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**BANISHING THE  
BIOPIRATES:  
A NEW APPROACH  
TO PROTECTING  
TRADITIONAL  
KNOWLEDGE**

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## EXECUTIVE SUMMARY

The livelihoods of indigenous peoples and the conservation of biodiversity worldwide depend on conserving and protecting traditional knowledge of the use and functioning of biological and natural resources. This traditional knowledge (TK) has helped develop the millions of farmers' food crop varieties in use today, as well as a wealth of traditional medicines and techniques for sustainable agriculture and resource use. Yet this knowledge is rapidly disappearing. It is under increasing threat from both intellectual property regimes and economic globalisation processes which undermine traditional rural livelihoods. This loss is occurring despite the fact that the Convention on Biological Diversity (CBD) requires member countries to respect, preserve and maintain traditional knowledge, innovations and practices and encourage the fair and equitable sharing of benefits from their use.

International and national policies have so far proved inadequate to protect traditional knowledge. The dominant paradigms of access and benefit-sharing and intellectual property rights fail to adequately protect TK because they reflect western norms and laws, and focus narrowly on protecting intellectual rights.

This paper describes how indigenous and farmers' organisations are calling for more holistic approaches to protecting their rights to TK, bio-genetic resources, territories, culture and customary laws. These components of indigenous knowledge systems and heritage cannot be separated. A new framework for protecting TK, known as collective bio-cultural heritage, addresses biodiversity and culture together, rather than separating them; recognises collective as opposed to individual rights; and places them in the framework of 'heritage' as opposed to 'property'. This approach means:

- Acknowledging that a state's sovereign right over natural resources (as recognised by the CBD) is conditioned by indigenous and local communities' customary rights over their traditional resources and territories. These rights must also be recognised.
- Strengthening community natural resource management, customary laws and institutions, and collective land tenure as the basis for local control over traditional knowledge and resources. For example, the establishment of Indigenous-managed Bio-cultural Heritage Areas can enhance rights over TK, traditional livelihoods and biodiversity conservation.
- Facilitating access by communities, not just scientists and companies, to genetic resources held *ex situ*. With genetic erosion caused by modern agriculture, development etc, many communities need access to this material if they are to restore diversity to cope with phenomena such as climate change.

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# BANISHING THE BIOPIRATES: A NEW APPROACH TO PROTECTING TRADITIONAL KNOWLEDGE<sup>1</sup>

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## THE IMPORTANCE OF TRADITIONAL KNOWLEDGE

The livelihoods of indigenous peoples worldwide and the conservation of biodiversity depend on the preservation and protection of traditional knowledge relating to biodiversity. Indigenous peoples and rural communities have developed an intimate knowledge of the use and functioning of biological and natural resources over centuries of close dependence on these resources. This traditional knowledge (TK) is vital for life in often hostile natural environments—for health, food security and agriculture. It includes knowledge about the uses, properties and sustainable management of diverse biological resources—traditional crops, wild foods, medicinal plants etc. It also forms the basis of cultural identity, contributing to social cohesiveness and thereby reducing vulnerability and poverty.

Traditional farmers have domesticated most of the world's food crops and are continually experimenting to improve their crops—millions of farmers' varieties are the product and embodiment of traditional knowledge. Traditional production and innovation systems provide a wealth of resources and knowledge not only for communities, but for the food, agriculture and health needs of the world as a whole. Yet they receive very little support to ensure their continuation. The World Health Organization estimates that 80% of the world's population depends on traditional medicine for primary healthcare. Trade in TK-based goods contributes significantly to rural incomes and national economies. For example, the medicinal plants trade in South Africa is worth about US \$60 million a year (Wynberg, 2002). Furthermore, TK is important for sustainable development, providing techniques for sustainable agriculture, land use and natural resource management in diverse socio-ecological contexts. It also provides the basis for development which is

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endogenous (ie. comes from within and uses local strategies and resources) and is therefore more appropriate, self-sufficient and sustainable than externally-driven development.

