic resources were regarded as open-access resources, meaning anybody had the right to

use these resources for free. Genetic resources are the heritable characteristics of a plant or animal of real or potential benefit to people. They include modern cultivars (i.e. cultivated varieties) and breeds; traditional cultivars and breeds; special genetic stocks (breeding lines, mutants, etc.); wild relatives of domesticated species; and genetic variants of wild resource species.⁴¹

The situation that the CBD seeks to address is not only the alarming loss of biodiversity, but also its uneven distribution in the world. The developed North is biodiversity-poor but, in many cases thanks to indigenous peoples, the South has retained some of its biodiversity resources.

Southern countries have found it necessary to assert their sovereign rights over their natural and biodiversity resources. Principle 2 of the Rio Declaration, and the CBD, reiterated the sovereign right of states over their natural and biodiversity resources. Article 3 of CBD states:

'States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction.'

The national sovereignty principle answers key concerns of Southern governments. But critics like the Barcelona-based Genetic Resources Action International (GRAIN) say it does not necessarily work in favour of indigenous peoples, who are acknowledged to have helped sustain and nurture the world's biodiversity resources. Governments of both North and South still do not recognize the rights of indigenous peoples to their territories and resources, much less their right to self-determination. Indigenous peoples' leaders and advocates also complain that the CBD does not explicitly recognize that indigenous peoples have such rights.

Vandana Shiva, a noted Indian environmentalist and physicist, commented early on that the USA agenda was to have the CBD pave the way for free access to the South's biodiversity while at the same time ensuring that intellectual property rights to the USA's own technologies, particularly biotechnology, are protected.⁴²

Critics have pointed out that the CBD is strong on patents but weak in protecting the rights of indigenous peoples and local communities to their biodiversity and knowledge.

According to those who have been monitoring the CBD's formulation, the CBD is basically a framework

convention which lays down the goals and policies for achieving the objectives stated in Article 1:

‘The objectives of this Convention, to be pursued in accordance with its relevant provisions, are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over these resources and to technologies, and by appropriate funding.’⁴³

The CBD’s Article 8j outlines what benefits should redound to indigenous peoples:

- respect and protection for the knowledge, innovations and practices of indigenous peoples and local communities;
- promotion of the wider application of these with the participation and prior informed consent of the knowledge holders; and
- equitable sharing of benefits.⁴⁴

It should be noted, however, that the Article does not mention any rights at all. It merely calls for respect and protection of indigenous knowledge. In various arenas, such as the Conference of Parties, indigenous peoples’ representatives and advocates have tried to lobby for the inclusion of indigenous rights in the CBD, but without success. Indigenous peoples can put the provisions of Article 8j to good use, however, particularly the three main components cited earlier.

The CBD affirms the sovereignty of nations over their biological resources. It also accepts the concept of intellectual property over living things and encourages bilateral arrangements between those who want access to resources and knowledge (for example, corporations) and governments. The Convention does not define protection at the level of the community, thus setting the stage for inter-community conflicts or conflicts between a government and its communities. Overall, the Convention lacks teeth: it has no mechanisms to control outsiders’ access to indigenous bio-resources (for example, a binding code of conduct) and no mechanisms to determine the equitable sharing of benefits.⁴⁵

Draft Declaration on the Rights of Indigenous Peoples

Now almost a decade old, the Draft Declaration on the Rights of Indigenous Peoples has remained just that – a

draft. The Draft was produced by a special UN body – the UN Working Group on Indigenous Populations (WGIP), which was created under the Sub-Commission on the Prevention of Discrimination and Protection of Minorities of the UN Commission on Human Rights (UNCHR).

The Draft is far from perfect, according to those who helped shape it, for example Vicky Tauli-Corpuz, who said the Draft has many limitations because it still operates within the ‘statist framework’ of the UN. But she also said that the Draft seeks to address indigenous peoples’ collective rights, such as their right to self-determination, right to survival, right to cultural, religious, spiritual and linguistic identity, and the right to control of ancestral territories and resources.⁴⁶

Despite its imperfections and limitations, the Draft contains provisions that lobbyists for indigenous peoples can use in pushing for strong policy recommendations. The following are some Articles relevant to the relationship of indigenous peoples to their territories and resources, genetic resources, and intellectual and cultural heritage or indigenous knowledge:

- **Article 24:** ‘Indigenous peoples have the right to their traditional medicines and health practices, including the right to the protection of vital medicinal plants, animals and minerals.’
- **Article 25:** ‘Indigenous peoples have the right to maintain and strengthen their distinctive spiritual and material relationship with the lands, territories, waters, and coastal seas and other resources, which they have traditionally owned or otherwise occupied or used, and to uphold their responsibilities to future generations in this regard.’
- **Article 26:** ‘Indigenous peoples have the right to own, develop, control and use the lands and territories, including the total environment of the lands, air, waters, coastal seas, sea ice, flora and fauna, and other resources, which they have traditionally owned or otherwise occupied or used. This includes the right to the full recognition of their laws, traditions and customs, land-tenure systems, and institutions for the development and management of resources, and the right to effective measures by States to prevent any interference with, alienation of, and encroachment upon these rights.’
- **Article 29:** ‘Indigenous peoples are entitled to the recognition of the full ownership, control and protection of their cultural and intellectual property. They have the right to special measures to control, develop, and protect their sciences, technologies and cultural manifestations, including human and other genetic resources, seeds, medicines, knowledge of the proper-

ties of fauna and flora, oral traditions, literatures, designs, and visual and performing arts.⁴⁷

As a whole, the Draft has clearly established that the rights of indigenous peoples to their indigenous knowledge, innovations and practices, which are referred to as intellectual and cultural heritage, cannot be separated from indigenous territories and resources. These rights are interlinked with the distinct relationships indigenous peoples have built up around their land and resources.

Although it needs to be improved, the Draft contains minimum standards that promote the rights and welfare of indigenous peoples, including their intellectual and cultural property rights. But many governments do not support the Draft. The Draft was approved by the Sub-Commission on the Prevention of Discrimination and Protection of Minorities and was brought before the UNCHR.

But the UNCHR did not adopt the Draft. Instead, it established the Open-ended Inter-sessional Working Group to elaborate on the Draft Declaration. This body has met eight times since 1995, but the governments of Australia, Canada, New Zealand and the USA strongly oppose many of the principles and articles of the Draft. These governments were at one in rejecting, for example, the Draft's provision recognizing indigenous peoples' right to self-determination, arguing that international instruments generally speak of individual and not collective rights.

Those indigenous peoples who have been closely monitoring the Draft are united and firm in their stand that the UN should adopt the Draft in its original form. The Draft has in fact become a key reference point in discussions of indigenous peoples' rights. Indigenous peoples' representatives always cited the Draft when they lobbied at the Rio Earth Summit and over the CBD. Some governments have referred to the Draft Declaration when drafting their national laws on indigenous peoples' rights.

One of the drawbacks of the Draft Declaration is that it is non-binding, even if it is adopted by the UN General Assembly. This means that the Declaration will not create any obligations for any country under international law. In other words, the adoption of a declaration on the rights of indigenous peoples will not render a nation legally accountable to the international community for its actions towards its indigenous people.⁴⁸

The Declaration will be an aspirational document, which imposes no obligations of implementation. It is likely, however, that the Declaration will contribute to a growing body of customary international law in the area of indigenous peoples' rights. Customary international law is associated with the concept of state practice.

ILO Convention 169

The International Labour Organization is the only international body which has produced an international legally binding instrument on indigenous peoples – ILO Convention 169. ILO Convention 169 ratified an earlier international instrument adopted by the ILO in 1957 – the Indigenous and Tribal Populations Convention 107, which was the first attempt to codify indigenous peoples' rights in international law.

Adopted in Geneva in June 1989, ILO Convention 169 hails the 'distinctive contributions of indigenous and tribal peoples to the cultural diversity and social and ecological harmony of humankind and to international cooperation and understanding'.⁴⁹ It also addresses land and resource rights concerns.

- **Article 13** states: '... (G)overnments shall respect the special importance for the cultures and spiritual values of the peoples concerned of their relationship with the lands or territories, or both as applicable, which they occupy or otherwise use, and in particular the collective aspects of this relationship. The use of the term "lands" in Articles 15 and 16 shall include the concept of territories, which covers the total environment of the areas which the peoples concerned occupy or otherwise use.'
- **Article 14** also provides: 'The rights of ownership and possession of the peoples concerned over the lands, which they traditionally occupy, shall be recognized. In addition, measures shall be taken in appropriate cases to safeguard the right of the peoples concerned to use lands not exclusively occupied by them, but to which they traditionally had access for their subsistence and traditional activities.'
- **Article 15** states: 'The rights of the peoples concerned to the natural resources pertaining to their lands shall be specially safeguarded. These rights include the right of these peoples to participate in the use, management and conservation of these resources.'⁵⁰

Like the Draft Declaration on the Rights of Indigenous Peoples, ILO Convention 169 not only acknowledges, but *recognizes* the rights of indigenous and tribal peoples to their territories, lands and resources, which include biodiversity and wildlife resources. The Convention can serve as reference and framework for future agreements, which bear directly on indigenous peoples and their natural and biodiversity resources and intellectual and cultural property rights. Indigenous peoples who lobbied at the Rio Earth Summit and the CBD negotiations also did not fail to invoke ILO Convention 169.

One problem is that, as of August 2002, only 17 countries had ratified ILO Convention 169. The only Asia-Pacific country that has ratified the Convention is Fiji. The other countries that have ratified the Convention are Argentina, Bolivia, Brazil, Colombia, Costa Rica, Denmark, Dominica, Ecuador, Guatemala, Honduras, Mexico, The Netherlands, Norway, Paraguay, Peru and Venezuela.

