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**Developing and Implementing National Systems for
Protecting Traditional Knowledge: A Review of
Experiences in Selected Developing Countries**

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**By
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INTRODUCTION¹

The aim of this paper is to compare, contrast and evaluate progress in the development and implementation of national systems for protection of traditional knowledge. It is hoped that in doing so developing countries will have a clearer picture of related developments taking place in other parts of the world. This may help them to identify procedures, principles and provisions they may wish to adopt, and perhaps also to anticipate possible pitfalls to be avoided. Given the necessity of defining the subject matter of the protection system, this paper begins by investigating and reviewing some of the key terms and concepts relevant to TK. The paper does not take for granted that protection of TK is so important as to require no justification. Consequently, it reviews some commonly mentioned reasons why governments might consider protection of TK to be an important priority. After this the paper sets out the whole range of possible legal and policy approaches to the development of national systems. Following this, three of the most significant national systems are presented: those of the Philippines, Costa Rica and Peru.

I. WHAT IS TRADITIONAL KNOWLEDGE?

There is no official or agreed definition of traditional knowledge. The Convention on Biological Diversity avoids a definition altogether, adopting the long-winded phrase “knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles”. The CBD also refers to “indigenous and traditional technologies”. Given that the national efforts to protect TK presented in this paper are inspired by the CBD and focus on biodiversity-related TK (usually referred to in the academic literature as traditional ecological knowledge), this paper begins by analysing the convention’s terminology.

Use of the word “innovations” in the CBD indicates an acceptance among the state parties that TK can be just as novel and inventive as any other kind of ‘non-traditional’ knowledge. The word “practices” on the other hand suggests repeated techniques and procedures that may be longer-established, but still dynamic and adaptive and equally deserving of protection. As with “innovations”, use of the word “technologies” implies that patents would be the appropriate form of protection (even though this is unlikely to be the case). Another implication is that modalities for their transfer should be based on mutually agreed terms as with any other technologies that may have wider application.

John Mugabe of the African Centre for Technology Studies (Mugabe 1999) seeks to clarify matters by drawing a distinction between traditional knowledge and indigenous knowledge according to the identity of the holders. While TK holders have “an unwritten corpus of long-standing customs, beliefs, rituals and practices that have been handed down from previous generations”, they do not, unlike indigenous knowledge holders, “necessarily have claim of prior territorial occupancy to the current habitat”. In other words, IK is a subset of TK which is no different except that the holders are indigenous peoples rather than non-indigenous communities embodying traditional lifestyles. In other words the distinction is being drawn not on

¹ I am grateful to Florence Labregere for her helpful comments on an earlier draft.

the basis that IK and TK are distinct but that IK holders have wider political claims than TK holders. While it is important to respect the claims of ‘indigenous peoples’ as recognised in the International Labour Organization Convention 169, this does not help us to understand what traditional knowledge actually is.

The CBD clearly takes no position concerning whether the knowledge of “indigenous and local communities embodying traditional lifestyles” is any different from the knowledge of the professional scientist. However, academics have looked into and debated this issue. Specifically, the debate revolves around two questions: First, if traditional knowledge is adaptive and dynamic - as most anthropologists agree it is - in what way is it different from ‘non-traditional’ knowledge? Second, is science by definition Western, or can “knowledge conducted on objective principles involving the systematised observation of and experiment with phenomena”² exist in all societies, even the most isolated ones?

A growing number of researchers sympathetic to indigenous peoples and local communities argue that they do indeed practice science, but even these researchers tend to consider traditional knowledge to be different from Western science in a number of quite fundamental respects. A frequently stated distinction is that Western science - or perhaps better said, the Western scientific tradition since the Enlightenment - is reductionist, while traditional (scientific) knowledge tends to be holistic. Often, this dichotomy is propounded by those who advocate more of the latter and less of the former in solving environmental problems, especially biodiversity erosion and the allegedly unsustainable nature of modern industrialised agricultural systems. The distinction has been dismissed by a number of commentators, among whom is the U.S.-based academic Arun Agrawal, who argues that:

the attempt to create two categories of knowledge - indigenous/traditional vs. Western/scientific - ultimately rests on the possibility that a small and finite number of characteristics can define the elements contained within the categories. But the attempt fails on each of the three counts: substantive, methodological and contextual (1995).

Deeper discussion of these definitional and conceptual controversies lies beyond the scope of this paper. But the important lesson here is that legislative approaches must be based on a clear definition of the subject matter for protection, just as intellectual property rights like patents only provide protection for inventions, and copyrights protect artistic and literary works, etc. Ideally the protectable subject matter should be defined in close consultation with the purported beneficiaries. Also, the broader the definition of TK the more the rights provided should be limited in some way or another. If only specific categories are defined, it seems reasonable for levels of protection to be stronger than if TK in its broadest sense is to be protected. But above all, the system should be fully consistent with customary norms. So for example, sacred knowledge that communities consider to be secret and inalienable for all time should not be given a time limit. On the other hand, to treat all conceivable categories

² Definition of *science* in *The Concise Oxford Dictionary*, eighth ed. (1990) Oxford, Oxford University Press.

of TK as deserving strong and/or permanent protection is unreasonable and would almost certainly go beyond what customary law indicates anyway.³

II. WHY PROTECT TK?

Apart from treaties and emerging international norms which imply both legal and moral imperatives for protecting traditional knowledge, there are a number of reasons why developing countries may feel motivated to protect TK. These are set out below.⁴

A. To improve the livelihoods of TK holders and communities

TK is valuable first and foremost to indigenous and local communities who depend upon TK for their livelihoods and well-being, as well as for enabling them to sustainably manage and exploit their local ecosystems such as through sustainable low-input agriculture. According to the World Health Organization, up to 80 per cent of the world's population depends on traditional medicine for its primary health needs. For those comprising the poorest segments of developing country societies, traditional knowledge is indispensable for survival (UNCTAD 2000).

TK is increasingly accepted as an important source of useful information in the achievement of sustainable development and poverty alleviation. Until the 1970s, development planning and conservation policies were usually based on very negative assumptions about traditional rural societies. Poor rural dwellers were generally assumed to be backward and inimical to change, and their livelihood practices, such as shifting cultivation, were thought to be at best inefficient and unproductive and at worst environmentally destructive. More enlightened attitudes toward the knowledge, skills, and subsistence practices of rural communities in developing countries emerged in the 1970s, according to Adams (1990), "as part of a liberal and populist reaction against the unsuccessful technological triumphalism of rural development practice". These attitudes have become increasingly mainstream in academia and among international development and conservation agencies. Many multilateral and bilateral donor agencies, including the World Bank; United Nations agencies such as the FAO, UNESCO, and UNEP; and several of the International Agricultural Research Centres now recognise and actively promote the role of traditional knowledge in sustainable rural development programmes (Warren 1995).