The Convention on Biological Diversity (CBD) recognises the value of the ‘knowledge, innovations and practices of indigenous and local communities’ for the conservation and sustainable use of biological diversity. However, this knowledge is under increasing threat, from intellectual property regimes and other processes which undermine traditional livelihoods based on natural resource management. International and national policies have so far proved inadequate to protect this knowledge. In this paper I draw on recent research (Box 1) to outline the key threats to TK, assess current strategies to protect it, and suggest a new, more holistic approach for protecting it.

### **Box 1. Collaborative Research on TK Protection**

This paper draws on research by IIED and Southern NGO and indigenous partners engaged in the project ‘Protecting community rights over traditional knowledge: Implications of customary laws and practices’. The project partners are: Asociación ANDES (Peru), Fundación Dobbo Yala (Panama), University of Panama, Ecoserve (India), Centre for Indigenous Farming Systems (India), Herbal and Folklore Research Centre (India), Centre for Chinese Agricultural Policy (China), Southern Environmental & Agricultural Policy Research Institute (Kenya), Kenya Forestry Research Institute. They are working with indigenous and local communities in areas of important biodiversity (forests and centres of origin of rice, potatoes and maize): Quechua farmers in Peru; indigenous Adhivasis in Chattisgarh; Lepchas in the Eastern Himalayas; Yanadi tribals in Andhra Pradesh; Maasai and Mijikenda in Kenya; Kuna and Embera in Panama; and indigenous farmers in Guangxi, SW China. The project is supported by the International Development Research Centre (IDRC), The Netherlands Ministry for Development Cooperation (DGIS), The Christensen Fund, the Rockefeller Foundation, SwedBio and Sida. For more information, see [http://www.iied.org/NR/agbioliv/bio\\_liv\\_projects/protecting.html](http://www.iied.org/NR/agbioliv/bio_liv_projects/protecting.html)

## **THE THREATS TO TRADITIONAL KNOWLEDGE**

### **Biopiracy and patents**

Traditional knowledge is sometimes used to develop commercial products such as new pharmaceuticals, herbal medicines, seeds, cosmetics, personal care and crop protection products. For example, traditional medicine may be used to guide the screening of plants for medically active compounds or traditional crop varieties may be used to develop new commercial crops. The commercial users (or ‘bioprospectors’) are often companies and scientists in technologically advanced countries. In many cases, they seek intellectual property rights (IPRs; eg. patents or

plant variety protection—PVP) on the resulting product to gain competitive advantage through exclusive market rights.

In recent years there has been a growing concern about ‘biopiracy’—the unauthorised commercial use of genetic resources and TK without sharing the benefits with the country or community of origin, and the patenting of spurious ‘inventions’ based on such knowledge and resources. Well-known examples include a US patent on turmeric for healing wounds, which is common knowledge in India; and patents on basmati rice from India/Pakistan; and ayahuasco used in indigenous Amazonian healing. Despite provisions in the Convention on Biological Diversity which require equitable benefit-sharing (Box 2), it is difficult to prevent biopiracy because laws required to enforce these CBD provisions are absent in most ‘user’ countries, and IPR regimes allow patenting without requiring benefit-sharing. In addition, the CBD only applies to genetic resources collected after its entry into force in 1993; most genetic resources were collected before 1993. Similarly, much TK has already been documented and can be freely accessed from publications and databases.

### **Box 2. The Convention on Biological Diversity and TK**

The CBD (UNEP, 1992), which came into force in 1993 and has been ratified by 189 countries, requires industrialised countries to share the benefits derived from the commercial use of genetic resources fairly and equitably with biologically rich source countries. It also requires countries to respect, preserve and maintain traditional knowledge, innovations and practices, promote their wider application with the involvement of TK holders, and encourage the fair and equitable sharing of benefits from their use (Article 8(j)). Finally, it requires countries to “protect and encourage the customary use of biological resources in accordance with traditional cultural practices”.

Although the potential revenues from bioprospecting should not be over-estimated (ten Kate and Laird, 1999), Southern governments see biopiracy as a threat to national economic interests and an extension of colonial exploitation. For indigenous and local communities, the removal of traditional knowledge and resources from community commons into private property regimes can prevent them from using and controlling these resources. This poses a threat to livelihoods which depend on free access to TK and bio-resources. Companies and scientists, on the other hand, argue that patents are necessary to enable high investment in R&D, for example to develop new drugs.