It is unfortunate that, over a decade after ILO Convention 169 came into force, controversy continues. The Convention has been criticized for not fully embodying the indigenous point of view. Indeed, some imply that the wording of the document is a direct affront to the rights of indigenous peoples. Directly after the adoption of Convention 169 by the ILO, the Indigenous Peoples Preparatory Meeting in Geneva produced a resolution rejecting it and asking governments not to ratify it. Yet, despite its shortcomings, most indigenous leaders and organizations see the Convention as an important step towards an improvement of their human rights situation and are eager for governments to ratify it.

The UNDP-sponsored study

The study, entitled *Conserving Indigenous Knowledge: Integrating Two Systems of Innovation*, was carried out by the Rural Advancement Foundation International (RAFI). The results of the study were disseminated in regional meetings of indigenous organizations to raise awareness of traditional knowledge and to address ways in which indigenous peoples can preserve and protect their cultural heritage and intellectual property.⁵¹

The FAO Undertaking on Plant Genetic Resources

Under the auspices of the Food and Agriculture Organization, the International Treaty on Plant Genetic Resources provides a space for national recognition of farmers' rights.⁵² Several Asian countries including India, fought hard for the inclusion of farmers' rights in the text. However, the Treaty fails to make international provisions for farmers' rights, putting the onus instead on national governments to do so. The Treaty also has controversial provisions on intellectual property rights.

Asia-Pacific Economic Cooperation

Within the Asia-Pacific Economic Cooperation organization (APEC), there is an Intellectual Property Rights

Experts Group (IPEG). The IPEG is developing Collective Action Plans (CAPs) in the area of intellectual property rights in order to promote the establishment of an internationally harmonized intellectual property system. The IPEG's CAP-based activities include work on issues associated with genetic resources, traditional knowledge and folklore.

Conclusion

As the above shows there is virtually no attempt, at the international level, to explore alternatives to the current intellectual property rights system as a means of protecting traditional knowledge.⁵³ The rush for 'green gold' from the private sector continues to accelerate the trend towards intellectual property rights (IPRs). For the private sector, exploiting biodiversity requires intellectual property rights. And any protection of traditional knowledge must fit into the intellectual property rights system.

The use of bilateral agreements, or political pressure, between individual countries is one of the most effective means being used to force Asia-Pacific governments to adopt intellectual property rights for traditional knowledge. In January 1992, the USA and China signed a Memorandum of Understanding on the Protection of Intellectual Property. This agreement required China to make changes to its laws governing intellectual property protection, and to accede to several international intellectual property rights Conventions before 1994.⁵⁴

In April 1997, the US State Department sent a letter to the Thai government regarding draft legislation allowing Thai healers to register traditional medicines, thus keeping them within the public domain. The letter advised the Thai government, 'Washington believes that such a registration system could constitute a possible violation of TRIPs [the agreement on Trade-Related Aspects of Intellectual Property Rights] and hamper medical research into these compounds.'⁵⁵ The US letter provoked public outrage as it implied that the US government wished to protect the right of foreign researchers to patent Thai knowledge. In 2000, Vietnam was pressurized to hasten the protection of intellectual property rights under a bilateral trade agreement with the USA.⁵⁶ The agreement requires that Vietnam must implement and 'make [its] best effort' to join the Union for the Protection of New Varieties of Plants (UPOV) and that it must provide patent protection on all forms of plants and animals.

Table1: Some domestic laws and policies that impact on genetic resources and related traditional knowledge

COUNTRY	LAW
Bangladesh	Draft Biodiversity and Community Knowledge Protection Act, 1998 Draft Plant Varieties Act, 1998 Draft Cooperation Agreement between the European Community and the People's Republic of Bangladesh on Partnership and Development
China	Regulation Concerning the Management and Protection of Wild Herbal Resources, 1987 Regulation Concerning Protection of Wild Plants, 1997 Regulation of the People's Republic of China on the Protection of New Varieties of Plants, 1999 Patent Law
Fiji	Draft Sustainable Development Bill
Hong Kong	Plant Varieties Protection Regulation, 1997
India	Patent (Second Amendment Act), 2002 The Protection of Plant Varieties and Farmers' Rights Act, 2001 Draft Biological Diversity Bill, 2000 Draft Kerala Tribal Intellectual Property Bill, 1996 Draft Karnataka Community Intellectual Rights Bill, 1994
Indonesia	Health Act Plant Variety Protection Bill Act on Spatial Use Management, 1992 Plant Cultivation Act, 1992
Korea	Wild Flora and Fauna Protection Act Under revision Natural Environment Conservation Act Seed Industry Law, 1999
Malaysia	Draft Plant Variety Legislation, 1999 Biodiversity Policy Draft Access and Benefit Sharing Law
Burma/Myanmar	Protection of Wild Life and Wild Plants and Conservation of Natural Areas Act, 1994
Nepal	Draft Policy on Access to Genetic Resources and Benefit Sharing, 2002 Draft Access to Genetic Resources and Benefit Sharing Act, 2002 Local Self Governance Act, 1998 Plant Protection Act, 1973
Pakistan	Draft Plant Breeders Rights Law, 2002
Philippines	Wildlife Resources Conservation and Protection Act, 2001 Plant Variety Protection Act, 2000 Indigenous Peoples Rights Act, 1997 Traditional and Alternative Medicine Act, 1997 Executive Order No. 247 on Bioprospecting, 1995 Draft Community Intellectual Rights Protection Act, 1994
Samoa	Intellectual Property Rights Law, 1998 Village Fono Act, 1990 Draft Environment Bill Proposed Access to Genetic Resources Regulations
Singapore	Proposed Policy Guidelines on access to genetic resources
Sri Lanka	Draft Protection of New Plant Varieties Act, 2001 Draft Access to Traditional Knowledge relating to the use of Medicinal Plants Act, 2000 Agreement on the Protection and Enforcement of Intellectual Property Rights between the US and Sri Lanka, 1991
Taiwan	Plant Seed Law, 1988
Thailand	Thai Traditional Medicine Act, 1999 Plant Variety Protection Act, 1999 Draft Community Forest Act, 1996
Vanuatu	Under revision Environment Act
Vietnam	Agreement between the US and Vietnam on Trade Relations, 2000 Law on Environmental Protection, 1993 Land Law, 1993

SOURCE: 'TRADITIONAL KNOWLEDGE OF BIODIVERSITY IN ASIA-PACIFIC BY GRAIN AND KALPAVRIKSH.

Governments' efforts to protect ICPR on biodiversity

Enactment of laws

Creating, modifying and implementing national laws on traditional knowledge and genetic resources is the most visible action taken by governments. This law-making is spurred on by pressure to meet international agreements. The general trend in Asia is towards the commercialization of genetic resources and the expansion of IPRs over traditional knowledge.

This trend is most visible in the adoption of Union for the Protection of New Varieties of Plants (UPOV)-style legislation that does little to recognize and reward farmers' innovation in plant-breeding. UPOV is an intergovernmental organization with headquarters in Geneva, Switzerland. It was established by the International Convention for the Protection of New Varieties of Plants to oversee the protection of new varieties of plants under an intellectual property right. Attempts have been made to slow down this trend until impact assessments of the proposed changes are fully explored, but with little success. Nevertheless, many developing countries are also attempting to promote legal changes to protect biodiversity and related traditional knowledge.

In some countries, governments have seemingly made efforts to empower local communities, such as in the Philippines with the Indigenous Peoples' Rights Act (IPRA); in Thailand, where the indigenous peoples were granted a Peoples' Assembly and the introduction of the Thai Traditional Medicine Law that seeks to protect traditional knowledge related to medicinal plants; in Bangladesh, where a Department of Indigenous Peoples Development was created along with the drafting of a Biodiversity and Community Knowledge Act; and in India and Indonesia where an amendment to the Indian Constitution and the decentralization law allow village bodies (*panchayats*) and *adat* villages to take decisions on local biological resources.

But new laws can also bring in more administrative structures and accompanying bureaucracy, and often depend on political will. KAMPI (Kasamahan ng mga Magbubukid sa Pilipinas), an alliance of indigenous peoples' organizations in the Philippines, explained how the Local Government Units still fail to recognize and respect the traditional systems of self-governance in the Philippines. At the local level, multiple bodies and groups, often with overlapping jurisdictions, may increase the problem

of local resource management and create unnecessary conflicts with informal systems of control and management.

Databases

Electronic databases and digital libraries are gaining popularity in several government-initiated projects for documenting traditional knowledge. There is strongly divided opinion on the efficacy of such databases to prevent biopiracy. Some say that centralization makes information inaccessible to rural communities and alienates them. Others defend documentation in the light of dying oral knowledge and the erosion of the social processes by which the knowledge of a community or tribe is transmitted to the next generation.

There is consensus, however, that any collection of traditional knowledge data must have the prior informed consent (PIC) of the communities. In situations where such knowledge is not already in the public domain, governments would need to ensure that the disclosure of traditional knowledge is voluntary. Also, much traditional knowledge that is currently in the public domain may not be there with the consent of the concerned communities. Putting such knowledge into databases supposedly to prevent patents being taken out would only be building on an earlier wrong. There are other practical issues that need to be resolved such as the basis of user fees, valuation of the information collected, possible claims of intellectual property over the databases themselves and the recovery of operational costs of these databases.

Formal research

The number of research centres and research projects in the region has increased and includes domestic ventures, foreign collaborations and corporate sponsorship. Research in traditional knowledge raises questions about the relationship between academic institutions and industry.

