

Patents, Genetic Resources and Traditional Knowledge: Resolving the Challenge of Equitable Access

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1. The scope of the problem

1.1. In the battle to innovate in the fields of medicine, agriculture, the environment and sustainable development, bio-prospecting has become a critical component. While science and biotechnology seek innovation at what I refer to as the “technology” end of the innovation spectrum, using technological processes such as abstraction to secure active ingredients, etc from identified biota, bio-prospecting seeks innovation at the “discovery” end. The flora and fauna (biota) of the more remote or underexplored regions of the world provide the “building blocks” for this “discovery” innovation, as does the knowledge and, occasionally, the cells of the inhabitants of these areas. These “building blocks” in turn serve as the basis for patentable inventions. It is the effort of patenting such inventions that often leads to a direct collision between the rights of “traditional knowledge” holders (often indigenous peoples) and those seeking patent protection for the technological enhancements applied to such knowledge.

1.2. There are countless examples of collisions between traditional knowledge and patents and/or trade secrets: neem seed in India and its traditional use as a fertilizer (US Patent No. 5,124,349 granted to W.R. Grace upheld); turmeric and its use as a wound treatment agent (US Patent 5401504 cancelled); the cells of a Guayami woman used to create a new treatment for human t-lymphotropic virus type II (US patent application WO92/08784 withdrawn after protest); ayahuasca plant patent for alleged distinct variety (U.S. Plant Patent 5,751 re-instated after rejection of traditional knowledge status as grounds for cancellation).

1.3. Problems involving traditional knowledge and genetic resources include the unauthorized collection, use and/or sale of genetic resources secured from indigenous peoples, often without their knowing consent. With the

growth of the digital marketplace, these problems have expanded to include the offer for sale over the internet of such genetic materials for research purposes. One case involved recent claims against The Coriell Institute for Medical Research by the Brazilian government for its sale of Genetic material from members of the Karitiana and Suruí indigenous communities.

1.4. Traditional knowledge is often associated with genetic resources since the practices, values and knowledge of the environment, including the biota, often identify which resources may be valuable for further study and innovation.

1.5. Collisions between traditional knowledge holders and those who seek to commodify such knowledge, including the genetic resources of indigenous peoples or the biota around them, are not limited to commercial entities but increasingly include universities who seek to commercialize research results and increasingly focus on genetic resources as a field of study.

2. Current Legal Regimes Protecting Traditional Knowledge

2.1. Various legal regimes have been put in place internationally to deal with the issues that arise from the use of traditional knowledge in the patenting of the products or processes that incorporate or are derived from the traditional knowledge of indigenous peoples. They include:

International Protection Regimes for Traditional Knowledge

- Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS)
- The WIPO Draft Guidelines on Traditional Knowledge and BioGenetic Resources
- The Convention on Biodiversity
- The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity

Domestic Protection Regimes for Traditional Knowledge Focus:

- Informed Consent
- Equitable Benefit Sharing Obligations

- Mandatory Disclosure of the Traditional Knowledge Basis for Patentable inventions

2.2. Some traditional knowledge may qualify for patent or trade secret protections in the areas of genetic resources, biodiversity and sustainable development. Patent protection must be granted under TRIPS Article 27 to inventions “in all fields of technology” that are “new, involve an inventive step and are capable of industrial application.” The article does not include an express exception to allow countries to deny patent protection for inventions based upon the traditional knowledge of indigenous peoples. However, the high standard of uniqueness embodied in the obligations of novelty and inventiveness under Article 27 and domestic law often result in denial of patent protection for indigenous innovation based on traditional knowledge since such innovation has been perfected over generations and is generally found to be lacking in the necessary novelty to qualify for patent protection. (By contrast the application of technology to traditional knowledge, such as abstraction techniques to uncover active ingredients in traditional medicines, which is usually applied by third parties, often results in potentially patentable inventions.)