The patenting of genetic resources and traditional knowledge is increasing. The WTO/TRIPs (Trade-Related Aspects of IPRs) agreement, which became effective

in January 1995, requires all countries to make available patents for any inventions, whether products or processes, which are capable of industrial application, including micro-organisms, microbiological and non-biological processes. Although plants, animals and essential biological processes may be excluded, plant variety rights must be protected by an IPR system or *sui generis* alternative. The result is enhanced global protection for formal innovations of industrialised countries, without protection for ‘informal’ knowledge and innovations of Southern countries and communities. We are also seeing a proliferation of bilateral Free Trade Agreements containing even stronger IPR requirements (‘TRIPs-plus’) designed to protect US and European products. Furthermore, a product may be considered patentable when only slightly modified, discovered or extracted from nature, and, in some jurisdictions, simply because it is described in chemical terms for the first time (Dutfield, 2003). In some cases whole gene sequences or several varieties can be covered by a single patent (Khor, 2002). And many patent offices are unable to adequately scrutinise the growing number of applications, hence patents are granted too easily (Dutfield, 2003).

## Erosion of culture and loss of land

Traditional knowledge is rapidly disappearing as the world becomes more culturally and biologically uniform. It is estimated that between 50% and 90% of the world’s languages will have disappeared within 100 years (UNEP, 2000). Loss of languages is an indicator of loss of cultural diversity and traditional knowledge. There is clear evidence that the loss of TK is linked to alienation of indigenous territories and lands and insecure land tenure.<sup>3</sup> The United Nations Environment Program (UNEP) notes that traditional knowledge is intimately connected to indigenous lands and waters and that indigenous and local communities need to remain *in situ* if they are to exercise and retain their traditional knowledge. Ironically, an important cause of land alienation identified in all regions (Asia, Africa and Latin America) is the creation of protected areas without adequately recognising traditional land access needs, and by forcibly removing people from their lands in some cases. Restraints on the practice of customary law in indigenous and local communities are also undermining traditional knowledge, along with globalisation of markets, demographic factors (eg. migration) and cultural factors (eg. modernisation programmes).

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2. Meaning unique or ‘of its own kind’.

3. Source: UNEP/CBD/WG8J/4/4. 2005. *Composite Report on the Status and Trends Regarding Traditional Knowledge, Innovations and Practices of Indigenous and Local Communities Relevant to the Conservation and Sustainable Use of Biological Diversity*. CBD Secretariat, Montreal, Canada. ([www.biodiv.org](http://www.biodiv.org))

Our research with indigenous and local communities identified similar drivers of TK loss:

- reduced landholdings, insecure land tenure and privatisation of communal land
- policies that restrict access to forests and sacred sites and participation in NRM
- erosion of traditional values and economies due to globalisation
- weakening of traditional authorities/laws due to extension of government control
- spread of modern agriculture and technology
- weakening of social cohesion and collective organisation caused by all of the above

The research clearly showed that the learning, use and transmission of TK is closely linked to the continued use of diverse biological resources and traditional territories, and to the maintenance of cultural and spiritual values and indigenous world-views.

## **POLICY RESPONSES TO PROTECT TK**

A number of international and national policy processes are addressing the protection of traditional knowledge. Given that the misappropriation of TK is often transnational, policies are needed at international level so that they are binding on TK ‘user’ countries, as well as at national and local level. But what should be the nature of such policies? Many people agree that existing intellectual property rights such as patents are not suitable or sufficient for protecting traditional knowledge and that alternative ‘*sui generis*’ systems are needed (see Box 5 for an example). IPRs are designed to protect commercial inventions and mostly grant individual and exclusive rights, whereas communities’ traditional knowledge is first and foremost for subsistence and is largely held collectively.

However, some people—eg. industrialised country patent offices—argue that *sui generis* systems should be consistent with existing IPR standards. Parties to the CBD tend to see *sui generis* systems as mechanisms for sharing benefits with communities from the commercial use of TK. Indigenous and farmers’ organisations, on the other hand, feel that a completely different approach is needed which



responds to the distinct customary laws and worldviews of traditional knowledge holders. If indigenous communities and Southern countries have to accept IPR policies from which they can derive little benefit, it seems only fair that industrialised countries should accept mechanisms to protect TK based on customary laws.