In some cases, research is apparently carried out for the benefit of local and traditional communities. For example, in India, the All-India Coordinated Research Project on Ethnobotany has identified tribal and other community uses for several thousand species of plants, including medicinal plants. It remains to be seen whether the communities actually do benefit from this

project. In Laos, a unique system of governmental promotion and protection of the population's traditional medicinal practices has evolved under the auspices of the Ministry of Health. A Traditional Medicine Research Centre has been set up, which is a potential tool for protecting traditional medicinal knowledge of the tribes in the country.⁵⁷

However, research does not always benefit the original knowledge-holders. In Malaysia, a plant in the Sarawak rainforest is now being tested to determine whether it presents a cure for prostate cancer. The Malaysian government has not released the plant's name for security reasons, but they are reportedly working with an Australian company to bring it to the market. In China, in what was billed as a milestone for traditional Chinese medicine, two foreign firms joined in 2000 with one of mainland China's oldest houses of medicine to research and develop Chinese pharmaceuticals for overseas markets. Pharmagenesis from the USA and Orchid from France signed a contract with Lerentang from Tienjin to invest US\$9 million in joint research on the active ingredients in traditional Chinese medicines. Indigenous peoples are concerned that such projects provide income only for the pharmaceutical and medical companies and the states involved.

Research projects funded by international organizations do not necessarily challenge this phenomenon. 'Our objection is against the collection of traditional knowledge without proper benefits to locals', argued Hemantha Withanage of the Environmental Foundation Ltd, Sri Lanka, talking about a 'Conservation and Sustainable Use of Medicinal Plants' project jointly funded by the World Bank and Global Environmental Facility.⁵⁸ Another case from Sri Lanka is that of US Cornell University's contract with the University of Sri Jayawardenapura for the export of 905 plant varieties until 2005, which provides no compensation for the peoples who helped identify the plants and explain their uses.⁵⁹

In one research project, a custody battle arose between Thailand and a UK university over local fungi strains with potential medicinal uses. At issue was a collection of more than 200 strains of marine fungi, taken from mangrove and coastal areas in southern Thailand, that were stored in laboratories in the UK's Portsmouth University. A Portsmouth University professor took the marine fungi specimens in 1993, as part of a research project sponsored by a pharmaceutical company. They were finally returned years later.⁶⁰

Nepal has its share of problems of resource exploitation alongside research projects. A university professor from Illinois, USA, collected the Dhobini plant (*Mussaena sp.*) from the Gurung community of Chhambdila, Nepal without any arrangement for benefit-sharing in case of commercialization.

In response, some governments are tightening procedures and guidelines for research projects. For example, in India, biomedical research guidelines require that:

'a Folklore medicine/Ethnomedicine is ready for commercialization after it has been scientifically found to be effective, then the legitimate rights/share of the Tribe or Community from whom the knowledge was gathered should be taken care of appropriately while applying for the Intellectual Property Rights and Patents for the product'.⁶¹

Also, the Indian Ministry of Environment and Forests issued a circular in 1998 to all universities and research institutes which prevented the transfer of genetic material outside the country without prior informed consent and a proper material transfer agreement.

[This section draws heavily on 'Traditional knowledge of biodiversity in Asia-Pacific' by GRAIN and Kapavriksh, www.grain.org/publications/tk-asia-2002-en.cfm]

Intellectual property rights regimes and biodiversity

Intellectual property rights (IPRs), as the term suggests, are rights to ideas and information which are used in new inventions or processes. These rights enable the holder to exclude imitators from marketing such inventions or processes for a specified time; in exchange, the holder is required to disclose the formula or idea behind the product/process. The effect of IPRs is therefore monopoly over commercial exploitation of an idea/information, for a limited period.⁶²

As IPRs are actually mechanisms to protect individual and industrial 'inventions', they are usually in effect for a specified period. These legal rights can be attached to information if the information can be applied to making a product that is distinctive and useful. Legal rights prevent others from copying, selling or importing a product without authorization. In essence, there are six forms of intellectual property: patents, plant-breeders' rights, copyright, trademarks, industrial designs and trade secrets.

Currently, there are a number of IPR regimes in operation in Europe, the USA and elsewhere. The newer laws tend to cover a broad spectrum of life forms and grant astonishing degrees of ownership to the patent-holder.

Corporations are well aware of how cost-efficient it is to tap the knowledge of communities that live with and depend on biodiversity for their survival. Pharmaceutical transnational corporations (TNCs) have taken plant samples from tropical forests (identified and genetically manipulated by indigenous peoples) to use as raw materials in developing new drugs.

In Asia, agricultural companies took disease-resistant seeds (identified and genetically manipulated by indigenous peoples). After some modifications, this genetic material was patented, mainly in the USA, and the resulting seeds or products were marketed. Moving a single gene from one spot to another within a cell, whether or not it causes an actual variation in the next generation, creates a sufficiently 'new' plant variety to qualify as a patentable invention. Corporations have realized enormous benefits from their free access to genetic materials, especially in the case of crop plants from developing countries.⁶³

This gave birth to rights over plant varieties, or breeders' rights, which gave the right-holder limited regulatory powers over the marketing of 'their' varieties.

Until recently, most countries allowed farmers and other breeders to be exempted from the provisions of such rights, as long as they did not indulge in branded commercial transactions of the varieties.

In many Asian countries, patents with full monopolistic restrictions are now applicable to plant varieties, micro-organisms and genetically modified animals. In 1980, the US Supreme Court ruled that microbiologist Ananda Chakrabarty's patent claim for a genetically engineered bacterial strain was permissible.⁶⁴ This legitimized the view that anything made by humans and not found in nature was patentable. Genetically altered animals, such as the infamous 'onco-mouse' of Harvard University (bred for cancer research), were also patented. Finally, several patent claims have been made, and some granted, on human genetic material, including on material that has hardly been altered from its natural state.⁶⁵

Until very recently, these trends were restricted to some countries, which could not impose them on others. However, with the signing of the Trade-Related Aspects of Intellectual Property Rights agreement (TRIPS), this has changed. TRIPS requires that all signatory countries (that is, more than 115 states, of which 70 are from the South) accept patenting of micro-organisms and microbiological processes, and some 'effective' form of IPR on plant varieties, either patents or some *sui generis* (new) version.⁶⁶ TRIPS allows countries to exclude animals and plants *per se* from patentability.

The history of IPRs shows that the monopolistic hold of governments, corporations and some individuals over biological resources and related knowledge is continuously increasing. A substantial amount of this monopolization is built on and through the appropriation of the resources conserved and knowledge generated by indigenous peoples.

IPRs adversely affect Asian farmers

The demand of corporations to apply IPR regimes to biodiversity is based on the false premise that only their investments need to be rewarded. The toil of Southern farmers in domesticating, breeding and conserving biodiversity over centuries is conveniently forgotten. The existing IPR agreements fail to recognize the rights of

indigenous and local communities to their own knowledge and innovations.

Countries in the South have strongly argued that multinationals from the industrialized world exploit their biological wealth and then sell the patented products back to them at excessive prices. The growth of the biotechnology industries, combined with the loss of biological diversity worldwide, has focused the attention of governments, corporations and others on access to and control of genetic resources – mainly because of the tremendous potential for generating commercial profits. The traditional lifestyles, knowledge and biogenetic resources of indigenous peoples have become commodities, to be bought, sold and traded.

As a rule, farmers save some of their crop to use as seed in the following year. Under US IPR regimes, farmers would have to pay royalties on the seeds from patented seeds, and even where farmers were the source of the original stocks, they would not be allowed, under GATT rules, to market or use them. The IPR to a folk variety would include the rights to control the use of the folk variety, and the rights to the information coded in the DNA as a result of selection by farmers and their farming systems.

Commercial plant breeding is in the hands of a few TNCs that now control all the significant gene banks. TNCs are developing plants that respond to their own agrochemicals. TNCs are also working on genetic modifications aimed at converting non-hybrid fertile plants, such as wheat, into sterile hybrids. If a gene from another plant could induce sterility, seeds would have to be purchased each year. If IPR systems continue to evolve in this direction, farmers will have to pay royalties for patented seeds; will become dependent on one supplier for seed, fertilizers, herbicides and pesticides; and, in the case of hybrid, sterile plants, will have to buy new seeds each year.

A question facing Asian farmers is whether IPRs, which were developed to protect industrial inventions, are appropriate for human or other biological genetic materials. And how can such mechanisms protect a non-physical entity such as oral indigenous knowledge (that is, farmers' know-how as to the use and conservation of plants, shamans' preparation of herbal remedies, or women's conservation practices of seeds which are passed orally from generation to generation)?

Asian farmers must decide what type of mechanisms to adopt to protect themselves: IPR systems or other types of mechanisms. The costs and administrative implications of adopting some of the new IPR systems are great: US\$250,000 per patent. At the very least, farmers must retain the absolute right to save seed, to experiment with exotic germplasm (that is, the genetic

material which forms the physical basis of heredity and which is transmitted from one generation to the next by means of the germ cells) and to exchange seeds.

The WTO's TRIPS

While the success of indigenous peoples' leaders and advocates in lobbying for the provisions integrated into documents such as the Draft Declaration on the Rights of Indigenous Peoples and ILO Convention 169 should be celebrated, much remains to be achieved. Various factors continue to prevent the Draft Declaration from becoming a fully fledged universal agreement. As of August 2002, only 17 countries have ratified ILO Convention 169, and many Asian countries – such as Indonesia, Malaysia and the Philippines – which account for a significant portion of the world's remaining biodiversity resources, have yet to ratify the vital document. Lobbyists admit that even if the Draft Declaration is finally adopted, it will remain a 'soft law' like the UN Declaration on Human Rights, which is not legally binding.

In contrast, the World Trade Organization (WTO) is very powerful. The WTO is an inter-governmental entity that was set up to formulate a set of rules to govern global trade and capital flows through the process of member consensus, and to supervise member countries to ensure that the rules are followed. Many countries are now feeling the far-reaching effects of its well-instituted policies and enforcement mechanisms. Its intellectual property rights regimes have been set up very efficiently.

The WTO's TRIPS presents a tough challenge for indigenous peoples. The policies and rules of TRIPS now govern and influence the economic policies of member-countries. The CBD and Agenda 21 also require countries to produce national policies, but the UN has no compliance system and no strong agency to follow up vital agreements. In contrast, the WTO can sanction countries that do not abide by its rules, and it has shown it can flex its muscles, for example over issues such as child labour and forced labour.