2.3. More problematic under TRIPS, there is no obligation under Article 29, governing disclosure in patent applications, to require non-indigenous-community-member-applicants to disclosure inventions that have been created using indigenous knowledge. There is also no obligation for such disclosures under governing international law standards for patent applications, including the Patent Law Cooperation Treaty. Consequently, patents have been improvidently granted to third parties based on undisclosed traditional knowledge, such as in the case of a patent granted for the use of turmeric to treat wounds. Although this patent was eventually revoked, on the grounds of its lack of novelty, it is impossible to determine how many similar patents have issued globally.

2.4. Globally, efforts to impose a disclosure obligation have been tabled during various treaty negotiations, including the Patent Law Treaty. Some countries, such as Switzerland, Brazil, India, the Andean Communities and South Africa, however, do impose such a disclosure obligation.

2.5. There is no obligation in TRIPS, or any other multi-lateral patent treaty requiring patent owners to compensate indigenous holders of traditional knowledge for the use of such knowledge in creating a patentable invention, including an obligation of consent or equitable benefit sharing.

2.6. Article 8(j) of the Convention on Biological Diversity (CBD)(1992) is probably the earliest multilateral treaty that comes the closest to recognizing the need to protect traditional knowledge by requiring Contracting Parties “as far as possible and as appropriate” and “[s]ubject to [their] national legislation” to:

Respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices.

2.7. Article 31(1) of the UN Declaration on the Rights of Indigenous Peoples (2007) similarly expressly recognizes the rights of indigenous peoples “to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts.” Article 31(2) of the UN Declaration further recognizes the right of indigenous peoples to “maintain, control, protect and develop their intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions.”

2.8. Similarly, Article 24 of the UN Declaration emphasizes the right of indigenous peoples “to their traditional medicines and to maintain their health practices, including the conservation of their vital medicinal plants, animals and minerals.”

2.9. Intellectual property rights alone are not sufficient to protect traditional knowledge, particularly since the traditional (generational) nature

of such knowledge often prevents its protection under patent or copyright laws. The mention of "intellectual property rights" in Article 31(2) of the UN Declaration, however, does not appear to limit the protection of traditional knowledge rights in Article 31(1) to such protection but instead is designed to assure that intellectual property regimes do not operate to affirmatively deny control over the intellectual property rights that reside in such knowledge.

2.10. Parties disagree as to whether the obligation to protect traditional knowledge conflicts with the obligation under TRIPS to grant patents "in all fields of technology." Paragraph 19 of the 2001 Doha Declaration obligates the TRIPS Council to look at the relationship between TRIPS and the Convention on Biological Diversity (CBD). This obligation was an expansion of the original obligation under Article 27(3) of TRIPS, requiring a four year review of the alternative protections allowed to be granted for plant patents.

2.11. The TRIPS Council has been studying the potential conflict between TRIPS obligations and the CBD since 2001. In 2006 the Secretariat issued a Report on the Relationship Between the TRIPS Agreement and the Convention on Biological Diversity (IP/C/W/368/Rev.1) that noted on-going disagreements regarding whether a conflict existed between TRIPS and the CBD on traditional knowledge protection. The debate has not been resolved.

2.12. In addition to Article 8(j) of the Convention on Biological Diversity (CBD), which arguably establishes an international obligation to protect traditional knowledge, Article 15 (1) of the CBD recognizes "the sovereign rights of States over their natural resources" and provides that "the authority to determine access to genetic resources rests with the national governments and is subject to national legislation."

2.13. Article 15(5) of the CBD further provides that "access to genetic resources shall be subject to prior informed consent of the Contracting Party providing such resources, unless otherwise determined by that Party." Article 15(7) requires countries to take appropriate measures "with the aim of sharing in a fair and equitable way the results of research and development and the benefits arising from the commercial and other utilization of genetic resources with the Contracting Party providing such resources." It further requires that any such equitable benefit sharing "shall be upon mutually agreed terms."

2.14. The recognition of the need to protect traditional knowledge in Article 8 of the CBD may conflict with the grant of rights in the *sovereign* to control genetic resources, and not the indigenous communities from whom such resources may have been secured.