Even the *sui generis* systems of Southern countries fall essentially under the ‘IPR’ model because they protect only intellectual rights and focus mainly on commercial benefits. This is how *sui generis* systems are largely perceived by national and international policy-makers. And in some cases they resemble conventional IP systems designed to protect the rights of plant breeders, with only weak provisions for farmers’ rights, and therefore risk undermining the rights of farmers who rely heavily on farm saved seeds.

By contrast, indigenous organisations are seeking protection of their knowledge systems as a whole: including the biological resources, landscapes and cultural values that form an *integral and vital part* thereof. They are concerned that UN agencies such as the CBD and the World Intellectual Property Organization (WIPO) address traditional knowledge separately from traditional resources and territories and customary laws, deal with TK protection within a paradigm of property, and marginalise the ancestral rights-holders from decision-making. They are calling for policies which are holistic and based on principles of human rights and self-determination, given that TK owes its existence to indigenous and local communities and to no-one else.

### **The CBD’s access and benefit-sharing framework**

The third objective of the CBD (Box 2) on access to resources and benefit-sharing (ABS) promotes equitable benefit flows between rich and poor countries. It is intended to support the other two CBD objectives—biodiversity conservation and sustainable use—by helping countries rich in biodiversity to generate revenue for conservation. The CBD recognises the sovereign rights of states over their natural resources, and the authority of governments to decide over access to genetic resources, thus putting an end to historical free access to genetic resources. At the same time, countries are required to facilitate access to genetic resources, recognising that no country is self-sufficient in these for food, agriculture etc.

While these are important provisions, they are very much oriented to the needs of national governments and make little provision for the needs of indigenous and local communities. Under the CBD, access to genetic resources is subject to the

Prior Informed Consent (PIC) of the country providing the resources. There is no requirement for communities to give their PIC for access to the bio-genetic resources that they have developed and nurtured and which originate from their territories, or for access to associated traditional knowledge.

More than 35 countries, mainly from the South, have introduced national ABS legislation and appointed national authorities for ABS (CISDL, 2005). Most of these laws do not recognise the rights of communities over their bio-genetic resources, and many indigenous organisations therefore feel that they effectively undermine their rights over biodiversity and TK. Although some national ABS laws recognise the rights of communities over TK, few provide effective mechanisms to ensure this.

From the perspective of communities/TK holders, the ABS framework has a number of shortcomings:

- 1) Access is regulated by national authorities without taking account of customary laws and institutions. ‘State sovereignty’ is not the same as ‘government ownership’, but is generally interpreted as such, while the rights of indigenous and local communities over genetic resources are unclear or unrecognised. In some countries, the notion of ‘state sovereignty’ even appears to extend to TK.
- 2) Although some efforts have been made to share benefits with source communities, benefits remain a remote possibility for most communities. Where communities have been party to ABS agreements, these agreements are often inequitable and biased towards the other parties and their norms rather than those of communities. As a result, some people have come to view all bioprospecting as biopiracy (Laird, 2002).
- 3) The ABS framework is concerned with genetic resource transactions for commercial or scientific use, including acquisition of IPRs, rather than resource exchange for subsistence use. It thus addresses TK and genetic resources in a paradigm of property, as opposed to one of community commons.
- 4) ABS requires countries to *facilitate* access to genetic resources. Most accessions are made *ex situ* (eg. from gene banks and botanic gardens) and many resources held *ex situ* originate from traditional community lands. Thus, ABS effectively allows access to community resources by companies and scientists, without safe-

guarding community rights. At the same time, communities are usually denied access to resources held *ex situ*. With genetic erosion caused by modern agriculture, development etc, many communities need to restore diversity to cope with changing conditions like climate change; access to these *ex situ* resources could be crucial for this.

- 5) ABS separates rights over genetic resources, which are ‘owned’ by the state, and rights over traditional knowledge, which are ‘owned’ by indigenous and local communities. In this framework, TK protection focuses narrowly on the intellectual or intangible part of knowledge systems, rather than recognising that genetic resources form an integral part of them. In the holistic worldview of indigenous TK holders, tangible and intangible elements—ie. biodiversity resources and TK—cannot be separated.