While UN conventions and policies such as CBD and Agenda 21 talk about 'sustainable development', the WTO policies favour the 'free market' or 'globalized free trade' paradigm. The result, as noted by proponents of sustainable development, is 'a clash of paradigms' with the globalized free trade paradigm emerging as dominant.

The WTO has harmonized its IPR regimes with existing regimes, ie those of Northern governments. Some international lobbyists are concerned that indigenous peoples, who have contributed their age-old knowledge to develop and protect biodiversity in their communities, could be accused of biopiracy if the rights to this knowledge are held by TNCs through IPR regimes.

As the WTO's operating mechanisms have been set in place, bio-prospectors have continued to extract biodiversity resources, including the genes of indigenous peoples. Bio-prospectors continue to target the world's biodiversity-rich regions: Asia-Pacific and Latin America.

Exploiting biological indigenous knowledge and property rights

Asian indigenous peoples' struggle to protect their intellectual and cultural property rights intensified in the 1990s, when transnational corporate interests began exploiting for profit indigenous peoples' cultural knowledge, genes and biodiversity resources. As a result, biopiracy became a concern for indigenous peoples.

'Biopiracy' is used to describe the manipulation of intellectual property rights by those intent on gaining exclusive control over genetic resources without giving adequate recognition or remuneration to the original possessors of these resources.

In Asia, biopiracy is practised by multinationals and governments, under various pretexts, on biological and genetic resources found mostly in indigenous peoples' communities. It is not only genetic or biological materials that are taken, but also the priceless and age-old collective

indigenous knowledge of how to use them, embodied in healing and farming practices indigenous peoples have used for generations, and which have been proved to be scientifically sound and effective. After genetic and biological materials, and the knowledge of how to use them, have been collected, genetically manipulated 'life forms' are patented, and thus privatized and commercialized.

Biopiracy began in the 1980s, a by-product of the biotechnology industry which cannot flourish without access to biological resources. Asia's rich resources provided the much-needed raw materials.

Today, developed countries have selected and domesticated all major food crops on which humankind survives. More and more scientists now acknowledge and credit indigenous peoples' wisdom and knowledge for much of the biodiversity found in indigenous upland environments.

Thus the biotechnology industry has engaged in what is called 'bio-prospecting'. The race to find antidotes for diseases such as cancer, AIDS, Parkinson's disease and others has prompted multinationals to search indigenous peoples' mountains and forests for possible remedies. Alarmed by this phenomenon, indigenous peoples' leaders and advocates came together to work out how to combat exploitation of their resources.

Indigenous peoples' struggles against biopiracy

The extraction of biodiversity resources and the genes of indigenous peoples to supply raw materials for the biotechnology industry of the North has alarmed many indigenous peoples. Northern corporations, for example, have applied for patents on the neem plant and turmeric in India, the *kava* in the Pacific, the *ayahuasca* and *quinoa* in Latin America, and the bitter melon in the Philippines and Thailand. When processed or genetically engineered, these raw materials can be transformed into marketable commercial commodities.

The use of resources found mostly in indigenous peoples' lands is increasing. Recently, a German agro-chemical and pharmaceutical giant, Hoechst Co., was able to apply for and win several US patents on preparations derived from the medical plant of the mint family *Coleus forskohlii*, which grows in India, Nepal and Thailand, for commercial production. The plant has long been used and protected by indigenous peoples of these three countries.⁶⁷

Since 1998, another company, Glaxo Wellcome has successfully completed ethnobotanical research in Asian countries, including the Philippines, India and Indonesia, on the mint plant. The Singapore Centre for Natural Products Research (CNPR), a Glaxo Wellcome-funded bio-prospecting institution, is alleged to have an agreement with India's Tropical Botanical and Garden Research Institute, which allows the results of the work carried out by CNPR and Wellcome, along with the samples and any information relating thereto, to be considered 'the confidential property of CNPR or Glaxo Wellcome'.⁶⁸

Such arrangements can seriously threaten indigenous peoples' access to and control of their collective property and their collective knowledge of the traditional uses of exotic and endemic plants, which they have been using as food and medicine for centuries.

On the global level, international NGOs such as RAFI, GRAIN, the Third World Network and others have been joining with other groups to raise awareness of the biopiracy problem. These NGO networks, along with other interest groups and some parliaments, keep watch over patent applications in various patent and trademark offices worldwide.

In September 1995, more than 200 organizations from 35 countries filed a petition at the US Patent and Trademark Office. The petition seeks to revoke a patent given to W.R. Grace Company to use a pesticidal extract

from neem, an endemic tree in India. The petitioners charged the company of usurping an age-old biological process (see Table 3).

Indigenous peoples have found an ally in the international church community. As early as 1989, the World Council of Churches came out with a statement calling for 'a ban on experiments involving the genetic engineering of the human germline' (i.e. cell block). Indigenous peoples themselves have spoken out against the Human Genome Diversity Project (HGDP), condemning it as 'sacrilegious' and unethical. Indigenous peoples' lobbyists in 1994 also asked the UN Commission on Sustainable Development to ban the HGDP.⁶⁹

In February 1995, Asian indigenous peoples presented a statement at the European Parliament calling for a halt to the project. At the Fourth World Conference on Women in Beijing, the Asian Indigenous Women's Network exhorted other women to include in the Beijing Declaration a condemnation of the HGDP, and to call for it to be banned.⁷⁰

Also in 1995, indigenous peoples from the Asia-Pacific won the backing of 17 organizations in the Americas, which signed up to the Declaration of Indigenous Peoples of the Western Hemisphere Regarding the Human Genome Diversity Project. The Declaration called on international organizations to protect all life forms from genetic manipulation and destruction, and criticized the efforts of Western science 'to negate the complexity of any life form by isolating and reducing it to its minute parts ... and [thereby] alter its relationship to the natural order'.⁷¹

Indigenous peoples' representatives have organized 'parallel activities' to coincide with major WTO activities such as the WTO Third Ministerial Meeting in Seattle. After a caucus, the indigenous peoples' leaders produced the 'Indigenous Peoples' Seattle Declaration', which protested, among other things, about the patenting of life.⁷²

Some indigenous peoples' representatives have also participated in negotiating for the adoption of a Biosafety Protocol in the Convention on Biological Diversity. Adopted in January 2000, the Biosafety Protocol regulates the 'transboundary transfer' of genetically modified organisms (i.e. their movement across national borders).⁷³

Table 2: Bioprospecting: the tip of the iceberg

COUNTRY	BIOLOGICAL RESOURCE	COUNTRY	NOTES
China	Bitter melon (<i>Momordica charantia</i>)	USA	US Patent No. 5484889
China	Xi Shu/Happy trees (<i>Camptotheca lowreyana</i>)	USA	US Patent No. PP11,959
Malaysia	Bintangor tree (<i>Calophyllum lanigerum</i>)	Singapore	US Patents including Nos 6420571, 6160131 and 6277879
Pacific Islands	Kava (<i>Piper mytheisticum</i>)	USA	US Patents including Nos 6405948, 6277396, 6080410, 6025363, 5976550 and 5770207
Pacific Islands	Nonu [Indian Mulberry] (<i>Morinda Citrifolia</i>)	Europe USA	In 1995 Nonu Samoa Enterprises began export of nonu, a tree with medicinal properties, to the US with US collaboration
Pakistan	Basmati rice	USA	US Patent Nos 6274183 and 5663484
PNG	Coral reef sponges	USA	US Patent Nos 6281196, 6153590, 5646138 and 5494893
Philippines	Soil microbes	USA	The multinational company Eli Lilly has earned billions of dollars from the erythromycin antibiotic, which was developed from a bacterium isolated from a soil sample that Filipino scientist Abelardo Aguilar collected in his home province of Iloilo. Neither Aguilar nor the Philippines received any royalties.
Philippines	Llang-llang (<i>Cananga odorata</i>)	France	The use of the extracts from llang-llang in the cosmetic industry is perhaps as old as perfume in France. There are several perfumeries in France that have used and continue to use it in their products.
Philippines	Banaba (<i>Lagerstroemia sp</i>)	Japan, USA	US Patent No. 5980904
Philippines	Nata de coco	Japan, USA	US Patent Nos 6280767, 6140105, 5962277 and 5795979
Philippines	Snails (<i>Conus</i>)	USA	US Patent nos 6369193, 6344551, 6197535, 6153738, 6077934, 5633347, 5595972, 5589340 and 5514774
India	Basmati rice	USA	US Patent Nos 5663484 and 4522838
India	Turmeric (<i>Curcuma longa</i>)	USA	US Patent Nos 5401504, 5135796 and 5047100
India	Neem (<i>Azadirachta Indica</i>)	USA	Several US Patents including Nos 5420318, 5391779 and 5371254; the US multinational company W.R. Grace's EPO Patent No. 0426257
India	Guggul (<i>Commiphora mukul</i>)	USA	US Patent No. 6113949 and US Patent Application 20020018757
Thailand	Jasmine rice	USA	A US plant geneticist has developed a strain of jasmine rice to be able to grow it in the US; he received the original seeds of the Thai Khao Dok Mal 105 (KDM 105) jasmine rice variety from the International Rice Research Institute (IRRI) in 1995.
Thailand	Plao-nol (<i>Croton sublyratus</i>)	Japan	In 1975 Sankyo of Japan extracted the active ingredient of the Thai local plant to produce the patented product Kelnac.
Samoa	Mamala tree (<i>Homalanthus nutans</i>)	USA	US Patent No. 5599839
Sri Lanka	Kothala himbutu (<i>Salacia reticulata</i>)	Japan, USA	Takama System Ltd (Yamaguchi, JP)'s US Patent No. 6376682

SOURCE: TRADITIONAL KNOWLEDGE OF BIODIVERSITY IN ASIA-PACIFIC BY GRAIN AND KALPAVRIKSH.

Action against biodiversity exploitation

India. It is in India that some of the most significant struggles to protect biodiversity are taking place.