2.15. Article 11 of the UN Declaration on the Rights of Indigenous Peoples (2007) further provides that indigenous peoples “have the right to practice and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures, such as ...ceremonies, technologies... and performing arts and literature. Article 11(2) further requires States to “provide redress through effective mechanisms, which may include restitution, developed in conjunction with indigenous peoples, with respect to their cultural, intellectual, religious and spiritual property taken without their free, prior and informed consent or in violation of their laws, traditions and customs.”

2.16. The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity (Protocol) (2010) clarifies the importance of ensuring that genetic resources and associated traditional knowledge are accessed and utilized in a fair and equitable way. Article 3 expressly provides that the Protocol “shall also apply to traditional knowledge associated with genetic resources with the scope of the Convention and to the benefits arising from the utilization of such knowledge.”

2.17. Article 7 of the Protocol requires each Party to “take measures, as appropriate, with the aim of ensuring that traditional knowledge associated with genetic resources that is held by indigenous and local communities is accessed with the prior and informed consent or approval and involvement of these indigenous and local communities, and that mutually agreed terms have been established.” Article 12 of the Protocol further clarifies these obligations by placing an affirmative obligation on countries to “take into consideration indigenous and local communities’ customary law, community protocols and procedures” with respect to traditional knowledge associated with genetic resources. It further requires Parties “with the effective participation” of indigenous communities to develop protocols, minimum terms and model contract provisions, etc relating to the fair and equitable

benefit sharing which should arise from the utilization of such traditional knowledge.”

2.18. The Protocol has not yet entered into force. It will not do so until 90 days after the 50th country ratifies it. As of March 2013, while 92 countries have signed Protocol, only 15 have ratified it.

3. Definitions.

3.1. There is no agreed upon definition for “traditional knowledge” internationally. Although “traditional knowledge” may also be referred to as “local knowledge,” which can include the specialized knowledge and/or practices of minorities and other locally identifiable groups, I am using the term as it applies to the “traditional knowledge” of indigenous peoples.” At its broadest meaning, “traditional knowledge” covers a potentially large body of knowledge, techniques and practices, handed down through generations by indigenous peoples. This includes a wide variety of spiritual and cultural beliefs and practices, tangible works, folk remedies, and information and techniques regarding the use and conservation of the surrounding biota (flora and fauna).

3.2. No current multilateral treaty establishes a protection regime for traditional knowledge. Part of the difficulty in crafting an acceptable protection regime for traditional knowledge is the definitional problems posed by such a concept since by its very nature most traditional knowledge does not readily fit within the contours of existing legal regimes for the protection of innovation.

3.3. “Traditional knowledge” has been defined by the World Intellectual Property Organization “to refer to tradition-based literary, artistic or scientific works; performances; inventions; scientific discoveries; designs; marks, names and symbols; undisclosed information; and all other tradition-based innovations and creations resulting from intellectual activity in the industrial, scientific, literary or artistic fields.” “Tradition-based” refers to “knowledge systems, creations, innovations and cultural expressions which: have generally been transmitted from generation to generation; are generally regarded as pertaining to a particular people or its territory; and are constantly evolving in response to a changing environment.”

3.4. Most working definitions of traditional knowledge focus on identifying the characteristics of such “knowledge.” As noted above in Paragraph 3.3 regardless of the precise nature of the “knowledge” or “tradition at issue,” potentially protectable traditional knowledge has the following characteristics:

- Tradition based techniques, innovations and processes
- Transmitted from generation to generation
- Constantly evolving in response to a changing environment
- Identifiable with a particular indigenous group

3.5. One of the difficulties in crafting a legal regime to protect adequately traditional knowledge is its broad application in the area of genetic resources, including medical, agricultural and environmental techniques and practices, to include the values held by the tribe about the environment and its relationship to it that do not fit easily within traditional notions of protectable processes and information under intellectual property regimes.