It appears then that protecting TK would help local people to maintain livelihood security and physical well-being while providing opportunities for economic development. However, at a time when TK is enjoying a measure of mainstream acceptance it has not had before, human cultural diversity is eroding at an accelerating rate as the world steadily becomes more biologically and culturally uniform. According to the IUCN Inter-Commission Task Force on Indigenous Peoples (1997), "cultures are dying out faster than the peoples associated with them. It has been estimated that half the world's languages – the storehouses of peoples' intellectual

³ This is not to deny the right of communities to veto bioprospecting and transfer of their knowledge. But states do not normally grant knowledge holders with absolute ownership rights over all categories of their knowledge, and such 'knowledge mercantilism' is certainly inadvisable. It should be noted that indigenous communities are not precluded from using and adapting knowledge from outside.

⁴ Some of the text below is derived from Dutfield 1999, 2000a; UNCTAD 2000.

heritages and the framework for their unique understandings of life – will disappear within a century”. According to the Task Force, the main threats include genocide, uncontrolled frontier aggression, military intimidation, extension of government control, unjust land policies, cultural modification policies, and inappropriate conservation management. This suggests that measures to protect TK and the rights of TK holders and their communities need to be implemented with some urgency.

B. To benefit national economies

TK benefits national economies and has the potential to benefit them still further. Such TK-based products as handicrafts, medicinal plants, agricultural products, and non-wood forest products (NWFPs) are traded in both domestic and international markets and can provide substantial benefits for exporter countries. For example, some 150 NWFPs are traded internationally in significant quantities (UNCTAD 2000). The total value of the world NWFP trade is of the order of US\$ 11 billion (FAO 1995).

TK is also used as an input into modern industries such as pharmaceuticals, cosmetics, agriculture, dietary supplements, industrial enzymes, biopesticides, and personal care. In most cases, virtually all the value added is captured by firms based in developed countries who can harness advanced scientific, technological and marketing capabilities. This situation needs to be addressed so that the developing countries can capture much more of the value added. However, one should not overestimate the industrial demand for *in situ* genetic resources and associated TK. While enhanced abilities to screen huge quantities of natural products and analyse and manipulate their DNA structures might suggest that bioprospecting will become more popular, it seems more likely that advances in biotechnology and new drug discovery approaches based for example on combinatorial chemistry and human genomics will in the long term reduce industrial interest in natural product research for food, agriculture and health, as well as associated TK. On the other hand, concerns about food safety and other unknown side effects of DNA-modified products may promote interest in natural product research, especially in organic agricultural products (UNCTAD 2000).

Attempts have been made to estimate the contribution of TK, particularly biodiversity-related TK, to modern industry and agriculture. For pharmaceuticals, the estimated market value of plant-based medicines sold in OECD countries in 1985 was US\$ 43 billion (Principe 1989). That many of these would have used TK leads in their product development is borne out by biochemist Norman Farnsworth's (1988) estimation that of the 119 plant-based compounds used in medicine worldwide, 74 per cent had the same or related uses as the medicinal plants from which they were derived. It is particularly difficult to estimate the contribution of traditional crop varieties (landraces) to the global economy. However, a study on the use and value of landraces for rice breeding in India (Evenson 1996) estimated that rice landraces acquired from India and overseas contributed 5.6 per cent, or US\$ 75 million, to India's rice yields. Assuming that landraces contribute equally to other countries where rice is cultivated, the global value added to rice yields by use of landraces can be estimated at US \$400 million per year.

But estimating the full value of TK in monetary terms is difficult if not impossible. First, TK is often an essential component in the development of other products. Second, as many and possibly most TK-derived products never enter modern markets, they are excluded from sectoral or GNP indices. However, if those who depend on TK-derived products were deprived of them, the cost of replacing them through purchases of substitutes in the market would probably be quite high, particularly as a portion of their incomes (UNCTAD 2000). And third, a great deal of TK is likely to have cultural or spiritual value that cannot be quantified.

In short, it seems that protecting TK has the potential to improve the performance of many developing country economies through greater commercial use of their biological wealth and increasing exports of TK-related products. But at the same time, it is important not to overestimate the economic potential of TK.

C. To conserve the environment

That a conservation ethic is a prevalent feature of the subsistence and resource management practices of many present-day indigenous or native peoples and traditional communities is supported by a large number of field studies (e.g., Bodley 1976; Clad 1984; Martin 1978; Reichel-Dolmatoff 1976). But this view is sometimes dismissed as romanticism. Some anthropologists claim that in many such societies, this ethic either is not observed by many of their members or is entirely nonexistent (e.g., Hames 1991; Kalland 1994). Ellen (1986) argues that the many traditional societies observed to impact minimally on the environment do so merely because they are the smallest and most isolated ones. Redford and Stearman (1993) also are sceptical of the 'ecologically noble savage' hypothesis (see also Redford 1991 and Stearman 1992). They feel it is inappropriate to generalise about native peoples and traditional communities and make broadly applicable assertions about their environmental values. They also argue that expecting them to continue using only traditional technologies and low-impact subsistence strategies places an unfair burden of responsibility on them and implicitly denies the right of such peoples to develop according to their own preferences (Kalland 1994; Redford 1991).

Nevertheless, academic studies of such communities provide ample evidence that the protection of traditional knowledge can provide significant environmental benefits. For example, in many forest areas, members of traditional societies plant forest gardens and manage the regeneration of bush fallows in ways which take advantage of natural processes and mimic the biodiversity of natural forests. Researchers are increasingly aware of the extent to which traditional natural resource management can enhance biodiversity and in this way have realised the extent of anthropogenic landscapes even within 'pristine' tropical forests (e.g., see Hecht and Posey 1989; Posey 1990). According to Oldfield and Alcorn (1991) "much of the world's crop diversity is in the custody of farmers who follow age-old farming and land use practices that conserve biodiversity ... These ecologically complex agricultural systems associated with centers of crop genetic diversity include traditional cultivars or 'landraces' that constitute an essential part of the world's crop genetic heritage and non-domesticated plant and animal species that serve humanity in various ways".

D. To prevent biopiracy

The issue of biopiracy has become highly contentious and seems to have played a catalysing role in the introduction of access legislation in some developing countries (e.g. Brazil and the Philippines). 'Biopiracy' was coined by the North American advocacy group Rural Advancement Foundation International as part of a counterattack strategy on behalf of developing countries that had been accused by developed countries, particularly the United States, of 'intellectual piracy'. The word is applied somewhat loosely to the extent it is not always clear who the victims actually are.⁵ But it normally refers either to the unauthorised extraction of biological resources and/or associated traditional knowledge from developing countries, or to the patenting of spurious 'inventions' based on such knowledge or resources without compensation.