For more than 2,000 years, Indian indigenous communities have used the sap of the *Commiphora mukul* tree to lower blood cholesterol level and treat other forms of illness. Now, the patent (Patent No. 6436991) on the use of tree's sap is owned by the New Jersey-based Sabinsa Corporation. The extract from the tree is said to be an 'antioxidant and has cancer chemopreventive roles for cancer.... The invention relates to a composition and method for products extracted from *Commiphora* species

for use in the prevention and treatment of abnormal cell growth and proliferation in inflammation, neoplasia and cardiovascular disease.'⁷⁴

Indian indigenous peoples and sympathetic NGOs are asking the government for compensation for the knowledge shared on the growing, care and management, use and processing of the tree and its extract, which the local people perfected over so many years.

Indigenous peoples in India have contributed much to the identification, conservation and use of medicinal plants and continue to do so, although now they are wary of this. One active indigenous peoples' organization, the Foundation for the Revitalization of Local Health Traditions (FRLHT) is drawing up the Peoples' Biodiversity

Table 3: What the parties want

IN TERMS OF ...	MANY COMPANIES AND INDUSTRIAL COUNTRIES	MANY GOVERNMENTS IN ASIA-PACIFIC	MANY NGOS, LOCAL COMMUNITIES AND SMALL FARMERS
Plant varieties	Plant breeders' rights and patents	Willing to provide plant breeders' rights, with some provision for a farmer's "privilege"	Farmers' rights and community rights
<i>Sui generis</i>	UPOV standards	Not clear what they want, but most in favour of UPOV	Real alternatives to IPR
Patents	No exclusions for any subject matter	Certain exclusions	No patents on life
Ownership	Market control	State sovereignty	Community sovereignty and collective control
TRIPS review	No amendments that lower standards of IPR protection	Amendments to conform with CBD, but not challenging patents on life or traditional knowledge	Exclude biodiversity and do not introduce traditional knowledge, or introduce protection for traditional knowledge
Access	Free and unregulated	State control	Community control
Benefit sharing	Through IPR	Through IPR	Through community intellectual property regimes or comprehensive resource rights

SOURCE: 'TRADITIONAL KNOWLEDGE OF BIODIVERSITY IN ASIA-PACIFIC BY GRAIN AND KALPAVRIKSH.

Register. This local NGO is supporting sustainable local health traditions in Karnataka, Kerala and Tamil Nadu. FRLHT believes that, with regard to intellectual property rights on medicinal plants, it is a misconception that traditional knowledge can be patented when it has been documented and published.

As the general rule in patenting is that 'anything published cannot be patented as it is a prior art and already accessible in published form', FRLHT is asking local people to put oral knowledge and local health traditions into published form and into databases.

The Centre for Ecological Sciences (ECOS) at the Indian Institute of Science, is helping the Tharu people set up a museum of Tharu culture and traditions, including agricultural tools and implements, traditional varieties of paddy, maize, wheat and certain herbs. These are documented and stand as proof of the Tharu's indigenous heritage.⁷⁵

Another Indian NGO which is helping farming communities to protect their indigenous know-how and biodiversity, is the Centre for Indian Knowledge Systems (CIKS). CIKS's model in imparting and popularizing indigenous farming techniques is the *Vrkshayurveda* – the ancient classical texts of Indian plant science. The system is being implemented in 35 villages with a network of 1,200 farmers. In the Kancheipuram district of Tamil Nadu, for instance, farmers make use of ancient pest control practices called the *Ural Marundu*. This involves filling pots with leaves from a variety of plants with known pesticidal properties, adding cow's urine and a little water. The pots are covered, buried and left to brew for at least two weeks. The resulting liquid is diluted with water and used as a broad-spectrum pesticide for crops. The plants used in the decoction are known only to Tamil Nadu farmers and CIKS staff.⁷⁶

In April 1997 villagers in Pattuvam village, in Kannur District in northern Kerala (a southern state of India), issued a declaration placing controls on identified genetic resources available and used in the village for ages. The declaration was made after the village youth prepared a detailed register of every species and all the crop cultivars in the village. The register included 26 traditional rice varieties, 93 bird species, 30 fish varieties (freshwater and saline), a number of crabs, molluscs and tortoises, 32 species of mangroves, 14 wild mammals, and other tree and plant species. The survey listed a total of 366 species of plants in Pattuvam village alone.⁷⁷

The group of active villagers also set up a Forum for the Protection of Peoples' Biodiversity. The Forum, together with the village's grassroots statutory authority (*panchayat*), would thus have to be consulted by any person or company seeking access to the register and the genetic material listed.⁷⁸

Pattuvam villagers have concluded that there were items of considerable economic value which justified a declaration of ownership. Lawyers have yet to look into the legal implications of what the villagers have done in relation to GATT and WTO arrangements. But Vandana Shiva, a leading Indian social activist, opined: 'The declaration gives recognition to community rights to the intellectual and biological commons and provides a new interpretation to the *sui generis* option of TRIPS.'⁷⁹

Indian people also hold festivals to renew their connection with nature's resources that they have long used. The Indian Academy of Development Science periodically organizes a 'Vedu Sammelan' – a gathering of traditional healers. Under India's National Biodiversity Strategy Action Plan (NBSAP), biodiversity festivals have been held in various parts of the country, and have become

platforms for seed and information exchange, celebration of cultural aspects of biodiversity and revival of traditional knowledge systems.⁸⁰

In another local peoples' initiative, villagers of Jardhargaoon, a Himalayan foothills village in Uttar Pradesh, northern India, have taken charge of the heavily degraded slopes above their village. They started the *Beej Bachao Andolan* (Save the Seeds Movement), and, by making many journeys to more remote villages, they have been able to collect many varieties lost elsewhere in the region (up to 250 of rice and 170 of common beans, among others). Several farmers are now at various stages of switching over to biologically diverse, sustainable agricultural practices.⁸¹

Nepal. ECOS is also active in Nepal. Nepalese indigenous knowledge is being protected by the Tharu indigenous people who live in the southern plains. ECOS is helping Tharu farmers revive their indigenous farming methods by complementing them with recently developed environmentally friendly practices. One such project is in Dibya Nagar, where Tharu elders teach ECOS staff about age-old farming practices while learning about bio-pesticides from college-trained ECOS staff.⁸²

Tharu elders are motivated to share their know-how on biodiversity conservation, especially on seed conservation, with the younger generation. More often than not, it is the young women, trained by elder women, who become adept in assimilating this knowledge. For instance, the herbs used for healing and cooking are known mainly by the older women and the young women they trust with their knowledge. These women contribute a great deal to the sustainability of important food and medicinal plants.

Also in Nepal, village fairs, community exchanges and biodiversity festivals are some of the innovative ways used to keep alive and celebrate biodiversity and its link with the local culture. At one such biodiversity fair, the villagers realized that almost 100 traditional rice varieties were still in use, though they had long disappeared from the market.

Malaysia. Recognizing the importance of traditional knowledge, leaders at Sahabat Alam, Malaysia are helping the villages of Long Sayan and Uma Bawang Keluan to create botanical conservation sites. These sites will be a repository for many different species of rattan, bamboo, fruit trees and medicinal plants. With funding from the Borneo Project (a project aimed at improving the life and welfare of the indigenous peoples of Borneo), these pilot programmes are helping villagers manage, preserve and restore rare plant stocks for future generations.⁸³

Indonesia. The traditional practices and belief systems of the Atoni, who inhabit West Timor, are banned, and the identity of biodiversity species that are important in farming and for the treatment of diseases are being lost as the older people die. But a few Atoni tribesmen are reviving old practices and traditional lifestyles related to the Atoni cosmo-vision 'underground', with the help of the Timor Integrated Rural Development Programme (TIRD-P), a consortium of four NGOs working to promote sustainable agriculture and to prevent biopiracy in West Timor.⁸⁴

Thailand. The UK Foundation for Ethnobiology attempted out bio-prospecting activities among the indigenous Karen communities in northern Thailand. Foundation representatives initially sought access to information about medicinal plants. Through the Riche Monde Initiative for Ethnobiology in Thailand, the Foundation sought to make an inventory of the traditional medical and biological knowledge of the Karen people.

Thai NGOs discovered that the Foundation for Ethnobiology had not sought the approval of Thailand's National Science Council for its activities. Contrary to its claims, the Foundation had not consulted groups and communities who were opposed to the project. The Foundation was able to start the inventory project under the guise of gaining access to Karen 'environmental insights'.⁸⁵

A landmark achievement in the prevention of biopiracy in Thailand was when the Thai government, in 1997, as a result of lobbying by indigenous peoples, drafted a bill to recognize and protect the knowledge of traditional healers and Thailand's medicinal resources from private appropriation by pharmaceutical companies.

Sri Lanka. As elsewhere in the world, indigenous healers in Sri Lanka have, for centuries, prepared medicines from wild plants and flowers gathered from the country's tropical forests to treat a variety of illnesses. The ancient formulations of the *ayurveda* system of medicine were tightly guarded and were passed from one generation to the next in families that could trace back their ancestry for generations.

Feisal Samath cites the ability of an indigenous doctor in the north-central town of Polonnaruwa to treat patients with heart problems who would otherwise require bypass surgery, which costs at least US\$4,500 in hospitals in the country.⁸⁶ Global drug firms seek to exploit this ancient Lankan wisdom, extracting chemicals from local plants and patenting them abroad.