Can the ABS framework be improved?

Addressing customary laws and traditional resource rights in the ABS framework would imply:

- a requirement for *indigenous communities* to give their prior and informed consent for the use of TK and bio-genetic resources collected from their territories;
- a reciprocal or two-way access framework which also facilitates access to resources by communities; and
- an emphasis on safeguarding access to TK and resources for customary use.

The current CBD process to negotiate an international regime on ABS and TK protection could provide an opportunity to bring these perspectives into the frame, and make ABS something which is also relevant for communities. But, if enshrined in a binding international regime as it currently stands, the ABS framework could in fact undermine the traditional resource rights of indigenous peoples.

Unfortunately the latter scenario seems more likely, given that there is no mechanism to allow indigenous and local communities to take part in negotiating the international regime. The CBD Working Group on ABS has been mandated to hold negotiations *in collaboration with* the Working Group on Article 8(j) which focuses on traditional knowledge (see Box 2) and is fairly open to indigenous participa-

tion. But the process is being conducted within the ABS Working Group. And while there is much useful guidance emerging from the Working Group on Article 8(j)—including on the development of *sui generis* systems based on customary laws—political support is lacking, with the ABS Working Group being the priority.

The FAO Treaty on Plant Genetic Resources, approved in June 2004, has adopted the same ABS framework for plant genetic resources for food and agriculture as the CBD. The Treaty recognises farmers' rights to share equitably in the benefits from using genetic resources and to participate in national decisions on their conservation and sustainable use. However, it does not establish mechanisms for this, for example for obtaining the PIC of farmers for accessing and using their varieties. It also mainly covers commercial crops rather than traditional varieties. And as with the CBD's ABS framework, the FAO Treaty separates genetic resources from the customary laws of indigenous communities that ensure continued access for food security, health, poverty reduction and cultural and spiritual life (IIED, ANDES and Call of the Earth, 2006).

### **Can intellectual property rights protect TK?**

IPRs such as patents, PVP, copyrights and trademarks, have been developed to protect the intellectual property rights of western scientists, industry, biotech companies, writers, designers, plant breeders etc. They aim to provide market incentives for commercial and scientific inventions, and have been designed closely with different industry sectors to support their particular needs.

While IPRs can offer some useful elements for protecting TK, there are fundamental differences in the innovation systems, cultural values and economic systems of 'western' inventors and traditional communities (Box 3). This makes existing IPRs largely unsuitable for the protection of traditional knowledge. As Alejandro Argumedo of ANDES (Peru) explained: "*even if new elements are incorporated into IP systems, the continuation, dynamic and adequate protection of TK cannot be guaranteed, since structurally many traditional societies do not respond to the western system, but have their own methods of economic, political, social and cultural articulation*" (unpublished study report).

Nevertheless there are some 'soft' IPRs which can be used to protect collective rights of communities—for example collective trademarks for products produced by a community or cooperative; copyrights on community knowledge registers; and Geographical Indications. The latter protect products from a particular region

### **Box 3. Why don't IPRs work for traditional knowledge protection?**

IPRs are designed to protect commercial interests through private property rights, as opposed to protecting subsistence and cultural needs through communal custodianship rights. Even if the accumulation of knowledge is individual, many traditional knowledge holders believe that all knowledge and resources come from God, and hence cannot be owned by anyone. Furthermore, IPRs protect only the intellectual or intangible component of knowledge systems, without also safeguarding the biological, cultural and landscape resources on which the development and maintenance of TK depends. IPRs are designed to encourage industrial innovation through market incentives which enable investment in R&D, as opposed to encouraging traditional innovation by safeguarding traditional livelihoods based on NRM.