3.6. Originally, the term “traditional knowledge” was used internationally to refer to the entire spectrum of tradition-based works, knowledge and practices, including both those that relate to genetic resources, such as folk remedies and cultivation techniques, and those that relate to works that are more closely akin to copyright, such as folk art. Given the distinction between the two categories, including the specialized issues that each raises, a general practice has arisen to use the term “traditional knowledge” to refer to knowledge relating to genetic resources and the biota, and to use the term “traditional cultural expressions” to refer to expressive works such as folk art.

3.7. In WIPO’s most recent definition for “traditional knowledge” contained in its 2012 glossary (WIPO/GRTKF/IC/23/INF/8), the narrower definition for “traditional knowledge” was described as referring to “the knowledge resulting from intellectual activity in a traditional context, and includes know-how, practices, skills, and innovations. Traditional knowledge can be found in a wide variety of contexts, including: agricultural knowledge; scientific knowledge; technical knowledge; ecological knowledge; medicinal

knowledge, including related medicines and remedies; and biodiversity-related knowledge, etc.”

3.8. I am following this general practice and am using the term “traditional knowledge” generally in its more narrow sense as referring to issues dealing with traditional knowledge and practices related to genetic resources, including agricultural, medical, and environmental practices and knowledge concerning the biota.

4. Practical Problems in Securing Rights to Traditional Knowledge: Consent

4.1 Ownership of Traditional Knowledge

4.1.1. Because of the nature of traditional knowledge, it is most often considered to be held in trust by the tribe, as a whole. Traditional western views of “ownership” and/or property rights do not generally apply.

4.1.2. This stricture regarding the collective nature of traditional knowledge rights applies even with regard to specialized knowledge, such as medical practices, which are only authorize for use by certain specified members of the tribe.

4.1.3. In light of this trust relationship, it is sometimes difficult to determine which members of the tribe are empowered to authorize third parties to utilize or even have access to traditional knowledge. As a general rule, only individuals who can act on behalf of the entire tribe have the necessary power to authorize the use of traditional knowledge. Members of a special group authorized to utilize traditional knowledge, such as shamans and other medical practitioners may not “own” the rights to such practices or have the authority to bind the tribe.

4.1.4. Ownership issues can be heightened by the often oral nature of traditional knowledge so that there is no “object” to purchase in order to acquire rights to the knowledge contained within it.

4.2. *The Problems of Geography and the Diaspora*

4.2.1. The problem of securing consent from holders of traditional knowledge is sometimes complicated by the differing treatment of traditional knowledge by tribes whose members currently inhabit lands in different geopolitical regions or countries. Historically, tribal groups have often been geographically separated when nation states impose geographic boundaries that divide tribal lands. Over time, different practices with regard to the same traditional knowledge may evolve between the geographically separated members of the tribe. One group may hold the traditional knowledge closely and refuse any efforts at commercialization on the grounds of its sacred nature. The second group may authorize limited commercial use under particular circumstances. In such instances of conflicting treatment, any grant of rights by one group would not be sufficient to grant rights that cover the use of the traditional knowledge within the geographic boundaries of the nation state in which the second group resides. The practical effect is that no grant of rights will be sufficient to secure *international* rights to use of the traditional knowledge in question.

4.2.2. For example, the Haudenosaunee in New York State (Iroquois) reject any right to commercialize “false face” masks in any format. By contrast, the Iroquois in Canada do not object to commercialization of replica masks so long as they are not created from living materials. Rights to create masks granted by the Iroquois in Canada might be defensible in Canada, but would conflict with tribal policies in the United States.

4.3. *The Problems of Securing “Prior Informed Consent”*

4.3.1. A right or principle of “prior informed consent” (PIC), sometimes referred to as “free, prior and informed consent” (FPIC) with regard to traditional knowledge, particularly when such knowledge related to genetic resources is required under both the Convention on Biological Diversity (1992) and the Nagoya Protocol (2010). Originally derived from field of medical ethics in which a patient has the right to decide whether or not to undergo a particular medical treatment after being fully informed about the risks and benefits of that particular treatment, the informed consent obligation in connection with the use and commercialization (commodification) of traditional knowledge implements the general principle of self-determination and the right of effective participation of indigenous peoples in programs affecting them.