It is by no means clear how much biopiracy actually goes on. Apart from lack of information, it depends of course on how one differentiates between legitimate and unfair exploitation. This is not always obvious. It also depends on whether resources are considered to be wild and unowned or domesticated and owned. A common view among critics of conventional business practice is that most companies fail to realise they may have a moral obligation to compensate communities providing genetic material for their intellectual contribution *even when* such material is assumed to be 'wild'. It may often be the case that genetic resources considered 'gifts of nature' are in fact the results of many generations of selective crop breeding and landscape management. Essentially the argument being made is that failing to recognise and compensate for the past and present intellectual contributions of traditional communities is a form of intellectual piracy. The likely response from industry is that this is not piracy since the present generation may have done little to develop or conserve these resources. They might counter that this is, at worst, a policy failure, and that measures – outside the IPR system – could be put in place to ensure that traditional communities are rewarded.

As for the patent-related version of 'biopiracy', there is little doubt that companies are in an advantageous position in that sense that while a useful characteristic of a plant or animal may be well-known to a traditional community, without being able to describe the phenomenon in the language of chemistry or molecular biology, the community cannot obtain a patent even if it could afford to do so.⁶ While it is unlikely that a company could then obtain a patent for simply describing the mode of action or the active compound,⁷ it quite possibly could claim a synthetic version of the compound or even a purified extract.⁸ In the absence of a contract or specific regulation, the company would have no requirement to compensate the communities concerned (Dutfield 2000a). Many people from the private sector would argue that since more is required than merely reformulating TK to acquire a patent, this is not

⁵ This comment is not to make light of people's concerns about biopiracy but to suggest that in cases where the distribution of a given resource is very wide or knowledge is held by large numbers of people or communities it may not be clear who if anyone is actually being exploited.

⁶ Though it may be able to if it could describe a specific formulation, even in fairly non-technical terminology.

⁷ Although in some circumstances this may be allowable under the United States and Japanese patent systems.

⁸ I am grateful for Mr Tim Roberts (patent agent) for clarifying this point.

piracy at all. However, it seems reasonable to counter that in some cases the most inventive activities are the discovery of the useful characteristic and the development of the ‘traditional’ techniques and procedures to apply it. Subsequent isolation and elucidation of the active principle may be relatively routine tasks.

TK holders and communities are understandably concerned that one type of IPR system is being universalised and prioritised to the exclusion of all others including their counterpart customary systems. In this context two specific points might be made. First, a few countries like the United States and Japan do not recognise undocumented traditional knowledge held abroad as prior art. Therefore it appears to be possible *in those countries* to reformulate this knowledge – in the sense of presenting it in a more ‘scientific’ way – and apply for a patent. In fact, there have been several well-publicised instances of this. Second, one can argue that the disproportionate legal treatment of commercially useful knowledge held by companies and similarly useful knowledge held by indigenous peoples is inherently unfair. When large industrial concerns in new technological fields find the IPR system cannot protect their innovations, it seems that new forms of IPRs are created in response. Traditional knowledge holders, on the other hand, do not have the political influence to change the system in their favour.⁹ Also, they are rarely successful in ensuring that their own custom-based intellectual property rights systems are observed by others. One might add that modern IPRs reflect, but also help to underpin (through the rewards they provide), a highly competitive winner take all business ethos, which is largely alien to most if not all indigenous communities.¹⁰

But apart from possible inequities with respect to patent rules *per se*, it is important to understand that the patent system is also open to abuse. Unfair use of the patent system is possible because intangible property is different from tangible property in at least one important respect. As Drahos has noted (1996) “abstract objects have no natural boundaries”. In the case of patents one consequence is that transaction costs of defining and enforcing the rights are potentially very high. The high costs involved mean that the system is more accessible to larger companies. This situation may also encourage free-riding by such firms since they may find that they can infringe the property rights of smaller firms, independent inventors and, for example, indigenous peoples safe in the knowledge that these other parties lack the economic muscle to mount an effective challenge.

⁹ According to Drahos: “while new forms of intellectual property in the form of protection for semiconductors or plant varieties have readily been minted for transnational industrial elites both nationally and internationally, the recognition of indigenous intellectual property forms has proceeded slowly or not at all. This selective approach to solving freeriding problems comes into sharp focus when one compares the evolution of protection for the semiconductor chip and protection of folklore. Prior to 1984 manufacturers of computer chips in the US had complained that existing intellectual property regimes often failed to protect their products. Their chips often failed to clear the patent hurdles of novelty and inventiveness...In 1984 the Semiconductor Chip Protection Act was passed...In contrast, the issue of protection for indigenous knowledge has largely remained just that, an issue” (Drahos 1997).

¹⁰ This issue has been raised not only by indigenous peoples and developing countries. For example, a certain amount of bad feeling ensued when techniques for mass-producing penicillin were patented by U.S. firms and British companies had to pay royalties to them. The initial discovery of penicillin and much of the original research was carried out in Britain and placed in the public domain.

Another consequence is that claims within a patent are likely to overlap with those in others held by competitors. This situation is sometimes exacerbated by the mistaken award of patents with overly broad claims encompassing non-original products or processes. This is often due to the lack of time for patent examiners to seek out all relevant prior art, but *may* also be caused by the deliberate omission from patent applications of prior art that might endanger the validity of the ‘invention’. In many cases it may be left to the courts finally to determine the scope of a patent. While in theory indigenous communities and developing country governments could seek to have a patent award overturned on the grounds that their knowledge or, say, folk varieties, had been fraudulently or erroneously claimed, lack of financial and other resources makes this extremely difficult.

Table 1
Reasons to protect TK

REASONS		
Moral	Legal	Utilitarian
To fulfil moral obligations towards indigenous/local communities	To comply with international treaties and emerging norms e.g. CBD, UDHR, IUPGR	For <i>local</i> economic, welfare (health and food security) and subsistence benefits
To prevent biopiracy		For <i>national</i> economic and welfare benefits
		For <i>global</i> economic and welfare benefits
		For improved sustainable management of biodiversity and conservation

In conclusion there are ample reasons for governments to take steps to legally protect traditional knowledge (Table 1). However, it cannot be emphasised enough that protection of TK cannot satisfactorily be dealt with in isolation from the more fundamental needs, interests and rights of the holders of traditional knowledge, innovations, practices and technologies and their communities.

III. Overview of Possible Approaches and Limits of the Study

With respect to legal measures there are various possible ways to approach the task of protecting traditional knowledge at the national level. These fit into two broad categories.