In fact, IPRs are seen as part of the problem by many indigenous and farmers' organisations. They clash with indigenous values of free sharing, which sustain livelihoods and biodiversity, and can undermine local control over resources and development pathways. In an IPR framework, a new 'invention' may be patented, granting exclusive rights to produce, use and sell it. Communities on the other hand freely share their innovations for others to use and innovate further. There is an obligation to share knowledge and resources (eg. seeds), and to maintain them as part of 'community commons'. No individual can survive based on their knowledge and resources alone, and must share these in order for others to reciprocate. Even knowledge which is sacred and held secret is held for the good of the community, not for private profit. By contrast, IPRs can make essential resources such as seeds unaffordable, create dependency on external products, and could eventually replace community commons values with private property values. Some organisations have therefore called for a ban on all patents on life, others for a ban on patenting of sacred knowledge and resources.

produced through a traditional process, thus going beyond a narrow focus on intellectual property. Communities may wish to use such IPRs to take advantage of market opportunities, or prevent others from unfairly exploiting their innovations. But on their own, such IPRs are still not adequate or sufficient for protecting traditional knowledge.

Many governments have turned to IPR lawyers to address the issue of protecting traditional knowledge of indigenous and local communities. WIPO has established

an Inter-Governmental Committee (IGC) on Genetic Resources, Traditional Knowledge and Folklore, which is developing standards for protecting collectively held TK from misappropriation. It has developed a useful set of guiding principles<sup>4</sup> for the development of *sui generis* systems and brought valuable attention to traditional knowledge issues. However, being situated within an IPR body, and having limited indigenous participation, the WIPO/IGC tends to lean towards existing IPR models as its frame of reference. Even though the recognition of customary laws is amongst the issues being discussed, a number of countries continue to emphasise the need for protection of traditional knowledge to be consistent with IPR standards (IIED, ANDES and Call of the Earth, 2006).

## **A NEW PARADIGM BASED ON CUSTOMARY LAWS AND HUMAN RIGHTS**

A number of indigenous organisations and NGOs are seeking to shift the dominant paradigms of ABS and IPRs, which reflect ‘western’ laws and models, towards one based on indigenous customary laws and practices. The idea is to support and build on communities’ own systems for determining access to and use of traditional knowledge, which ensure the maintenance of TK, livelihoods, culture and biodiversity. The aim is also to place decision-making over knowledge in the hands of indigenous communities, in line with the principle of self-determination.

Protecting TK in accordance with ‘customary laws’ means respecting community worldviews, values and customs, as well as more rigorous ‘laws’ which may be enforced by traditional institutions (eg. councils of elders, spiritual leaders). In the holistic worldview of indigenous peoples, all components of heritage are an integrated and interconnected whole requiring equal protection. Rights over TK, culture, resources, territories and self-determination are not seen as separate; indeed the fragmentation of heritage and heritage rights is considered a major threat to its continued existence (Tauli-Corpuz, 2004). As expressed by the late Darrell Posey, “*Protection of traditional knowledge can only be adequate if it is conserved, maintained and enhanced in situ as part of the lands, territories and cultures of indigenous peoples.*” (Posey, 1996)

Customary laws include rules and norms to control access to natural resources and ensure sustainable and equitable use, and codes of ethics for the proper use and

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4. WIPO/GRTKF/IC/10/5. 2006. *The Protection of Traditional Knowledge: Draft objectives and principles*. World Intellectual Property Organization, Geneva ([www.wipo.int](http://www.wipo.int)).

transmission of traditional knowledge. Our research with different indigenous communities shows that customary laws are often shaped by spiritual beliefs associated with natural resources and landscapes. For example, Andean Quechua farmers believe that knowledge and customary laws come from sacred mountains that are their ‘teachers’. Yanadi tribals in India believe that their knowledge comes from gods and goddesses that reside in sacred forests. Many indigenous conservation norms are based on fear of upsetting the gods that provide seeds, knowledge and natural resources.

While specific customary laws vary considerably between communities, there are many commonalities in the underlying customary *values or principles* of diverse ethnic groups. Common values include respect for nature or Mother Earth; free/open sharing of resources; reciprocity or equal exchange of resources; and solidarity or brotherhood, ie. helping those in need and serving the common good. Such principles could provide the basis for developing mechanisms for TK protection at local, national and international level.