4.3.2. Where the required consent includes a specific inclusion of the term “free,” the purpose of the use of the adjective “free” is to ensure that no coercion or manipulation is used in the course of negotiations. Such an obligation applies regardless of whether the type of consent required is PIC or FPIC.

4.3.3. The term “prior” in connection with the type of consent required for the use of traditional knowledge arguably requires, not merely that consent is secured before any use is made of the traditional knowledge at issue, but also arguably requires that the indigenous peoples affected by the use of the traditional knowledge in question have sufficient time to review fully proposals regarding such use.

4.3.4. According to the WIPO Glossary of Key Terms Related to Intellectual Property and Genetic Resources, Traditional Knowledge And Traditional Cultural Expressions (WIPO/GRTKF/IC/23/INF/8) (2012), informed consent in connection with traditional knowledge also implies that “clear explanations are provided, along with contract details, possible benefits, impacts and future uses.” The Glossary further notes that “[t]he process should be transparent, and the language fully understood by indigenous peoples.”

4.3.5. Increasingly issues arise regarding the informed consent of the tribe when access to traditional knowledge, including in particular genetic resources, is secured for one purpose and then is used for another. Thus, genetic information secured from individuals for purposes of researching a particular disease and then later used in creating patentable medical treatment raise issues regarding whether appropriate prior consent was secured for the commercial use of such information.

4.3.6 Although traditional knowledge is generally held collectively, collective consent may be insufficient when genetic information, such as DNA, are being secured from individuals. In such instances, in addition to tribal PIC, individual PIC is also required.

4.3.7. Various international instruments and domestic laws deal with the general requisites for securing adequate PIC in connection with the uses of genetic resources. According to Article 24 of the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising

out of Their Utilization (Bonn)(2002), the basic principles of a prior informed consent system should be:

- a. Legal certainty and clarity;
- b. Costs involved in securing access to genetic resources should be minimal; and
- c. Transparency particularly with regard to any restrictions on access to genetic resources.

4.3.7. In accordance with the obligations of the CBD concerning the power of the sovereign to control access to genetic resources, see ¶2.1.2., Article 24 of the Bonn Guidelines require only the consent of the “relevant competent national authority(ies) in the provider country” as part of a PIC system. It does, however, urge that “the consent of relevant stakeholders, such as indigenous and local communities, as appropriate to the circumstances and subject to domestic law, should also be obtained.”

4.3.8. Although as noted above in ¶¶ 2.1.2. – 2.1.4, & 4.37, neither the CBD nor the Bonn Guidelines obligate the securing of prior informed consent of the affected indigenous peoples in connection with the use of genetic resources, per se, failure to obtain such permission when traditional knowledge is involved may result in challenges to any intellectual property or marketing rights sought in connection with such uses, including joint inventorship claims. While efforts to craft IP-related principles for the access and use of traditional knowledge have consistently recognized that such protections should be consistent with other protection regimes, such as those of the CBD, there is no international recognition that securing sovereign consent to use traditional knowledge is sufficient in connection with such rights. In addition to any legal obstacles that may arise, public complaints about the lack of such approval will undoubtedly arise that may have an adverse effect on marketing and other commercialization efforts.

4.3.9. One of the critical issues regarding PIC is the ability of members of the relevant indigenous group to have a complete understanding of the terms and conditions of any PIC. Lack of expertise in negotiating PICs and other agreements related to the use of traditional knowledge (including Material Transfer Agreements (MTAs) discussed in greater detail below in Part 6) arguably make the informed nature of such PICs questionable at

best. This expertise becomes even more critical where future uses implicate intellectual property rights, including patent rights, that may result from authorized uses.

4.3.10. WIPO has been actively engaged in creating guidelines to be used in connection with securing access to traditional knowledge. Its most recent Draft Intellectual Property Guidelines for Access to Genetic Resources and Equitable Benefit Sharing of the Benefits Arising from their Utilization (WIP/GRTKF/IC/17/INF/12) that contains diverse provisions, including model agreements that deal with the issue of traditional knowledge prior informed consent.