The first is to use, adapt or strengthen (as appropriate) *existing* regulatory regimes or legal instruments. Most of these do not have protection of TK as an explicit objective, yet there may be a possibility, real or theoretical, that they can provide some degree of protection. Such regimes and instruments might include: (i) customary law; (ii) intellectual property rights such as patents, copyrights, trademarks and plant variety rights etc.; (iii) concepts existing in civil law and common law systems such as unfair

competition, privacy, breach of confidence, and passing off; (iv) and contracts such as license agreements and material transfer agreements.

The second is to develop new categories of existing types of regulation, such as *sui generis* IPRs, or regimes that are completely new (*sui generis*) altogether. These might aim *specifically* to protect TK in a general sense or certain aspects of TK (e.g. folklore or biodiversity-related TK). Alternatively, they may accommodate protection of TK within a broader set of objectives. Examples of the latter include biodiversity-related regulations such as access and benefit sharing (ABS) systems and conservation framework legislation. Developing countries should not feel bound to choose between the use of existing legal and policy measures and the development of new ones. In fact, all measures relating to protection of TK should be in harmony. So it is likely that existing measures will need to be modified in order to support the new measures being formulated. In any case, the experiences so far indicate that some of the new regimes being implemented also provide for modifications to the currently existing regimes, at least as these are conventionally formulated. So for example, some developing countries are using ABS regulations to introduce exclusions from patentability, such as DNA sequences (Costa Rica), and to require patent applicants to fulfil certain ABS-related procedures (Costa Rica and the Andean Community member states).

There are also policy measures and non legally-binding instruments that could offer some degree of protection. These might include codes of conduct for researchers and corporations, and grassroots initiatives such as community-controlled TK databases.

Table 2 summarises the range of possible legal approaches (a) given the existing possibilities under the national laws of most countries where TK holders live; (b) if such approaches were modified with protection of TK in mind; and (c) if governments should decide to introduce new IPRs, or regulations to implement the CBD.

Table 2
Legal approaches for protection of traditional knowledge

Existing formulations	Modifications/ supplements to existing formulations	<i>Sui generis</i> alternatives
Customary law	Codification/national recognition of customary law	New intellectual property categories
Intellectual property rights: <ul style="list-style-type: none"> • Patents • Utility models • Plant variety rights • Copyright • Trademarks • Trade secrets • Geographical indications • Performers' rights 	<ul style="list-style-type: none"> • Certificates of origin • Traditional Knowledge Digital Library • Ombudsman office • Inclusion of 'identifiability' criteria in PVR legislation • Domaine public payant system 	Access and benefit sharing/ biodiversity management regulations with TK-related provisions
Civil and common law concepts e.g. <ul style="list-style-type: none"> • Breach of confidence • Privacy • Unfair competition • Trust funds 		
Contracts: <ul style="list-style-type: none"> • Know-how licenses • Material transfer agreements 		

Table 3 includes these possible legal solutions but also considers other essentially non-legal approaches as well.

Table 3
Legal and policy measures for protection of traditional knowledge

MEASURES	EXAMPLES AND MODELS
Legislative – IPR	<ul style="list-style-type: none"> • Kenya Industrial Property Act • Peru Regime of Protection of the Collective Knowledge of Indigenous Peoples • OAU Model Legislation • UNESCO/WIPO Model Folklore Provisions • Convention on Farmers and Breeders (Gene Campaign) • Community Intellectual Rights (TWN)
Legislative – non-IPR	<ul style="list-style-type: none"> • Costa Rica Biodiversity Law • Brazil Medida Provisória nº 2.052-1 • Andean Community Decision 391 • Philippine Indigenous Peoples Rights Act
Existing legal concepts and principles	<ul style="list-style-type: none"> • Unfair competition • Privacy • Trust funds • Confidentiality • Passing off
Existing private legal arrangements/contracts	<ul style="list-style-type: none"> • Aguaruna-Searle know-how licence • TBGRI-Arya Vaidya-Kani license
Institutional reforms	<ul style="list-style-type: none"> • Certificates of origin • Traditional Knowledge Digital Library • Ombudsperson
Existing non legally-binding instruments	<ul style="list-style-type: none"> • Voluntary agreements/ codes of conduct
Local/NGO initiatives	<ul style="list-style-type: none"> • Community-controlled TK databases

So far the paper has presented and examined some commonly expressed justifications for protecting TK, and set forth a menu of possible legal, policy, national and local measures and instruments. The rest of the paper focuses primarily on new or *sui generis* national systems that seek *inter alia* to protect biodiversity-related TK, focusing on three countries: the Philippines, Costa Rica and Peru.¹¹ As I have suggested, these are either new IPR categories, ABS regulations, or biodiversity conservation or management systems. These are particularly interesting examples because of the broad-based consultative processes—involving TK-holding communities and representative organisations—through which they were developed.

This paper examines, compares and contrasts the processes by which these systems were initiated and developed, and specific provisions dealing with TK. Ideally it would be useful to evaluate the effectiveness of the systems once they have been implemented. But this is difficult since so far hardly any of the systems has actually been fully implemented.

¹¹ The case of Brazil might appear a suitable case but it appears that unlike these examples, the legislation is provisional and did not result from any wide consultative process.

Among the questions to be addressed in each case—as far as is possible—are the following:

The drafting/legislative process:

1. To what extent were TK holders involved in designing the legislation?
2. Is a stand-alone TK protection law envisaged, or is such protection part of a law with several different but complementary objectives?
3. Is a new type of IPR for TK protection envisaged?

Specific provisions and features of the system:

1. What categories of TK are specifically referred to?
2. Who are the holders of the rights?
3. Are researchers required to make legal agreements with communities/TK holders?
4. Is the PIC of communities a legal requirement for use of biogenetic resources and/or associated TK?
5. Are communities allowed an absolute veto right on bioprospecting?
6. Do the regulations draw a distinction between academic and commercial bioprospecting?
7. Is customary law recognised?
8. What types of benefit must be returned to communities?
9. Do the national systems place conditions on companies and organisations seeking IPR protection? In what ways?
10. To what extent does the system address the capacity-building needs of communities?
11. Is formal registration of TK necessary to secure its legal protection?

It should be noted though that there are limits to how far comparisons can be made. This is because the systems vary in terms of how far they have been fully developed, adopted by legislatures, and implemented (Table 4).

Finally, this paper's emphasis on biodiversity-related TK may appear somewhat restrictive. But it seems that most of the recent legislative activity on TK is oriented towards this particular category, an exception to the rule being a new law in Panama which focuses on designs, costumes and handicrafts.¹²

¹² Ley No. 20 de 26 de junio de 2000: “Del régimen especial de propiedad intelectual sobre los derechos colectivos de los pueblos indígenas, para la protección y defensa de su identidad cultural y de sus conocimientos tradicionales, y se dictan otras disposiciones”.