Export of medicinal plants or their extracts is banned in Sri Lanka. But Samath reports that biopiracy is flourishing in the country. Samath lists some of the local

biological resources that have been patented abroad. One is the locally grown Kothalahimbutu plant (*Salacil reticulata*), which helps control diabetes. *Ayurveda* physicians in Sri Lanka advise diabetic patients to drink water left overnight in mugs or jugs carved out of Kothalahimbutu, whose production has become a cottage industry in the country. Citing local newspaper accounts, Samath reports that a Japanese drug company patented a product based on this plant through the American Chemical Society in 1997. The plant Weniwalgeta – used as a remedy for fever, coughs and colds – has also been registered by Japanese, European and American manufacturers.⁸⁷

The media has played a role in exposing biopiracy in Sri Lanka. Two biopiracy cases in September 1997 were widely publicized and led to a sudden interest in the issue among environmentalists and scientists in the country. A university botanist was intercepted by customs at Colombo Airport trying to smuggle out some plant extract. In the same month, customs officials discovered a container of Kothalahimbutu – 1,512 cups weighing some 4 tonnes – being shipped to Japan through a Sri Lankan-owned firm.⁸⁸

Bangladesh. In Bangladesh, an activity facilitated by UBINIG (the Bangla acronym for ‘Policy Research for Development Alternatives’) is the *Nayakrishi Andolan* – the New Agricultural Movement, a peasant initiative for biodiversity-based farming. It aims to ‘incorporate traditional and indigenous knowledge of farming based on the principles of preservation, conservation and enhancement of biodiversity and genetic resources’.⁸⁹ The traditional uses of medicinal plants are kept alive by women, and village seed banks can be seen throughout the region.

Philippines. In the Philippines, the first item collected in an act of bioprospecting was a soil isolated in a cemetery in Iloilo province in 1949 by a Filipino scientist, Abelardo Aguilar, then working for the American company Eli Lilly. The soil turned out to produce an antibiotic, a drug now known as erythromycin. Aguilar never received any recompense from his company, even after the Philippines government intervened on his behalf.⁹⁰

The Philippines Department of Environment and Natural Resources (DENR) does not know what happened to specimens of a mountain yew called *Taxus sumatrana*, which two American researchers took from Mount Pulag in 1993. The 8,000-foot peak in Luzon island is a national park, and thus a ‘protected area’. The two researchers – Dr Melvin Shemluck of Quinsigamond College, Worcester, Massachusetts and Robert Nicholson of Smith College, Northampton, also in Massachusetts – informed the DENR that they would analyse the needle and stem of the yew for taxol, an anti-cancer agent.

Whatever their findings, they said, in a handwritten letter still filed with the DENR regional office in Baguio City in northern Philippines, they would report back to the DENR. The DENR regional office therefore issued the two Americans a ‘gratuitous permit’ required under Presidential Decree 1175. A decree by the late President Ferdinand Marcos, PD 1175 grants a gratuitous permit to individuals who seek ‘to collect certain wildlife species for educational and research purposes’. Nothing has been heard from them since.

In their letter, Shemluck and Nicholson set out their intentions:

- ‘to discover what levels of variation are found in wild populations of yew and ... to identify superior trees for possible plantation in the Philippines’;
- ‘to identify high-taxol clones’, which may be ‘the first step [to utilizing] this species in plantations’;
- ‘to subject the plant material for enzyme and possibly DNA analysis’, a process which would ‘attempt to understand the populational genetics of *Taxus sumatrana* and the relationship of Philippine plants to other species in Asia and throughout the world.’⁹¹

The incident occurred two years before ex-President Fidel Ramos signed and approved Executive Order 247, designed to regulate bio-prospecting, in 1995.

Abelardo Cruz, who used to coordinate the Northern Sierra Madre Wilderness Foundation, revealed how dwarf coniferous (cone-bearing) trees continue to be smuggled out from a 70,000-hectare natural ‘bonsai’ forest, a ‘protected area’, in Isabela Province in northern Philippines. The trees are being sold as ornaments, and for an unverified effect on male virility and sexual potency.⁹² Cruz believes the continuing interest in the trees is related to the current race among pharmaceutical companies to find drugs for problems such as ‘erectile dysfunction’ or sexual impotence.

A US multinational pharmaceutical company, Neurex Inc., with the help of scientists from the University of the Philippines Marine Sciences Institute and the University of Utah, now owns a Philippine snail that produces the world’s most powerful painkiller. The scientists isolated from the Philippine sea snail (*Conus magus*) a toxin called SNX 111, a painkiller that is claimed to be 100–1,000 times more effective than morphine.

SNX 111 will be highly profitable when marketed outside the USA. As a painkiller, it will be most important in battlefields, hospitals and drugstores. The Philippine snail is now covered by US patent numbers 5189020, 5559095 and 5587454. The US government is expected to approve, the use of Neurex Inc.’s

painkiller, as Warner Lambert, one of the world's major international pharmaceutical companies, has entered into a marketing deal with Neurex.⁹³

The removal of Philippine genetic resources is in part being made possible by the government, which has embraced globalization agreements. The Philippines became a member of the WTO in 1995 and since then, its trade policies have hurt its ecology badly.

An Asian Development Bank (ADB) report, *Challenges for Asia's Trade and Environment*, said that the country's trade policies and regulations are harming the environment, causing loss of biodiversity, infringing property rights and increasing deforestation.⁹⁴ Trade liberalization and the facilitation of technology transfer is happening at a high environmental cost. The loss of biodiversity and property rights, especially those of ethnic and tribal peoples, is causing a widespread tendency to mismanage resources because no proper price is being paid for their exploitation. Biopiracy has increased in the Philippines and the preservation of the ecosystems has become more controversial.

The threat to Philippine biodiversity has become more serious as the government has agreed to a US\$60 million biodiversity research project on drugs and medical products with the US National Institute of Health. Companies that do not have agreements with the Philippine government are continuing to carry out covert research.

In 1995, indigenous peoples' leaders in southern Philippines confiscated sacks of plant specimens collected by researchers from the Philippine National Museum. The researchers insisted their collection was legitimate and important for the National Museum's Philippine Plant Inventory Project. But the indigenous people asserted that the researchers broke both legal and traditional protocols as they failed to get the 'prior informed consent of the people', in accordance with Executive Order 247 which seeks to regulate research and bio-prospecting in local communities. The indigenous tribal leaders imposed a fine on the researchers of eight water buffaloes, 27 chickens, 8 metres of cloth, and one-peso coins amounting to P150.00 (almost US\$3). The researchers protested, but the indigenous people prevailed.⁹⁵

In the Cordillera Region of the Philippines, several villages are now engaged in community seed-banking, which is being promoted by the Igorot Tribal Assistance Group (ITAG), an environmental NGO, and the Project Initiating Employment through Training in Environmental Enterprises (PINE TREE), an environmental movement aimed at reducing poverty and facilitating environmental education. PINE TREE is supported by the New York-based Echoing Green Foundation.

The seed-banking activities are intended to allow the indigenous people to document important food and medicinal crops and valuable trees, and continuously plant and conserve these.

The biopiracy phenomenon has produced a variety of responses from indigenous peoples themselves, civil society, the churches and some governments. Indigenous peoples' organizations at the national level have been monitoring biopiracy and bio-prospecting, and have been lobbying for laws to regulate these activities.

Biotrade

Governments and companies alike are key players in the business of biotrade. 'Biotrade' refers to the movement of biological resources between countries, companies, academic institutions and individuals for potential profit. More and more governments in the region, willingly or unwillingly, are allowing overseas and domestic private enterprises to operate in the sector. Cash-poor governments like Laos, Burma/Myanmar and the Philippines, for instance, often strike biotrade deals that might not further the interests of their traditional knowledge holders.

Oxford Natural Products (ONP) from the UK has signed an agreement with PT Indofarma, one of the largest pharmaceutical companies of Indonesia, which will bring *Jammu* medicines onto the international market. *Jammu* are the traditional local botanical medicines widely prescribed for those who live in Indonesia.

This thriving trade in traditional medicine is one of the few that does well in the recession-ridden Indonesian economy. ONP has also signed an agreement with one of the leading natural medicine institutes of Vietnam. The two-part agreement embraces both development and future commercial rights, giving the company exclusive access to an important portfolio of Vietnam's medicinal plants.

ONP is also involved in Bhutan, where the company used the knowledge of the *Dungrshos*, Bhutanese traditional-medicine doctors, and the *Menpas*, their assistants, to identify Bhutanese herbal plants and how they are prepared.

The Human Genome Diversity Project

Another serious concern worldwide, particularly among indigenous peoples since the 1990s, is the ambitious US\$20 billion Human Genome Project of the National Institute of Health (NIH) and the Department of Energy in the United States. Scientists working on the project belong to what is called the Human Genome Organiza-

tion (HUGO); they seek to map the genetic basis of diversity among humans.

As part of the project, HUGO set up a committee in 1991 to develop the Human Genome Diversity Project (HGDP). The HGDP aims to 'collect, analyze and preserve genetic samples from a host of vanishing human populations'. These 'vanishing human populations' are indigenous peoples, including the Aetas of the Philippines, the Guaymi of Panama and the Hagahai people of the highlands of Papua New Guinea, among others. They were selected because their genes contain certain characteristics absent in mainstream populations, like resistance to some diseases, and tolerance to cold, heat and pain.⁹⁶

The HGDP seeks to project an idealistic aim. Proponents say they will map the hereditary bases for differences in human susceptibility to disease, which may help find treatments for diseases such as AIDS. But indigenous peoples are concerned about the motives of biotechnology corporations involved in the project.

The HGDP's aim of 'preserving' genetic samples from 'vanishing' human populations also sounds idealistic. But some indigenous peoples' leaders object to this aim, pointing out that colonizing countries of the North subjected indigenous peoples to genocide and ethnocide for 500 years, and that this continues in many parts of the world, so collecting their DNA is just rubbing salt on an open wound.⁹⁷

Indigenous peoples have also found the HGDP's methods of collecting gene samples questionable. One example is the attempt of the drug firm Hoffman-La Roche to collect gene samples from the Aeta peoples of the Philippines under the guise of medical missions. In 1993, Hoffman-La Roche approached the Hawaii-based Aloha Medical Mission, which often visits the Aetas, to contact the Aeta people when they were facing medical problems following the eruption of Mt Pinatubo, a volcano in Luzon island, in 1991. Sick and hungry after the dislocation caused by the volcanic eruption, the Aeta people welcomed such medical missions.⁹⁸

As in bio-prospecting for plant genetic materials, the HGDP also uses universities as intermediaries. In the Philippines, for example, there have been reports that professors from the University of the Philippines have been given contracts to collect genetic material from indigenous peoples.