4.3.11. WIPO has also developed a database of diverse contracts with regard to the use of traditional knowledge that contains diverse provisions regarding prior informed consent. The database is available at <http://wipo.int/tk/en/databases/contracts/search/index.html>

5. Practical Problems in Securing Rights to Traditional Knowledge: Equitable Benefit Sharing

5.1 The Obligation of Equitable Benefit Sharing

5.1.1. Various international treaties and conventions, including the Convention on Biological Diversity and the Nagoya Protocol, expressly require that uses of traditional knowledge be subject to equitable benefit sharing with the indigenous peoples whose knowledge is being utilized. Other conventions contain related equitable benefit sharing obligations in connection with access to genetic resources, including the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGR).

5.1.2. Diverse domestic laws governing traditional knowledge protection, including those of Costa Rica, Brazil, the Philippines, the Andean Community and Peru, similarly impose an obligation of equitable benefit sharing for such uses.

5.1.3. For many traditional law protection regimes “use” is often expressed in terms of “access.” “Access” is not limited to physical access to in situ or ex situ genetic resources, but also includes the use of any by-products of such resources and any intangible knowledge related to it.

5.1.4. For example, under Article 1 of the *Decision 391 on Access to Genetic Resources of Andean Community* (1996), "access" is broadly defined to include "the obtaining and use of genetic resources conserved *in situ* and *ex situ*, of their by-products and, if applicable, of their intangible components, for purposes of research, biological prospecting, conservation, industrial application and commercial use, among other things."

5.1.5. The elements of an access and benefit sharing agreement (ABS) vary depending on the type of traditional knowledge involved and its intended uses. According to a study by a Group of Legal and Technical Experts on Concepts, Terms, Working Definitions and Sectoral Approaches, that took place in Windhoek, Namibia in December 2008, the most relevant sectors for IP access and benefit sharing seem to be pharmaceuticals, biotech, food, agriculture, non-commercial research and *ex situ* conservation.

5.1.6. According to Article 48 of The Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of Their Utilization ("Bonn Guidelines") (2002), "benefits should be shared fairly and equitably with all those who have been identified as having contributed to the resource management, scientific and/or commercial process. The latter may include governmental, non-governmental or academic institutions and indigenous and local communities."

5.1.7. Depending on the parties and the uses intended, there are variety of benefits that may form part of an equitable benefit sharing agreement. The Nagoya Protocol has one of the more extensive lists of potential elements in its Appendix. The Protocol identifies the following non-exhaustive Monetary Benefits that may be included:

- (a) Access fees/fee per sample collected or otherwise acquired;
- (b) Up-front payments;
- (c) Milestone payments;
- (d) Payment of royalties;
- (e) License fees in case of commercialization;
- (f) Special fees to be paid to trust funds supporting conservation and sustainable use of biodiversity;
- (g) Salaries and preferential terms where mutually agreed;

- (h) Research funding;
- (i) Joint ventures;
- (j) Joint ownership of relevant intellectual property rights.

5.1.5. The Protocol further identifies the following non-exhaustive Non-Monetary Benefits that may be included:

- (a) Sharing of research and development results;
- (b) Collaboration, cooperation and contribution in scientific research and development programs, particularly biotechnological research activities, where possible in the Party providing genetic resources;
- (c) Participation in product development;
- (d) Collaboration, cooperation and contribution in education and training;
- (e) Admittance to ex situ facilities of genetic resources and to databases;
- (f) Transfer to the provider of the genetic resources of knowledge and technology under fair and most favorable terms, including on concessional and preferential terms where agreed, in particular, knowledge and technology that make use of genetic resources, including biotechnology, or that are relevant to the conservation and sustainable utilization of biological diversity;
- (g) Strengthening capacities for technology transfer;
- (h) Institutional capacity-building;
- (i) Human and material resources to strengthen the capacities for the administration and enforcement of access regulations;
- (j) Training related to genetic resources with the full participation of countries providing genetic resources, and where possible, in such countries;
- (k) Access to scientific information relevant to conservation and sustainable use of biological diversity, including biological inventories and taxonomic studies;
- (l) Contributions to the local economy;
- (m) Research directed towards priority needs, such as health and food security, taking into account domestic uses of genetic resources in the Party providing genetic resources;