Table 4
National systems of TK protection—current progress in development and implementation

COUNTRY	<i>Title of legislation</i>	<i>Type of legislation</i>	<i>Has the legislation passed the drafting stage?</i>	<i>Is the legislation in force?</i>	<i>Is the legislation being fully implemented ?</i>
The Philippines	EO 247 & its Implementing Rules & Regulations	ABS	Yes	Yes	Yes
	Indigenous Peoples Rights Act	Indigenous rights	Yes	Yes	?
Costa Rica	Ley de Biodiversidad	Biodiversity conservation/management	Yes	Yes	No
Brazil	Medida Provisória nº 2.052-1	ABS	Yes	Yes	No
Panama	Ley No. 20 - Régimen especial de propiedad intelectual sobre los derechos colectivos de los pueblos indígenas	TK <i>sui generis</i> system	Yes	Yes	No
Peru	Régimen de Protección de los Conocimientos Colectivos de los Pueblos Indígenas y Acceso a los Recursos Genéticos	TK <i>sui generis</i> system	Yes	No	No

NB. This is not meant to be a complete list of national systems. These particular examples are included because they have attracted so much attention.

IV. THE PHILIPPINES¹³

A. Background

As Table 4 shows, the only country to have implemented its national system is the Philippines.¹⁴ This national system is in large part an attempt to put into effect Article XIV Section 17 of the 1987 Constitution, which provides the fundamental legal basis for protection of traditional knowledge. According to this article:

The State shall recognize, respect and protect the rights of the indigenous cultural communities to preserve and develop their cultures, traditions and institutions. It shall consider these rights in the formulation of national plans and policies.

The ‘system’ is not a single law, but consists of the following three instruments:

1. Executive Order No. 247, “Prescribing a Regulatory Framework for the Prospecting of Biological and Genetic Resources, their By-products and Derivatives, for Scientific and Commercial Purposes, and for Other Purposes” (1995);
2. The EO 247 “Implementing Rules and Regulations” (1996); and
3. “The Indigenous Peoples Rights Act” (1997)

The Philippines is important firstly because it was the first country to introduce bioprospecting regulations, and secondly because it set a trend for such kinds of national system to be developed through processes of consultation with civil society organisations and indigenous and local communities.

B. The process

Executive Order No. 247 became law in 1995. An Executive Order is different from an Act of the Congress in that it comes from the executive branch of government. This might suggest that it was promulgated without much in the way of consultation. On the contrary, it was the result of a democratic consultative process involving a wide range of stakeholders.

The original suggestion for such a law came from the Philippine scientific community, in fact a network of natural product chemists. And it was these scientists working for universities who produced the first draft. They then invited a lawyer working for an NGO (Antonio La Viña) to revise it. This initial drafting group was then joined by the National Academy of Science and Technology, an institution affiliated to a government department. The first consultations were held with

¹³ This section draws on the preliminary results of a project of the International Institute for Environment and Development project on Participation in Policies on Access to Genetic Resources and Traditional Knowledge.

¹⁴ Having made this point, it is no simple matter to determine objectively the extent to which a law founded on principles as well as rules is being fully implemented. Such is the case with the Indigenous Peoples Rights Act. Indeed, several bills to implement Section 32 of the IPRA on community intellectual rights have been presented to Congress for discussion but none has yet been passed (Daoas 1999).

academics and university scientists, subsequently with government officials and scientists, and were then opened up to include other government departments, NGOs, organisations representing the indigenous communities, and the (mostly Philippine) private sector.

Shortly after the Executive Order was signed by President Ramos in May 1995 work began on the Implementing Rules and Regulations. This was the task of a new regulatory body established by EO 247 to enforce and implement its provisions: the Inter-Agency Committee on Biological and Genetic Resources. According to Section 6 of EO 247, this Committee consists of under-secretaries of two government departments: the Department of Environment and Natural Resources (DENR) and the Department of Science and Technology (DOST); and representatives of: the Departments of Agriculture, Health and Foreign Affairs, the Philippine academic science community, the National Museum, an NGO active in biodiversity protection, and a People's Organization (PO) with membership consisting of indigenous cultural communities and/or their organizations to be selected by the PO community. When La Viña was appointed DENR Under-secretary in January 1996 he was given overall responsibility for drafting the IRRs. Drafts were circulated for comments to government departments, universities, the national private sector, and also to some NGOs and POs. The final version was signed in June that year by the DENR Secretary.

C. Key provisions of the systems

1. EO 247/ IRRs

The purpose of EO 247 is:

to regulate the prospecting of biological and genetic resources so that these resources are protected and conserved, are developed and put to the sustainable use and benefit of the national interest.

According to the preamble, it is in the interests of the State's conservation efforts

to identify and recognize the rights of indigenous cultural communities and other Philippine communities to their traditional knowledge and practices when this information is directly and indirectly put to commercial use.

The preamble also asserts that "wildlife, flora and fauna, among others, are owned by the State and the disposition, development and utilization thereof are under its full control and supervision". However, the State's resource rights are not absolute, in that prospecting is only permitted within "the ancestral lands and domains of indigenous cultural communities ... with the prior informed consent of such communities; obtained in accordance with the customary laws of the concerned community". In this way, state sovereignty rights are upheld, yet by recognising the right of traditional communities to veto bioprospecting on their territories, the resource rights of communities have, to some degree at least, been recognised.

Permission for bioprospecting depends on a research agreement between the bioprospector and the government. For an agreement to be granted, a research

proposal must be submitted to the government, with a copy submitted to any community that may be affected. At a minimum, the agreement must inform the government and affected communities if a commercial product results from the research, with a provision for payment of royalties to the government and community if commercial use results from any biogenetic resources taken.

2. The Indigenous Peoples Rights Act

Section 2(b) summarise the full extent of the rights to which 'Indigenous Cultural Communities/Indigenous Peoples' are entitled:

The State shall protect the rights of ICCs/IPs to their ancestral domains to ensure their economic, social and cultural well being and shall recognize the applicability of customary laws governing property rights or relations in determining the ownership and extent of ancestral domain;

'Customary laws' are defined as referring (in Section 3) "to a body of written and/or unwritten rules, usages, customs and practices traditionally and continually recognized, accepted and observed by respective ICCs/IPs.