A submission to the Working Group on Indigenous Populations by the Office of the High Commissioner for Human Rights noted in the conclusion that: 'Some concerns of indigenous peoples ... cannot be adequately addressed without a complete ban on projects such as the HGDP, and of the patenting of human genome.' (UN Doc. E/CN.4/Sub.2/AC.4/1998/4.) But the HGDP continues.

Land tenure security

For many indigenous and upland peoples in Asia, living securely in their ancestral lands or territories means taking full control over their biodiversity resources and their cultural heritage or their intellectual and cultural property rights.

The Hmong people of Mae Sa Mai, an upland community north of Chiang Mai in Thailand, have communal knowledge about particular herbs and plants that can cure rheumatism, women's painful menstruation, coughs and colds, and asthma. They grow medicinal plants in a communal herbal garden, which they consider their community pharmacy.

The Hmong people have handed down traditional knowledge on the medical importance of certain plants through the generations. As part of their spiritual practices, they have designated part of their land a 'sacred forest', where they worship gods and spirits who, they believe, are keeping watch over their community. The sacred forest, a 30-minute climb from the community proper, is also a vital headwater and watershed of springs and brooks that supply the community's potable water and irrigation needs. But they are worried because they are living within a territory that the government considers as a national park. Their aim is that the land where they have lived for 70 years, will be awarded to them.

In the Philippines, the effectiveness of the Indigenous Peoples' Rights Act (IPRA) has yet to be fully tested. Signed into law in October 1997, the law recognizes the rights of indigenous peoples to own, protect, use and manage their ancestral lands and domains according to their customary laws and traditions. Before the IPRA came into effect, the DENR issued special administrative orders, which paved the way for the issuing of Certificates of Ancestral Domain Claims or CADCs to indigenous communities. These CADCs are temporary though, until they become Certificates of Ancestral Domain Titles (CADTs).

In July 2002, Bakun town in Benguet Province in northern Philippines was awarded its CADT, the first in the country and the only one issued so far. Through this CADT, the Kankanaey-Bago peoples of Bakun can have full control over their biodiversity and wildlife resources. One prerequisite for processing of the CADT was an inventory of their wildlife and biodiversity resources. But, aware of the biopiracy phenomenon, the Kankanaey-Bago people do not intend to submit all the list of plants within their community.

However some government laws and policies are in conflict with the IPRA, for example, the Mining Act of 1995. The Mining Act liberalized the mining industry, giving incentives to big mining investors who apply for

large concessions, mostly in the ancestral lands of indigenous peoples. Large-scale mining is a threat to biodiversity and water systems, as well as people, who are displaced in some cases.

Benefit-sharing

The CBD and policies such as the Philippines' Executive Order 247 talk of benefit-sharing, but this concept is based on the premise that the resources of indigenous peoples can be valued in pesos or dollars. This notion is alien to many indigenous peoples, who consider themselves as custodians or stewards, not owners, of the natural environment.

Inexperienced in placing monetary value on entities they hold sacred, indigenous peoples are often short-changed by bio-prospectors and their affiliates. There have been cases where the actual sharing of benefits has turned out to be very different from what was expected or promised. When the University of Illinois at Chicago set out the agreements on royalties from a Philippine plant with anti-tumour properties, the document did not show the overall percentage of royalties.

The Scripps Institute of Oceanography of the University of California in San Diego (UCSD) and Bristol-Myers Squibb (BMS, a pharmaceutical company based in New York) entered an agreement to develop and market a drug extracted from a coral in Philippine seas. In order to bio-prospect in the country, the Scripps Institute arranged a partnership with Silliman University in Dumaguete City in central Philippines. When the Scripps Institute was asked to provide a commercial research agreement (CRA), its director said: 'We can give 5 per cent of our royalties [but because] we do not sell products ... asking us to guarantee 5 per cent of sales is unreasonable. The agreement is between UCSD and the Philippine units, not between BMS and anyone.'⁹⁹

Pamela Roland, a plant pathologist from the University of California at Davis (UCD) has formulated a way to compensate countries through scholarships, which are given to students in the countries where the genetic resources were found.¹⁰⁰ Since she was interested in patenting a gene from a rice plant species at the International Rice Research Institute (IRRI), Roland was willing to pay the scholarship of students from the Philippines where the IRRI is located.¹⁰¹ This appears to be a good arrangement, but some points must be agreed upon. First, the long-term objective of the scholarships should be to benefit the student's country. Second, both academics and the corporations that have benefited should contribute to the funds for the compensation, and this should be viewed as a responsibility not an act of charity. Most of the decision-making process lies within the control of corporations and academics. The price of genes, for instance,

was determined arbitrarily. It would follow that the amount of royalty, too, would be dictated.

Conflicts among developing countries

With countries in the region facing and succumbing to threats of biopiracy and biotrade, a collective stand could provide effective resistance. However, there is a threat of increasing conflicts between countries in Asia that share the same or similar resources, or compete for foreign markets. For example, with respect to RiceTec's Basmati rice patent, Nepal is concerned about not being acknowledged as a Basmati rice producer. Any settlement, legal rights or compensation related to the name, the knowledge or the plant in favour of one country – such as India or Pakistan – could leave out Nepal altogether.¹⁰²

In another development, Malaysia has sought a patent on *Eurycoma longifolia*, popularly known in the country as 'Tongkat Ali'. The Forest Research Institute of Malaysia (FRIM) has been given a mandate by the Malaysian government to be the lead agency in a Massachusetts Institute of Technology research project on the plant. The research has resulted in a patent application. FRIM has also signed a Memorandum of Understanding with Japanese-owned Nimura Genetic Solutions to collaborate in bio-prospecting of new drugs.¹⁰³ In Indonesia, the same plant, locally known as 'Pasak Bumi', is a part of *Jamu* traditional practice, which raises cross-border concerns about how Malaysia proceeds.

Also relevant in South–South relations are how one country's laws can affect another in the region.¹⁰⁴ For example, the price of drugs in Sri Lanka is much higher than in India, because of India's patent policy. Indian patent law had until recently refused to recognize product patents and permitted the manufacture and sale of patented products produced by different processes. Many such drugs are available in India and most of them are offered at much lower prices than world market prices.

The tightening of regulations in one country can have an adverse impact on plant genetic resources in another. For example, the smuggling of *Taxus baccata* from Nepal has increased since the Indian law on its collection has become stricter. The lack of a coordinated regional front against biopirates is sometimes the result of political differences that work against constructive dialogue, or of competition for profitable bilateral bio-deals in the global marketplace.

Other kinds of biopiracy

The physical removal of plant genetic resources has occurred in areas of ecotourism and nature trails. There

have been several reports that biological resources have been plundered in Cambodia. The illicit collection, smuggling and trade in marketable biological resources has become a multi-billion dollar business. Island nations such as the Maldives and the Pacific Island states, where tourism is one of the most important economic activities, can be particularly vulnerable to such theft. Ironically, protected areas can be more vulnerable than other areas, as growing tourism makes supervision impossible.

The appropriation of plants and knowledge sometimes takes place with the collusion of local people. In the Andaman Islands, off India's eastern coast, the Onge

tribe supposedly had a cure for malaria. There was huge controversy when it was discovered that senior officials from a government-run research centre had planned to file a patent application in their own name for the malaria cure.¹⁰⁵

NGOs working in the islands have sought plant quarantine and a ban on the introduction of exotic species that might endanger endemic plant life. In the absence of specific legislation for the protection of the biological resources and the knowledge emanating from them, such measures are being sought under the Coastal Zone regulations, which designate greater protection for the Islands than other coastal areas.

Conclusion

Conclusion – what indigenous peoples can do

In the indigenous peoples' struggle to protect their biodiversity resources, cultural and intellectual property, the 'think-global-act-local' framework remains relevant; or, as some might say, 'go glocal'.

There are those who shun global lobbies and international conferences, dismissing them as mere festivals of words, but policies and declarations created in the global arena can have far-reaching effects. Decisions of ministers attending the WTO conference in Seattle, for example, can affect the lives of villagers in Timbuktu. International lobbies and international networking should not be underestimated by activists.

On the other hand, some organizations are so focused on the international arena that they are distanced from the communities where the impacts of international policies are felt.

The best arrangement is a marriage of the two. Indigenous peoples' organizations need to inform themselves as to developments in the international arena and, at the same time, should relate these developments to what is happening on the ground.

Some indigenous peoples' groups and organizations also avoid working or engaging with governments. They would rather struggle for their rights outside government processes. It is time to rethink this position.

The UN and global indigenous peoples' networks are not lacking in international declarations and conventions, which, despite their flaws, can become the basis for national policies. With these international declarations and conventions as frameworks, indigenous peoples themselves, at local and national level, can propose mechanisms and policies on biodiversity resource protection.

Indigenous peoples, and their supporters from civil society, the churches and other sectors can also devise mechanisms, at village, national, regional and global levels, on how to create a more coherent approach.

Indigenous peoples and their networks should study previous declarations and other global documents and conventions and recommend mechanisms and structures through which these declarations can be made more effective.

Some countries, such as the Philippines, Sri Lanka and Thailand, have regulatory policies on bio-prospecting and

biopiracy. The existence of these policies is a big leap forward. But the strengths and weaknesses of these policies must be analysed to see how they can be enhanced and improved.

The stories of village initiatives, such as the declaration of the Pattuvam villagers in India to control identified resources, and a similar initiative of southern Philippines indigenous peoples, who confiscated the collections of plant collectors, must be shared with other indigenous peoples and their networks. Such actions can encourage similar initiatives elsewhere.