- (n) Institutional and professional relationships that can arise from an access and benefit-sharing agreement and subsequent collaborative activities;
- (o) Food and livelihood security benefits;
- (p) Social recognition;
- (q) Joint ownership of relevant intellectual property rights.

5.1.6. Non-monetary benefits are often considered as valuable as monetary benefits since they ultimately contribute to the tribe's ability to secure greater self-governance over future activities.

6. Material Transfer Agreements and the Trade Secret Overlay

6.1 The most common type of agreements used to affect access to genetic resources and other traditional knowledge regarding the biota are Material Transfer Agreements (MTAs). MTAs set out the terms of access and provide

6.2. As noted above in ¶4.3.11. WIPO has developed a Database of Biodiversity-related Access and Benefit-sharing Agreements containing contractual clauses related to the transfer and use of genetic resources that contains numerous examples of MTAs.

6.3. Other sources for information with regard to the provisions contained in a Material Transfer Agreements include The Food and Agriculture Organization (FAO) who adopted a Standard Material Transfer Agreement required for the implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture.

6.4 MTAs usually provide for prior informed consent from the affected group, as well as for some type of equitable benefit sharing between the recipients. While not yet standard in such agreements, MTAs could also contain trade secret provisions that maintain the confidential nature of any disclosures by the tribe regarding the delivered materials.

6.5 For example, traditional healers of Samoa were acknowledged in a benefit-sharing agreement concerning the development of prostratin, an anti-AIDS compound derived from the Samoan native mamala tree

(*homalanthus nutans*). As part of the transfer the healers not only had provided requested samples of the tree, but also had conveyed their knowledge regarding potential uses for such materials. Such knowledge sets up the required informational transfer that could be the subject of appropriate contract-based trade secret protection.

6.6. By including trade secret grants within MTAs those who seek to utilize traditional knowledge receive the necessary licenses while the indigenous peoples receive the necessary acknowledgment of their rights to such knowledge, and its confidential use, to allow the holders of such knowledge to continue to protect it.

7. Practical Tips

7.1. Individuals rarely have the power to provide lawful access to traditional knowledge. Be certain the individuals/organizations/institutions you are dealing with have the necessary rights to enter into access agreements.

7.2. Be aware of the history of the indigenous group from whom you are securing access rights, and in particular issues that may arise from geographically dispersed members.

7.3. Prior informed consent (PIC) should be secured from the relevant indigenous communities for access and use even if such consent is not required under present international or domestic legal regimes to avoid future problems.

7.4. PIC should be secured whenever new goals or uses are anticipated for accessed genetic resources and materials, including whenever commercial uses are the by-products of earlier research, or whenever intellectual property rights are secured.

7.5. Equitable benefit sharing (EBS) should be provided to all who secure the necessary access to genetic materials, and its accompanying traditional knowledge, whether such benefit sharing is required under present international or domestic legal regimes to avoid future problems.

7.6. EBS can take many monetary and non-monetary forms. Be creative in the types of benefits provided under access agreements so that the needs of all parties are adequately met.

7.7. Be aware of local rules governing access agreements that may require that certain benefits be included, such as a future royalty stream, or education with regard to the commercialization of traditional knowledge.

7.8. Be sensitive to the special role that traditional knowledge plays in the culture and heritage of indigenous peoples. MTAs are not simply about licensing trade secrets. They are about allowing non-members access to long-held knowledge that may be considered sacred or of other special significance to the affected community.

7.9. Be clear about your goals for the use of the traditional knowledge at issue so that you can be transparent in your needs and goals to avoid future misunderstandings.

7.10. It may be science or commerce to you, but it is culture and heritage to your partners.