A number of international laws and policies already recognise the rights of indigenous and local communities to their traditional territories, resources, customary laws and self-determination. The recently adopted United Nations Declaration on the Rights of Indigenous Peoples recognises indigenous peoples’ rights to fully own and control their cultural and intellectual property, their lands and territories and natural resources. It also recognises their right to full recognition of their laws and customs, Free Prior and Informed Consent, self-determination, and collective as well as individual rights. International human rights law recognises the right of all peoples to self-determination and to freely dispose of their natural resources. The International Labor Organization (ILO) Convention 169 recognises the rights of indigenous and tribal peoples to their natural resources and territories and calls on governments to protect their social, economic and cultural rights, customs and institutions; to respect their customary laws and ensure their participation in decisions that affect them. These instruments may not be widely ratified and enforced, or contain detailed provisions for the protection of TK, but they provide an important basis for the development of holistic and human rights based mechanisms for the protection of traditional knowledge.

### **Protecting “collective bio-cultural heritage”**

Some indigenous organisations and NGOs (eg. Call of the Earth, IIED and partners) have started exploring the concept of collective bio-cultural heritage (Box 4)

as the basis for protecting TK. Having emerged from a community context, the concept reflects the holistic worldview of indigenous peoples. It addresses biodiversity and culture together, rather than separating them; recognises collective as opposed to individual rights; and places them in the framework of ‘heritage’ as opposed to ‘property’ (Te Pareake Mead, 2005). It explicitly recognises that the heritage of indigenous peoples includes biological resources and traditional territories, and not only TK and culture.

#### **Box 4. What is collective bio-cultural heritage?**

Collective bio-cultural heritage (CBCH) is defined as the: “*Knowledge, innovations and practices of indigenous and local communities which are collectively held and inextricably linked to traditional resources and territories, local economies, the diversity of genes, varieties, species and ecosystems, cultural and spiritual values, and customary laws shaped within the socio-ecological context of communities.*”

This definition was developed at a workshop of research and indigenous partners of the project on Traditional Knowledge Protection and Customary Law, held in Peru, May 2005. However, it builds on a whole body of work: by communities such as Quechua farmers; anthropologists such as Darrell Posey’s work on Traditional Resource Rights; and indigenous fora, such as the UN Working Group on Indigenous Population’s draft principles and guidelines for protection of indigenous peoples’ heritage by Erica Daes (E/CN.4/Sub.2/1995/26, Commission on Human Rights). Thus, it is not a new concept, but represents a renewed effort to promote holistic approaches for the protection of indigenous knowledge and heritage.

The concept emphasises the need to protect rights not only to traditional knowledge itself, but to all the inter-linked components of traditional knowledge systems—including *bio-genetic resources, landscapes, cultural and spiritual values, and customary laws and institutions*. It therefore sets out a framework to develop mechanisms to protect traditional knowledge which are holistic and based on human rights, including rights to land and natural resources, and the right to self-determination. The concept also emphasises the need for the restitution of rights over indigenous heritage which has been taken away.

Collective bio-cultural heritage offers much potential for addressing the gaps in existing initiatives on TK protection at international, national and local levels. It identifies core elements, which could provide the basis for a common national and international policy, while allowing flexibility for approaches to be adapted to diverse local needs and contexts.

At local level, the establishment of indigenous-managed Community Conserved



Areas—or Indigenous Bio-Cultural Heritage Areas—offer a means to protect TK *in situ*, as part of indigenous culture and territories (Box 5). Using this model, the protection of indigenous knowledge is achieved through: the recognition of collective land rights; the strengthening of community management of natural resources, biodiversity and knowledge based on customary laws and institutions; strengthening of cultural and spiritual values; and strengthening local economies and poverty reduction. Thus, protection of CBCH provides a means to address both the loss and misappropriation of TK through a system of community stewardship. It establishes not only rights, but also the *responsibility* of indigenous and local communities to conserve their heritage and transmit it to future generations. Furthermore, it emphasises development processes that are based on local knowledge and leadership, and are endogenous, as opposed to externally driven (IIED, ANDES and Call of the Earth, 2006). The challenge now is to develop national and international policy and legal frameworks which support such an approach.