Chapter VI of the IPRA deals with cultural integrity, and has a number of important provisions. The key sections deal with the following topics:

(a) Community intellectual rights

ICCs/IPs have the right to practice and revitalize their own cultural traditions and customs. The State shall presence, protect and develop the past, present and future manifestations of their cultures as well as the right to the restitution of cultural, intellectual religious, and spiritual property taken without their free and prior informed consent or in violation of their laws, traditions and customs. (Section 32)

(b) Rights to religious, cultural sites and ceremonies

ICCs/IPs shall have the right to manifest, practice, develop and teach their spiritual and religious traditions, customs and ceremonies; the right to maintain, protect and have access to their religious and cultural sites; the right to use and control of ceremonial objects; and, the right to the repatriation of human remains. Accordingly, the State shall take effective measures, in cooperation with the ICCs/IPs concerned to ensure that indigenous sacred places, including burial sites, be preserved, respected and protected. (Section 33)

(c) Right to indigenous knowledge systems and practices and to develop own sciences and technologies

ICCs/IPs are entitled to the recognition of the full ownership and control and protection of their cultural and intellectual rights. They shall have the right to special measures to control, develop and protect their sciences, technologies and cultural manifestations, including human and other genetic resources, seeds, including derivatives of these resources, traditional medicines and hearth practices, vital medicinal plants, animals and minerals, indigenous knowledge systems and practices,

knowledge of the properties of fauna and flora, oral traditions, literature, designs, and visual and performing arts. (Section 34)

(d) Access to Biological and Genetic Resources

Access to biological and genetic resources and to indigenous knowledge related to the conservation, utilization and enhancement of these resources, shall be allowed within ancestral lands and domains of the ICCs/IPs only with a free and prior informed consent of such communities, obtained in accordance with customary laws of the concerned community. (Section 35)

D. Implementation: initial experiences

In terms of implementation of EO 247 and the IRRs, given the pioneering nature of both the process and the regulations themselves, one should not be too surprised that difficulties have arisen. There is for example concern that the rules and regulations are too complex and bureaucratic. This may well be true because since 1995 only two research permits have been issued. As for the Indigenous Peoples Rights Act it is probably still too early to draw firm conclusions as to its implementation.

V. COSTA RICA¹⁵

A. Background

In spite of being one of the smallest Latin American countries Costa Rica is believed to contain within its borders 4-5 percent of the world's biodiversity. On the other hand, the country is culturally quite uniform in comparison with many other Latin American countries. Most of the population is of European descent, although a few indigenous groups exist.

In April 1998, the Legislative Assembly of Costa Rica passed the "Ley de Biodiversidad", or Biodiversity Law. To date this is perhaps the most ambitious and elaborate national law to implement the CBD. Many of its provisions are clear attempts to reconcile the country's CBD obligations with its TRIPS ones, including the initiation of a process to develop a *sui generis* system to protect the intellectual rights of indigenous peoples and local communities. The Biodiversity Law was intended to fill a legal gap in the sense that while existing laws covered certain types of natural resources (e.g. wildlife and forests), there was no specific legislation on biological and genetic resources, and neither were there any specific access and benefit sharing regulations.

B. The process

Similar to the Philippine process, the Costa Rican experience in drawing up the legislation was characterised by a great deal of stakeholder participation including the involvement of indigenous peoples and local communities.

¹⁵ This section draws on Dutfield 2000b, and Solís and Madrigal 1999. It also benefited from personal communications from Vivienna Solís (IUCN-ORMA) and Silvia Rodriguez (Universidad Nacional).

The original proposal for the Law was made by an ex-politician and former president of the Environmental Commission of the Legislative Assembly, who enlisted the technical support of IUCN's Regional Office for Mesoamerica (IUCN-ORMA) to develop a draft. At the beginning of the process ORMA and the Environmental Commission agreed on a philosophical framework for the legislation and also its guiding principles, before beginning the first phase of consultations. These consultations included such stakeholders as indigenous peoples, small farmer groups, legal experts, scientists, civil servants and representatives of the private sector. The purpose was to establish the basic contents of the legislation before drawing up the first draft, which was published in June 1996.

Once the first draft had been circulated and comments and suggestions had been received, a more substantive draft was drawn up. But progress was stalled due to the wide and conflicting range of views.

The Environment Commission set up a Special Mixed Subcommittee to draw up another draft of the law. This consisted of representatives of the following institutions and stakeholder groups:

- the National Indigenous Forum
- the Costa Rican Federation for Environmental Conservation (FECON)
- the National Small Farmers Forum
- the University of Costa Rica
- the National University
- the Union of Chambers for Private Business
- the National Biodiversity Institute (INBio)
- the Advisory Council to the Minister of the Environment and Energy (COABIO)
- the National Liberation Party (PLN)
- the Christian Socialist Unity Party (PUSC)

The draft was completed in November 1997, and was passed by the legislative assembly in April the following year. It became Law No. 7788 in May 1998.

C. Key provisions of the system

The Law's overall objective is to conserve biodiversity, sustainably utilise resources, and distribute fairly the derived benefits and costs (Article 1). Its 107 Articles cover the full range of issues contained in the CBD including: (i) Biosafety; (ii) Conservation and sustainable use of ecosystems and species; (iii) Access to genetic and biochemical elements of biodiversity; (iv) Prior informed consent; (v) Protection of scientific and traditional biodiversity-related knowledge through intellectual property rights and/or *sui generis* systems; (vi) Education and public awareness; (vii) Technology transfer; (viii) Environmental impact assessment; and (ix) Incentives.

The Law regulates the use, management, associated knowledge, and the fair distribution of the benefits and costs derived from the utilisation of biodiversity elements, but with three exclusions (Article 4). These are: (i) human genetic and biochemical material; (ii) non-commercial exchanges between indigenous peoples and

local communities of biochemical and genetic resources and associated knowledge derived from their practices, uses and customs; and (iii) the autonomy of universities with respect to field investigations and teaching for non-commercial purposes.

The biochemical and genetic properties of wild or domesticated biodiversity elements are in the public domain (Article 6) and all biodiversity elements *per se* are subject to the exclusive sovereignty of the State (Article 2). Therefore, while the resources themselves may be owned by the State, private landowners or local communities, the *properties* of these elements can be owned by nobody, not even those who discover or may be aware of these properties.

Article 7 deals with definitions. Within the definition of 'biodiversity' is included 'intangible elements', which are: traditional, individual or collective knowledge, innovation and practice with real or potential value associated with biochemical and genetic resources whether or not protected by intellectual property systems or *sui generis* register systems. No explicit distinction is made in this Article between 'traditional' and 'scientific' knowledge and the Law makes clear throughout that holders of each kind of knowledge have equal entitlement to legal protection. It seems that the 'intangible element' concept was borrowed from the Andean Community's Decision 391 regulating access to genetic resources.

The Law sets up a National Biodiversity Management Commission (CONAGEBIO) to formulate and coordinate policy and to oversee implementation of the Law. CONAGEBIO consists *inter alia* of representatives from government ministries, the national protected areas system, the university sector, the private sector, and the national peasant (campesino) and indigenous peoples associations.