Given the reality that existing IPR/trade regimes are not appropriate to protect indigenous peoples' intellectual and cultural property rights, there is a clear need for alternative regimes and measures to safeguard the interests of conservation, sustainable use, and equity in the use of biodiversity.

Alternative regimes

Community-based IPR and resource rights regimes.

A number of Asian NGOs and individuals have advocated various forms of intellectual rights regimes which recognize the essentially community-based nature of much biodiversity-related knowledge. For instance, the Indian NGO Gene Campaign proposed a regime that focuses equally on farmers' and breeders' rights. Other groups like the Third World Network, GRAIN and the Research Foundation for Science, Technology and Ecology, have advocated community IPR regimes.¹⁰⁶ Some have argued for a system of Traditional Resource Rights, which encompasses not just intellectual rights but also physical resources and cultural rights.¹⁰⁷ Countries like the Philippines are attempting to experiment with such regimes, though it is not yet possible to make any judgements of their efficacy.

Civil society resistance and challenges to dominant IPR regimes.

Another strategy for countering inequitable or destructive IPR regimes, is the mobilization of civil society to resist and challenge them. In a number of countries, notably India and Thailand, farmers' groups, NGOs and scientists have led the struggle against the 'piracy' of indigenous and local community knowledge, and the imposition of IPRs on life-forms and related knowledge. Legal challenges have been taken to the US and European patent offices (e.g. in the case of turmeric, by the Indian government; in the case of

neem tree products, by several NGOs; and in the case of the sacred 'ayahuasca' plant, by a combination of North and South American groups).

Revival of farming and medicinal systems. The revival of aspects of more traditional farming and medicinal systems would allow communities and citizens to be more self-reliant, reducing dependence on corporate- and state-controlled seeds and drugs, among other things. Of course, given existing economic and social structures, and the increasing incursions of the global economy into the everyday lives of even 'remote' communities, this form of resistance is difficult. But there are significant movements that have kept alive its possibilities, for example the widespread revival of biodiverse farming systems in India and other parts of South and South-East Asia.

Sui generis system. Another possibility involves the adoption of *sui generis* forms of intellectual property protection specifically designed for plant varieties and animal breeds. Indigenous communities can make use of Inventors' Certificates, which can reject financial com-

ensation altogether in favour of non-monetary awards and non-exclusive licensing arrangements. Governments can help establish Inventors' Certificates through uncomplicated national legislation; they need only notify WIPO and GATT that this legislation exists. Inventors' Certificates can also be assigned to indigenous communities with the same flexibility as for imported inventions.

The Model Law on Folklore. The Model Law on Folklore, adopted in 1985 by both UNESCO and WIPO, affords indigenous communities three unique elements that are especially appropriate to the protection of biological products and processes. First, 'communities' can be the legally registered innovators; they can either act on their own behalf or be represented by the state. Second, community innovations are not necessarily fixed and finalized, but can be ongoing or evolutionary and still be protected by intellectual property law. And, third, communities can retain exclusive monopoly control over their folklore innovations for as long as the community continues to innovate.

Recommendations

All governments, who have indigenous peoples in their territories, should:

1. Ratify ILO Convention 169 if they have not already done so.
2. Ensure the immediate adoption in its current form of the UN Draft Declaration on the Rights of Indigenous Peoples.
3. Ratify the UNESCO Cultural Property Treaties if they have not already done so.
4. Provide funding mechanisms to enable indigenous peoples to participate directly in negotiations relevant to the protection of their intellectual and cultural property rights, at local, national and international levels.
5. Incorporate the concept of 'Prior Informed Consent' of indigenous and local communities into national legislation (the Philippines has already done so) relevant to intellectual and cultural property.
6. Facilitate the repatriation of cultural property to rightful indigenous owners.
7. Ensure that the rights of indigenous peoples to own and benefit from their ancestral lands and territories are fully protected in their domestic laws and policies.
8. Integrate biodiversity resource protection and indigenous peoples' rights education into their school curricula.
9. Suspend projects in indigenous peoples' territories that were initiated without their full and prior informed consent.
10. Disseminate information to all indigenous communities regarding national and international policies on intellectual and cultural property rights.

All states should also:

i. Establish defensive IPR regimes:

Countries should establish regimes for certain IPRs whereby the right holder cannot monopolize knowledge or its use, but is guaranteed the ability to stop

others from appropriating or misusing their knowledge or resources. A country could pass legislation stating that its resources were accessible to all, provided they signed a legally binding agreement that they would not in any way apply restrictive IPRs to these resources, or allow such application by third parties.

ii. Develop alternative patent initiatives:

1. New Deposit Rules. National regulations and, where appropriate, international conventions, should 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.
2. Gene Bank 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 property of that community. No part of that material should be subject to patent claims by others. This material should be regarded as 'published' information precluding patent applications.
3. IPR Ombudspersons and Tribunals. Each national patent office and the secretariat for each IPR convention should create the post of ombudsperson, whose task it would be to investigate complaints from indigenous communities. The ombudsperson post should be filled 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. 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.

Relevant international instruments

Universal Declaration of Human Rights, 10 December 1948

Article 17

Everyone has the right to own property alone as well as in association with others.

No one shall be arbitrarily deprived of his property.

Declaration on the Rights of Persons Belonging to National or Ethnic, Religious and Linguistic Minorities, 18 December 1992

Article 1

1. States shall protect the existence and the national or ethnic, cultural, religious and linguistic identity of minorities within their respective territories and shall encourage conditions for the promotion of that identity.
2. States shall adopt appropriate legislative and other measures to achieve those ends.

Article 2

1. Persons belonging to national or ethnic, religious and linguistic minorities (hereinafter referred to as persons belonging to minorities) have the right to enjoy their own culture, to profess and practice their own religion, and to use their own language, in private and in public, freely and without interference or any form of discrimination.
2. Persons belonging to minorities have the right to participate effectively in cultural, religious, social, economic and public life.
3. Persons belonging to minorities have the right to participate effectively in decisions on the national and, where appropriate, regional level concerning the minority to which they belong or the regions in which they live, in a manner not incompatible with national legislation.
4. Persons belonging to minorities have the right to establish and maintain their own associations.
5. Persons belonging to minorities have the right to establish and maintain, without any discrimination, free and peaceful contacts with other members of their group and with persons belonging to other minorities, as well as contacts across frontiers with citizens of other States to whom they are related by national or ethnic, religious or linguistic ties.

Article 3

1. Persons belonging to minorities may exercise their rights, including those set forth in the present Declaration, individually as well as in community with other members of their group, without any discrimination.
2. No disadvantage shall result for any person belonging to a minority as the consequence of the exercise or non-exercise of the rights set forth in the present Declaration.

Article 4

1. States shall take measures where required to ensure that persons belonging to minorities may exercise fully and effectively all their human rights and fundamental freedoms without any discrimination and in full equality before the law.
2. States shall take measures to create favourable conditions to enable persons belonging to minorities to express their characteristics and to develop their culture, language, religion, traditions and customs, except where specific practices are in violation of national law and contrary to international standards.
3. States should take appropriate measures so that, wherever possible, persons belonging to minorities may have adequate opportunities to learn their mother tongue or to have instruction in their mother tongue.

4. States should, where appropriate, take measures in the field of education, in order to encourage knowledge of the history, traditions, language and culture of the minorities existing within their territory. Persons belonging to minorities should have adequate opportunities to gain knowledge of the society as a whole.
5. States should consider appropriate measures so that persons belonging to minorities may participate fully in the economic progress and development in their country.

Article 5

1. National policies and programmes shall be planned and implemented with due regard for the legitimate interests of persons belonging to minorities.
2. Programmes of cooperation and assistance among States should be planned and implemented with due regard for the legitimate interests of persons belonging to minorities. (...)

International Covenant on Civil and Political Rights, 16 December 1966

Article 26

All persons are equal before the law and are entitled without any discrimination to the equal protection of the law. In this respect, the law shall prohibit any discrimination and guarantee to all persons equal and effective protection against discrimination on any ground such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status.

International Covenant on Economic, Social and Cultural Rights, 16 December 1966

Article 3

The States Parties to the present Covenant undertake to ensure the equal right of men and women to the enjoyment of all economic, social and cultural rights set forth in the present Covenant.

Article 6

1. The States Parties to the present Covenant recognize the right to work, which includes the right of everyone to the opportunity to gain his living by work which he freely chooses or accepts, and will take appropriate steps to safeguard this right.
2. The steps to be taken by a State Party to the present Covenant to achieve the full realization of this right shall include technical and vocational guidance and training programmes, policies and techniques to achieve steady economic, social and cultural development and full and productive employment under conditions safeguarding fundamental political and economic freedoms to the individual.

International Convention on the Elimination of All Forms of Racial Discrimination, 21 December 1965

Article 5

5. ... States Parties undertake to prohibit and to eliminate racial discrimination in all its forms and to guarantee the right of everyone, without distinction as to race, colour, or national or ethnic origin, to equality before the law, notably in the enjoyment of the following rights:
...(d) Other civil rights, in particular:
...(v) The right to own property alone as well as in association with others.

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Intellectual and Cultural Property Rights of Indigenous and Tribal Peoples in Asia

Indigenous and tribal peoples worldwide are faced with the appropriation of their collective heritage developed through the ages. Their traditional songs and designs are being commercialized for the tourist industry, and their traditional knowledge of crops and medicinal plants is being appropriated by multinational companies, often without any recompense, a phenomenon which has come to be known as 'biopiracy'.

This report looks at efforts by the United Nations and governments to protect this heritage from exploitation; the pressures on governments to allow exploitation of indigenous knowledge; and the effects of the General Agreement on Tariffs and Trade and the Trade-Related Aspects of International Property Rights agreement on indigenous peoples' intellectual property rights.

The many initiatives taken by Asian indigenous and tribal peoples to protect their heritage are also discussed, and some strategies for the future are put forward in the Conclusion.