### Box 5. The Andean Potato Park as a *sui generis* system

ANDES (Peru) and Quechua farmers are using the concept of Collective Bio-Cultural Heritage to shape a range of responses for TK protection in a centre of origin of potato diversity. These include:

- Establishing an Andean Potato Park as an Indigenous Bio-Cultural Heritage Area managed by six communities
- Developing a web-based multimedia bio-cultural register (using an open-source software), to promote the use of TK for livelihoods and its protection against biopiracy
- Using a collective Potato Park trademark for bio-cultural products (eg. for organic potatoes sold as health foods or 'nutraceuticals')
- Establishing an agreement for the repatriation of, and reciprocal access to, traditional potato varieties held in a gene bank (the International Potato Centre); and an inter-community agreement for equitable benefit-sharing based on customary laws

Andean customary law principles of reciprocity, equilibrium and duality are being used to guide all the activities in the park so that the communities can manage their resources and take advantage of new development opportunities, while strengthening their traditional values and economic systems that sustain TK, biodiversity and livelihoods (IIED, ANDES and Call of the Earth, 2006; Swiderska, 2006).

The Potato Park and its various activities comprise a '*sui generis*' system for TK protection which does not depend on any external policy or law, but emerges instead out of a community natural resource management system. It protects community rights over TK and resources by strengthening their community management and control at the local level, rather than relying on the goodwill of others. And rather than waiting for the remote possibility of future benefits, these tools for TK protection contribute directly to sustaining livelihoods, TK and biodiversity.

## CONCLUSIONS AND RECOMMENDATIONS FOR TK PROTECTION

1. *Sui generis* systems for TK protection should not be consistent with existing intellectual property models which protect individual rights and whose objectives are exclusively commercial, but should be tailored to the distinct characteristics of traditional innovation processes. They should **recognise the holistic character** of traditional knowledge—ie. its close linkages with biodiversity, traditional territories, cultural values and customary laws, all of which are vital for maintaining TK. They should protect the rights of communities *to all these components* of TK systems—or “**collective bio-cultural heritage**”. Otherwise, they risk doing little to safeguard TK and could accelerate its already rapid loss.
2. *Sui generis* systems and ABS regimes should recognise that the **sovereign right of states over natural resources is conditioned by the customary rights** of indigenous and local communities over these resources. They should be consistent with indigenous and human rights instruments which recognise that indigenous and local communities also have rights over these resources. For example, states could delegate to communities the authority to grant PIC for access to traditional varieties and to bio-resources collected from their territories.
3. The best way for communities to protect their knowledge and resources is at local level. Community-based natural resource management, together with secure land tenure, can strengthen community control of TK and natural resources, maintain traditional knowledge, conserve biodiversity and improve livelihoods. One example is through the establishment of **community-controlled protected areas** or indigenous bio-cultural heritage areas.
4. ABS systems should not only focus on facilitating access by companies and scientists to community resources, but also on **facilitating access by communities to resources held in *ex situ*** collections. Vast collections of traditional crop varieties were made in the 1950s and 60s, and are now held by universities, companies etc, yet communities are rarely allowed access. Botanic gardens and centres belonging to the Consultative Group on International Agricultural Research (CGIAR) should establish reciprocal access arrangements with communities, building on the example of the International Potato Centre–Andean Potato Park agreement (see Box 5).
5. **The recognition of customary laws and authorities** should form the basis of *sui generis* systems at all levels, including in determining access to and rights over

TK and bio-resources, procedures for PIC and equitable benefit-sharing. Given that TK and genetic resources are often shared freely between communities, even across borders, collective rights, decision-making and benefit-sharing amongst neighbouring communities should be recognised.

6. *Sui generis* systems and ABS regimes should be developed and administered with the active participation of diverse indigenous and local communities through a bottom-up process. The CBD process to negotiate an international regime on Access and Benefit-Sharing and TK protection needs to be broadened to enable representatives of **indigenous and local communities to participate fully in the decision-making** process. Similarly, such participation needs to be made a priority in WIPO's work to develop policy guidance for TK protection.
7. **More supportive policy frameworks are needed across a range of sectors**—conservation, agriculture, health, education, economic development, trade and IPRs. Currently these sectors often undermine Traditional Resources Rights and contribute to the loss of TK and bio-culturally diverse production systems.
8. **The United Nations Permanent Forum on Indigenous Issues (UNPFII) is uniquely placed to play a leading role** in developing a global system for the protection of collective bio-cultural heritage based on customary laws and human rights. Unlike other UN fora dealing with TK, the main objective of the UNPFII is to promote the well-being and rights of indigenous peoples, with their active participation.

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