Articles 77-85 are devoted to the subject of intellectual and industrial property rights. This section of the Law begins with a statement recognising the need to protect knowledge and innovations through appropriate legal mechanisms, and refers specifically to patents, trade secrets, plant breeders' rights, *sui generis* community intellectual rights, copyrights and farmers' rights. Remarkably for a biodiversity law, parameters for the scope of IPR protection permitted by the State are drawn very explicitly. Among those inventions excepted from IPR protection are those which are "essentially derived from knowledge associated with traditional biological or cultural biological practices in the public domain".

In order to ensure that the exceptions are observed, the National Seeds Office and the Intellectual and Industrial Property Registries are required to consult the National Biodiversity Management Commission¹⁶, a State body set up by this Law, before awarding IPR protection for innovations involving biodiversity elements. In every case, a certificate of origin issued by the Technical Office of the Commission and statement of prior informed consent will have to be presented with the IPR application. Such consent may include that of indigenous authorities in cases where bioprospecting take place on their lands. Indigenous peoples and local communities are fully entitled to refuse access to their resources and knowledge for any reason.

¹⁶ The Commission will consist *inter alia* of government ministers and representatives of the national protected areas system, the university sector, the private sector, and the national peasant (campesino) and indigenous peoples associations.

Articles 82-85 deal specifically with the intellectual rights of indigenous peoples and local communities, implicitly acknowledging that a final solution to this issue has not been reached by its initiation of an 18 month participatory process to elaborate an appropriate *sui generis* system. Even so, the State already expressly recognises and protects what is referred to as '*sui generis* community intellectual rights', i.e. the knowledge, innovations and practices of indigenous peoples and local communities. Similar in this respect to copyright, these rights have juridical recognition without the requirement of prior declaration or official registration.

The participatory process, which will include indigenous peoples and peasants, will determine the nature, extent and conditions of the *sui generis* community intellectual right, as well as the form the right will take, who will be entitled to hold the legal right, and who will receive its benefits. By means of this process, a registry will be made comprising those intellectual rights that communities wish to register with the Technical Office of the Commission. Such registration will be voluntary and free. The existence of such right claims in the registry will bind the Technical Office to the obligation to oppose the grant of IPR protection being requested for the same element or knowledge. It is not essential for the right to be officially registered for the refusal to be made provided that the reason is fully justified.

With respect to technology transfer, the State is committed to implementing CBD Articles 16, 17 and 18, and facilitating access to technologies relevant to conservation and sustainable use of biodiversity without prejudicing intellectual and industrial property rights or *sui generis* collective intellectual rights (Article 88). Moreover, the State will promote the recovery, maintenance and dissemination of traditional technologies and practices useful for conservation and sustainable use of biodiversity.

D. Implementation: initial experiences

The Biodiversity Law still has not been implemented and the situation is somewhat confused. It is expected that the Law will be subject to some amendments. Furthermore, some of the functions of CONAGEBIO¹⁷ have been challenged by the Ministry of Environment and Energy on the grounds that they violate the constitution. As a consequence of this situation, CONAGEBIO has not been able to receive funds. In spite of this, CONAGEBIO has set up a subcommission to draw up norms for access to genetic and biochemical resources. A draft of the first part of the norms (dealing with general provisions and access permits) was submitted to CONAGEBIO in April 2000 and subsequently published. The second part of the norms deals with intellectual property and community intellectual rights. External funding support is being solicited to initiate the participatory process to develop these norms. However, it appears that CONAGEBIO and the Law itself still lack key political support to turn objectives into reality. Indeed, recent bioprospecting agreements involving foreign companies have not been made subject to the conditions of the Biodiversity Law.

¹⁷ And that of another institution, the National System of Conservation Areas (SINAC).

VI. PERU¹⁸

A. Background

The Regime of Protection of the Collective Knowledge of Indigenous Peoples¹⁹ was published (in its most advanced form) in August 2000. It is a draft legislation developed by a Peruvian government agency, INDECOPI (National Institute for the Defence of Competition and Intellectual Property), to protect the collective knowledge of indigenous peoples of that country. It differs from other legal initiatives described in this paper in that it is a *sui generis* system aimed *specifically* to protect the rights of holders of traditional knowledge.

The idea for national legislation to protect TK did not emerge out of thin air. In this context, it is important to point out that the Andean Community, of which Peru is a member, had in 1996 adopted a Common System on Access to Genetic Resources. This regime, whose elaboration had involved an unprecedented level of participation from civil society, sought *inter alia* to establish a basis for recognising and appreciating genetic resources, their derivatives, and related 'intangible components'. The intangible component means any knowledge, innovation or practice (individual or collective) of actual or potential value associated with a biogenetic resource or derivative *whether or not it is protected by intellectual property rights*. The eighth interim measure of Decision 391 suggests the idea of harmonising standards "to provide greater protection of the knowledge, innovations and traditional practices of indigenous, afro-american and local communities".

At about this time, a bioprospecting project in the Amazon involving Searle (the pharmaceutical arm of Monsanto) and the Aguaruna people had attracted a great deal of controversy and drew attention to the commercial potential of traditional knowledge and bioprospecting partnerships involving indigenous peoples and the private sector, and also the possibility of exploitation.

In January 1996 the Peruvian Society for Environmental Law (SPDA) and the advisors to the Aguaruna in their negotiations with Seale and Washington University (another party in the bioprospecting agreement), all of whom had been involved in the Decision 391 process, approached INDECOPI to explain the benefits for the country of developing a system to protect traditional knowledge. INDECOPI responded fairly promptly and together with the Ministry of Agriculture decided to establish several working groups, one of which was mandated to develop a legal framework for the protection of indigenous peoples knowledge. Further support for such an initiative followed in April that year with a Legislative Decree on Industrial Property which included a provision calling for "the development of special regime for the protection of knowledge of native and 'campesino' communities" (Ruiz 1998).

B. The process

¹⁸ This section draws on the preliminary results of a project of the International Institute for Environment and Development project on Participation in Policies on Access to Genetic Resources and Traditional Knowledge, and also Ruiz 1998.

¹⁹ Henceforward referred to as 'the Regime'.

The Working Group established by INDECOPI and the Ministry of Agriculture began its work to develop a draft law early in 1996. It consisted of representatives of INDECOPI, a number of government ministries, and two NGOs, one of which was the SPDA. At first indigenous peoples had no representation. This situation changed after some of the working group members pointed out that this was an omission needing to be corrected. In April and May 1999, INDECOPI and the Technical Secretariat of Indigenous Affairs (SETAI) of the Ministry for Promotion of Women and Human Development (PROMUDEH) held two workshops with indigenous peoples to discuss the proposed legislation. The first took place in Lima, and the second in Urubamba. In April and May 1999, INDECOPI and PROMUDEH held two workshops with indigenous peoples to discuss the proposed legislation. INDECOPI also sent copies of the draft Regime to several indigenous communities of the Andean region to request their comments.

In October the draft Regime was published with a request for comments and suggestions. Initially INDECOPI gave a 60-day deadline by which comments should be forwarded. This deadline was subsequently extended to 20 May 2000 following criticisms by some civil society organisations including some representing indigenous peoples that 60 days did not allow sufficient time. In August 2000 a slightly amended Regime was published along with the comments and suggestions on the earlier version made by government agencies, academics (both Peruvian and foreign), indigenous peoples organisations, politicians, environmental NGOs, a domestic business association, and international organisations.

C. Key provisions of the system

The Regime aims specifically to protect the *collective* knowledge of indigenous peoples relating to the properties of biological resources. All other categories of traditional knowledge are excluded, as are traditional exchanges of knowledge among and between indigenous peoples, and use of knowledge associated with biological resources for the domestic market that have not been processed industrially. Collective knowledge of indigenous peoples forms part of their cultural heritage.

Those who wish to access traditional knowledge for scientific, commercial, or industrial application are required to secure the prior informed consent of the holders of the knowledge. For commercial use or industrial application, a (non-exclusive) license is required guaranteeing an access fee plus 0.5 percent of the value of future sales to go to a Fund for the Development of Indigenous Peoples. The Fund is intended to contribute to the development of indigenous peoples by funding community projects, and will be administered *inter alia* by individuals representing indigenous peoples' organisations. With respect to knowledge in the public domain, indigenous peoples will still be able to make an agreement with and request compensation from outside parties. Again, 0.5 percent of the value of sales of product developed from the knowledge must go to the Fund.

A Register of Collective Knowledge will be created for which INDECOPI will take responsibility. The Register's objectives are to:

- preserve the collective knowledge of indigenous peoples; and

- provide the Competent National Authority with information enabling it to defend the interests of those communities or indigenous peoples that have registered their knowledge.

Access to the register will require written consent of the indigenous peoples who own specific knowledge of interest to those requesting access. In addition the Regime foresees the option for communities and peoples of developing their own registers independent of INDECOPI's. Legal rights over knowledge are not dependent upon its existence in the register. But by including knowledge in the register, communities will be in a better position to assert their rights to it.

VII. CONCLUSIONS OF THE CASE STUDIES

This concluding section of the paper compares and contrasts the three national systems, focusing on the processes that brought them into existence and their key provisions and features.

A. The drafting/legislative processes

With respect to the processes of drawing up the legislation, it appears that in all three cases TK holders have had some involvement. It is not clear how decisive such involvement was in each case. But it has been rare indeed for indigenous peoples and local communities ever to be consulted about new legislation, so these processes albeit imperfect appear to be a very positive development. Only in the Peruvian case is a stand-alone IPR-type TK protection law envisaged. But once fully implemented the other national systems should improve the legal position of indigenous peoples and local communities concerned to protect their knowledge from unauthorised use and dissemination.

B. Specific provisions and features of the systems

With respect to specific provisions, the systems vary a lot, yet they share a number of common features. In the Costa Rican and Peruvian cases, it is biodiversity-related traditional knowledge for which protection is intended. The Philippine IPRA, though, implicitly accommodates a far broader conception of TK. In the Peruvian Regime, only collective knowledge is subject to the system's rules of protection. On the other hand, the Costa Rican system refers to 'knowledge, innovations and practices, be they traditional, *individual* or *collective*'. The Philippine IPRA uses the term "indigenous knowledge systems and practices", which does not preclude the possibility of individual rights over knowledge. Both Costa Rica and the Philippines adopt the term 'community intellectual rights'. The origin of this expression appears to be the influential Malaysia-based NGO Third World Network, which had drafted a model law known as the "Community Intellectual Right Act". TWN took the strategic decision to avoid using the word 'property' since conventional IPRs are considered to be culturally inappropriate and an imposition on communities that supposedly tend to share their knowledge even when it has commercial potential. This is a doubtful supposition in many cases (see Dutfield 2000a).

Neither the Costa Rican Law or the Peruvian Regime mentions customary law, though the former legislation upholds the right of communities to oppose access to their resources or associated knowledge “for cultural, spiritual, social, economic or other motives”. On the other hand the requirement of the state to respect customary law is affirmed throughout the text of IPRA. Prior informed consent is a legal requirement in all the systems in cases of access to biogenetic resources of indigenous communities and associated TK. In the IPRA, PIC procedures apply also to many other situations and types of transaction involving indigenous communities.

With respect to access to TK and benefit sharing, the Costa Rica Law does not as yet require legal agreements to be drawn up between TK holding communities and research institutions and companies. However, the norms for such transactions are still being drafted, so this may change. The Peruvian Regime requires commercial and industrial users to request a licence in the form of a written contract with the TK holders. The Philippine Executive Order requires collectors of biogenetic material to acquire either an academic or a commercial research agreement. Academic institutions subsequently discovering that their research has commercial prospects must apply for a commercial research agreement. Commercial users must inform affected indigenous communities if they discover a commercial application. They are also required to pay royalties to communities if commercial use is derived from their biogenetic resources. But there is no mention in this context of TK.

Of the three systems only the Costa Rican system places conditions on applications for IPR protection made by firms and research institutions (i.e. the certificate of origin). The drafters of the Philippine system took the decision not to refer to intellectual property rights at all. As for the Peruvian Regime, again there is no explicit reference to intellectual property, implying the absence of conditions on the grant of intellectual property rights.²⁰

As regards capacity-building, the Costa Rican Law provides various measures such as incentives for community participation in the conservation and sustainable use of biodiversity, and finance and assistance for community management of biodiversity (Articles 101 and 102). EO 247 does not provide for any capacity-building measures, but IPRA establishes an Office of Empowerment and Human Rights to ensure *inter alia* “that capacity building mechanisms are instituted and Indigenous Cultural Communities/Indigenous Peoples are afforded every opportunity, if they so choose, to participate in all levels of decision-making.” As for the Peruvian Regime, the Fund for the Development of Indigenous Peoples is potentially a very important mechanism for community capacity-building.

Both the Costa Rican and Peruvian systems provide for the registration of TK as a means of protecting it. In the Costa Rican Law, the registration of community intellectual rights is essentially a defensive measure aimed at blocking attempts to claim IPR protection covering existing TK. In the Peruvian Regime, such protection is not the only objective, since the possibility of industrial use of TK is envisaged as a possibility that could, under favourable circumstances, be of benefit to indigenous communities. Thus, the register can help communities to negotiate from a stronger

²⁰ However, a separate but related “Proposal of Regulation on Access to Genetic Resources” provides for the possibility of imposing benefit sharing requirements on intellectual property holders.

bargaining position. It is worth noting that both systems stipulate that the rights of TK holders do not depend on the existence of their knowledge in the register.

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